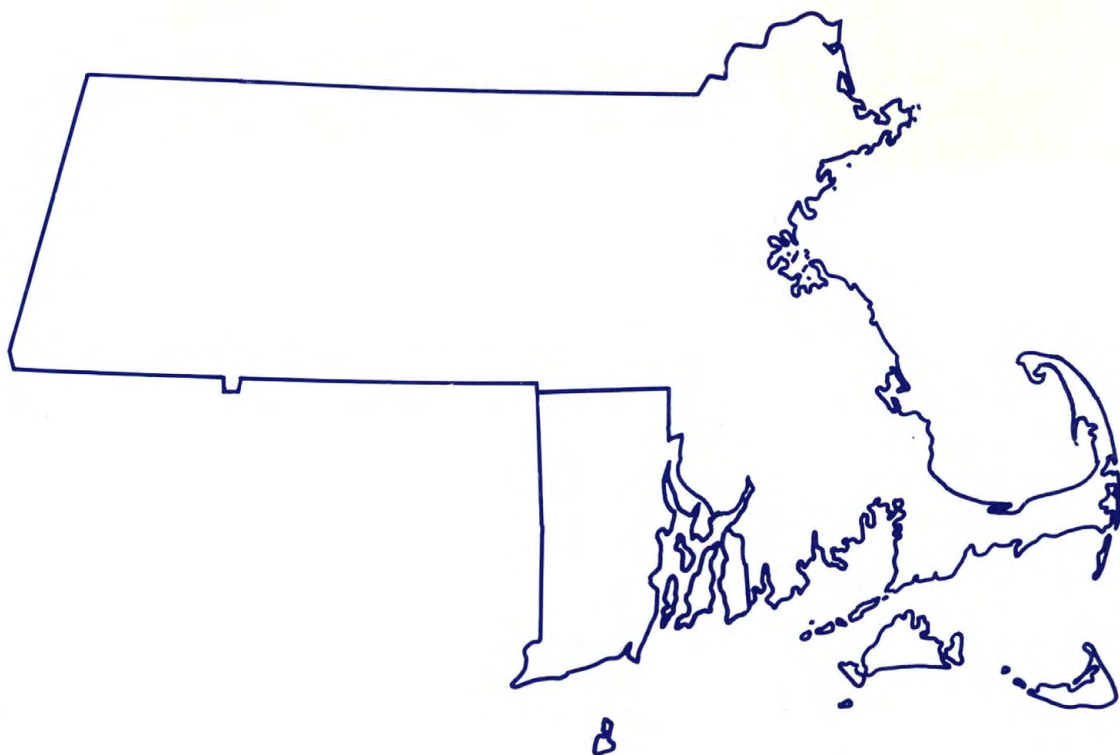




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# Water Resources Data Massachusetts and Rhode Island Water Year 1981



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-81-1

Prepared in cooperation with the States of Massachusetts and  
Rhode Island and with other agencies



## CALENDAR FOR WATER YEAR 1981

1980

## OCTOBER

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    | 1  | 2  | 3  | 4  |
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## NOVEMBER

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1981

## JANUARY

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## FEBRUARY

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## MARCH

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## MAY

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## JUNE

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## JULY

| S  | M  | T  | W  | T  | F  | S  |
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## AUGUST

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## SEPT EMBER

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| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 |    |    |    |





# Water Resources Data Massachusetts and Rhode Island Water Year 1981



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-81-1  
Prepared in cooperation with the States of Massachusetts and  
Rhode Island and with other agencies



UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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Boston, MA 02114

#### PREFACE

This report was prepared by personnel of the New England District of the Water Resources Division of the U.S. Geological Survey in cooperation with the States of Massachusetts and Rhode Island, and with other agencies. District personnel directly responsible for the collection, evaluation, and compilation of the data contained herein were: R. A. Gadoury, J. T. Adamik, R. J. Brock, William Caswell III, G. G. Girouard, S. K. Maxwell, W. J. McDonough, Jr., M. S. Peterson, K. G. Ries III, J. P. Russell, and H. L. White. This report is one of a series issued by State.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                            |                                                                                |                                     |
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FOR WHICH RECORDS ARE PUBLISHED

Letter after station name designates type of data;  
(d) discharge, (l) contents of lake, (c) chemical, (b) biological,  
(m) microbiological, (t) water temperature, (s) sediment

NORTH ATLANTIC SLOPE BASINS

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## INTRODUCTION

Water-resources data for the 1981 water year for Massachusetts and Rhode Island consist of records of stage, discharge, and water quality of streams; contents of lakes and reservoirs; and ground-water levels. This report contains discharge records for 100 gaging stations, monthend contents for 30 lakes and reservoirs, water quality for 18 gaging stations, and water levels for 106 observation wells. Also included are data for 20 low-flow and 19 crest-stage partial-record stations. Additional water data were collected at various sites, not part of the systematic data-collection program, and are published as miscellaneous measurements. Locations of gaging stations, partial-record stations, and observation wells are shown in figures 1, 2, and 3, respectively. A few pertinent stations (not included above) in bordering States are also included in this report. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Massachusetts and Rhode Island.

Records of discharge or stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface water supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of surface waters of the United States." Records of ground-water levels were published from 1939 to 1974 in a series of water-supply papers entitled, "Ground-water levels in the United States." Water-supply papers may be consulted in libraries of the principal cities of the United States or may be purchased from Eastern Distribution Branch, Text Products Section, U.S. Geological Survey, 604 South Pickett Street, Alexandria, VA 22304.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey water-data report MA-RI-81-1." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

## COOPERATION

The U.S. Geological Survey and organizations of the States of Massachusetts and Rhode Island have had cooperative agreements for the systematic collection of streamflow records since 1909 and 1941, respectively; and for water-quality records since 1954. Organizations that assisted in collecting data through cooperative agreements with the Survey are:

Massachusetts: State Water Resources Commission, W. F. M. Hicks and A. D. Cortese, co-chairmen, C. F. Kennedy, director and chief engineer of Division of Water Resources, and T. C. McMahon, director of Division of Water Pollution Control; State Department of Public Works, D. P. Amidon, commissioner, F. W. Holden, research and materials engineer, and R. T. Tierney, chief engineer of Division of Highways; Metropolitan District Commission, T. J. Geoghegan, commissioner, and Martin Weiss, director of Water Division and chief water-supply engineer.

Rhode Island: State Department of Environmental Management, W. E. Wood, director; Division of Land Resources, P. M. Janaros, chief; Division of Water Resources, J. W. Fester, chief; State Water Resources Board, W. M. Stetson, chairman, and R. B. Russ, general manager; city of Providence, Department of Public Works, J. C. DiSanto, director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, in collecting records for 31 gaging stations published in this report.

Organizations supplying data are acknowledged in the station descriptions.





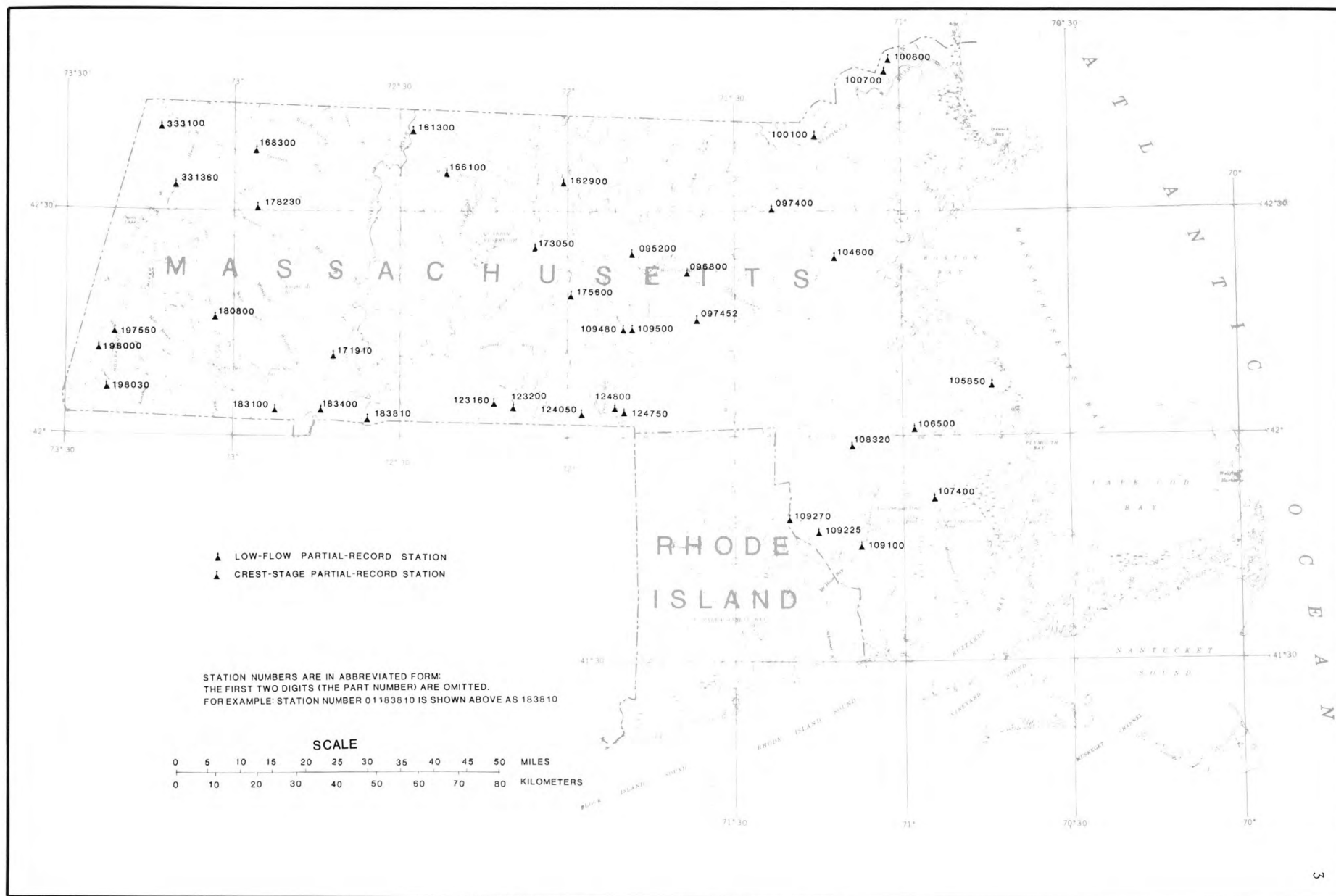


FIGURE 2. LOCATION OF PARTIAL-RECORD STATIONS

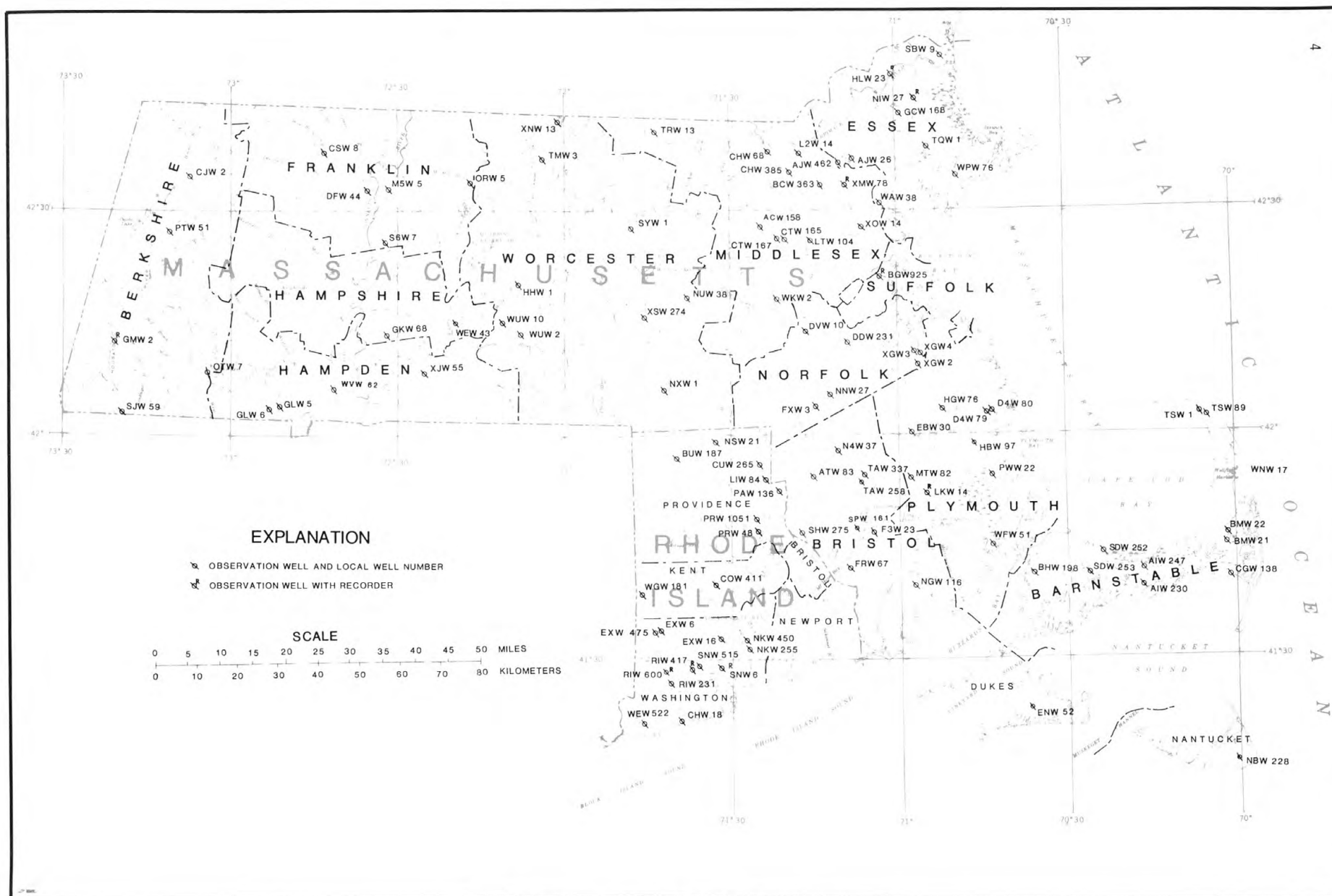


FIGURE 3. LOCATION OF OBSERVATION WELLS

## SUMMARY OF HYDROLOGIC CONDITIONS

**Streamflow.**--Runoff for the 1981 water year was deficient (in the lower quartile of record) throughout Massachusetts and Rhode Island. Drought conditions extant at the close of the 1980 water year affected streamflow and were most persistent in southern Rhode Island where index station 01117500, Pawcatuck River at Wood River Junction, had deficient monthly runoff in all 12 months; in southeastern Massachusetts, where 9 successive months (November to July) of deficient runoff occurred at station 01109000, Wading River near Norton; and in southwestern Massachusetts, where 8 months of deficient runoff and 11 months (except February) of below-median runoff occurred at station 01181000, West Branch Westfield River at Huntington. In other areas--central Massachusetts and northern Rhode Island--the drought persisted through April but runoff was generally in the normal range in May and June. Runoff at station 01173000, Ware River at Intake Works, near Barre, Massachusetts, was excessive (in the upper quartile of record) during July, and near excessive at station 0111500, Branch River at Forestdale, Rhode Island.

Runoff varied most widely from January to February. Runoff of many streams in both States set new lows for January for periods of record. Four storms in February produced new high runoff in that month for period of record at station 01181000, and second highest at station 01197500, Housatonic River at Great Barrington, Massachusetts. February runoff lessened from west to east and in southeastern Massachusetts and southern Rhode Island it remained in the deficient range. The locations of the index gaging stations are shown in figure 1. Figure 4 illustrates a comparison of monthly mean discharges for the 1981 water year with median discharges for the reference period 1951-80 for three index gaging stations.

**Ground water.**--At the beginning of the water year, ground-water levels were in the below normal range (in the lowest 20 percent of recorded range) and remained below normal through April, except that levels were in the normal range in central to northeastern Massachusetts in November and in the normal range in Rhode Island and central and western Massachusetts in February. In February, the water level was at a new low for period of record in one well in Massachusetts. New low water levels of record were observed in April in one well in Massachusetts and in two wells in Rhode Island.

Trends for the remainder of the year were mixed: May levels were below normal (except in central Massachusetts, where they were normal); June levels were below normal in Rhode Island and southeastern Massachusetts and normal elsewhere; July levels ranged from below normal in the same areas as in June, to normal in the remainder of Massachusetts except in central Massachusetts and along the New Hampshire-Vermont border where levels were above normal (in the upper 20 percent of recorded range); August and September levels were normal except in southeastern Massachusetts and southern Rhode Island where they were below normal.

Ground water fell to new low levels of record in many wells. During the water year, new low water levels were observed for one or more months, or for period of record, in 42 of the 85 observation wells in Massachusetts and in 15 of the 20 in Rhode Island.

Most of the hardwood forests of Massachusetts, from State Highway 128 around Boston to the Connecticut River valley, were defoliated by gypsy moth larva. The above normal or higher than expected ground-water levels found in parts of Massachusetts during July are attributed, in part, to reduction in transpiration, resulting from defoliation of trees caused by the gypsy moth infestation.

**Reservoirs.**--Major reservoirs were able to sustain reasonably comfortable storage levels during the year. Quabbin Reservoir in central Massachusetts, the major source for metropolitan Boston, declined from 90 percent full at the beginning of the water year to about 79 percent full at the end. The combined storage of Borden Brook and Cobble Mountain Reservoirs in western Massachusetts ranged from 68 percent full at the beginning of the year, to 88 percent full at the end of April, to 70 percent full at the end of September. Storage in Scituate Reservoir in Rhode Island fell from 74 percent full to 58 percent full during the course of the year.

By contrast, many smaller reservoirs, especially those in coastal Massachusetts and southern Rhode Island, fell to critically low levels. An article in the July 30 issue of the Boston Globe stated that: Brockton's Silver Lake was at its lowest level ever, only one quarter full; Ipswich had not used its Dow Reservoir for the past 2 weeks, hoping to conserve it; Gloucester and Rockport had a 60-day supply of water; 26 communities had instituted restricted water-use measures. In Rhode Island near the end of August Bristol County, Westerly, Pawtucket, Lincoln and Cumberland were under mandatory water restrictions and the remainder of the State was under voluntary restrictions. About the middle of September rainfall began to alleviate the critical water shortages.

## DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined on the following pages. See also the table for converting inch-pound units to International System Units (SI) on the inside of the back cover.

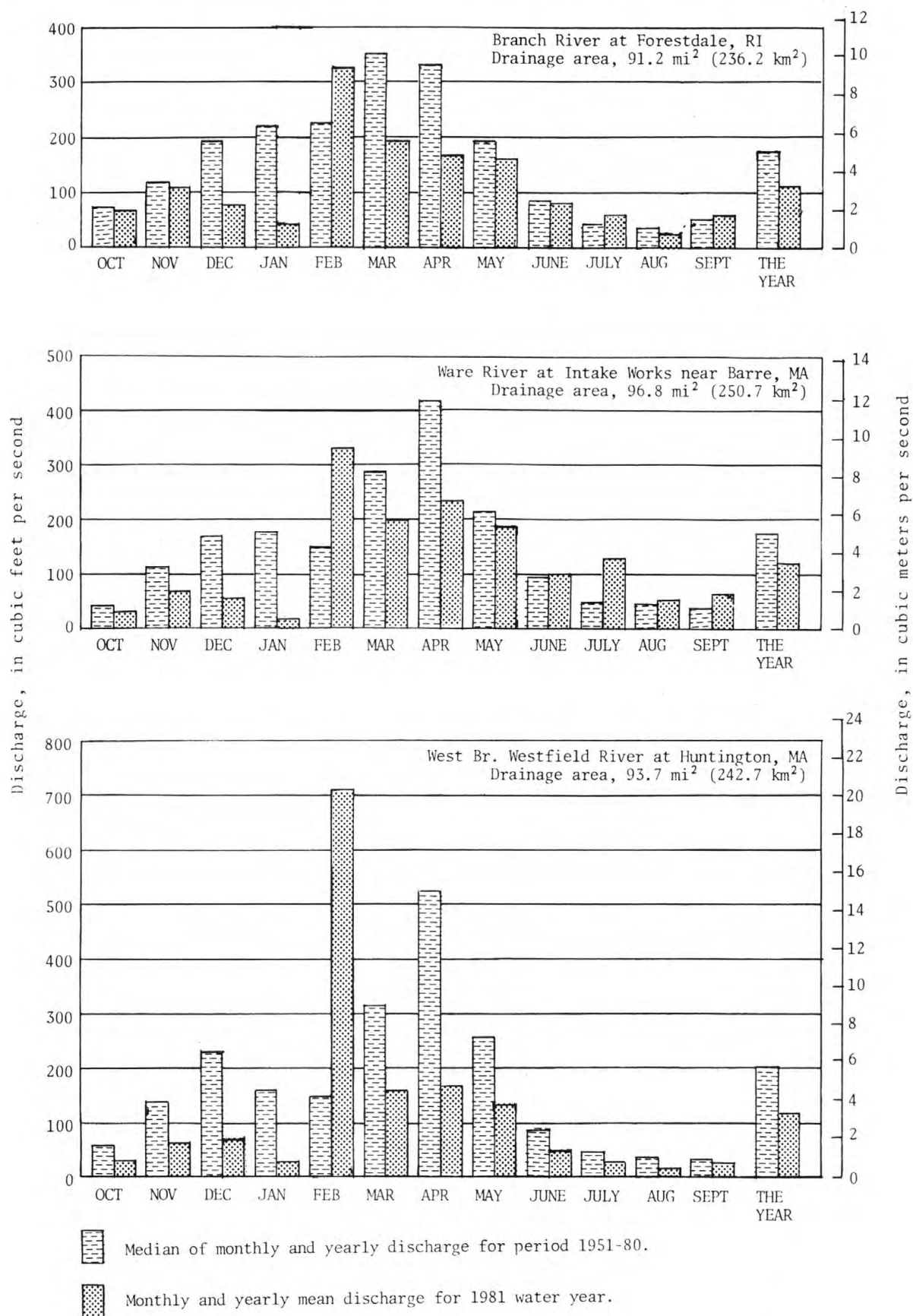


Figure 4.--Comparison of discharge at three long-term index gaging stations during 1981 water year with median discharge for period 1951-80.



Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells or springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer, tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, spherical, rod-like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. These bacteria are defined as organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C +1.0°C on M-Endo medium (nutrient medium for bacterial growth). Concentrations are expressed as number of colonies per 100 mL (milliliters) of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warmblooded animals. They are often used as indicators of the sanitary quality of water. These bacteria are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C +0.2°C on M-FC medium (nutrient medium for bacterial growth). Concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found in the intestines of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. These bacteria are defined as all organisms which produce red or pink colonies within 48 hours at 35°C +1.0°C on KF Streptococcus agar (nutrient medium for bacterial growth). Concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which the bottom of a stream, lake, pond, reservoir, or estuary is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, used for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry-mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. Ash-mass values of zooplankton and phytoplankton are expressed in g/m<sup>3</sup> (grams per cubic meter), and ash-mass values of periphyton and benthic organisms are expressed in g/m<sup>2</sup> (grams per square meter).

Biomass pigment ratio is the ratio of organic mass in mg/m<sup>2</sup> (milligrams per square meter) to the mass of chlorophyll *a*, mg/m<sup>2</sup>.

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash, and sediment in the sample. Dry-mass values are expressed in the same units as ash mass.

Bottom material: See Bed material.

Recoverable from bottom material is the amount of a given constituent in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by digestion treatment and thus determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as analytical methodology used, is required to judge when results should be reported as "total in bottom material."

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, about 646,000 gallons, or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in water, and gives an approximation of the amount of organic and reducing material present.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the most commonly reported green pigments in plants.

Color is expressed in units of the platinum-cobalt scale. A unit of color is produced by one milligram per liter of platinum in the form of the chloroplatinate ion.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT<sup>3</sup>/S, ft<sup>3</sup>/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.2832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\frac{1}{d} = - \sum_{i=1}^g \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where  $n_i$  is the number of individuals per taxon,  $n$  is the total number of individuals, and  $g$  is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to a positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO<sub>3</sub>).

Hydrologic unit is a geographic area representing part of all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is a permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per kilogram (UG/KG, ug/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of sediment.

Micrograms per liter (UG/L, ug/L) is a unit expressing the concentration of chemical constituents in a sample as the mass (micrograms) of constituent per unit volume (liter) of sample. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in a sample. Milligrams per liter represents the mass of constituent per unit volume of sample. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Organism count/area refers to the number of organisms enumerated in a sample and adjusted to the number per unit area of habitat, usually square meters (m<sup>2</sup>). Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organisms count/volume refers to the number of organisms enumerated in a sample and adjusted to the number per unit volume, usually in cells per milliliter (mL) or liter (L). Numbers of planktonic organisms are expressed in these terms.

Partial-record station is a particular site where limited streamflow and(or) water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

| Classification | Size (mm)       | Method of analysis      |
|----------------|-----------------|-------------------------|
| Clay.....      | 0.00024 - 0.004 | Sedimentation.          |
| Silt.....      | .004 - .062     | Sedimentation.          |
| Sand.....      | .062 - 2        | Sedimentation or sieve. |
| Gravel.....    | 2.0 - 64.0      | Sieve.                  |

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Periphyton refers to the assemblage of organisms attached to and growing upon submerged surfaces. While primarily consisting of algae, the assemblage may include bacteria, fungi, protozoa, rotifer, and other small organisms.

Pesticides are chemical compounds used to control undesirable plants and animals. The major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides are the two categories reported.

pH is a symbol denoting the negative logarithm (base 10) of the hydrogen ion concentration of a solution; pH values range from 0 to 14--the lower the value, the more acid is the solution; i.e., the more hydrogen ions it contains.



Phytoplankton are the plant part of the plankton communities which exist in standing waters. They are the primary source of food in their aquatic environments, and are commonly known as algae.

Picocurie (PCI, pCi) is one trillionth ( $1 \times 10^{-12}$ ) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or by volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that is discharged during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for estimating the dissolved-solids content of the water. Commonly, concentration of dissolved solids (in milligrams per liter) is about 65 percent of specific conductance (in micromhos per cm at 25°C). This relation is not constant from stream to stream or from well to well, and it may even vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water per unit of time flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to flow of a canal, the word "streamflow" uniquely describes discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lived.

Natural substrates refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.



Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45 micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made by analyzing portions of material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. The term is used only when analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerning classification and naming of organisms. Classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common: For example, taxonomy of a particular mayfly, Hexagenia limbata is the following:

Kingdom.....Animal  
Phylum.....Arthropoda  
Class.....Insecta  
Order.....Ephemeroptera  
Family.....Ephemeridae  
Genus.....Hexagenia  
Species.....Hexagenia limbata

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the water year.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour day.

Total (as used in tables of chemical analysis):

Total, recoverable is the amount of a given constituent in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. The term is used only when analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. Knowledge of the expected form of the constituent in the sample, as well as analytical methodology used, is required to judge when results should be reported as "total." (Note that the word "total" does double duty here, indicating the sample consists of a water-suspended sediment mixture and the analytical method determines all the constituent in the sample.)

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to previously published District annual basic-data reports.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

## DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 01094400, which appears just to the left of the station name includes the 2-digit part number "01" plus the 6-digit downstream-order number "094400."

## NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify wells or other sites within a 1-second grid. See figure 5 below.

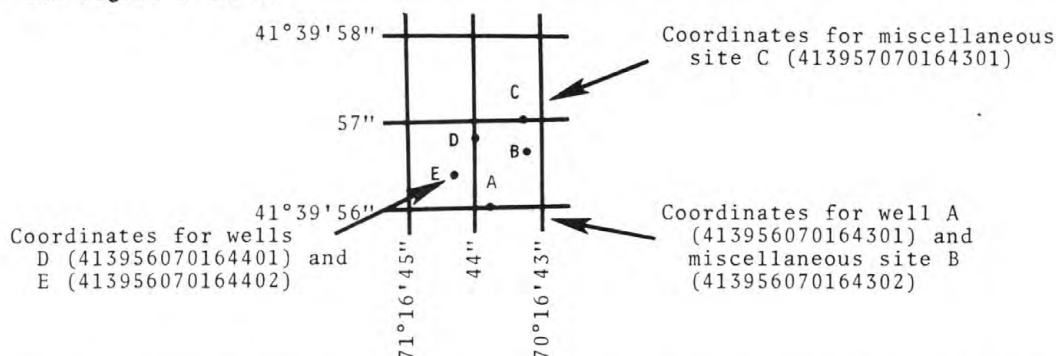


Figure 5.--System for numbering wells and miscellaneous sites (latitude and longitude)

A local well-numbering system is also used in this report. The local well number consists of a 2-letter code for the town in which the well is located followed by a "W" signifying that it is a well, and a sequential number. The local number is used to identify the location of observation wells on figure 3.

## SPECIAL NETWORKS AND PROGRAMS

National stream-quality accounting network (NASQAN) is a collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

## EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and Computation of Data

The base data collected at gaging stations consists of records of stage and measurements of discharge of streams, and stage, surface area, and contents of lakes and reservoirs. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. Records of stage are obtained from a water-stage recorder that gives either a tape punched at selected time intervals or a continuous graph of the fluctuations. Measurements of discharge are made with a current meter, using the general methods adopted by the U.S. Geological Survey. These methods are described in standard textbooks and in the U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables; then the monthly and yearly mean discharges are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors, based on individual discharge measurements and notes by hydrologists and observers, are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by hydrologists and observers, and comparable records of discharge for other stations in the same or nearby basins.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of contents is given. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge and stage. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information obtained later. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are effected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.



The type of gage currently in use; the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS."

Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and to supplemental water-quality data collected during the year is given under "REMARKS." Attention is called to periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. Methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE;" it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance.

Under "EXTREMES" are given first, extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, maximum discharge is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder, a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge, it is given separately. Similarly, minimum is the instantaneous minimum unless otherwise qualified. For some stations, supplemental peak discharges are listed with "EXTREMES FOR THE CURRENT YEAR." If they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage height are published in tabular format. Base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. Minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), and in inches (line headed "IN."). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations and miscellaneous sites are contained in three tables following the information for continuous record sites. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites.

#### Accuracy of Field Data and Computed Results

Accuracy of streamflow data depends primarily on (1) stability of the stage-discharge relation or, if the control is unstable, frequency of discharge measurements, and (2) accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent of true value; "good," within 10 percent; and "fair," within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft<sup>3</sup>/s; to tenths between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures above 1,000 ft<sup>3</sup>/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in adjustments for changes in reservoir contents. Even at those stations where adjustments are made, large errors in computed runoff may occur if the adjustments or losses are large in comparison with the observed discharge.



### Other Data Available

Information of a more detailed nature than that published for most gaging stations, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Also, most gaging-station records are available in computer-usable form, and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

## EXPLANATION OF WATER-QUALITY RECORDS

### Collection and Examination of Data

Surface-water samples for analyses usually are collected at or near gaging stations. Quality-of-water records are given immediately following the discharge records for these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data, the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, and water temperature), extremes for the period of daily record, extremes for the current year, and general remarks.

### Water Analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based on hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

### Water Temperature

Water temperatures are measured at most water-quality stations. In addition, water temperatures are taken at time of most discharge measurements for surface-water stations. Large streams have a small diurnal temperature change while small, shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

### Sediment

Suspended-sediment concentrations are determined periodically from samples collected by using depth-integrating samplers. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow when predicting long-term sediment discharge characteristics of the stream.

## EXPLANATION OF GROUND-WATER-LEVEL RECORDS

### Collection of the Data

Only ground-water-level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude, and (2) a local number that is provided for local needs.

Measurements are made in many types of wells, under varying conditions of access, and at different temperatures; hence, neither the method of measurement nor the equipment are standardized. At each observation well, however, the equipment and techniques used are those that will insure that measurements at each well are of consistent accuracy and reliability.

Water-level measurements are reported to the nearest hundredth of a foot with reference to land-surface datum (lsd), which is a datum plane that is approximately at land surface at each well. If known, the altitude of land-surface datum above National Geodetic Vertical Datum of 1929 is given in the well description. Height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month; water levels in wells not equipped with recording gages are reported for near the end of each month.

## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-eight manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. Material is grouped under major subject headings called books and further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. Reports listed below are for sale by U.S. Geological Survey, Eastern Distribution Branch, Text Products Section, 604 South Pickett Street, Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office). Prices, effective September 1982, are subject to change. When ordering these publications, please give the series (U.S. Geological Survey Techniques of Water-Resources Investigations), title, book number, and chapter number.

- 1-D1 Water temperature-influential factors, field measurement, and data presentation, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: Book 1, Chapter D1. 1975. 65 pages. \$2.50.
- 1-D2 Guidelines for collection and field analysis of ground-water samples for selected unstable constituents by W. W. Wood: Book 1, Chapter D2. 1976. 24 pages. \$2.50.
- 2-D1 Application of surface geophysics to ground-water investigations, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: Book 2, Chapter D1. 1974. 116 pages. \$6.50.
- 2-E1 Application of borehole geophysics to water-resources investigations, by W. S. Keys and L. M. MacCary: Book 2, Chapter E1. 1971. 126 pages. \$6.00.
- 3-A1 General field and office procedures for indirect discharge measurements, by M. A. Benson and Tate Dalrymple: Book 3, Chapter A1. 1967. 30 pages. \$1.75.
- 3-A2 Measurement of peak discharge by the slope-area method, by Tate Dalrymple and M. A. Benson: Book 3, Chapter A2. 1967. 12 pages. \$1.75.
- 3-A3 Measurement of peak discharge at culverts by indirect methods, by G. L. Bodhaine: Book 3, Chapter A3. 1968. 60 pages. \$5.00.
- 3-A4 Measurement of peak discharge at width contractions by indirect methods, by H. F. Matthai: Book 3, Chapter A4. 1967. 44 pages. \$1.75.
- 3-A5 Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: Book 3, Chapter A5. 1967. 29 pages. \$0.75.
- 3-A6 General procedure for gaging streams, by R. W. Carter and Jacob Davidian: Book 3, Chapter A6. 1968. 13 pages. \$1.75.
- 3-A7 Stage measurements at gaging stations, by T. J. Buchanan and W. P. Somers: Book 3, Chapter A7. 1968. 28 pages. \$4.50.
- 3-A8 Discharge measurements at gaging stations, by T. J. Buchanan and W. P. Somers: Book 3, Chapter A8. 1969. 65 pages. \$2.00.
- 3-A9 Measurement of time-of-travel and dispersion in streams by dye tracing, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: Book 3, Chapter A9. 1982. 44 pages. \$5.00.
- 3-A11 Measurement of discharge by moving-boat method, by G. F. Smoot and C. E. Novak: Book 3, Chapter A11. 1969. 22 pages. \$2.00.
- 3-A12 Fluorometric procedures for dye tracing, by J. F. Wilson, Jr.: Book 3, Chapter A12. 1968. 31 pages. \$0.35. Not currently available.
- 3-B1 Aquifer-test design, observation, and data analysis, by R. W. Stallman: Book 3, Chapter B1. 1971. 26 pages. \$1.75.
- 3-B2 Introduction to ground-water hydraulics, a programed text for self-instruction, by G. D. Bennett: Book 3, Chapter B2. 1976. 172 pages. \$3.75.
- 3-B3 Type curves for selected problems of flow to wells in confined aquifers, by J. E. Reed: Book 3, Chapter B3. 1980. 106 pages. \$6.50.
- 3-C1 Fluvial sediment concepts, by H. P. Guy: Book 3, Chapter C1. 1970. 55 pages. \$3.75.
- 3-C2 Field methods for measurement of fluvial sediment, by H. P. Guy and V. W. Norman: Book 3, Chapter C2. 1970. 59 pages. \$5.50.
- 3-C3 Computation of fluvial-sediment discharge, by George Porterfield: Book 3, Chapter C3. 1972. 66 pages. \$3.25.
- 4-A1 Some statistical tools in hydrology, by H. C. Riggs: Book 4, Chapter A1. 1968. 39 pages. \$2.50.
- 4-A2 Frequency curves, by H. C. Riggs: Book 4, Chapter A2. 1968. 15 pages. \$2.00.
- 4-B1 Low-flow investigations, by H. C. Riggs: Book 4, Chapter B1. 1972. 18 pages. \$3.50.
- 4-B2 Storage analyses for water supply, by H. C. Riggs and C. H. Hardison: Book 4, Chapter B2. 1973. 20 pages. \$2.75.
- 4-B3 Regional analyses of streamflow characteristics, by H. C. Riggs: Book 4, Chapter B3. 1973. 15 pages. \$3.50.
- 4-D1 Computation of rate and volume of stream depletion by wells, by C. T. Jenkins: Book 4, Chapter D1. 1970. 17 pages. \$1.75.
- 5-A1 Methods for determination of inorganic substances in water and fluvial sediments, by M. W. Skougstad, M. J. Fishman, L. C. Friedman, D. E. Erdmann, and S. S. Duncan, editors: Book 5, Chapter A1. 1979. 626 pages. \$11.00.
- 5-A2 Determination of minor elements in water by emission spectroscopy, by P. R. Barnett and E. C. Mallory, Jr.: Book 5, Chapter A2. 1971. 31 pages. \$2.75.
- 5-A3 Methods for analysis of organic substances in water, by D. F. Goerlitz and Eugene Brown: Book 5, Chapter A3. 1972. 40 pages. \$1.75.
- 5-A4 Methods for collection and analysis of aquatic biological and microbiological samples, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: Book 5, Chapter A4. 1977. 352 pages. \$10.00.
- 5-A5 Methods for determination of radioactive substances in water and fluvial sediments, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: Book 5, Chapter A5. 1977. 95 pages. \$6.50.
- 5-C1 Laboratory theory and methods for sediment analysis, by H. P. Guy: Book 5, Chapter C1. 1969. 58 pages. \$3.25.
- 7-C1 Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P. C. Trescott, G. F. Pinder, and S. P. Larson: Book 7, Chapter C1. 1976. 116 pages. \$2.75.
- 7-C2 Computer model of two-dimensional solute transport and dispersion in ground water by L. F. Konikow and J. D. Bredehoeft: Book 7, Chapter C2. 1978. 90 pages. \$5.00.
- 7-C3 A model for simulation of flow in singular and interconnected channels by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: Book 7, Chapter C3. 1981. 110 pages. \$7.50.
- 8-A1 Methods of measuring water levels in deep wells, by M. S. Garber and F. C. Koopman: Book 8, Chapter A1. 1968. 23 pages. \$2.00.
- 8-B2 Calibration and maintenance of vertical-axis type current meters, by G. F. Smoot and C. E. Novak: Book 8, Chapter B2. 1968. 15 pages. \$1.75.

## 01094400 NORTH NASHUA RIVER AT FITCHBURG, MA

LOCATION.--Lat 42°34'34", long 71°47'19", Worcester County, Hydrologic Unit 01070004, on right bank 400 ft (100 m) upstream from Fifth Street Bridge at Fitchburg and 1.8 mi (2.9 km) upstream from Baker Brook.

DRAINAGE AREA.--63.6 mi<sup>2</sup> (164.7 km<sup>2</sup>).

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 400 ft (122 m), from topographic map.

REMARKS.--Records good. Flow regulated by mills and reservoirs upstream. Flow affected by diversions for municipal use. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--9 years, 119 ft<sup>3</sup>/s (3.370 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,080 ft<sup>3</sup>/s (58.9 m<sup>3</sup>/s) Dec. 21, 1973, gage height, 6.22 ft (1.896 m) and Mar. 14, 1977, gage height 6.23 ft (1.899 m); minimum, 6.7 ft<sup>3</sup>/s (0.19 m<sup>3</sup>/s) Oct. 19, 1980, but may have been slightly lower about Sept. 8, 1980; minimum daily, 9.0 ft<sup>3</sup>/s (0.25 m<sup>3</sup>/s) Sept. 8, 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft<sup>3</sup>/s (20 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 21 | 0745 | 952 27.0                                              | 4.61 1.405              | Feb. 24 | 2345 | *1080 30.6                                            | 4.81 1.466              |

Minimum discharge, 6.7 ft<sup>3</sup>/s (0.19 m<sup>3</sup>/s) Oct. 20; minimum daily, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC       | JAN      | FEB     | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|---------|-----------|----------|---------|------|------|------|------|------|------|------|
| 1           | 16    | 24      | 92        | 28       | 23      | 351  | 96   | 145  | 71   | 49   | 44   | 20   |
| 2           | 16    | 22      | 76        | 28       | 182     | 291  | 228  | 124  | 59   | 47   | 37   | 20   |
| 3           | 17    | 18      | 80        | 26       | 198     | 240  | 188  | 108  | 55   | 48   | 32   | 20   |
| 4           | 33    | 24      | 61        | 24       | 103     | 192  | 142  | 96   | 55   | 51   | 29   | 20   |
| 5           | 18    | 26      | 53        | 24       | 76      | 170  | 121  | 91   | 49   | 264  | 57   | 19   |
| 6           | 14    | 22      | 48        | 24       | 59      | 151  | 196  | 89   | 50   | 297  | 63   | 16   |
| 7           | 17    | 21      | 47        | 26       | 54      | 145  | 162  | 79   | 54   | 165  | 43   | 15   |
| 8           | 16    | 21      | 47        | 25       | 55      | 141  | 128  | 73   | 44   | 111  | 34   | 16   |
| 9           | 16    | 24      | 51        | 26       | 56      | 131  | 112  | 69   | 48   | 86   | 35   | 83   |
| 10          | 15    | 28      | 52        | 25       | 54      | 124  | 102  | 66   | 43   | 73   | 29   | 29   |
| 11          | 24    | 29      | 49        | 23       | 169     | 117  | 93   | 66   | 38   | 62   | 25   | 22   |
| 12          | 18    | 23      | 41        | 23       | 317     | 110  | 88   | 223  | 33   | 54   | 30   | 19   |
| 13          | 13    | 21      | 45        | 23       | 138     | 107  | 80   | 253  | 31   | 60   | 28   | 23   |
| 14          | 13    | 21      | 44        | 23       | 99      | 105  | 93   | 167  | 29   | 65   | 24   | 23   |
| 15          | 16    | 20      | 37        | 23       | 82      | 95   | 134  | 139  | 30   | 51   | 23   | 21   |
| 16          | 17    | 16      | 41        | 22       | 75      | 96   | 106  | 301  | 30   | 45   | 68   | 31   |
| 17          | 17    | 14      | 41        | 21       | 89      | 92   | 95   | 253  | 30   | 40   | 49   | 33   |
| 18          | 19    | 21      | 35        | 21       | 98      | 84   | 89   | 173  | 29   | 44   | 35   | 27   |
| 19          | 17    | 22      | 38        | 19       | 100     | 78   | 80   | 134  | 27   | 50   | 29   | 33   |
| 20          | 10    | 22      | 35        | 26       | 270     | 77   | 75   | 113  | 68   | 78   | 27   | 35   |
| 21          | 15    | 22      | 31        | 25       | 864     | 74   | 70   | 99   | 130  | 121  | 26   | 27   |
| 22          | 16    | 23      | 32        | 25       | 604     | 77   | 63   | 89   | 103  | 105  | 25   | 34   |
| 23          | 16    | 25      | 33        | 25       | 368     | 74   | 65   | 80   | 116  | 73   | 24   | 112  |
| 24          | 16    | 30      | 33        | 25       | 730     | 72   | 104  | 74   | 77   | 59   | 20   | 87   |
| 25          | 92    | 88      | 27        | 22       | 872     | 71   | 230  | 68   | 140  | 50   | 25   | 67   |
| 26          | 104   | 85      | 26        | 17       | 857     | 71   | 211  | 65   | 204  | 45   | 22   | 53   |
| 27          | 41    | 61      | 30        | 29       | 670     | 81   | 151  | 59   | 116  | 48   | 21   | 44   |
| 28          | 36    | 116     | 29        | 29       | 452     | 94   | 120  | 55   | 84   | 40   | 21   | 40   |
| 29          | 34    | 233     | 32        | 29       | ---     | 87   | 120  | 65   | 66   | 87   | 19   | 33   |
| 30          | 28    | 131     | 34        | 28       | ---     | 89   | 179  | 65   | 54   | 74   | 17   | 29   |
| 31          | 26    | ---     | 31        | 28       | ---     | 100  | ---  | 72   | ---  | 55   | 17   | ---  |
| TOTAL       | 766   | 1253    | 1351      | 762      | 7714    | 3787 | 3721 | 3553 | 1963 | 2497 | 978  | 1051 |
| MEAN        | 24.7  | 41.8    | 43.6      | 24.6     | 276     | 122  | 124  | 115  | 65.4 | 80.5 | 31.5 | 35.0 |
| MAX         | 104   | 233     | 92        | 29       | 872     | 351  | 230  | 301  | 204  | 297  | 68   | 112  |
| MIN         | 10    | 14      | 26        | 17       | 23      | 71   | 63   | 55   | 27   | 40   | 17   | 15   |
| CAL YR 1980 | TOTAL | 28419.3 | MEAN 77.6 | MAX 1230 | MIN 9.0 |      |      |      |      |      |      |      |
| WTR YR 1981 | TOTAL | 29396.0 | MEAN 80.5 | MAX 872  | MIN 10  |      |      |      |      |      |      |      |

## MERRIMACK RIVER BASIN

01094500 NORTH NASHUA RIVER NEAR LEOMINSTER, MA

LOCATION.--Lat 42°30'06", long 71°43'23", Worcester County, Hydrologic Unit 01070004, on right bank 1.3 mi (2.1 km) upstream from Wekepeke Brook, 2.5 mi (4.0 km) southeast of Leominster, and 6.1 mi (9.8 km) upstream from confluence with Nashua River.

DRAINAGE AREA.--110 mi<sup>2</sup> (285 km<sup>2</sup>), includes 2.1 mi<sup>2</sup> (5.4 km<sup>2</sup>) above outlet of Ashby (Fitchburg) Reservoir.

PERIOD OF RECORD.--Discharge: September 1935 to current year.

Water-quality records: Water years 1955, 1958.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 270.04 ft (82.308 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period of no gage-height record, Mar. 12 to Apr. 15, which are fair. Regulation at low flow by mills upstream. Flow includes diversion to basin for municipal supplies, for Fitchburg from Mare Meadow Reservoir since 1955, for Leominster from Wachusett Reservoir since 1966, and for the Southeast Well Field since 1958. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--46 years, 191 ft<sup>3</sup>/s (5.409 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft<sup>3</sup>/s (462 m<sup>3</sup>/s) Mar. 18, 1936, gage height, 20.53 ft (6.258 m), from floodmarks, by computation of peak flow over dam; minimum, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) Aug. 29, 1948; minimum daily, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) Sept. 27, 1936, Sept. 2, 1957.

Maximum discharge since at least 1850, that of Mar. 18, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,100 ft<sup>3</sup>/s (31 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 25 | 0245 | *1300 36.8                                            | 4.84 1.475              |      |      |                                                       |                         |

Minimum, 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) Jan. 11, 18; minimum daily, 43 ft<sup>3</sup>/s (1.22 m<sup>3</sup>/s) Jan. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB   | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|-------|------|------|------|------|------|------|------|
| 1     | 47   | 59   | 173  | 56   | 46    | 501  | 150  | 238  | 123  | 91   | 93   | 55   |
| 2     | 47   | 54   | 146  | 57   | 324   | 413  | 350  | 204  | 107  | 89   | 79   | 56   |
| 3     | 51   | 50   | 155  | 53   | 308   | 350  | 300  | 178  | 100  | 87   | 76   | 54   |
| 4     | 117  | 56   | 123  | 50   | 171   | 291  | 220  | 159  | 105  | 98   | 72   | 55   |
| 5     | 56   | 64   | 107  | 47   | 117   | 262  | 190  | 155  | 96   | 412  | 105  | 53   |
| 6     | 50   | 57   | 100  | 51   | 91    | 238  | 300  | 148  | 96   | 475  | 138  | 49   |
| 7     | 51   | 53   | 91   | 53   | 79    | 227  | 250  | 135  | 98   | 262  | 96   | 48   |
| 8     | 51   | 54   | 94   | 51   | 81    | 222  | 200  | 125  | 85   | 180  | 79   | 48   |
| 9     | 47   | 59   | 109  | 53   | 83    | 204  | 170  | 117  | 89   | 140  | 96   | 201  |
| 10    | 47   | 65   | 107  | 50   | 74    | 197  | 160  | 113  | 85   | 121  | 78   | 82   |
| 11    | 64   | 65   | 96   | 46   | 251   | 187  | 140  | 115  | 78   | 103  | 71   | 65   |
| 12    | 53   | 59   | 83   | 46   | 485   | 170  | 150  | 415  | 72   | 91   | 76   | 58   |
| 13    | 44   | 54   | 89   | 48   | 204   | 165  | 125  | 422  | 69   | 96   | 74   | 60   |
| 14    | 44   | 53   | 83   | 47   | 146   | 160  | 155  | 275  | 67   | 125  | 69   | 64   |
| 15    | 47   | 50   | 72   | 48   | 119   | 150  | 200  | 238  | 67   | 93   | 64   | 64   |
| 16    | 48   | 44   | 79   | 50   | 107   | 150  | 171  | 461  | 67   | 81   | 117  | 95   |
| 17    | 50   | 46   | 81   | 48   | 125   | 145  | 155  | 428  | 65   | 74   | 93   | 82   |
| 18    | 54   | 57   | 72   | 43   | 138   | 130  | 148  | 297  | 64   | 76   | 76   | 69   |
| 19    | 57   | 57   | 78   | 46   | 138   | 120  | 133  | 235  | 62   | 96   | 65   | 86   |
| 20    | 64   | 56   | 64   | 51   | 275   | 120  | 129  | 200  | 148  | 140  | 61   | 81   |
| 21    | 57   | 57   | 62   | 53   | 941   | 115  | 121  | 173  | 212  | 204  | 59   | 68   |
| 22    | 54   | 57   | 64   | 51   | 695   | 120  | 113  | 155  | 178  | 178  | 57   | 74   |
| 23    | 53   | 56   | 65   | 51   | 446   | 115  | 117  | 140  | 185  | 127  | 53   | 232  |
| 24    | 50   | 69   | 65   | 51   | 805   | 110  | 185  | 127  | 127  | 103  | 53   | 166  |
| 25    | 212  | 197  | 54   | 47   | 1150  | 110  | 347  | 117  | 254  | 89   | 65   | 130  |
| 26    | 246  | 162  | 53   | 44   | 1170  | 110  | 299  | 111  | 313  | 87   | 57   | 103  |
| 27    | 100  | 117  | 61   | 56   | 940   | 125  | 233  | 103  | 187  | 91   | 54   | 89   |
| 28    | 87   | 246  | 57   | 56   | 637   | 145  | 190  | 96   | 138  | 81   | 52   | 85   |
| 29    | 79   | 425  | 64   | 53   | ---   | 135  | 212  | 173  | 113  | 183  | 50   | 75   |
| 30    | 69   | 238  | 69   | 51   | ---   | 140  | 283  | 131  | 98   | 148  | 45   | 68   |
| 31    | 64   | ---  | 62   | 51   | ---   | 155  | ---  | 133  | ---  | 113  | 48   | ---  |
| TOTAL | 2160 | 2736 | 2678 | 1558 | 10146 | 5782 | 5876 | 6117 | 3548 | 4334 | 2271 | 2515 |
| MEAN  | 69.7 | 91.2 | 86.4 | 50.3 | 362   | 187  | 196  | 197  | 118  | 140  | 73.3 | 83.8 |
| MAX   | 246  | 425  | 173  | 57   | 1170  | 501  | 350  | 461  | 313  | 475  | 138  | 232  |
| MIN   | 44   | 44   | 53   | 43   | 46    | 110  | 113  | 96   | 62   | 74   | 45   | 48   |

CAL YR 1980 TOTAL 50587 MEAN 138 MAX 1720 MIN 38  
WTR YR 1981 TOTAL 49721 MEAN 136 MAX 1170 MIN 43



## 01095500 NASHUA RIVER AT CLINTON, MA

LOCATION.--Lat 42°24'12", long 71°41'19", Worcester County, Hydrologic Unit 01070004, at Wachusett Dam 1 mi (1.6 km) south of Clinton.

DRAINAGE AREA.--107.69 mi<sup>2</sup> (278.92 km<sup>2</sup>), since July 1937.

PERIOD OF RECORD.--Discharge: July 1896 to current year. Prior to October 1978, published as South Branch Nashua River.  
Water-quality records: Water year 1957.

REVISED RECORDS.--WSP 1051: 1928. WDR MA-RI-78-1: 1977.

REMARKS.--Flow regulated by Wachusett Reservoir and several ponds. Records adjusted for change in contents in and wastage from Wachusett Reservoir and diversions from Ware River and Quabbin Reservoir on Swift River. Entire flow, except wastage, diverted for use of Boston metropolitan district and other municipalities.

COOPERATION.--Records furnished by Water Division of Metropolitan District Commission.

AVERAGE DISCHARGE.--85 years, 187 ft<sup>3</sup>/s (5.296 m<sup>3</sup>/s), 23.58 in/yr (599 mm/yr), adjusted to present drainage area.

## MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

|                         | Mean | Per square mile | Runoff in inches | Rainfall in inches |
|-------------------------|------|-----------------|------------------|--------------------|
| October.....            | 13.2 | 0.12            | 0.14             | 5.00               |
| November.....           | 58.3 | .54             | .60              | 4.20               |
| December.....           | 47.7 | .44             | .51              | 1.09               |
| Calendar year 1980..... | 123  | 1.14            | 15.61            | 39.84              |
| January.....            | 12.8 | .12             | .14              | .88                |
| February.....           | 381  | 3.54            | 3.68             | 7.97               |
| March.....              | 236  | 2.19            | 2.53             | .76                |
| April.....              | 197  | 1.83            | 2.04             | 4.25               |
| May.....                | 176  | 1.63            | 1.88             | 3.82               |
| June.....               | 96.4 | .90             | 1.00             | 3.62               |
| July.....               | 106  | .98             | 1.13             | 5.28               |
| August.....             | 5.48 | .05             | .06              | 1.15               |
| September.....          | 45.4 | .42             | .47              | 5.23               |
| Water year 1981.....    | 113  | 1.05            | 14.19            | 43.25              |

## MERRIMACK RIVER BASIN

01096000 SQUANNACOOK RIVER NEAR WEST GROTON, MA

LOCATION.--Lat 42°38'03", long 71°39'30", Middlesex County, Hydrologic Unit 01070004, on left bank 0.7 mi (1.1 km) downstream from Trout Brook and 2.7 mi (4.3 km) northwest of West Groton.

DRAINAGE AREA.--62.8 mi<sup>2</sup> (162.7 km<sup>2</sup>), excludes 2.10 mi<sup>2</sup> (5.44 km<sup>2</sup>) above outlet of Ashby Reservoir.

PERIOD OF RECORD.--Discharge: October 1949 to current year.  
Water-quality records: Water year 1957.

GAGE.--Water-stage recorder. Datum of gage is 244.27 (74.453 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Occasional regulation at low flow by mill upstream; regulation greater prior to 1961. Entire flow from 2.10 mi<sup>2</sup> (5.44 km<sup>2</sup>) upstream from outlet of Ashby Reservoir diverted for municipal supply of Fitchburg except during water years 1964, 1967-81. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--32 years, 109 ft<sup>3</sup>/s (3.087 m<sup>3</sup>/s), 23.57 in/yr (599 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,010 ft<sup>3</sup>/s (114 m<sup>3</sup>/s) Oct. 16, 1955, gage height, 8.04 ft (2.451 m), from rating curve extended above 2,200 ft<sup>3</sup>/s (62 m<sup>3</sup>/s); minimum daily, 2.0 ft<sup>3</sup>/s (0.057 m<sup>3</sup>/s) Sept. 7, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft<sup>3</sup>/s (20 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date                       | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|----------------------------|------|-------------------------------------------------------|-------------------------|
| Feb. 27 | 0500 | *932 26.4                                             | 5.30 1.615              | No other peaks above base. |      |                                                       |                         |

Minimum daily discharge, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Oct. 1-3, 11, 12.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MEAN VALUES |      |      |      |      |      |      |      |      |      |      |      |
|-------|-------------|------|------|------|------|------|------|------|------|------|------|------|
|       | OCT         | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
| 1     | 16          | 29   | 127  | 26   | 21   | 376  | 91   | 172  | 76   | 51   | 57   | 18   |
| 2     | 16          | 30   | 89   | 24   | 39   | 298  | 125  | 160  | 62   | 47   | 43   | 18   |
| 3     | 16          | 27   | 76   | 23   | 140  | 248  | 212  | 144  | 51   | 45   | 36   | 18   |
| 4     | 18          | 26   | 69   | 22   | 125  | 200  | 178  | 125  | 48   | 46   | 31   | 18   |
| 5     | 21          | 27   | 56   | 20   | 79   | 179  | 137  | 110  | 44   | 113  | 43   | 18   |
| 6     | 20          | 27   | 51   | 19   | 49   | 162  | 144  | 103  | 40   | 410  | 141  | 18   |
| 7     | 20          | 26   | 46   | 20   | 40   | 150  | 183  | 96   | 40   | 266  | 82   | 17   |
| 8     | 20          | 25   | 45   | 20   | 37   | 148  | 156  | 87   | 38   | 148  | 53   | 17   |
| 9     | 19          | 24   | 47   | 20   | 34   | 142  | 127  | 79   | 35   | 100  | 46   | 49   |
| 10    | 17          | 26   | 49   | 20   | 33   | 133  | 113  | 73   | 35   | 76   | 41   | 63   |
| 11    | 16          | 29   | 45   | 19   | 39   | 127  | 102  | 70   | 32   | 64   | 35   | 38   |
| 12    | 16          | 29   | 37   | 18   | 200  | 122  | 95   | 118  | 30   | 54   | 34   | 30   |
| 13    | 18          | 28   | 36   | 18   | 209  | 116  | 88   | 352  | 27   | 48   | 34   | 28   |
| 14    | 18          | 26   | 39   | 18   | 107  | 112  | 82   | 245  | 26   | 54   | 30   | 27   |
| 15    | 18          | 25   | 33   | 18   | 78   | 103  | 111  | 164  | 25   | 57   | 28   | 24   |
| 16    | 18          | 25   | 33   | 18   | 67   | 99   | 136  | 187  | 24   | 48   | 36   | 27   |
| 17    | 18          | 24   | 34   | 18   | 66   | 98   | 119  | 274  | 24   | 41   | 47   | 33   |
| 18    | 18          | 25   | 32   | 18   | 82   | 89   | 104  | 225  | 22   | 37   | 36   | 33   |
| 19    | 18          | 27   | 32   | 18   | 94   | 82   | 95   | 162  | 21   | 37   | 29   | 31   |
| 20    | 18          | 27   | 28   | 19   | 107  | 82   | 85   | 128  | 31   | 39   | 26   | 33   |
| 21    | 18          | 26   | 27   | 19   | 263  | 81   | 78   | 106  | 116  | 66   | 24   | 30   |
| 22    | 18          | 26   | 26   | 19   | 431  | 79   | 72   | 94   | 89   | 113  | 22   | 27   |
| 23    | 18          | 26   | 26   | 20   | 284  | 78   | 68   | 85   | 112  | 90   | 22   | 67   |
| 24    | 18          | 27   | 27   | 20   | 237  | 77   | 76   | 77   | 89   | 60   | 21   | 102  |
| 25    | 18          | 51   | 28   | 20   | 691  | 76   | 180  | 70   | 77   | 47   | 24   | 85   |
| 26    | 103         | 96   | 24   | 20   | 846  | 74   | 317  | 63   | 218  | 40   | 25   | 60   |
| 27    | 116         | 82   | 23   | 20   | 871  | 74   | 238  | 57   | 186  | 38   | 23   | 45   |
| 28    | 58          | 61   | 23   | 21   | 552  | 84   | 167  | 49   | 111  | 38   | 21   | 37   |
| 29    | 42          | 171  | 24   | 22   | ---  | 91   | 136  | 51   | 76   | 50   | 20   | 38   |
| 30    | 36          | 218  | 27   | 23   | ---  | 89   | 145  | 73   | 60   | 96   | 19   | 39   |
| 31    | 31          | ---  | 28   | 22   | ---  | 89   | ---  | 67   | ---  | 83   | 18   | ---  |
| TOTAL | 835         | 1316 | 1287 | 622  | 5821 | 3958 | 3960 | 3866 | 1865 | 2502 | 1147 | 1088 |
| MEAN  | 26.9        | 43.9 | 41.5 | 20.1 | 208  | 128  | 132  | 125  | 62.2 | 80.7 | 37.0 | 36.3 |
| MAX   | 116         | 218  | 127  | 26   | 871  | 376  | 317  | 352  | 218  | 410  | 141  | 102  |
| MIN   | 16          | 24   | 23   | 18   | 21   | 74   | 68   | 49   | 21   | 37   | 18   | 17   |
| CFSM  | .43         | .70  | .66  | .32  | 3.31 | 2.04 | 2.10 | 1.99 | .99  | 1.29 | .59  | .58  |
| IN.   | .49         | .78  | .76  | .37  | 3.45 | 2.34 | 2.35 | 2.29 | 1.10 | 1.48 | .68  | .64  |

|             |       |         |           |          |         |           |          |
|-------------|-------|---------|-----------|----------|---------|-----------|----------|
| CAL YR 1980 | TOTAL | 27502.6 | MEAN 75.1 | MAX 1090 | MIN 9.9 | CFSM 1.20 | IN 16.29 |
| WTR YR 1981 | TOTAL | 28267.0 | MEAN 77.4 | MAX 871  | MIN 16  | CFSM 1.23 | IN 16.74 |

## 01096500 NASHUA RIVER AT EAST PEPPERELL, MA

LOCATION.--Lat 42°40'03", long 71°34'32", Middlesex County, Hydrologic Unit 01070004, on right bank 200 ft (60 m) downstream from powerplant of James River-Pepperell Co. at East Pepperell and 0.8 mi (1.3 km) upstream from Nissitissit River.

DRAINAGE AREA.--Total above gage, 433 mi<sup>2</sup> (1,121 km<sup>2</sup>); net above gage, 316 mi<sup>2</sup> (818 km<sup>2</sup>), flow diverted from 117 mi<sup>2</sup> (303 km<sup>2</sup>) for use of Boston metropolitan district and city of Worcester.

PERIOD OF RECORD.--Discharge: October 1935 to current year.  
Water-quality records: Water years 1952-53, 1973-74.

REVISED RECORDS.--WSP 801: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 169.04 ft (51.523 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Extremes and daily discharge include water released while diverting flow of Nashua River for use of Boston metropolitan district, water diverted into basin from Ware River basin since 1955 for municipal use of Fitchburg, and water diverted around station through plant of James River-Pepperell Co. Flow regulated by powerplant immediately upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--46 years, 558 ft<sup>3</sup>/s (15.80 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,900 ft<sup>3</sup>/s (592 m<sup>3</sup>/s) Mar. 20, 1936, gage height, 19.1 ft (5.82 m), from floodmarks, from rating curve extended above 12,000 ft<sup>3</sup>/s (340 m<sup>3</sup>/s) on basis of velocity-area studies; minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Aug. 13, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,940 ft<sup>3</sup>/s (112 m<sup>3</sup>/s) Feb. 27, gage height, 7.39 ft (2.252 m); minimum daily, 47 ft<sup>3</sup>/s (1.33 m<sup>3</sup>/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR   | APR   | MAY   | JUN  | JUL   | AUG  | SEP  |
|-------------|-------|--------|----------|----------|--------|-------|-------|-------|------|-------|------|------|
| 1           | 95    | 246    | 750      | 88       | 189    | 3100  | 418   | 634   | 360  | 379   | 337  | 97   |
| 2           | 94    | 241    | 450      | 181      | 130    | 2500  | 700   | 646   | 406  | 306   | 105  | 99   |
| 3           | 72    | 224    | 455      | 143      | 467    | 2100  | 964   | 578   | 412  | 148   | 142  | 100  |
| 4           | 47    | 122    | 413      | 89       | 782    | 1750  | 723   | 681   | 405  | 91    | 335  | 100  |
| 5           | 142   | 81     | 365      | 90       | 407    | 1500  | 625   | 639   | 312  | 278   | 354  | 101  |
| 6           | 145   | 82     | 303      | 90       | 236    | 1350  | 793   | 469   | 270  | 1260  | 341  | 110  |
| 7           | 128   | 82     | 242      | 90       | 239    | 1200  | 866   | 369   | 134  | 1560  | 329  | 116  |
| 8           | 190   | 79     | 229      | 89       | 261    | 1050  | 774   | 531   | 188  | 968   | 381  | 120  |
| 9           | 213   | 79     | 229      | 88       | 251    | 950   | 661   | 422   | 369  | 743   | 209  | 283  |
| 10          | 197   | 137    | 231      | 91       | 236    | 690   | 612   | 340   | 304  | 456   | 258  | 310  |
| 11          | 174   | 170    | 232      | 93       | 293    | 681   | 472   | 341   | 244  | 309   | 325  | 263  |
| 12          | 165   | 185    | 233      | 97       | 708    | 614   | 338   | 454   | 236  | 136   | 320  | 263  |
| 13          | 167   | 171    | 311      | 102      | 966    | 586   | 547   | 679   | 127  | 282   | 303  | 146  |
| 14          | 164   | 159    | 252      | 107      | 516    | 600   | 471   | 1110  | 72   | 400   | 275  | 108  |
| 15          | 114   | 157    | 203      | 108      | 342    | 541   | 377   | 866   | 75   | 430   | 147  | 118  |
| 16          | 91    | 156    | 203      | 109      | 378    | 423   | 655   | 731   | 77   | 334   | 84   | 160  |
| 17          | 92    | 154    | 202      | 102      | 393    | 398   | 641   | 1180  | 163  | 253   | 198  | 307  |
| 18          | 91    | 155    | 202      | 103      | 351    | 573   | 402   | 1250  | 217  | 141   | 294  | 342  |
| 19          | 91    | 156    | 202      | 185      | 335    | 445   | 285   | 972   | 211  | 99    | 279  | 171  |
| 20          | 95    | 166    | 200      | 186      | 553    | 352   | 355   | 739   | 128  | 204   | 276  | 113  |
| 21          | 79    | 164    | 199      | 169      | 899    | 356   | 384   | 686   | 131  | 392   | 272  | 148  |
| 22          | 122   | 104    | 199      | 112      | 1650   | 321   | 481   | 618   | 536  | 533   | 142  | 267  |
| 23          | 144   | 81     | 198      | 151      | 1670   | 400   | 502   | 584   | 634  | 505   | 70   | 469  |
| 24          | 149   | 169    | 197      | 175      | 1350   | 387   | 331   | 229   | 435  | 419   | 85   | 603  |
| 25          | 177   | 224    | 196      | 79       | 2230   | 382   | 325   | 80    | 336  | 271   | 94   | 501  |
| 26          | 437   | 464    | 132      | 84       | 3470   | 379   | 767   | 473   | 505  | 175   | 94   | 335  |
| 27          | 532   | 379    | 89       | 84       | 3880   | 377   | 944   | 471   | 718  | 345   | 94   | 169  |
| 28          | 499   | 272    | 90       | 86       | 3600   | 377   | 683   | 316   | 532  | 342   | 96   | 297  |
| 29          | 298   | 716    | 89       | 89       | ---    | 387   | 616   | 266   | 423  | 317   | 95   | 390  |
| 30          | 258   | 871    | 94       | 139      | ---    | 441   | 624   | 269   | 401  | 397   | 95   | 299  |
| 31          | 254   | ---    | 87       | 201      | ---    | 414   | ---   | 287   | ---  | 541   | 98   | ---  |
| TOTAL       | 5516  | 6446   | 7477     | 3600     | 26782  | 25624 | 17336 | 17910 | 9361 | 13014 | 6527 | 6905 |
| MEAN        | 178   | 215    | 241      | 116      | 957    | 827   | 578   | 578   | 312  | 420   | 211  | 230  |
| MAX         | 532   | 871    | 750      | 201      | 3880   | 3100  | 964   | 1250  | 718  | 1560  | 381  | 603  |
| MIN         | 47    | 79     | 87       | 79       | 130    | 321   | 285   | 80    | 72   | 91    | 70   | 97   |
| CAL YR 1980 | TOTAL | 147656 | MEAN 403 | MAX 4010 | MIN 27 |       |       |       |      |       |      |      |
| WTR YR 1981 | TOTAL | 146498 | MEAN 401 | MAX 3880 | MIN 47 |       |       |       |      |       |      |      |

## MERRIMACK RIVER BASIN

01096550 MERRIMACK RIVER ABOVE LOWELL, MA  
(National stream-quality accounting network station)

LOCATION.--Lat 42°38'20", long 71°22'17", Middlesex County, Hydrologic Unit 01070002, on left bank at intake of Lowell water treatment plant, 2.7 mi (4.3 km) upstream from Pawtucket Dam, and 6 mi (10 km) downstream from Massachusetts-New Hampshire State line.

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January to September 1973.

WATER TEMPERATURES: January to September 1973.

REMARKS.--Discharge computed on basis of records for gaging station below Concord River (station 01100000) and gaging station on Concord River (station 01099500).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS) | PH<br>(UNITS) | TEMPER-<br>ATURE<br>(DEG C) | TUR-<br>BID-<br>ITY<br>(NTU) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L) | OXYGEN,<br>DIS-<br>SOLVED<br>SATUR-<br>ATION | COLI-<br>FORM,<br>FECAL,<br>0.7<br>UM-MF<br>(COLS./<br>100 ML) | STREP-<br>TOCOCCI<br>FECAL,<br>KF AGAR<br>(COLS.<br>PER<br>100 ML) | HARD-<br>NESS<br>(MG/L<br>AS<br>CACO3) | HARD-<br>NESS,<br>NONCAR-<br>BONATE<br>(MG/L<br>CACO3) |
|-----------|------|-------------------------------------------------|---------------------------------------------------|---------------|-----------------------------|------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------|
| OCT 28... | 1300 | 8130                                            | 81                                                | 6.0           | 8.5                         | .40                          | 10.1                                | 89                                           | 800                                                            | 230                                                                | 15                                     | 0                                                      |
| NOV 19... | 0930 | 2700                                            | 99                                                | 6.1           | 2.5                         | .25                          | 11.5                                | 84                                           | 1100                                                           | 260                                                                | 19                                     | 4                                                      |
| DEC 17... | 1315 | 3470                                            | 88                                                | 6.1           | .5                          | .30                          | 13.2                                | 94                                           | 83                                                             | 12                                                                 | 15                                     | 0                                                      |
| JAN 21... | 1000 | --                                              | --                                                | --            | --                          | --                           | --                                  | --                                           | 160                                                            | 100                                                                | --                                     | --                                                     |
| JAN 21... | 1015 | 2740                                            | 117                                               | 7.6           | .5                          | .70                          | 12.1                                | 85                                           | --                                                             | --                                                                 | 20                                     | 3                                                      |
| FEB 18... | 1300 | 7920                                            | 52                                                | 5.6           | 1.8                         | .40                          | 13.9                                | 100                                          | 230                                                            | 56                                                                 | 13                                     | 9                                                      |
| MAR 25... | 1400 | 5560                                            | 85                                                | 6.0           | 4.5                         | .70                          | 12.3                                | 98                                           | 65                                                             | 190                                                                | 16                                     | --                                                     |
| APR 14... | 0800 | 8550                                            | 64                                                | 6.0           | 10.0                        | .60                          | 10.3                                | 91                                           | 170                                                            | 23                                                                 | 13                                     | --                                                     |
| MAY 13... | 0930 | 7840                                            | 95                                                | 6.1           | 15.5                        | 1.2                          | 9.1                                 | 91                                           | 1800                                                           | 200                                                                | 13                                     | --                                                     |
| JUN 10... | 0930 | 4940                                            | 105                                               | 6.1           | 21.5                        | 1.2                          | 7.8                                 | 90                                           | 200                                                            | 200                                                                | 16                                     | --                                                     |
| JUL 07... | 1400 | 9100                                            | 113                                               | 6.5           | 25.5                        | 3.5                          | 7.2                                 | 89                                           | 1000                                                           | 530                                                                | 17                                     | --                                                     |
| AUG 05... | 1300 | 3290                                            | 104                                               | 6.6           | 25.0                        | 1.0                          | 7.9                                 | 96                                           | 1200                                                           | 250                                                                | 15                                     | --                                                     |
| SEP 02... | 0830 | 2040                                            | 105                                               | 5.7           | 21.5                        | 1.2                          | 6.9                                 | 78                                           | 570                                                            | 56                                                                 | 17                                     | --                                                     |

| DATE      | CALCIUM<br>DIS-<br>SOLVED<br>(MG/L<br>AS CA) | MAGNE-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS MG) | SODIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS NA) | PERCENT<br>SODIUM | SODIUM<br>AD-<br>SORP-<br>TION<br>RATIO | POTAS-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS K) | ALKA-<br>LITY<br>LAB<br>(MG/L<br>AS CAC03) | SULFATE<br>DIS-<br>SOLVED<br>(MG/L<br>AS SO4) | CHLO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS CL) | FLUO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS F) | SILICA,<br>DIS-<br>SOLVED<br>(MG/L<br>AS<br>SiO2) |
|-----------|----------------------------------------------|------------------------------------------------------|----------------------------------------------|-------------------|-----------------------------------------|-----------------------------------------------------|--------------------------------------------|-----------------------------------------------|-----------------------------------------------------|----------------------------------------------------|---------------------------------------------------|
| OCT 28... | 4.7                                          | .9                                                   | 8.5                                          | 52                | .9                                      | 1.3                                                 | 87                                         | 9.7                                           | 15                                                  | .1                                                 | 4.7                                               |
| NOV 19... | 5.8                                          | 1.1                                                  | 11                                           | 53                | 1.1                                     | 1.7                                                 | 15                                         | 11                                            | 15                                                  | .2                                                 | 5.5                                               |
| DEC 17... | 4.6                                          | .9                                                   | 10                                           | 57                | 1.1                                     | .9                                                  | 17                                         | 12                                            | 12                                                  | .1                                                 | 6.2                                               |
| JAN 21... | --                                           | --                                                   | --                                           | --                | --                                      | --                                                  | --                                         | --                                            | --                                                  | --                                                 | --                                                |
| JAN 21... | 6.2                                          | 1.1                                                  | 13                                           | 56                | 1.3                                     | 1.5                                                 | --                                         | 14                                            | 19                                                  | .1                                                 | 6.1                                               |
| FEB 18... | 4.0                                          | .8                                                   | 7.3                                          | 52                | .9                                      | 1.1                                                 | 4.0                                        | 7.2                                           | 10                                                  | .1                                                 | 5.1                                               |
| MAR 25... | 5.1                                          | .8                                                   | 10                                           | 56                | 1.1                                     | .9                                                  | 15                                         | 9.3                                           | 14                                                  | <.1                                                | 5.7                                               |
| APR 14... | 3.9                                          | .8                                                   | 7.0                                          | 52                | .8                                      | .8                                                  | 8.0                                        | 8.6                                           | 12                                                  | .2                                                 | 5.3                                               |
| MAY 13... | 4.0                                          | .7                                                   | 9.3                                          | 58                | 1.1                                     | 1.2                                                 | 7.0                                        | 10                                            | 14                                                  | .1                                                 | 4.1                                               |
| JUN 10... | 4.9                                          | 1.0                                                  | 11                                           | 58                | 1.2                                     | 1.0                                                 | 9.0                                        | 11                                            | 13                                                  | .2                                                 | 5.0                                               |
| JUL 07... | 5.3                                          | 1.0                                                  | 11                                           | 56                | 1.2                                     | 1.2                                                 | 20                                         | 7.1                                           | 13                                                  | .2                                                 | 5.1                                               |
| AUG 05... | 4.7                                          | .8                                                   | 9.4                                          | 56                | 1.1                                     | 1.0                                                 | 13                                         | 12                                            | 11                                                  | .2                                                 | 5.4                                               |
| SEP 02... | 5.3                                          | .9                                                   | 11                                           | 57                | 1.2                                     | 1.1                                                 | 16                                         | 10                                            | 13                                                  | .2                                                 | 5.3                                               |



01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | SOLIDS,<br>RESIDUE<br>AT 180<br>DEG. C<br>DIS-<br>SOLVED<br>(MG/L) | SOLIDS,<br>SUM OF<br>CONSTITUENTS,<br>DIS-<br>SOLVED<br>(MG/L) | NITRO-<br>GEN,<br>NO2+NO3<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>ORGANIC<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,AM-<br>MONIA +<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,NH4<br>+ ORG.<br>SUSP.<br>TOTAL<br>(MG/L<br>AS N) |
|-----------|--------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|
| OCT 28... | 55                                                                 | 99                                                             | .30                                                  | .31                                                           | .110                                                 | .080                                                          | .24                                                           | .32                                                  | .63                                                | .43                                                                | .11                                                             |
| NOV 19... | 75                                                                 | 62                                                             | .40                                                  | .39                                                           | .460                                                 | .450                                                          | .22                                                           | .46                                                  | 1.1                                                | .92                                                                | .25                                                             |
| DEC 17... | 58                                                                 | 58                                                             | .77                                                  | .29                                                           | .320                                                 | .300                                                          | .12                                                           | .20                                                  | .71                                                | .52                                                                | .10                                                             |
| JAN 21... | --                                                                 | --                                                             | --                                                   | --                                                            | --                                                   | --                                                            | --                                                            | --                                                   | --                                                 | --                                                                 | --                                                              |
| JAN 21... | 77                                                                 | 73                                                             | .32                                                  | .34                                                           | .590                                                 | .660                                                          | .14                                                           | .40                                                  | 1.1                                                | .99                                                                | .19                                                             |
| FEB 18... | 52                                                                 | 40                                                             | .39                                                  | .36                                                           | .180                                                 | .170                                                          | .07                                                           | .33                                                  | .60                                                | .51                                                                | .27                                                             |
| MAR 25... | 62                                                                 | 56                                                             | .23                                                  | .23                                                           | .190                                                 | .210                                                          | .15                                                           | .69                                                  | .59                                                | .88                                                                | .52                                                             |
| APR 14... | 60                                                                 | 44                                                             | .23                                                  | .23                                                           | .140                                                 | .110                                                          | .34                                                           | .40                                                  | .68                                                | .54                                                                | .09                                                             |
| MAY 13... | 59                                                                 | 49                                                             | .25                                                  | .26                                                           | .170                                                 | .170                                                          | .32                                                           | .51                                                  | .75                                                | .68                                                                | .19                                                             |
| JUN 10... | 69                                                                 | 54                                                             | .36                                                  | .38                                                           | .270                                                 | .190                                                          | .32                                                           | .43                                                  | .89                                                | .70                                                                | .19                                                             |
| JUL 07... | 64                                                                 | 57                                                             | .33                                                  | .33                                                           | .090                                                 | .030                                                          | .23                                                           | .27                                                  | .59                                                | .36                                                                | .10                                                             |
| AUG 05... | 61                                                                 | 54                                                             | .32                                                  | .31                                                           | .130                                                 | .110                                                          | .16                                                           | .34                                                  | .58                                                | .47                                                                | .20                                                             |
| SEP 02... | 61                                                                 | 58                                                             | .31                                                  | .32                                                           | .320                                                 | .310                                                          | .26                                                           | .35                                                  | .89                                                | .67                                                                | .10                                                             |

| DATE      | NITRO-<br>GEN,AM-<br>MONIA +<br>ORGANIC<br>DIS.<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) | PHOS-<br>PHORUS<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS,<br>DIS-<br>SOLVED<br>(MG/L<br>AS P) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C) | CARBON,<br>ORGANIC<br>SUS-<br>PENDEED<br>TOTAL<br>(MG/L<br>AS C) | CARBON,<br>ORGANIC<br>DIS-<br>SOLVED<br>(MG/L<br>AS C) | SEDI-<br>MENT,<br>SUS-<br>PENDEED<br>(MG/L) | SEDI-<br>MENT,<br>DIS-<br>CHARGE,<br>SUS-<br>PENDEED<br>(T/DAY) | SED.<br>SUSP.<br>SIEVE<br>DIAM.<br>% FINER<br>THAN<br>.062 MM |
|-----------|-------------------------------------------------------------------|-------------------------------------------|---------------------------------------------|----------------------------------------------|------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|
| OCT 28... | .32                                                               | .73                                       | .090                                        | .28                                          | .070                                                 | 5.3                                           | --                                                               | --                                                     | 6                                           | 132                                                             | 100                                                           |
| NOV 19... | .67                                                               | 1.3                                       | .170                                        | .52                                          | .120                                                 | --                                            | .5                                                               | 2.0                                                    | 6                                           | 44                                                              | 76                                                            |
| DEC 17... | .42                                                               | 1.3                                       | .090                                        | .28                                          | .070                                                 | 6.4                                           | --                                                               | --                                                     | 6                                           | 56                                                              | 63                                                            |
| JAN 21... | --                                                                | --                                        | --                                          | --                                           | --                                                   | --                                            | --                                                               | --                                                     | --                                          | --                                                              | --                                                            |
| JAN 21... | .80                                                               | 1.3                                       | .200                                        | .61                                          | .150                                                 | 4.9                                           | --                                                               | --                                                     | --                                          | --                                                              | --                                                            |
| FEB 18... | .24                                                               | .90                                       | .070                                        | .21                                          | .050                                                 | 4.7                                           | --                                                               | --                                                     | 12                                          | 257                                                             | 66                                                            |
| MAR 25... | .36                                                               | 1.1                                       | .100                                        | .31                                          | .070                                                 | --                                            | .4                                                               | 14                                                     | 6                                           | 90                                                              | 92                                                            |
| APR 14... | .45                                                               | .77                                       | .100                                        | .31                                          | .040                                                 | 3.7                                           | --                                                               | --                                                     | 7                                           | 162                                                             | 100                                                           |
| MAY 13... | .49                                                               | .93                                       | .110                                        | .34                                          | .060                                                 | 4.9                                           | --                                                               | --                                                     | 5                                           | 106                                                             | 100                                                           |
| JUN 10... | .51                                                               | 1.1                                       | .200                                        | .61                                          | .130                                                 | --                                            | 1.0                                                              | 9.0                                                    | 7                                           | 93                                                              | 100                                                           |
| JUL 07... | .26                                                               | .69                                       | .120                                        | .37                                          | .070                                                 | 11                                            | --                                                               | --                                                     | 4                                           | 98                                                              | 100                                                           |
| AUG 05... | .27                                                               | .79                                       | .100                                        | .31                                          | .050                                                 | 7.3                                           | --                                                               | --                                                     | 4                                           | 36                                                              | 100                                                           |
| SEP 02... | .57                                                               | .98                                       | .120                                        | .37                                          | .080                                                 | --                                            | .7                                                               | 7.6                                                    | 3                                           | 17                                                              | 10                                                            |

## MERRIMACK RIVER BASIN

01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | ARSENIC<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>SUS-<br>PENDE<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>DIS-<br>SOLVED<br>(UG/L<br>AS AS) | BARIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS BA) | CADMIUM<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>DIS-<br>SOLVED<br>(UG/L<br>AS CD) | CHRO-<br>MIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>SUS-<br>PENDE<br>RECOV.<br>(UG/L<br>AS CR) |
|--------------|-------------------------------------|------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|
| NOV<br>19... | 0                                   | 0                                                    | 1                                            | 100                                                     | 80                                                              | 20                                           | 0                                                       | 0                                                               | 0                                            | 10                                                             | 0                                                            |
| MAR<br>25... | 0                                   | 0                                                    | 0                                            | 100                                                     | 100                                                             | 0                                            | 1                                                       | 1                                                               | 0                                            | 10                                                             | 0                                                            |
| JUN<br>10... | 0                                   | 0                                                    | 0                                            | 100                                                     | 80                                                              | 20                                           | 1                                                       | 0                                                               | 3                                            | 20                                                             | 20                                                           |
| SEP<br>02... | 2                                   | 1                                                    | 1                                            | 100                                                     | 0                                                               | 100                                          | 1                                                       | --                                                              | <1                                           | 20                                                             | 10                                                           |

| DATE         | CHRO-<br>MIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CR) | COBALT,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CO) | COPPER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CU) | IRON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>DIS-<br>SOLVED<br>(UG/L<br>AS FE) |
|--------------|-----------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|
| NOV<br>19... | 10                                                  | 0                                                       | 0                                                               | 1                                            | 10                                                      | 2                                                               | 8                                            | 360                                                   | 210                                                           | 150                                        |
| MAR<br>25... | 30                                                  | 0                                                       | 0                                                               | 0                                            | 5                                                       | 1                                                               | 4                                            | 280                                                   | 160                                                           | 120                                        |
| JUN<br>10... | 0                                                   | 2                                                       | 2                                                               | 0                                            | 7                                                       | 0                                                               | 7                                            | 420                                                   | 230                                                           | 190                                        |
| SEP<br>02... | 10                                                  | 1                                                       | 0                                                               | 1                                            | 10                                                      | 5                                                               | 5                                            | 440                                                   | 240                                                           | 200                                        |

| DATE         | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>DIS-<br>SOLVED<br>(UG/L<br>AS PB) | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>SUS-<br>PENDE<br>RECOV.<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>DIS-<br>SOLVED<br>(UG/L<br>AS MN) | MERCURY<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>DIS-<br>SOLVED<br>(UG/L<br>AS HG) | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) |
|--------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|
| NOV<br>19... | 2                                                     | 2                                                             | 0                                          | 70                                                              | 0                                                             | 70                                                   | <.1                                                     | <.1                                          | 6                                                       | 2                                                               |
| MAR<br>25... | 21                                                    | 21                                                            | 0                                          | 60                                                              | 0                                                             | 60                                                   | <.1                                                     | <.1                                          | 2                                                       | 0                                                               |
| JUN<br>10... | 11                                                    | 11                                                            | 0                                          | 40                                                              | 20                                                            | 20                                                   | <.1                                                     | <.1                                          | 5                                                       | 0                                                               |
| SEP<br>02... | 18                                                    | 9                                                             | 9                                          | 60                                                              | 20                                                            | 40                                                   | <.1                                                     | <.1                                          | 4                                                       | 1                                                               |

| DATE         | NICKEL,<br>DIS-<br>SOLVED<br>(UG/L<br>AS NI) | SELE-<br>NIUM,<br>TOTAL<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>SUS-<br>PENDE<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS SE) | SILVER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS AG) | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>DIS-<br>SOLVED<br>(UG/L<br>AS ZN) |
|--------------|----------------------------------------------|--------------------------------------------|----------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|
| NOV<br>19... | 4                                            | 0                                          | 0                                                  | 0                                                   | 0                                                       | 0                                                               | 0                                            | 20                                                    | 0                                                             | 50                                         |
| MAR<br>25... | 2                                            | 0                                          | 0                                                  | 0                                                   | 0                                                       | 0                                                               | 0                                            | 180                                                   | 160                                                           | 20                                         |
| JUN<br>10... | 10                                           | 0                                          | 0                                                  | 0                                                   | 0                                                       | 0                                                               | 0                                            | 10                                                    | 0                                                             | 30                                         |
| SEP<br>02... | 3                                            | <1                                         | --                                                 | <1                                                  | <1                                                      | --                                                              | 1                                            | 10                                                    | 0                                                             | 10                                         |

01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

## PHYTOPLANKTON

| DATE<br>TIME              | NOV 19,80<br>0930 | MAR 25,81<br>1400 | MAY 13,81<br>0930 | JUN 10,81<br>0930 |              |              |              |              |
|---------------------------|-------------------|-------------------|-------------------|-------------------|--------------|--------------|--------------|--------------|
| TOTAL CELLS/ML            | 590               | 250               | 1800              | 23000             |              |              |              |              |
| DIVERSITY: DIVISION       | 1.2               | 0.8               | 1.2               | 1.5               |              |              |              |              |
| ..CLASS                   | 1.2               | 0.8               | 1.2               | 1.5               |              |              |              |              |
| ...ORDER                  | 1.5               | 1.6               | 2.1               | 2.1               |              |              |              |              |
| ...FAMILY                 | 1.6               | 1.8               | 2.6               | 3.5               |              |              |              |              |
| ....GENUS                 | 1.6               | 2.0               | 2.9               | 3.7               |              |              |              |              |
| ORGANISM                  | CELLS<br>/ML      | PER-<br>CENT      | CELLS<br>/ML      | PER-<br>CENT      | CELLS<br>/ML | PER-<br>CENT | CELLS<br>/ML | PER-<br>CENT |
| BACILLARIOPHYTA (DIATOMS) |                   |                   |                   |                   |              |              |              |              |
| .BACILLARIOPHYCEAE        |                   |                   |                   |                   |              |              |              |              |
| ..ACHNANTHALES            |                   |                   |                   |                   |              |              |              |              |
| ...ACHNANTHACEAE          |                   |                   |                   |                   |              |              |              |              |
| ....COCCONEIS             | --                | -                 | --                | -                 | 13           | 1            | --           | -            |
| ..BACILLARIALES           |                   |                   |                   |                   |              |              |              |              |
| ...NITZSCHIACEAE          |                   |                   |                   |                   |              |              |              |              |
| ....NITZSCHIA             | --                | -                 | --                | -                 | 52           | 3            | 620          | 3            |
| ...EUPODISCALES           |                   |                   |                   |                   |              |              |              |              |
| ...COSCINODISCACEAE       |                   |                   |                   |                   |              |              |              |              |
| ....CYCLOTELLA            | 13                | 2                 | --                | -                 | 100          | 6            | 1800         | 8            |
| ....MELOSIRA              | --                | -                 | --                | -                 | 90           | 5            | 620          | 3            |
| ..FRAGILARIALES           |                   |                   |                   |                   |              |              |              |              |
| ...FRAGILARIACEAE         |                   |                   |                   |                   |              |              |              |              |
| ....ASTERIONELLA          | 320#              | 54                | --                | -                 | --           | -            | --           | -            |
| ....DIATOMA               | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ....FRAGILARIA            | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ....MERIDION              | --                | -                 | 13                | 5                 | --           | -            | --           | -            |
| ....SYNEDRA               | --                | -                 | 13                | 5                 | 13           | 1            | 210          | 1            |
| ....TABELLARIA            | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ..NAVICULALES             |                   |                   |                   |                   |              |              |              |              |
| ...NAVICULACEAE           |                   |                   |                   |                   |              |              |              |              |
| ....NAVICULA              | 13                | 2                 | --                | -                 | --           | -            | 210          | 1            |
| CHLOROPHYTA (GREEN ALGAE) |                   |                   |                   |                   |              |              |              |              |
| .CHLOROPHYCEAE            |                   |                   |                   |                   |              |              |              |              |
| ..CHLOROCOCCALES          |                   |                   |                   |                   |              |              |              |              |
| ...CHLOROCOCCACEAE        |                   |                   |                   |                   |              |              |              |              |
| ....SCHROEDERIA           | --                | -                 | 13                | 5                 | --           | -            | 210          | 1            |
| ....TETRAEDRON            | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ...DICTYOSPHAERIACEAE     |                   |                   |                   |                   |              |              |              |              |
| ....DICTYOSPHAERIUM       | --                | -                 | --                | -                 | --           | -            | 2900         | 13           |
| ...HYDRODICTYACEAE        |                   |                   |                   |                   |              |              |              |              |
| ....PEDIASTRUM            | --                | -                 | --                | -                 | --           | -            | 830          | 4            |
| ...MICRACTINIACEAE        |                   |                   |                   |                   |              |              |              |              |
| ....GOLENKINIA            | 13                | 2                 | --                | -                 | --           | -            | --           | -            |
| ....MICRACTINIUM          | --                | -                 | --                | -                 | 590#         | 32           | 4800#        | 21           |
| ...OOCYSTACEAE            |                   |                   |                   |                   |              |              |              |              |
| ....ANKISTRODESMUS        | --                | -                 | --                | -                 | 13           | 1            | 410          | 2            |
| ....CHODATELLA            | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ....KIRCHNERIELLA         | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ....OOCYSTIS              | --                | -                 | --                | -                 | --           | -            | 310          | 1            |
| ....SELENASTRUM           | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ...PALMELLACEAE           |                   |                   |                   |                   |              |              |              |              |
| ....SPHAEROCYSTIS         | --                | -                 | --                | -                 | --           | -            | 830          | 4            |
| ...SCENEDESMACEAE         |                   |                   |                   |                   |              |              |              |              |
| ....ACTINASTRUM           | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ....COELASTRUM            | 210#              | 35                | --                | -                 | --           | -            | --           | -            |
| ....CRUCIGENIA            | --                | -                 | --                | -                 | 52           | 3            | 410          | 2            |
| ....SCENEDESMUS           | --                | -                 | 100#              | 42                | 26           | 1            | 2500         | 11           |
| ....TETRASTRUM            | --                | -                 | --                | -                 | 100          | 6            | --           | -            |
| ...VOLVOCALES             |                   |                   |                   |                   |              |              |              |              |
| ...CHLAMYDOMONADACEAE     |                   |                   |                   |                   |              |              |              |              |
| ....CHLAMYDOMONAS         | --                | -                 | 90#               | 37                | 64           | 4            | 1100         | 5            |
| ...VOLVOACEAE             |                   |                   |                   |                   |              |              |              |              |
| ....PANDORINA             | --                | -                 | --                | -                 | 410#         | 23           | --           | -            |
| ...ZYGNEMATALES           |                   |                   |                   |                   |              |              |              |              |
| ...DESMIDIACEAE           |                   |                   |                   |                   |              |              |              |              |
| ....CLOSTERIUM            | --                | -                 | --                | -                 | 13           | 1            | --           | -            |
| ....COSMARIUM             | --                | -                 | --                | -                 | --           | -            | --           | -            |
| CHRYSTOPHYTA              |                   |                   |                   |                   |              |              |              |              |
| .CHRYSTOPHYCEAE           |                   |                   |                   |                   |              |              |              |              |
| ..OCHROMONADALES          |                   |                   |                   |                   |              |              |              |              |
| ...DINOBRYACEAE           |                   |                   |                   |                   |              |              |              |              |
| ....DINOBRYON             | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ...SYNURACEAE             |                   |                   |                   |                   |              |              |              |              |
| ....MALLOMONAS            | --                | -                 | --                | -                 | --           | -            | --           | -            |
| ..XANTHOPHYCEAE           |                   |                   |                   |                   |              |              |              |              |
| ...MISCHOCOCCALES         |                   |                   |                   |                   |              |              |              |              |
| ...SCIADACEAE             |                   |                   |                   |                   |              |              |              |              |
| ....OPHIOCYTIUM           | --                | -                 | --                | -                 | --           | -            | --           | -            |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.

## MERRIMACK RIVER BASIN

01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

## PHYTOPLANKTON

| DATE<br>TIME                  | NOV 19,80<br>0930 |              | MAR 25,81<br>1400 |              | MAY 13,81<br>0930 |              | JUN 10,81<br>0930 |              |
|-------------------------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|
| ORGANISM                      | CELLS<br>/ML      | PER-<br>CENT | CELLS<br>/ML      | PER-<br>CENT | CELLS<br>/ML      | PER-<br>CENT | CELLS<br>/ML      | PER-<br>CENT |
| CRYPTOPHYTA (CRYPTOMONADS)    |                   |              |                   |              |                   |              |                   |              |
| .CRYPTOPHYCEAE                |                   |              |                   |              |                   |              |                   |              |
| ..CRYPTOMONADALES             |                   |              |                   |              |                   |              |                   |              |
| ...CRYPTOCHRYSIDACEAE         |                   |              |                   |              |                   |              |                   |              |
| ....CHROOMONAS                | --                | -            | --                | -            | --                | -            | 1400              | 6            |
| ...CRYPTOMONADACEAE           |                   |              |                   |              |                   |              |                   |              |
| ....CRYPTOMONAS               | --                | -            | --                | -            | --                | -            | 310               | 1            |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                   |              |                   |              |                   |              |                   |              |
| .CYANOPHYCEAE                 |                   |              |                   |              |                   |              |                   |              |
| ..CHROOCOCCALES               |                   |              |                   |              |                   |              |                   |              |
| ...CHROOCOCCACEAE             |                   |              |                   |              |                   |              |                   |              |
| ....ANACYSTIS                 | 13                | 2            | 13                | 5            | 280 #             | 15           | 2300              | 10           |
| ..NOSTOCALES                  |                   |              |                   |              |                   |              |                   |              |
| ...NOSTOCACEAE                |                   |              |                   |              |                   |              |                   |              |
| ....ANABAENA                  | --                | -            | --                | -            | --                | -            | --                | -            |
| ...OSCILLATORIALES            |                   |              |                   |              |                   |              |                   |              |
| ...OSCILLATORIA               | --                | -            | --                | -            | --                | -            | 930               | 4            |
| EUGLENOPHYTA (EUGLENOIDS)     |                   |              |                   |              |                   |              |                   |              |
| .EUGLENOPHYCEAE               |                   |              |                   |              |                   |              |                   |              |
| ..EUGLENALES                  |                   |              |                   |              |                   |              |                   |              |
| ...EUGLENACEAE                |                   |              |                   |              |                   |              |                   |              |
| ....PHACUS                    | --                | -            | --                | -            | --                | -            | --                | -            |
| ....TRACHELOMONAS             | 13                | 2            | --                | -            | --                | -            | --                | -            |
| PYRRHOPHYTA (FIRE ALGAE)      |                   |              |                   |              |                   |              |                   |              |
| .DINOPHYCEAE                  |                   |              |                   |              |                   |              |                   |              |
| ..DINOKONTAE                  |                   |              |                   |              |                   |              |                   |              |
| ...PERIDINIACEAE              |                   |              |                   |              |                   |              |                   |              |
| ....PERIDINIUM                | --                | -            | --                | -            | --                | -            | --                | -            |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.



01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

## PHYTOPLANKTON

| DATE                      | JUL 7,81  | AUG 5,81  | SEP 2,81  |           |           |           |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| TIME                      | 1400      | 1300      | 0830      |           |           |           |
| TOTAL CELLS/ML            | 2700      | 6200      | 2500      |           |           |           |
| DIVERSITY: DIVISION       | 1.4       | 1.6       | 1.8       |           |           |           |
| ..CLASS                   | 1.4       | 1.6       | 1.8       |           |           |           |
| ..ORDER                   | 1.9       | 2.5       | 2.2       |           |           |           |
| ...FAMILY                 | 3.0       | 3.5       | 2.6       |           |           |           |
| ....GENUS                 | 3.5       | 3.8       | 3.0       |           |           |           |
| ORGANISM                  | CELLS /ML | PER- CENT | CELLS /ML | PER- CENT | CELLS /ML | PER- CENT |
| BACILLARIOPHYTA (DIATOMS) |           |           |           |           |           |           |
| .BACILLARIOPHYCEAE        |           |           |           |           |           |           |
| ..ACHNANTHALES            |           |           |           |           |           |           |
| ...ACHNANTHACEAE          |           |           |           |           |           |           |
| ....COCCONEIS             | --        | -         | * 0       |           | --        | -         |
| ..BACILLARIALES           |           |           |           |           |           |           |
| ...NITZSCHIAEAE           |           |           |           |           |           |           |
| ....NITZSCHIA             | 39        | 1         | --        | -         | --        | -         |
| ..EUPODISCALES            |           |           |           |           |           |           |
| ...COSCINODISCACEAE       |           |           |           |           |           |           |
| ....CYCLOTELLA            | 130       | 5         | 410       | 7         | --        | -         |
| ....MELOSIRA              | 100       | 4         | 82        | 1         | 560#      | 23        |
| ..FRAGILARIALES           |           |           |           |           |           |           |
| ...FRAGILARIAEAE          |           |           |           |           |           |           |
| ....ASTERIONELLA          | 77        | 3         | --        | -         | --        | -         |
| ....DIATOMA               | --        | -         | * 0       |           | --        | -         |
| ...FRAGILARIA             | 390       | 14        | --        | -         | --        | -         |
| ...MERIDION               | --        | -         | --        | -         | --        | -         |
| ...SYNEDRA                | --        | -         | * 0       |           | --        | -         |
| ...TABELLARIA             | --        | -         | 62        | 1         | --        | -         |
| ..NAVICULALES             |           |           |           |           |           |           |
| ...NAVICULACEAE           |           |           |           |           |           |           |
| ....NAVICULA              | --        | -         | * 0       |           | 57        | 2         |
| CHLOROPHYTA (GREEN ALGAE) |           |           |           |           |           |           |
| .CHLOROPHYCEAE            |           |           |           |           |           |           |
| ..CHLOROCOCCALES          |           |           |           |           |           |           |
| ...CHLOROCOCCACEAE        |           |           |           |           |           |           |
| ....SCHROEDERIA           | --        | -         | --        | -         | --        | -         |
| ....TETRAEDRON            | --        | -         | * 0       |           | --        | -         |
| ...DICTYOSPHAERIAEAE      |           |           |           |           |           |           |
| ....DICTYOSPHAERIUM       | 260       | 9         | 490       | 8         | --        | -         |
| ...HYDRODICTYACEAE        |           |           |           |           |           |           |
| ...PEDIASTRUM             | --        | -         | --        | -         | --        | -         |
| ...MICRACTINIAEAE         |           |           |           |           |           |           |
| ....GOLENKINIA            | --        | -         | --        | -         | 14        | 1         |
| ....MICRACTINIUM          | 330       | 12        | 1200#     | 19        | 57        | 2         |
| ...OOCYSTACEAE            |           |           |           |           |           |           |
| ....ANKISTRODESMUS        | 39        | 1         | 41        | 1         | 110       | 5         |
| ....CHODATELLA            | --        | -         | 41        | 1         | --        | -         |
| ....KIRCHNERIELLA         | --        | -         | 410       | 7         | --        | -         |
| ....OOCYSTIS              | 360       | 13        | --        | -         | --        | -         |
| ....SELENASTRUM           | 26        | 1         | --        | -         | 29        | 1         |
| ...PALMELLACEAE           |           |           |           |           |           |           |
| ....SPHAEROCYSTIS         | --        | -         | --        | -         | --        | -         |
| ...SCENEDESMACEAE         |           |           |           |           |           |           |
| ....ACTINASTRUM           | 100       | 4         | 120       | 2         | --        | -         |
| ....COELASTRUM            | --        | -         | --        | -         | --        | -         |
| ....CRUCIGENIA            | 100       | 4         | 82        | 1         | 110       | 5         |
| ....SCENEDESMUS           | 330       | 12        | 330       | 5         | 630#      | 26        |
| ....TETRASTRUM            | --        | -         | 82        | 1         | 57        | 2         |
| ..VOLVOCALES              |           |           |           |           |           |           |
| ...CHLAMYDOMONADACEAE     |           |           |           |           |           |           |
| ....CHLAMYDOMONAS         | 52        | 2         | 550       | 9         | 200       | 8         |
| ...VOLVOCAEAE             |           |           |           |           |           |           |
| ....PANDORINA             | --        | -         | 330       | 5         | --        | -         |
| ..ZYGNEATALES             |           |           |           |           |           |           |
| ...DESMIDIACEAE           |           |           |           |           |           |           |
| ....CLOSTERIUM            | --        | -         | --        | -         | --        | -         |
| ....COSMARIUM             | --        | -         | 62        | 1         | --        | -         |
| CHRYSTOPHYTA              |           |           |           |           |           |           |
| .CHRYSTOPHYCEAE           |           |           |           |           |           |           |
| ..OCHROMONADALES          |           |           |           |           |           |           |
| ...DINOBRYACEAE           |           |           |           |           |           |           |
| ....DINOBRYON             | --        | -         | --        | -         | 29        | 1         |
| ...SYNURACEAE             |           |           |           |           |           |           |
| ....MALLOMONAS            | --        | -         | 82        | 1         | 29        | 1         |
| ..XANTHOPHYCEAE           |           |           |           |           |           |           |
| ...MISCHOCOCCALES         |           |           |           |           |           |           |
| ...SCIADACEAE             |           |           |           |           |           |           |
| ....OPHIOCYTIUM           | --        | -         | 100       | 2         | --        | -         |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.

## MERRIMACK RIVER BASIN

01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

## PHYTOPLANKTON

| DATE<br>TIME                  | JUL 7,81<br>1400 |              | AUG 5,81<br>1300 |              | SEP 2,81<br>0830 |              |
|-------------------------------|------------------|--------------|------------------|--------------|------------------|--------------|
| ORGANISM                      | CELLS<br>/ML     | PER-<br>CENT | CELLS<br>/ML     | PER-<br>CENT | CELLS<br>/ML     | PER-<br>CENT |
| CRYPTOPHYTA (CRYPTOMONADS)    |                  |              |                  |              |                  |              |
| ..CRYPTOPHYCEAE               |                  |              |                  |              |                  |              |
| ...CRYPTOMONADALES            |                  |              |                  |              |                  |              |
| ...CRYPTOCHRYSIDACEAE         |                  |              |                  |              |                  |              |
| ....CHROOMONAS                | --               | -            | --               | -            | --               | -            |
| ...CRYPTOMONADACEAE           |                  |              |                  |              |                  |              |
| ....CRYPTOMONAS               | *                | 0            | --               | -            | --               | -            |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                  |              |                  |              |                  |              |
| ..CYANOPHYCEAE                |                  |              |                  |              |                  |              |
| ...CHROOCOCCALES              |                  |              |                  |              |                  |              |
| ...CHROOCOCCACEAE             |                  |              |                  |              |                  |              |
| ....ANACYSTIS                 | 360              | 13           | 800              | 13           | 500#             | 20           |
| ...NOSTOCALES                 |                  |              |                  |              |                  |              |
| ...NOSTOCACEAE                |                  |              |                  |              |                  |              |
| ....ANABAENA                  | --               | -            | 720              | 12           | --               | -            |
| ...OSCILLATORIALES            |                  |              |                  |              |                  |              |
| ...OSCILLATORIA               | --               | -            | --               | -            | --               | -            |
| EUGLENOPHYTA (EUGLENOIDS)     |                  |              |                  |              |                  |              |
| ..EUGLENOPHYCEAE              |                  |              |                  |              |                  |              |
| ...EUGLENALES                 |                  |              |                  |              |                  |              |
| ...EUGLENACEAE                |                  |              |                  |              |                  |              |
| ....PHACUS                    | *                | 0            | --               | -            | --               | -            |
| ....TRACHELOMONAS             | --               | -            | 62               | 1            | 29               | 1            |
| PYRRHOPHYTA (FIRE ALGAE)      |                  |              |                  |              |                  |              |
| ..DINOPHYCEAE                 |                  |              |                  |              |                  |              |
| ...DINOKONTAE                 |                  |              |                  |              |                  |              |
| ...PERIDINIACEAE              |                  |              |                  |              |                  |              |
| ....PERIDINIUM                | --               | -            | 62               | 1            | 43               | 2            |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15 %.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2 %.

## 01096910 BOULDER BROOK AT EAST BOLTON, MA

LOCATION.--Lat 42°27'04", long 71°34'39", Worcester County, Hydrologic Unit 01070005, on right bank 900 ft (250 m) downstream from Interstate Highway 495, 0.9 mi (1.4 km) west of East Bolton, and 1.3 mi (2.1 km) upstream from mouth.

DRAINAGE AREA.--1.54 mi<sup>2</sup> (3.99 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1971 to current year.

Specific conductance: June 1971 to September 1978.

Water temperatures: June 1971 to September 1978.

REVISED RECORDS.--WDR MA-NH-RI-VT-74-1: Drainage area. WDR MA-RI 78-1: 1972-77(P).

GAGE.--Water-stage recorder. Altitude of gage is 290 ft (88 m), from topographic map.

REMARKS.--Records fair. Daily and monthly figures may be influenced by stored or released water at trash screen just upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--10 years, 3.16 ft<sup>3</sup>/s (0.089 m<sup>3</sup>/s), 27.87 in/yr (708 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 208 ft<sup>3</sup>/s (5.89 m<sup>3</sup>/s), Jan. 25, 1979, gage height, 3.69 ft (1.125 m); minimum, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) July 20, 21, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s), and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date                          | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|-------------------------------|------|-------------------------------------------------------|-------------------------|
| Feb. 26 | 1230 | *21 0.59                                              | 2.41 0.735              | No peak discharge above base. |      |                                                       |                         |

Minimum discharge, 0.06 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC       | JAN    | FEB     | MAR       | APR      | MAY  | JUN   | JUL   | AUG  | SEP   |
|-------------|-------|---------|-----------|--------|---------|-----------|----------|------|-------|-------|------|-------|
| 1           | .07   | .15     | 1.6       | .44    | .28     | 14        | 3.4      | 4.0  | 1.9   | .45   | .50  | .12   |
| 2           | .06   | .15     | 1.3       | .42    | 2.7     | 12        | 11       | 4.0  | 1.6   | .45   | .38  | .15   |
| 3           | .13   | .15     | 1.2       | .42    | 3.4     | 9.9       | 6.6      | 3.8  | 1.6   | .42   | .28  | .17   |
| 4           | .44   | .15     | 1.0       | .42    | 1.4     | 7.6       | 5.8      | 2.6  | 1.6   | .46   | .28  | .17   |
| 5           | .12   | .13     | .90       | .31    | .93     | 7.2       | 5.8      | 2.5  | 1.5   | 6.0   | .38  | .13   |
| 6           | .10   | .13     | .84       | .28    | .72     | 7.2       | 7.2      | 2.5  | 1.6   | 3.5   | .50  | .15   |
| 7           | .10   | .13     | .83       | .28    | .71     | 7.2       | 5.4      | 2.5  | 1.8   | 2.7   | .34  | .17   |
| 8           | .10   | .13     | .83       | .28    | 1.1     | 7.2       | 4.5      | 2.5  | 1.4   | 1.8   | .28  | .25   |
| 9           | .10   | .18     | .83       | .28    | 1.1     | 7.2       | 4.4      | 2.5  | 1.5   | 1.2   | .83  | 1.1   |
| 10          | .11   | .28     | .83       | .28    | .84     | 7.0       | 4.4      | 2.3  | 1.5   | .90   | .50  | .22   |
| 11          | .42   | .20     | .79       | .27    | 3.1     | 5.8       | 3.7      | 2.3  | 1.2   | .66   | .38  | .25   |
| 12          | .27   | .20     | .67       | .22    | 4.6     | 5.8       | 3.6      | 4.4  | 1.0   | .55   | .31  | .25   |
| 13          | .18   | .18     | .65       | .22    | 1.6     | 5.4       | 3.4      | 4.0  | 1.0   | .50   | .25  | .31   |
| 14          | .17   | .20     | .65       | .22    | 1.4     | 5.2       | 3.6      | 2.8  | 1.0   | .72   | .22  | .25   |
| 15          | .15   | .20     | .61       | .22    | 1.3     | 4.4       | 4.8      | 3.1  | .96   | .56   | .20  | .77   |
| 16          | .15   | .20     | .60       | .22    | 1.3     | 4.4       | 3.4      | 6.0  | .96   | .38   | .31  | 3.6   |
| 17          | .15   | .20     | .60       | .22    | 1.4     | 4.2       | 3.4      | 6.0  | .77   | .25   | .22  | 4.0   |
| 18          | .23   | .18     | .60       | .22    | 1.7     | 4.0       | 3.4      | 3.6  | .55   | .31   | .17  | 2.6   |
| 19          | .24   | .22     | .60       | .22    | 1.7     | 4.0       | 3.4      | 3.1  | .55   | .83   | .17  | 3.2   |
| 20          | .25   | .22     | .53       | .22    | 4.2     | 4.0       | 3.2      | 2.8  | 1.1   | 1.2   | .17  | 4.0   |
| 21          | .15   | .22     | .46       | .22    | 8.9     | 4.0       | 3.1      | 2.6  | 2.1   | 2.8   | .15  | 3.8   |
| 22          | .15   | .22     | .46       | .22    | 5.8     | 3.9       | 2.4      | 2.5  | 1.4   | 1.7   | .15  | 4.0   |
| 23          | .15   | .22     | .46       | .22    | 4.5     | 3.7       | 2.3      | 2.2  | 1.2   | .90   | .15  | 7.8   |
| 24          | .15   | .34     | .46       | .22    | 9.2     | 3.6       | 3.3      | 2.1  | .83   | .65   | .13  | 7.8   |
| 25          | .70   | 3.1     | .47       | .22    | 16      | 3.6       | 3.4      | 1.9  | .70   | .55   | .25  | 5.8   |
| 26          | .95   | 1.6     | .47       | .22    | 19      | 3.2       | 3.2      | 1.7  | 2.5   | .46   | .15  | .42   |
| 27          | .24   | .96     | .46       | .25    | 19      | 3.1       | 2.8      | 1.6  | 1.6   | .46   | .13  | .34   |
| 28          | .20   | 2.8     | .46       | .28    | 15      | 3.1       | 2.8      | 1.4  | .90   | .38   | .12  | .31   |
| 29          | .20   | 5.6     | .46       | .28    | ---     | 3.7       | 3.1      | 1.6  | .65   | 1.7   | .12  | .22   |
| 30          | .17   | 2.4     | .48       | .28    | ---     | 3.4       | 6.0      | 1.9  | .55   | 1.3   | .12  | .17   |
| 31          | .15   | ---     | .50       | .28    | ---     | 3.4       | ---      | 2.0  | ---   | .77   | .12  | ---   |
| TOTAL       | 6.75  | 21.04   | 21.60     | 8.35   | 132.88  | 172.4     | 126.8    | 88.8 | 37.52 | 35.51 | 8.26 | 52.52 |
| MEAN        | .22   | .70     | .70       | .27    | 4.75    | 5.56      | 4.23     | 2.86 | 1.25  | 1.15  | .27  | 1.75  |
| MAX         | .95   | 5.6     | 1.6       | .44    | 19      | 14        | 11       | 6.0  | 2.5   | 6.0   | .83  | 7.8   |
| MIN         | .06   | .13     | .46       | .22    | .28     | 3.1       | 2.3      | 1.4  | .55   | .25   | .12  | .12   |
| CFSM        | .14   | .46     | .46       | .18    | 3.08    | 3.61      | 2.75     | 1.86 | .81   | .75   | .18  | 1.14  |
| IN.         | .16   | .51     | .52       | .20    | 3.21    | 4.16      | 3.06     | 2.14 | .91   | .86   | .20  | 1.27  |
| CAL YR 1980 | TOTAL | 1045.59 | MEAN 2.86 | MAX 46 | MIN .04 | CFSM 1.86 | IN 25.24 |      |       |       |      |       |
| WTR YR 1981 | TOTAL | 712.43  | MEAN 1.95 | MAX 19 | MIN .06 | CFSM 1.27 | IN 17.20 |      |       |       |      |       |

## MERRIMACK RIVER BASIN

01097000 ASSABET RIVER AT MAYNARD, MA

LOCATION.--Lat 42°25'55", long 71°27'01", Middlesex County, Hydrologic Unit 01070005, on right bank at Maynard, 150 ft (46 m) upstream from bridge on State Highway 27, 1.7 mi (2.7 km) downstream from Assabet Brook, and 7.1 mi (11.4 km) upstream from confluence with Sudbury River.

DRAINAGE AREA.--116 mi<sup>2</sup> (300 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1941 to current year.  
Water-quality records: Water years 1954, 1967-74.

REVISED RECORDS.--WSP 1231: 1945-46.

GAGE.--Water-stage recorder. Datum of gage is 142.12 ft (43.318 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Occasional diurnal fluctuation at low flow by mills upstream; greater regulation prior to 1969. Since 1962, high flow affected by retarding reservoirs and, since 1970, occasional release at low flow by these reservoirs. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--40 years, 182 ft<sup>3</sup>/s (5.154 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft<sup>3</sup>/s (120 m<sup>3</sup>/s) Aug. 20, 1955, gage height, 8.94 ft (2.725 m); maximum gage height, 8.96 ft (2.731 m) Aug. 20, 1955 (backwater from debris); minimum daily discharge, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Feb. 7, 1965.  
Maximum discharge since at least 1886, that of Aug. 20, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 857 ft<sup>3</sup>/s (24.3 m<sup>3</sup>/s) Feb. 27, gage height, 4.51 ft (1.375 m); minimum daily, 5.2 ft<sup>3</sup>/s (0.15 m<sup>3</sup>/s) Aug. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT    | NOV     | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG    | SEP  |
|-------------|--------|---------|------|------|------|------|------|------|------|------|--------|------|
| 1           | 33     | 87      | 248  | 53   | 43   | 690  | 160  | 242  | 116  | 55   | 111    | 20   |
| 2           | 33     | 80      | 191  | 50   | 97   | 585  | 234  | 220  | 91   | 37   | 84     | 20   |
| 3           | 9.7    | 73      | 158  | 47   | 229  | 506  | 310  | 196  | 80   | 44   | 69     | 21   |
| 4           | 82     | 73      | 132  | 45   | 236  | 436  | 310  | 197  | 94   | 54   | 58     | 22   |
| 5           | 110    | 68      | 107  | 40   | 166  | 378  | 257  | 174  | 96   | 123  | 57     | 20   |
| 6           | 96     | 56      | 97   | 39   | 103  | 342  | 255  | 166  | 103  | 229  | 59     | 19   |
| 7           | 84     | 50      | 91   | 43   | 78   | 320  | 264  | 170  | 133  | 291  | 54     | 18   |
| 8           | 75     | 48      | 90   | 43   | 95   | 307  | 250  | 135  | 123  | 242  | 47     | 18   |
| 9           | 67     | 47      | 97   | 40   | 113  | 294  | 218  | 127  | 111  | 190  | 44     | 39   |
| 10          | 64     | 54      | 102  | 40   | 94   | 279  | 214  | 125  | 97   | 131  | 46     | 32   |
| 11          | 88     | 52      | 99   | 39   | 107  | 263  | 202  | 127  | 90   | 103  | 46     | 31   |
| 12          | 131    | 50      | 88   | 37   | 262  | 248  | 190  | 170  | 75   | 99   | 30     | 22   |
| 13          | 126    | 47      | 81   | 35   | 281  | 234  | 179  | 238  | 59   | 93   | 5.2    | 25   |
| 14          | 102    | 46      | 80   | 34   | 194  | 224  | 179  | 243  | 51   | 96   | 27     | 23   |
| 15          | 86     | 44      | 72   | 33   | 132  | 209  | 243  | 214  | 47   | 88   | 36     | 36   |
| 16          | 76     | 43      | 74   | 33   | 113  | 198  | 257  | 283  | 45   | 79   | 41     | 50   |
| 17          | 71     | 40      | 72   | 36   | 116  | 196  | 233  | 364  | 44   | 69   | 32     | 57   |
| 18          | 73     | 58      | 67   | 37   | 128  | 183  | 212  | 364  | 33   | 61   | 33     | 49   |
| 19          | 84     | 60      | 68   | 37   | 133  | 169  | 193  | 293  | 32   | 90   | 31     | 77   |
| 20          | 94     | 60      | 63   | 39   | 170  | 165  | 178  | 227  | 39   | 118  | 16     | 55   |
| 21          | 94     | 60      | 56   | 40   | 320  | 163  | 164  | 184  | 75   | 163  | 17     | 50   |
| 22          | 75     | 61      | 52   | 40   | 414  | 163  | 156  | 157  | 80   | 195  | 19     | 75   |
| 23          | 71     | 62      | 52   | 41   | 382  | 164  | 151  | 144  | 90   | 184  | 22     | 55   |
| 24          | 69     | 70      | 52   | 47   | 360  | 162  | 178  | 140  | 93   | 168  | 29     | 35   |
| 25          | 83     | 139     | 54   | 41   | 498  | 163  | 217  | 126  | 91   | 128  | 23     | 26   |
| 26          | 171    | 180     | 51   | 39   | 718  | 170  | 233  | 116  | 105  | 93   | 24     | 31   |
| 27          | 173    | 175     | 53   | 41   | 838  | 178  | 219  | 110  | 91   | 75   | 24     | 36   |
| 28          | 157    | 172     | 46   | 46   | 820  | 193  | 189  | 96   | 79   | 62   | 27     | 39   |
| 29          | 130    | 238     | 47   | 47   | ---  | 188  | 190  | 99   | 66   | 81   | 24     | 80   |
| 30          | 110    | 274     | 55   | 46   | ---  | 176  | 235  | 118  | 71   | 128  | 23     | 73   |
| 31          | 96     | ---     | 58   | 45   | ---  | 168  | ---  | 125  | ---  | 138  | 22     | ---  |
| TOTAL       | 2813.7 | 2567    | 2653 | 1273 | 7240 | 8114 | 6470 | 5690 | 2400 | 3707 | 1180.2 | 1154 |
| MEAN        | 90.8   | 85.6    | 85.6 | 41.1 | 259  | 262  | 216  | 184  | 80.0 | 120  | 38.1   | 38.5 |
| MAX         | 173    | 274     | 248  | 53   | 838  | 690  | 310  | 364  | 133  | 291  | 111    | 80   |
| MIN         | 9.7    | 40      | 46   | 33   | 43   | 162  | 151  | 96   | 32   | 37   | 5.2    | 18   |
| CAL YR 1980 | TOTAL  | 52774.7 | MEAN | 144  | MAX  | 929  | MIN  | 9.7  |      |      |        |      |
| WTR YR 1981 | TOTAL  | 45261.9 | MEAN | 124  | MAX  | 838  | MIN  | 5.2  |      |      |        |      |



## 01097300 NASHOBA BROOK NEAR ACTON, MA

LOCATION.--Lat 42°30'39", long 71°24'25", Middlesex County, Hydrologic Unit 01070005, on right bank 1,500 ft (450 m) downstream from dam at North Acton, 2.2 mi (3.5 km) northeast of Acton, and 5 mi (8 km) upstream from mouth.

DRAINAGE AREA.--12.7 mi<sup>2</sup> (32.9 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: Occasional low-flow measurements, water years 1962-63. July 1963 to current year.  
Specific conductance: October 1971 to September 1974, October 1975 to October 1977.  
Water temperatures: October 1971 to September 1974, October 1975 to October 1977.

GAGE.--Water-stage recorder. Altitude of gage is 155 ft (47 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, Jan. 14 to Feb. 17, which are poor.  
Occasional regulation since 1967 by pond upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--18 years, 20.6 ft<sup>3</sup>/s (0.583 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 679 ft<sup>3</sup>/s (19.2 m<sup>3</sup>/s) Jan. 26, 1979, gage height, 5.57 ft (1.698 m); maximum gage height, 5.73 ft (1.747 m), Jan. 26, 1979 (ice jam); minimum discharge, 0.02 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 6, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 90 ft<sup>3</sup>/s (2.5 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 27 | 0315 | *179 5.07                                             | 4.32 1.317              |      |      |                                                       |                         |

Minimum discharge, 0.94 ft<sup>3</sup>/s (0.027 m<sup>3</sup>/s) Sept. 7-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY   | JUN   | JUL   | AUG  | SEP    |
|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|------|--------|
| 1     | 1.9   | 9.5   | 28    | 5.4   | 3.9   | 94   | 15   | 29    | 11    | 4.7   | 6.3  | 1.5    |
| 2     | 2.0   | 8.8   | 18    | 5.4   | 10    | 76   | 26   | 21    | 8.7   | 4.6   | 5.4  | 1.2    |
| 3     | 2.5   | 8.2   | 15    | 5.4   | 27    | 63   | 49   | 16    | 8.0   | 4.4   | 4.3  | 1.5    |
| 4     | 3.7   | 7.8   | 13    | 5.1   | 20    | 51   | 39   | 14    | 7.1   | 4.7   | 3.9  | 1.8    |
| 5     | 5.5   | 7.8   | 11    | 5.1   | 15    | 44   | 27   | 13    | 8.5   | 10    | 3.5  | 1.1    |
| 6     | 4.1   | 7.6   | 9.3   | 4.9   | 10    | 39   | 29   | 13    | 8.5   | 27    | 3.8  | 1.3    |
| 7     | 3.8   | 7.1   | 8.9   | 4.3   | 7.0   | 37   | 36   | 12    | 8.2   | 25    | 4.6  | .94    |
| 8     | 3.6   | 6.7   | 8.9   | 4.3   | 9.0   | 37   | 28   | 11    | 7.1   | 15    | 4.6  | 1.3    |
| 9     | 4.0   | 6.3   | 9.5   | 4.2   | 12    | 36   | 22   | 10    | 6.5   | 11    | 4.3  | 1.3    |
| 10    | 4.2   | 6.3   | 9.9   | 4.0   | 10    | 33   | 19   | 9.9   | 6.7   | 9.1   | 4.7  | 1.9    |
| 11    | 5.6   | 6.0   | 9.6   | 3.9   | 15    | 30   | 18   | 9.6   | 6.0   | 8.0   | 4.9  | 2.0    |
| 12    | 8.7   | 5.8   | 8.4   | 3.6   | 35    | 28   | 17   | 11    | 5.4   | 7.4   | 4.7  | 1.7    |
| 13    | 8.4   | 5.6   | 7.9   | 3.2   | 25    | 26   | 14   | 27    | 5.1   | 6.7   | 4.1  | 1.5    |
| 14    | 6.8   | 5.8   | 7.8   | 3.1   | 20    | 25   | 13   | 25    | 4.9   | 6.9   | 3.7  | 1.5    |
| 15    | 7.2   | 5.8   | 7.4   | 3.0   | 15    | 21   | 17   | 16    | 5.1   | 7.6   | 3.1  | 1.5    |
| 16    | 6.6   | 5.6   | 6.9   | 3.0   | 12    | 20   | 18   | 31    | 4.9   | 6.6   | 2.5  | 1.8    |
| 17    | 5.8   | 5.4   | 6.9   | 3.2   | 11    | 20   | 15   | 48    | 4.4   | 5.6   | 2.5  | 3.4    |
| 18    | 5.9   | 4.8   | 6.9   | 3.4   | 12    | 18   | 14   | 39    | 4.1   | 4.3   | 2.5  | 4.3    |
| 19    | 8.6   | 4.7   | 6.9   | 3.5   | 13    | 16   | 13   | 24    | 3.9   | 3.4   | 2.4  | 3.9    |
| 20    | 8.4   | 5.0   | 6.9   | 3.6   | 19    | 16   | 13   | 18    | 3.8   | 3.8   | 2.4  | 3.4    |
| 21    | 7.5   | 5.2   | 6.4   | 3.7   | 42    | 16   | 12   | 15    | 7.8   | 6.3   | 2.3  | 3.2    |
| 22    | 7.2   | 5.4   | 5.9   | 3.8   | 51    | 16   | 11   | 13    | 8.2   | 12    | 2.0  | 3.4    |
| 23    | 6.8   | 5.4   | 5.6   | 3.9   | 36    | 16   | 11   | 11    | 6.7   | 11    | 1.9  | 24     |
| 24    | 6.5   | 5.6   | 5.6   | 4.3   | 32    | 16   | 13   | 10    | 6.9   | 8.0   | 1.8  | 53     |
| 25    | 7.4   | 11    | 5.4   | 3.8   | 80    | 15   | 19   | 9.4   | 5.8   | 6.7   | 1.7  | 34     |
| 26    | 17    | 24    | 5.3   | 3.5   | 123   | 15   | 21   | 8.5   | 8.5   | 5.8   | 1.7  | 18     |
| 27    | 18    | 20    | 5.2   | 3.7   | 170   | 15   | 18   | 8.0   | 11    | 4.9   | 1.7  | 10     |
| 28    | 13    | 14    | 4.8   | 4.0   | 125   | 19   | 14   | 7.6   | 8.5   | 4.7   | 1.7  | 8.7    |
| 29    | 12    | 32    | 4.7   | 4.5   | ---   | 18   | 14   | 7.6   | 6.5   | 4.6   | 1.7  | 8.0    |
| 30    | 11    | 44    | 4.9   | 4.2   | ---   | 17   | 24   | 9.4   | 5.4   | 6.2   | 1.5  | 6.9    |
| 31    | 10    | ---   | 5.3   | 4.0   | ---   | 16   | ---  | 11    | ---   | 6.7   | 1.5  | ---    |
| TOTAL | 223.7 | 297.2 | 266.2 | 125.0 | 959.9 | 909  | 599  | 508.0 | 203.2 | 252.7 | 97.7 | 208.04 |
| MEAN  | 7.22  | 9.91  | 8.59  | 4.03  | 34.3  | 29.3 | 20.0 | 16.4  | 6.77  | 8.15  | 3.15 | 6.93   |
| MAX   | 18    | 44    | 28    | 5.4   | 170   | 94   | 49   | 48    | 11    | 27    | 6.3  | 53     |
| MIN   | 1.9   | 4.7   | 4.7   | 3.0   | 3.9   | 15   | 11   | 7.6   | 3.8   | 3.4   | 1.5  | .94    |

CAL YR 1980 TOTAL 5326.10 MEAN 14.6 MAX 145 MIN 1.1  
WTR YR 1981 TOTAL 4649.64 MEAN 12.7 MAX 170 MIN .94

## MERRIMACK RIVER BASIN

01097500 SUDBURY RIVER AT FRAMINGHAM CENTER, MA

LOCATION.--Lat 42°17'29", long 71°26'35", Middlesex County, Hydrologic Unit 01070005, at dam of Framingham Reservoir No. 1, 0.5 mi (0.8 km) upstream from outlet of Farm Pond, and 0.8 mi (1.3 km) southwest of Framingham Center.

DRAINAGE AREA.--75.2 mi<sup>2</sup> (194.8 km<sup>2</sup>), since January 1881.

PERIOD OF RECORD.--Discharge: January 1875 to current year.  
Water-quality records: Water year 1957.

REVISED RECORDS.--WSP 1051: 1937. WDR MA-RI-77-1: 1976.

REMARKS.--Records adjusted for change in reservoir contents, diversions, and wastage. Flow diverted as needed for use of Boston metropolitan district. Part of flow from Wachusett Reservoir on Nashua River is diverted into Sudbury Reservoir en route to Boston metropolitan district.

COOPERATION.--Records furnished by Water Division of Metropolitan District Commission.

AVERAGE DISCHARGE.--106 years, 115 ft<sup>3</sup>/s (3.257 m<sup>3</sup>/s), 20.77 in/yr (528 mm/yr), adjusted to present drainage area.

## MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| Month                   | Mean  | Per square mile | Runoff in inches | Rainfall in inches |
|-------------------------|-------|-----------------|------------------|--------------------|
| October.....            | 40.6  | 0.54            | 0.62             | 4.86               |
| November.....           | 68.4  | .91             | 1.01             | 3.55               |
| December.....           | 53.4  | .71             | .82              | .88                |
| Calendar year 1980..... | 92.4  | 1.23            | 16.73            | 35.66              |
| January.....            | 13.3  | .18             | .20              | .70                |
| February.....           | 289   | 3.84            | 4.01             | 6.58               |
| March.....              | 197   | 2.62            | 3.02             | .58                |
| April.....              | 161   | 2.14            | 2.38             | 3.78               |
| May.....                | 109   | 1.45            | 1.67             | 2.51               |
| June.....               | 19.8  | .26             | .29              | 2.26               |
| July.....               | 41.9  | .56             | .64              | 5.07               |
| August.....             | -14.6 | -.19            | -.22             | .88                |
| September.....          | 28.9  | .38             | .43              | 4.14               |
| Water year 1981.....    | 82.4  | 1.10            | 14.89            | 35.79              |

NOTE.--Negative figures indicate that evaporation, seepage, and other water transfer losses exceeded inflow.

## 01098530 SUDBURY RIVER AT SAXONVILLE, MA

LOCATION.--Lat 42°19'31", long 71°23'53", Middlesex County, Hydrologic Unit 01070005, on left bank at upstream side of Danforth Street Bridge at Saxonville, 600 ft (180 m) east of Elm Street, 700 ft (210 m) downstream from confluence with Lake Cochituate Outlet, and 0.7 mi (1.1 km) downstream from Saxonville Dam.

DRAINAGE AREA.--106 mi<sup>2</sup> (275 km<sup>2</sup>).

PERIOD OF RECORD.--November 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 110.55 ft (33.696 m) Massachusetts Department of Public Works datum.

REMARKS.--Records fair. Flow regulated by reservoirs upstream and affected by diversions and spill. Flow diverted as needed for use of Boston metropolitan district. Part of flow from Wachusett Reservoir on Nashua River is diverted into Sudbury Reservoir en route to Boston metropolitan district. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 874 ft<sup>3</sup>/s (24.8 m<sup>3</sup>/s) Feb. 26, 1981, gage height, 9.18 ft (2.798 m); minimum daily, 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) Sept. 25, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 874 ft<sup>3</sup>/s (24.8 m<sup>3</sup>/s) Feb. 26, gage height, 9.18 ft (2.798 m); minimum daily, 21 ft<sup>3</sup>/s (0.59 m<sup>3</sup>/s) June 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN     | FEB    | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|---------|--------|------|------|------|------|------|------|------|
| 1           | 24    | 50    | 153      | 74      | 35     | 635  | 119  | 144  | 51   | 32   | 69   | 38   |
| 2           | 24    | 46    | 171      | 75      | 132    | 567  | 245  | 122  | 47   | 30   | 62   | 32   |
| 3           | 27    | 44    | 209      | 73      | 74     | 529  | 194  | 114  | 44   | 32   | 58   | 32   |
| 4           | 76    | 45    | 206      | 72      | 49     | 499  | 175  | 109  | 50   | 50   | 61   | 32   |
| 5           | 39    | 57    | 176      | 70      | 45     | 488  | 166  | 106  | 46   | 120  | 62   | 31   |
| 6           | 32    | 56    | 142      | 69      | 43     | 463  | 215  | 105  | 53   | 100  | 56   | 29   |
| 7           | 30    | 53    | 137      | 71      | 44     | 442  | 186  | 100  | 57   | 84   | 50   | 29   |
| 8           | 30    | 57    | 92       | 72      | 124    | 418  | 175  | 98   | 45   | 74   | 47   | 28   |
| 9           | 30    | 63    | 127      | 69      | 86     | 399  | 178  | 96   | 52   | 63   | 47   | 69   |
| 10          | 26    | 70    | 128      | 69      | 70     | 379  | 180  | 94   | 51   | 52   | 46   | 53   |
| 11          | 86    | 61    | 122      | 69      | 148    | 367  | 172  | 94   | 45   | 43   | 40   | 40   |
| 12          | 84    | 59    | 119      | 69      | 179    | 351  | 167  | 130  | 41   | 38   | 38   | 32   |
| 13          | 51    | 55    | 119      | 70      | 129    | 342  | 158  | 127  | 51   | 35   | 37   | 30   |
| 14          | 39    | 53    | 119      | 70      | 118    | 336  | 180  | 133  | 47   | 43   | 35   | 34   |
| 15          | 35    | 54    | 110      | 70      | 104    | 322  | 204  | 143  | 44   | 38   | 35   | 63   |
| 16          | 33    | 53    | 98       | 70      | 95     | 313  | 184  | 184  | 44   | 36   | 40   | 68   |
| 17          | 31    | 56    | 99       | 71      | 95     | 300  | 180  | 215  | 37   | 35   | 33   | 52   |
| 18          | 42    | 77    | 96       | 72      | 99     | 283  | 192  | 187  | 44   | 41   | 28   | 41   |
| 19          | 50    | 80    | 96       | 69      | 111    | 239  | 183  | 175  | 24   | 79   | 27   | 46   |
| 20          | 36    | 72    | 95       | 69      | 191    | 198  | 179  | 172  | 21   | 65   | 29   | 40   |
| 21          | 32    | 70    | 91       | 68      | 261    | 164  | 171  | 160  | 37   | 122  | 29   | 34   |
| 22          | 31    | 71    | 89       | 57      | 242    | 161  | 163  | 153  | 43   | 105  | 29   | 33   |
| 23          | 28    | 70    | 87       | 36      | 274    | 147  | 158  | 138  | 38   | 72   | 30   | 129  |
| 24          | 28    | 74    | 80       | 32      | 392    | 103  | 201  | 128  | 34   | 57   | 30   | 76   |
| 25          | 82    | 131   | 83       | 31      | 526    | 83   | 216  | 125  | 40   | 45   | 31   | 63   |
| 26          | 121   | 117   | 77       | 31      | 785    | 100  | 205  | 115  | 50   | 39   | 29   | 58   |
| 27          | 74    | 102   | 75       | 34      | 763    | 112  | 186  | 72   | 45   | 42   | 30   | 54   |
| 28          | 68    | 156   | 74       | 36      | 697    | 106  | 167  | 60   | 41   | 34   | 30   | 51   |
| 29          | 66    | 208   | 74       | 35      | ---    | 105  | 167  | 60   | 38   | 60   | 30   | 41   |
| 30          | 57    | 158   | 78       | 35      | ---    | 104  | 170  | 66   | 35   | 86   | 31   | 36   |
| 31          | 54    | ---   | 75       | 35      | ---    | 114  | ---  | 58   | ---  | 76   | 33   | ---  |
| TOTAL       | 1466  | 2318  | 3497     | 1843    | 5911   | 9169 | 5436 | 3783 | 1295 | 1828 | 1232 | 1394 |
| MEAN        | 47.3  | 77.3  | 113      | 59.5    | 211    | 296  | 181  | 122  | 43.2 | 59.0 | 39.7 | 46.5 |
| MAX         | 121   | 208   | 209      | 75      | 785    | 635  | 245  | 215  | 57   | 122  | 69   | 129  |
| MIN         | 24    | 44    | 74       | 31      | 35     | 83   | 119  | 58   | 21   | 30   | 27   | 28   |
| CAL YR 1980 | TOTAL | 47371 | MEAN 129 | MAX 760 | MIN 20 |      |      |      |      |      |      |      |
| WTR YR 1981 | TOTAL | 39172 | MEAN 107 | MAX 785 | MIN 21 |      |      |      |      |      |      |      |

## MERRIMACK RIVER BASIN

01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK AT LOWELL, MA

LOCATION.--Lat 42°38'12", long 71°18'09", Middlesex County, Hydrologic Unit 01070005, on right bank 300 ft (90 m) downstream from Rogers Street Bridge at Lowell, 0.3 mi (0.5 km) downstream from River Meadow Brook, and 0.8 mi (1.3 km) upstream from mouth.

DRAINAGE AREA.--Total above gage, 405 mi<sup>2</sup> (1,049 km<sup>2</sup>); net above gage, 312 mi<sup>2</sup> (808 km<sup>2</sup>) - diversion as needed from 92.6 mi<sup>2</sup> (239.8 km<sup>2</sup>) for use of Boston metropolitan district.

PERIOD OF RECORD.--Discharge: October 1936 to current year. October, November 1936 monthly discharge only, published in WSP 1301.

Water-quality records: Water years 1953, 1967-74.

GAGE.--Water-stage recorder. Datum of gage is 67.41 ft (20.547 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Daily discharge includes water released from 92.6 mi<sup>2</sup> (239.8 km<sup>2</sup>) in basins of Sudbury River and Lake Cochituate. Prior to December 1961, water diverted upstream for use of city of Lowell. Low flow regulated by mills upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--45 years, 620 ft<sup>3</sup>/s (17.56 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,410 ft<sup>3</sup>/s (153 m<sup>3</sup>/s) Jan. 28, 1979, gage height, 9.60 ft (2.926 m); minimum daily, 4.0 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Sept. 29, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,330 ft<sup>3</sup>/s (66.0 m<sup>3</sup>/s) Mar. 2, gage height, 7.26 ft (2.213 m); minimum daily, 75 ft<sup>3</sup>/s (2.12 m<sup>3</sup>/s) Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC   | JAN  | FEB   | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|-------|------|-------|-------|-------|-------|------|------|------|------|
| 1     | 84   | 299  | 711   | 195  | 130   | 2300  | 560   | 687   | 328  | 187  | 283  | 75   |
| 2     | 80   | 265  | 708   | 195  | 210   | 2300  | 679   | 677   | 309  | 173  | 271  | 76   |
| 3     | 87   | 246  | 679   | 190  | 340   | 2200  | 755   | 649   | 288  | 158  | 244  | 79   |
| 4     | 143  | 233  | 619   | 185  | 430   | 2070  | 795   | 615   | 272  | 155  | 214  | 78   |
| 5     | 154  | 217  | 568   | 180  | 459   | 1920  | 823   | 601   | 261  | 257  | 198  | 79   |
| 6     | 165  | 212  | 520   | 170  | 408   | 1790  | 860   | 570   | 257  | 396  | 214  | 78   |
| 7     | 168  | 206  | 518   | 169  | 340   | 1680  | 859   | 518   | 266  | 488  | 204  | 79   |
| 8     | 165  | 196  | 486   | 170  | 339   | 1610  | 855   | 497   | 283  | 523  | 193  | 81   |
| 9     | 149  | 194  | 455   | 165  | 364   | 1530  | 839   | 460   | 285  | 506  | 189  | 100  |
| 10    | 140  | 203  | 429   | 160  | 367   | 1440  | 790   | 425   | 273  | 449  | 175  | 103  |
| 11    | 174  | 197  | 406   | 155  | 387   | 1370  | 766   | 407   | 256  | 375  | 163  | 110  |
| 12    | 238  | 195  | 384   | 150  | 574   | 1290  | 724   | 411   | 235  | 306  | 148  | 110  |
| 13    | 275  | 202  | 360   | 145  | 661   | 1230  | 690   | 475   | 218  | 265  | 134  | 111  |
| 14    | 274  | 196  | 340   | 145  | 678   | 1150  | 673   | 520   | 205  | 243  | 118  | 103  |
| 15    | 250  | 183  | 304   | 140  | 624   | 1100  | 655   | 555   | 195  | 215  | 109  | 105  |
| 16    | 220  | 175  | 295   | 140  | 562   | 1040  | 667   | 660   | 181  | 199  | 112  | 126  |
| 17    | 194  | 189  | 293   | 140  | 504   | 986   | 675   | 739   | 164  | 184  | 104  | 148  |
| 18    | 187  | 195  | 275   | 135  | 467   | 954   | 661   | 778   | 151  | 167  | 102  | 158  |
| 19    | 192  | 204  | 271   | 135  | 456   | 905   | 634   | 800   | 143  | 174  | 99   | 161  |
| 20    | 204  | 224  | 260   | 135  | 509   | 863   | 616   | 782   | 142  | 219  | 94   | 164  |
| 21    | 204  | 228  | 240   | 135  | 676   | 822   | 582   | 744   | 173  | 310  | 90   | 154  |
| 22    | 196  | 225  | 232   | 130  | 801   | 781   | 566   | 686   | 205  | 376  | 84   | 163  |
| 23    | 178  | 237  | 221   | 130  | 882   | 745   | 554   | 626   | 225  | 420  | 80   | 354  |
| 24    | 167  | 252  | 218   | 130  | 981   | 703   | 560   | 580   | 236  | 419  | 78   | 434  |
| 25    | 203  | 345  | 215   | 130  | 1280  | 661   | 603   | 541   | 266  | 388  | 86   | 489  |
| 26    | 361  | 430  | 205   | 130  | 1640  | 631   | 637   | 490   | 287  | 336  | 88   | 500  |
| 27    | 414  | 472  | 190   | 131  | 1960  | 613   | 647   | 442   | 274  | 279  | 86   | 474  |
| 28    | 429  | 531  | 183   | 131  | 2170  | 609   | 642   | 383   | 258  | 236  | 83   | 419  |
| 29    | 419  | 661  | 183   | 130  | ---   | 612   | 638   | 339   | 234  | 240  | 81   | 351  |
| 30    | 381  | 691  | 192   | 135  | ---   | 600   | 681   | 330   | 208  | 249  | 78   | 280  |
| 31    | 340  | ---  | 200   | 130  | ---   | 579   | ---   | 329   | ---  | 270  | 78   | ---  |
| TOTAL | 6835 | 8303 | 11160 | 4641 | 19199 | 37084 | 20686 | 17316 | 7078 | 9162 | 4280 | 5742 |
| MEAN  | 220  | 277  | 360   | 150  | 686   | 1196  | 690   | 559   | 236  | 296  | 138  | 191  |
| MAX   | 429  | 691  | 711   | 195  | 2170  | 2300  | 860   | 800   | 328  | 523  | 283  | 500  |
| MIN   | 80   | 175  | 183   | 130  | 130   | 579   | 554   | 329   | 142  | 155  | 78   | 75   |

CAL YR 1980 TOTAL 175423 MEAN 479 MAX 1960 MIN 66  
WTR YR 1981 TOTAL 151486 MEAN 415 MAX 2300 MIN 75



## 01100000 MERRIMACK RIVER BELOW CONCORD RIVER, AT LOWELL, MA

LOCATION.--Lat 42°38'45", long 71°17'56", Middlesex County, Hydrologic Unit 01070002, on right bank at Lowell, 1,100 ft (350 m) downstream from Concord River.

DRAINAGE AREA.--Total above gage, 4,635 mi<sup>2</sup> (12,005 km<sup>2</sup>); net above gage, 4,425 mi<sup>2</sup> (11,461 km<sup>2</sup>) - diversions as needed from 210 mi<sup>2</sup> (544 km<sup>2</sup>) for use of Boston metropolitan district and city of Worcester.

PERIOD OF RECORD.--Discharge: June 1923 to current year.

Water-quality records: Water years 1954, 1966-74.

Water temperatures: January 1966 to September 1967.

Sediment records: April 1967 to September 1972.

GAGE.--Water-stage recorder. Datum of gage is 5.18 ft (1.579 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 7, 1934, at Boott Mills, 1,800 ft (550 m) upstream and 700 ft (200 m) above mouth of Concord River, in same gage pool and at same datum; gage-height record (furnished by Proprietors of the Locks and Canals on Merrimack River) was indicative of flow including that of Concord River.

REMARKS.--Records good. Daily discharge includes water released from 210 mi<sup>2</sup> (544 km<sup>2</sup>) in basins of Sudbury and Nashua Rivers and Lake Cochituate. Flow regulated by powerplants, by Franklin Falls Reservoir since 1942, and by Squam, Newfound, Winnepesaukee, Winnisquam, and other lakes and reservoirs upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--58 years, 7,452 ft<sup>3</sup>/s (211.0 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 173,000 ft<sup>3</sup>/s (4,900 m<sup>3</sup>/s) Mar. 20, 1936, gage height, 68.4 ft (20.85 m), from floodmarks; minimum daily, 199 ft<sup>3</sup>/s (5.64 m<sup>3</sup>/s) Sept. 23, 1923.  
Maximum discharge since 1735, that of Mar. 20, 1936.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 47,800 ft<sup>3</sup>/s (1,350 m<sup>3</sup>/s) Feb. 27, gage height, 51.91 ft (15.822 m); minimum daily, 585 ft<sup>3</sup>/s (16.6 m<sup>3</sup>/s) Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC    | JAN   | FEB    | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    |
|-------------|-------|---------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1           | 2160  | 4090    | 11600  | 2330  | 1660   | 38100  | 12100  | 9860   | 5640   | 3970   | 6270   | 2190   |
| 2           | 1510  | 3690    | 10100  | 2660  | 2570   | 32200  | 15100  | 10100  | 5640   | 3570   | 5080   | 1570   |
| 3           | 1220  | 3690    | 8270   | 3390  | 4220   | 28100  | 17100  | 9860   | 5510   | 3150   | 4220   | 2000   |
| 4           | 1220  | 3420    | 7560   | 2870  | 6880   | 25400  | 17200  | 9780   | 5280   | 2360   | 3790   | 1950   |
| 5           | 1730  | 3270    | 5880   | 3940  | 7410   | 22100  | 15600  | 9320   | 4350   | 2540   | 3570   | 1730   |
| 6           | 2330  | 2870    | 5570   | 2000  | 6400   | 18700  | 15500  | 8640   | 3820   | 7030   | 3660   | 1850   |
| 7           | 3450  | 2130    | 6880   | 1490  | 5510   | 16100  | 16800  | 7370   | 4220   | 9710   | 4980   | 1730   |
| 8           | 3020  | 2570    | 5670   | 2690  | 4980   | 14500  | 15900  | 6700   | 4250   | 10300  | 5080   | 1690   |
| 9           | 2390  | 585     | 5370   | 2740  | 4220   | 13500  | 12800  | 6150   | 4310   | 8090   | 4410   | 1690   |
| 10          | 1950  | 3120    | 5150   | 2660  | 4220   | 12500  | 10700  | 5610   | 5080   | 5610   | 3790   | 2480   |
| 11          | 1360  | 2870    | 4950   | 3330  | 3880   | 11700  | 10400  | 5570   | 4980   | 5080   | 4500   | 3210   |
| 12          | 1690  | 2840    | 4850   | 3020  | 6960   | 11400  | 9940   | 5470   | 4470   | 4570   | 5980   | 3540   |
| 13          | 1970  | 2600    | 4820   | 2570  | 11800  | 10900  | 9090   | 8270   | 4440   | 4410   | 4630   | 3390   |
| 14          | 1600  | 2300    | 4410   | 2540  | 17200  | 10400  | 8980   | 11800  | 4030   | 4440   | 4630   | 3600   |
| 15          | 1690  | 2540    | 3880   | 2300  | 13800  | 9900   | 8490   | 13300  | 4130   | 4160   | 4220   | 3390   |
| 16          | 1570  | 2390    | 4060   | 2250  | 10300  | 9320   | 8640   | 12400  | 3970   | 4470   | 3820   | 2990   |
| 17          | 1530  | 1950    | 3820   | 1880  | 8940   | 8860   | 9780   | 17300  | 3420   | 4790   | 6310   | 2930   |
| 18          | 1110  | 2030    | 3940   | 1490  | 8090   | 8720   | 8980   | 23000  | 3300   | 4250   | 10300  | 2930   |
| 19          | 1600  | 2480    | 3690   | 2720  | 7370   | 8270   | 8310   | 20700  | 3120   | 4220   | 8490   | 2720   |
| 20          | 1710  | 2390    | 3480   | 2190  | 7850   | 7820   | 8460   | 16600  | 2600   | 4060   | 6700   | 1470   |
| 21          | 1780  | 2630    | 3420   | 1970  | 12400  | 8380   | 8420   | 12900  | 2720   | 4250   | 4790   | 2250   |
| 22          | 2110  | 2690    | 3180   | 2250  | 25900  | 7450   | 7750   | 11000  | 3300   | 5950   | 4660   | 2310   |
| 23          | 2110  | 1920    | 2740   | 1920  | 31900  | 7370   | 7630   | 9360   | 4920   | 6670   | 4190   | 3910   |
| 24          | 2450  | 1920    | 3020   | 1620  | 30400  | 7150   | 7300   | 8050   | 4660   | 5240   | 4030   | 8120   |
| 25          | 2160  | 2740    | 4440   | 1900  | 34600  | 6700   | 8270   | 6770   | 4760   | 5210   | 4090   | 11500  |
| 26          | 3240  | 5950    | 4060   | 2220  | 42000  | 6180   | 10300  | 6500   | 5180   | 4500   | 3570   | 10500  |
| 27          | 6400  | 7860    | 2300   | 2030  | 46700  | 6740   | 11900  | 5910   | 5470   | 3940   | 3540   | 9050   |
| 28          | 8270  | 7340    | 1710   | 2110  | 43000  | 6530   | 10700  | 4980   | 6050   | 3850   | 3300   | 7900   |
| 29          | 6400  | 8460    | 2630   | 1950  | ---    | 7370   | 9590   | 4760   | 5110   | 4980   | 3020   | 7030   |
| 30          | 4630  | 11300   | 2870   | 2050  | ---    | 7490   | 9710   | 4440   | 4250   | 5910   | 2720   | 7150   |
| 31          | 4470  | ---     | 3240   | 1760  | ---    | 8640   | ---    | 4690   | ---    | 6740   | 2600   | ---    |
| TOTAL       | 80830 | 106635  | 147560 | 72840 | 411160 | 398490 | 331440 | 297160 | 132980 | 158020 | 144940 | 118770 |
| MEAN        | 2607  | 3555    | 4760   | 2350  | 14680  | 12850  | 11050  | 9586   | 4433   | 5097   | 4675   | 3959   |
| MAX         | 8270  | 11300   | 11600  | 3940  | 46700  | 38100  | 17200  | 23000  | 6050   | 10300  | 10300  | 11500  |
| MIN         | 1110  | 585     | 1710   | 1490  | 1660   | 6180   | 7300   | 4440   | 2600   | 2360   | 2600   | 1470   |
| CAL YR 1980 | TOTAL | 1992943 | MEAN   | 5445  | MAX    | 40200  | MIN    | 356    |        |        |        |        |
| WTR YR 1981 | TOTAL | 2400825 | MEAN   | 6578  | MAX    | 46700  | MIN    | 585    |        |        |        |        |

## MERRIMACK RIVER BASIN

01100600 SHAWSHEEN RIVER NEAR WILMINGTON, MA

LOCATION.--Lat 42°34'05", long 71°12'55", Middlesex County, Hydrologic Unit 01070002, on right bank at downstream side of bridge on State Highway 129, 1 mi (1.6 km) upstream from Content Brook, and 2.5 mi (4.0 km) northwest of Wilmington.

DRAINAGE AREA.--36.5 mi<sup>2</sup> (94.5 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: November 1963 to current year.

Water-quality records: Water year 1973.

REVISED RECORDS.--WDR MA-NH-RI-VT-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 80.44 ft (24.518 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for periods of no gage-height record, Jan. 16 to Mar. 12, Apr. 24 to May 24, which are poor. Diversion upstream at times each year since 1973 for municipal supply of Burlington; see table below for figures of diversion. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--17 years (water years 1965-81), 56.8 ft<sup>3</sup>/s (1.609 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,660 ft<sup>3</sup>/s (47.0 m<sup>3</sup>/s) Jan. 26, 1979, gage height, 9.85 ft (3.002 m), mean of recorded surge; 10.00 ft (3.048 m), maximum recorded surge; and about 10.4 ft (3.17 m) in river, based on outside gage readings at slightly lower stages; minimum discharge, 1.2 ft<sup>3</sup>/s (0.034 m<sup>3</sup>/s) Aug. 30, 31, Sept. 1, 2-4, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft<sup>3</sup>/s (8.5 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 27 | --   | *450 13                                               | -- --                   |      |      |                                                       |                         |

Minimum discharge, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Dec. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB  | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|
| 1     | 5.6   | 11    | 88    | 13    | 10   | 280  | 45   | 60   | 17    | 4.6   | 22    | 6.6   |
| 2     | 5.4   | 8.7   | 55    | 12    | 25   | 200  | 81   | 45   | 12    | 3.7   | 13    | 6.6   |
| 3     | 5.9   | 7.0   | 33    | 12    | 60   | 150  | 119  | 35   | 10    | 5.8   | 6.2   | 6.6   |
| 4     | 21    | 6.4   | 26    | 11    | 50   | 130  | 119  | 30   | 13    | 13    | 4.3   | 6.6   |
| 5     | 28    | 9.0   | 25    | 10    | 40   | 120  | 112  | 28   | 14    | 35    | 13    | 6.8   |
| 6     | 15    | 8.0   | 21    | 9.5   | 30   | 115  | 96   | 28   | 11    | 68    | 30    | 7.0   |
| 7     | 12    | 6.4   | 13    | 9.5   | 20   | 115  | 95   | 25   | 20    | 85    | 29    | 6.8   |
| 8     | 9.5   | 6.3   | 13    | 9.5   | 25   | 110  | 95   | 22   | 10    | 63    | 26    | 6.6   |
| 9     | 8.3   | 8.7   | 15    | 9.5   | 30   | 100  | 85   | 20   | 11    | 35    | 18    | 9.7   |
| 10    | 7.6   | 12    | 16    | 9.5   | 25   | 90   | 65   | 19   | 13    | 15    | 13    | 15    |
| 11    | 17    | 11    | 15    | 9.5   | 40   | 85   | 55   | 18   | 9.7   | 8.4   | 9.7   | 10    |
| 12    | 49    | 7.8   | 13    | 9.5   | 80   | 80   | 51   | 20   | 14    | 5.7   | 15    | 7.9   |
| 13    | 57    | 6.1   | 10    | 6.4   | 60   | 75   | 46   | 34   | 14    | 4.3   | 14    | 7.7   |
| 14    | 39    | 5.1   | 10    | 2.1   | 45   | 70   | 44   | 32   | 14    | 10    | 13    | 7.5   |
| 15    | 23    | 4.3   | 10    | 1.9   | 38   | 63   | 44   | 28   | 13    | 15    | 11    | 6.8   |
| 16    | 16    | 3.7   | 7.8   | 8.0   | 32   | 56   | 44   | 60   | 12    | 8.9   | 11    | 11    |
| 17    | 11    | 3.1   | 7.6   | 8.5   | 28   | 46   | 40   | 90   | 12    | 7.3   | 11    | 16    |
| 18    | 5.4   | 8.7   | 7.0   | 9.0   | 30   | 42   | 37   | 70   | 11    | 11    | 10    | 11    |
| 19    | 16    | 11    | 6.8   | 9.4   | 35   | 38   | 32   | 50   | 9.7   | 13    | 8.9   | 5.5   |
| 20    | 12    | 13    | 6.8   | 9.8   | 50   | 37   | 28   | 40   | 14    | 26    | 8.4   | 10    |
| 21    | 11    | 12    | 5.2   | 10    | 90   | 36   | 26   | 33   | 45    | 39    | 7.9   | 13    |
| 22    | 11    | 11    | 3.7   | 10    | 120  | 38   | 24   | 28   | 50    | 51    | 7.9   | 11    |
| 23    | 3.2   | 12    | 3.2   | 11    | 90   | 36   | 23   | 24   | 43    | 65    | 7.9   | 38    |
| 24    | 4.3   | 14    | 3.2   | 12    | 80   | 39   | 27   | 22   | 29    | 52    | 7.7   | 76    |
| 25    | 13    | 35    | 3.2   | 11    | 150  | 46   | 35   | 21   | 21    | 34    | 8.9   | 95    |
| 26    | 59    | 53    | 2.1   | 10    | 250  | 48   | 45   | 17   | 31    | 20    | 9.1   | 70    |
| 27    | 96    | 61    | 6.7   | 10    | 400  | 51   | 35   | 12   | 40    | 13    | 8.6   | 33    |
| 28    | 83    | 52    | 10    | 11    | 350  | 62   | 32   | 11   | 26    | 6.4   | 7.7   | 16    |
| 29    | 46    | 67    | 10    | 13    | ---  | 62   | 29   | 13   | 11    | 12    | 7.0   | 13    |
| 30    | 21    | 91    | 13    | 12    | ---  | 53   | 45   | 31   | 6.6   | 22    | 6.8   | 8.6   |
| 31    | 14    | ---   | 15    | 11    | ---  | 49   | ---  | 20   | ---   | 33    | 6.8   | ---   |
| TOTAL | 725.2 | 565.3 | 474.3 | 300.6 | 2283 | 2522 | 1654 | 986  | 557.0 | 785.1 | 372.8 | 545.3 |
| MEAN  | 23.4  | 18.8  | 15.3  | 9.70  | 81.5 | 81.4 | 55.1 | 31.8 | 18.6  | 25.3  | 12.0  | 18.2  |
| MAX   | 96    | 91    | 88    | 13    | 400  | 280  | 119  | 90   | 50    | 85    | 30    | 95    |
| MIN   | 3.2   | 3.1   | 2.1   | 1.9   | 10   | 36   | 23   | 11   | 6.6   | 3.7   | 4.3   | 5.5   |
| (†)   | 5.39  | 10.7  | 8.54  | 4.18  | 1.60 | 3.11 | 4.05 | 4.12 | 6.87  | 8.62  | 2.62  | 3.96  |

CAL YR 1980 TOTAL 13588.5 MEAN 37.1 MAX 386 MIN 2.1  
WTR YR 1981 TOTAL 11770.6 MEAN 32.2 MAX 400 MIN 1.9

† Diversion, in cubic feet per second, for municipal supply of Burlington; records furnished by town of Burlington.

## 01101000 PARKER RIVER AT BYFIELD, MA

LOCATION.--Lat 42°45'10", long 70°56'46", Essex County, Hydrologic Unit 01090001, on left bank 1,400 ft (450 m) downstream from dam, 0.5 mi (0.8 km) south of Byfield, 0.7 mi (1.1 km) upstream from Wheeler Brook, and 5.5 mi (8.8 km) southwest of Newburyport.

DRAINAGE AREA.--21.6 mi<sup>2</sup> (55.9 km<sup>2</sup>).

PERIOD OF RECORD.--October 1945 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 23.46 ft (7.151 m) National Geodetic Vertical Datum of 1929 (levels by Massachusetts Department of Public Works).

REMARKS.--Records good. Some regulation at low flow by mill and ponds upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--36 years, 35.6 ft<sup>3</sup>/s (1.008 m<sup>3</sup>/s), 22.38 in/yr (568 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 489 ft<sup>3</sup>/s (13.8 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 5.61 ft (1.710 m); maximum gage height, 5.70 ft (1.737 m), Oct. 29, 1975 (backwater from coffer dam); minimum daily discharge, 0.09 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Sept. 25-30, Oct. 3-6, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 245 ft<sup>3</sup>/s (6.94 m<sup>3</sup>/s) Feb. 27, gage height, 4.05 ft (1.234 m); minimum daily, 0.48 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT    | NOV     | DEC       | JAN     | FEB     | MAR      | APR      | MAY  | JUN   | JUL   | AUG    | SEP   |
|-------------|--------|---------|-----------|---------|---------|----------|----------|------|-------|-------|--------|-------|
| 1           | .48    | 16      | 36        | 6.3     | 4.7     | 224      | 32       | 44   | 11    | 5.4   | 7.1    | .89   |
| 2           | .51    | 16      | 36        | 6.2     | 8.3     | 200      | 35       | 44   | 11    | 4.7   | 6.8    | .89   |
| 3           | .56    | 15      | 34        | 5.8     | 10      | 178      | 38       | 47   | 11    | 4.5   | 6.2    | .84   |
| 4           | .72    | 14      | 31        | 5.8     | 12      | 157      | 42       | 47   | 11    | 4.2   | 6.0    | .84   |
| 5           | .73    | 13      | 28        | 5.8     | 12      | 139      | 43       | 44   | 10    | 6.0   | 6.8    | .65   |
| 6           | 1.4    | 12      | 24        | 5.7     | 10      | 127      | 48       | 40   | 10    | 6.8   | 6.5    | .51   |
| 7           | 1.4    | 11      | 21        | 5.7     | 9.7     | 122      | 50       | 37   | 10    | 8.0   | 6.5    | .51   |
| 8           | 1.3    | 11      | 20        | 5.4     | 12      | 117      | 52       | 34   | 9.7   | 9.0   | 6.8    | .65   |
| 9           | 1.4    | 10      | 19        | 5.4     | 13      | 111      | 50       | 31   | 9.7   | 9.0   | 6.8    | .98   |
| 10          | 1.2    | 10      | 18        | 5.4     | 14      | 105      | 46       | 29   | 9.0   | 9.0   | 6.8    | .73   |
| 11          | 2.3    | 9.9     | 17        | 5.4     | 17      | 98       | 43       | 27   | 8.3   | 8.3   | 6.5    | .58   |
| 12          | 2.9    | 9.4     | 15        | 5.4     | 29      | 91       | 41       | 26   | 7.4   | 8.0   | 6.0    | .51   |
| 13          | 3.3    | 8.8     | 14        | 5.4     | 42      | 83       | 39       | 25   | 7.1   | 8.3   | 5.4    | .51   |
| 14          | 3.6    | 8.2     | 13        | 5.2     | 34      | 76       | 38       | 24   | 8.3   | 9.0   | 5.2    | .58   |
| 15          | 3.6    | 7.6     | 12        | 4.7     | 28      | 68       | 37       | 22   | 9.7   | 9.0   | 4.7    | .73   |
| 16          | 3.5    | 6.9     | 11        | 4.5     | 26      | 62       | 36       | 22   | 10    | 9.0   | 4.5    | .72   |
| 17          | 3.3    | 6.6     | 11        | 4.5     | 26      | 55       | 35       | 24   | 9.7   | 8.3   | 4.0    | .57   |
| 18          | 3.4    | 7.4     | 10        | 4.5     | 28      | 48       | 35       | 24   | 9.0   | 8.0   | 3.8    | .51   |
| 19          | 3.4    | 7.1     | 10        | 4.5     | 29      | 44       | 33       | 24   | 8.0   | 7.4   | 3.4    | .90   |
| 20          | 3.4    | 7.3     | 9.4       | 4.2     | 33      | 40       | 31       | 22   | 7.7   | 7.4   | 3.0    | .98   |
| 21          | 3.4    | 7.6     | 9.5       | 4.2     | 53      | 40       | 29       | 21   | 7.4   | 8.6   | 2.7    | 1.9   |
| 22          | 3.2    | 8.0     | 8.8       | 4.2     | 67      | 39       | 27       | 20   | 7.1   | 8.6   | 2.3    | 2.8   |
| 23          | 3.2    | 8.3     | 8.1       | 4.2     | 76      | 38       | 24       | 19   | 6.8   | 8.6   | 2.2    | 6.7   |
| 24          | 3.3    | 8.8     | 7.9       | 4.0     | 75      | 37       | 24       | 18   | 6.0   | 8.3   | 1.9    | 8.0   |
| 25          | 5.8    | 13      | 7.6       | 4.0     | 115     | 35       | 31       | 16   | 7.4   | 7.7   | 1.5    | 9.3   |
| 26          | 7.8    | 16      | 7.5       | 4.0     | 194     | 33       | 38       | 14   | 8.0   | 7.1   | 1.3    | 8.6   |
| 27          | 11     | 18      | 6.8       | 4.5     | 238     | 33       | 44       | 13   | 7.7   | 6.8   | .80    | 8.9   |
| 28          | 14     | 23      | 6.3       | 4.7     | 240     | 35       | 44       | 12   | 7.4   | 6.5   | .90    | 8.2   |
| 29          | 15     | 29      | 6.2       | 4.7     | ---     | 35       | 43       | 11   | 6.8   | 7.7   | .89    | 7.1   |
| 30          | 16     | 33      | 6.9       | 4.9     | ---     | 35       | 44       | 11   | 6.0   | 7.4   | .89    | 6.5   |
| 31          | 16     | ---     | 6.8       | 4.7     | ---     | 34       | ---      | 11   | ---   | 7.4   | .89    | ---   |
| TOTAL       | 141.10 | 371.9   | 471.8     | 153.9   | 1455.7  | 2539     | 1152     | 803  | 258.2 | 234.0 | 129.07 | 82.08 |
| MEAN        | 4.55   | 12.4    | 15.2      | 4.96    | 52.0    | 81.9     | 38.4     | 25.9 | 8.61  | 7.55  | 4.16   | 2.74  |
| MAX         | 16     | 33      | 36        | 6.3     | 240     | 224      | 52       | 47   | 11    | 9.0   | 7.1    | 9.3   |
| MIN         | .48    | 6.6     | 6.2       | 4.0     | 4.7     | 33       | 24       | 11   | 6.0   | 4.2   | .80    | .51   |
| CFSM        | .21    | .57     | .70       | .23     | 2.41    | 3.79     | 1.78     | 1.20 | .40   | .35   | .19    | .13   |
| IN.         | .24    | .64     | .81       | .27     | 2.51    | 4.37     | 1.98     | 1.38 | .44   | .40   | .22    | .14   |
| CAL YR 1980 | TOTAL  | 7297.70 | MEAN 19.9 | MAX 106 | MIN .29 | CFSM .92 | IN 12.57 |      |       |       |        |       |
| WTR YR 1981 | TOTAL  | 7791.75 | MEAN 21.3 | MAX 240 | MIN .48 | CFSM .99 | IN 13.42 |      |       |       |        |       |

## IPSWICH RIVER BASIN

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA

LOCATION.--Lat 42°34'10", long 71°01'39", Essex County, Hydrologic Unit 01090001, on right bank in Peabody, 700 ft (200 m) downstream from Boston Street Bridge at South Middleton, 1.3 mi (2.1 km) downstream from Wills Brook, and 2 mi (3 km) south of Middleton.

DRAINAGE AREA.--43.4 mi<sup>2</sup> (112.4 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1938 to current year.  
Water-quality records: Water years 1957, 1959.

REVISED RECORDS.--WSP 1301: 1942(M). WSP 1621: 1938-58 (monthly runoff).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 44.97 ft (13.707 m) Massachusetts Geodetic Survey datum.

REMARKS.--Records good. Diversions upstream for municipal supply of Reading, Lynn, and Peabody. Occasional regulation by mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--43 years, 60.6 ft<sup>3</sup>/s (1.716 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 839 ft<sup>3</sup>/s (23.8 m<sup>3</sup>/s) Jan. 26, 1979, gage height, 7.12 ft (2.170 m); minimum, 0.1 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Sept. 24, Oct. 1, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 390 ft<sup>3</sup>/s (11.0 m<sup>3</sup>/s) Feb. 27, gage height, 5.05 ft (1.539 m); minimum, 0.21 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) on several days during Jan. 14 to Feb. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV      | DEC    | JAN    | FEB    | MAR  | APR  | MAY   | JUN    | JUL   | AUG   | SEP   |
|-------------|-------|----------|--------|--------|--------|------|------|-------|--------|-------|-------|-------|
| 1           | 1.0   | 31       | 66     | 3.5    | 1.7    | 328  | 39   | 72    | 2.4    | 12    | 13    | 2.5   |
| 2           | 1.2   | 27       | 64     | 13     | 14     | 280  | 59   | 64    | 9.1    | 11    | 3.7   | 2.0   |
| 3           | 1.4   | 23       | 60     | 12     | 43     | 241  | 74   | 59    | 11     | 9.6   | 8.7   | 1.9   |
| 4           | 4.2   | 21       | 52     | 11     | 22     | 206  | 74   | 53    | 8.4    | 9.4   | 1.9   | 1.8   |
| 5           | 6.2   | 20       | 44     | 10     | 14     | 174  | 74   | 48    | 14     | 18    | 11    | 1.9   |
| 6           | 4.4   | 19       | 34     | 9.7    | 11     | 151  | 88   | 44    | 12     | 35    | 13    | 1.8   |
| 7           | 3.0   | 18       | 23     | 9.5    | 7.7    | 138  | 92   | 39    | 14     | 25    | 10    | 1.7   |
| 8           | 2.5   | 18       | 20     | 9.4    | 24     | 133  | 83   | 33    | 7.9    | 19    | 1.5   | 3.0   |
| 9           | 2.5   | 19       | 21     | 9.1    | 46     | 120  | 80   | 27    | 11     | 16    | 1.5   | 6.0   |
| 10          | 2.3   | 20       | 21     | 8.9    | 38     | 112  | 74   | 24    | 6.9    | 12    | 8.7   | 4.0   |
| 11          | 5.3   | 20       | 19     | 8.8    | 41     | 101  | 61   | 24    | 15     | 17    | 6.3   | 5.0   |
| 12          | 17    | 20       | 14     | 8.5    | 81     | 93   | 54   | 20    | 13     | 15    | 1.2   | 4.5   |
| 13          | 14    | 19       | 11     | 5.3    | 79     | 87   | 47   | 21    | 12     | 16    | 3.4   | 3.5   |
| 14          | 12    | 19       | 10     | .83    | 69     | 82   | 42   | 18    | 8.9    | 40    | 7.2   | 2.5   |
| 15          | 11    | 17       | 7.5    | 6.3    | 64     | 77   | 43   | 15    | 1.1    | 31    | 6.8   | 3.0   |
| 16          | 11    | 17       | 5.3    | 6.8    | 62     | 71   | 44   | 25    | 6.8    | 22    | 6.6   | 4.5   |
| 17          | 9.9   | 19       | 3.6    | 7.0    | 60     | 68   | 44   | 58    | 8.1    | 11    | 5.6   | 7.0   |
| 18          | 5.2   | 29       | 2.3    | 7.0    | 51     | 62   | 42   | 56    | 5.6    | 3.7   | 4.7   | 5.0   |
| 19          | 1.9   | 32       | 2.0    | 7.0    | 48     | 57   | 39   | 37    | .92    | 6.7   | 4.2   | 10    |
| 20          | 7.1   | 27       | 1.5    | 3.3    | 57     | 53   | 42   | 33    | 5.5    | 2.8   | 3.8   | 6.0   |
| 21          | 4.8   | 1.8      | .65    | 3.4    | 92     | 48   | 43   | 29    | 24     | 20    | 3.2   | 4.2   |
| 22          | 7.9   | .61      | 2.7    | 6.9    | 104    | 46   | 39   | 24    | 9.3    | 11    | 3.2   | 4.0   |
| 23          | 6.8   | .79      | 14     | 6.9    | 101    | 44   | 28   | 19    | 7.2    | 4.4   | 2.9   | 8.9   |
| 24          | 6.1   | 2.6      | 15     | 3.2    | 108    | 41   | 36   | 14    | 4.8    | 8.6   | 2.7   | 3.2   |
| 25          | 19    | 39       | 9.5    | 4.7    | 222    | 41   | 59   | 10    | 11     | 10    | 6.0   | 7.7   |
| 26          | 63    | 63       | .52    | 3.2    | 357    | 38   | 58   | 6.8   | 19     | 3.2   | 5.5   | 6.7   |
| 27          | 55    | 62       | .43    | 5.3    | 387    | 40   | 54   | 3.9   | 13     | 7.7   | 5.0   | 4.1   |
| 28          | 46    | 65       | 1.6    | 4.1    | 366    | 45   | 50   | 1.8   | 11     | 2.0   | 4.5   | 13    |
| 29          | 41    | 65       | 11     | 5.4    | ---    | 43   | 54   | 4.7   | 3.6    | 19    | 4.0   | 12    |
| 30          | 38    | 70       | 15     | 8.3    | ---    | 47   | 71   | 13    | 12     | 23    | 3.5   | 8.0   |
| 31          | 34    | ---      | 7.7    | 3.8    | ---    | 46   | ---  | 2.0   | ---    | 6.9   | 3.0   | ---   |
| TOTAL       | 444.7 | 804.80   | 559.30 | 212.13 | 2570.4 | 3113 | 1687 | 898.2 | 288.52 | 448.0 | 166.3 | 149.4 |
| MEAN        | 14.3  | 26.8     | 18.0   | 6.84   | 91.8   | 100  | 56.2 | 29.0  | 9.62   | 14.5  | 5.36  | 4.98  |
| MAX         | 63    | 70       | 66     | 13     | 387    | 328  | 92   | 72    | 24     | 40    | 13    | 13    |
| MIN         | 1.0   | .61      | .43    | .83    | 1.7    | 38   | 28   | 1.8   | .92    | 2.0   | 1.2   | 1.7   |
| CAL YR 1980 | TOTAL | 11329.39 | MEAN   | 31.0   | MAX    | 174  | MIN  | .43   |        |       |       |       |
| WTR YR 1981 | TOTAL | 11341.75 | MEAN   | 31.1   | MAX    | 387  | MIN  | .43   |        |       |       |       |



## IPSWICH RIVER BASIN

39

## 01102000 IPSWICH RIVER NEAR IPSWICH, MA

LOCATION.--Lat 42°39'35", long 70°53'39", Essex County, Hydrologic Unit 01090001, on left bank 200 ft (60 m) downstream from Willowdale Dam, 1.5 mi (2.4 km) downstream from Howlett Brook, and 4 mi (6 km) upstream from Ipswich.

DRAINAGE AREA.--124 mi<sup>2</sup> (321 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1930 to current year.  
Water-quality records: Water years 1954, 1976-79.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1621: 1930-58 (monthly runoff).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 20.63 ft (6.288 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Diversions upstream for municipal supply of Reading, Lynn, Peabody, Danvers, Salem, and Beverly. Some regulation by reservoirs upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--51 years, 184 ft<sup>3</sup>/s (5.211 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,680 ft<sup>3</sup>/s (75.9 m<sup>3</sup>/s) Mar. 20, 21, 1968, gage height, 8.41 ft (2.563 m); minimum, 0.34 ft<sup>3</sup>/s (0.010 m<sup>3</sup>/s) Sept. 20, 1978.  
Maximum discharge since 1886, that of Mar. 20, 21, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,250 ft<sup>3</sup>/s (35.4 m<sup>3</sup>/s) Mar. 1, gage height, 5.82 ft (1.774 m); minimum not determined; minimum daily, 3.6 ft<sup>3</sup>/s (0.10 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN  | FEB  | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|-------|------|------|------|------|-------|------|------|------|------|------|------|
| 1     | 3.7   | 75   | 121  | 29   | 17   | 1230  | 137  | 193  | 48   | 19   | 60   | 15   |
| 2     | 3.6   | 63   | 131  | 25   | 23   | 1140  | 142  | 193  | 43   | 19   | 55   | 14   |
| 3     | 4.0   | 49   | 134  | 23   | 38   | 1010  | 149  | 193  | 38   | 18   | 48   | 14   |
| 4     | 6.0   | 43   | 118  | 22   | 41   | 869   | 158  | 187  | 38   | 18   | 38   | 14   |
| 5     | 10    | 39   | 91   | 21   | 42   | 740   | 169  | 178  | 36   | 27   | 43   | 14   |
| 6     | 13    | 32   | 85   | 20   | 36   | 627   | 190  | 169  | 34   | 43   | 61   | 14   |
| 7     | 12    | 31   | 63   | 19   | 26   | 543   | 206  | 158  | 33   | 55   | 78   | 13   |
| 8     | 10    | 36   | 46   | 19   | 38   | 486   | 213  | 147  | 31   | 62   | 85   | 14   |
| 9     | 8.6   | 45   | 45   | 19   | 42   | 444   | 216  | 137  | 30   | 63   | 86   | 17   |
| 10    | 7.7   | 42   | 39   | 18   | 41   | 405   | 213  | 127  | 27   | 57   | 79   | 17   |
| 11    | 10    | 41   | 30   | 17   | 46   | 373   | 206  | 120  | 25   | 49   | 69   | 18   |
| 12    | 18    | 41   | 22   | 18   | 82   | 339   | 193  | 113  | 22   | 39   | 59   | 17   |
| 13    | 20    | 39   | 17   | 16   | 95   | 306   | 181  | 109  | 23   | 41   | 50   | 16   |
| 14    | 23    | 37   | 21   | 15   | 99   | 272   | 163  | 105  | 21   | 56   | 41   | 15   |
| 15    | 21    | 35   | 29   | 13   | 93   | 245   | 142  | 99   | 20   | 67   | 33   | 14   |
| 16    | 18    | 33   | 34   | 13   | 84   | 227   | 127  | 97   | 18   | 75   | 31   | 16   |
| 17    | 16    | 31   | 22   | 13   | 71   | 210   | 101  | 99   | 16   | 80   | 29   | 19   |
| 18    | 16    | 33   | 27   | 13   | 79   | 196   | 99   | 103  | 16   | 80   | 26   | 20   |
| 19    | 16    | 35   | 28   | 13   | 87   | 184   | 99   | 109  | 15   | 77   | 24   | 24   |
| 20    | 15    | 37   | 27   | 13   | 95   | 175   | 103  | 113  | 15   | 69   | 22   | 28   |
| 21    | 13    | 40   | 24   | 14   | 127  | 163   | 105  | 111  | 29   | 75   | 20   | 26   |
| 22    | 11    | 39   | 22   | 13   | 147  | 155   | 107  | 101  | 42   | 77   | 19   | 23   |
| 23    | 10    | 35   | 21   | 13   | 166  | 144   | 107  | 87   | 46   | 82   | 17   | 34   |
| 24    | 9.4   | 34   | 22   | 13   | 196  | 137   | 113  | 77   | 38   | 80   | 16   | 50   |
| 25    | 9.1   | 53   | 25   | 13   | 284  | 129   | 134  | 64   | 29   | 74   | 21   | 57   |
| 26    | 20    | 70   | 31   | 13   | 550  | 129   | 152  | 52   | 29   | 64   | 22   | 55   |
| 27    | 50    | 80   | 27   | 14   | 981  | 132   | 172  | 40   | 31   | 56   | 22   | 52   |
| 28    | 72    | 87   | 20   | 16   | 1220 | 134   | 184  | 36   | 32   | 46   | 20   | 48   |
| 29    | 79    | 101  | 19   | 16   | ---  | 137   | 190  | 36   | 28   | 49   | 18   | 41   |
| 30    | 81    | 110  | 23   | 16   | ---  | 139   | 196  | 39   | 23   | 52   | 17   | 39   |
| 31    | 77    | ---  | 28   | 16   | ---  | 139   | ---  | 45   | ---  | 57   | 16   | ---  |
| TOTAL | 683.1 | 1466 | 1392 | 516  | 4846 | 11559 | 4667 | 3437 | 876  | 1726 | 1225 | 758  |
| MEAN  | 22.0  | 48.9 | 44.9 | 16.6 | 173  | 373   | 156  | 111  | 29.2 | 55.7 | 39.5 | 25.3 |
| MAX   | 81    | 110  | 134  | 29   | 1220 | 1230  | 216  | 193  | 48   | 82   | 86   | 57   |
| MIN   | 3.6   | 31   | 17   | 13   | 17   | 129   | 99   | 36   | 15   | 18   | 16   | 13   |

CAL YR 1980 TOTAL 28113.9 MEAN 76.8 MAX 474 MIN 3.0  
WTR YR 1981 TOTAL 33151.1 MEAN 90.8 MAX 1230 MIN 3.6

## MYSTIC RIVER BASIN

01102500 ABERJONA RIVER AT WINCHESTER, MA

LOCATION.--Lat 42°26'50", long 71°08'22", Middlesex County, Hydrologic Unit 01090001, on left bank at Winchester, 0.5 mi (0.8 km) upstream from head of Mystic Lakes.

DRAINAGE AREA.--24.2 mi<sup>2</sup> (62.7 km<sup>2</sup>), excludes 0.6 mi<sup>2</sup> (1.6 km<sup>2</sup>) drained by Winchester North Reservoir.

PERIOD OF RECORD.--Discharge: April 1939 to current year.

Water-quality records: Water year 1958-59, 1973.

REVISED RECORDS.--WDR MA-NH-RI-VT-74-1: Drainage area. WDR MA-RI-79-1: 1955.

GAGE.--Water-stage recorder and concrete control. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow affected by diversions for industrial use and for municipal supply of Woburn and Winchester, and by wastage and leakage from Winchester North Reservoir. Some regulation by Winchester at dam 1,800 ft (550 m) upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 27.3 ft<sup>3</sup>/s (0.773 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,330 ft<sup>3</sup>/s (37.7 m<sup>3</sup>/s) Jan. 25, 1979, gage height, 15.46 ft (4.712 m), from rating curve extended above 400 ft<sup>3</sup>/s (11 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; no flow for part of Oct. 10, 12, 1950, caused by pumpage from gage pool; minimum daily discharge, 0.25 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s) Oct. 10, 1950.  
Maximum discharge since 1886, that of Jan. 25, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 326 ft<sup>3</sup>/s (9.23 m<sup>3</sup>/s) Feb. 26, gage height, 12.51 ft (3.813 m); minimum, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB    | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|-------|-------|--------|------|------|-------|-------|-------|-------|-------|
| 1           | 1.5   | 6.7     | 17    | 5.1   | 4.4    | 113  | 17   | 25    | 7.2   | 4.2   | 5.7   | 1.5   |
| 2           | 1.4   | 5.8     | 13    | 5.2   | 54     | 73   | 63   | 19    | 6.2   | 3.9   | 4.4   | 1.5   |
| 3           | 2.1   | 4.8     | 13    | 4.8   | 47     | 47   | 45   | 17    | 6.2   | 4.0   | 3.8   | 1.5   |
| 4           | 39    | 5.8     | 8.9   | 4.4   | 18     | 41   | 30   | 14    | 13    | 7.0   | 4.0   | 1.6   |
| 5           | 13    | 7.3     | 8.5   | 3.8   | 10     | 40   | 26   | 14    | 10    | 61    | 33    | 1.4   |
| 6           | 6.3   | 5.2     | 7.5   | 3.6   | 7.3    | 40   | 58   | 13    | 16    | 64    | 26    | 1.3   |
| 7           | 4.0   | 4.7     | 7.2   | 4.0   | 6.5    | 44   | 38   | 12    | 11    | 23    | 8.5   | 1.3   |
| 8           | 2.9   | 8.3     | 7.8   | 3.6   | 58     | 45   | 29   | 10    | 7.4   | 11    | 5.7   | 1.6   |
| 9           | 1.9   | 9.5     | 9.0   | 3.3   | 34     | 40   | 25   | 9.3   | 12    | 7.6   | 7.0   | 17    |
| 10          | 1.6   | 11      | 9.9   | 3.2   | 16     | 37   | 22   | 9.2   | 7.9   | 6.3   | 5.4   | 5.4   |
| 11          | 24    | 6.7     | 8.5   | 2.3   | 23     | 34   | 20   | 9.6   | 5.7   | 4.8   | 4.3   | 3.4   |
| 12          | 27    | 5.0     | 7.0   | 2.4   | 44     | 32   | 18   | 15    | 5.0   | 3.9   | 3.8   | 2.5   |
| 13          | 12    | 4.3     | 7.3   | 2.5   | 20     | 30   | 15   | 13    | 5.3   | 6.4   | 3.4   | 1.8   |
| 14          | 6.4   | 4.9     | 7.1   | 2.4   | 14     | 29   | 19   | 10    | 4.4   | 14    | 2.9   | 1.8   |
| 15          | 4.0   | 5.1     | 6.0   | 2.4   | 11     | 26   | 20   | 12    | 4.3   | 6.7   | 2.8   | 3.6   |
| 16          | 3.7   | 4.7     | 6.8   | 2.4   | 10     | 26   | 15   | 34    | 4.2   | 4.3   | 3.1   | 12    |
| 17          | 3.1   | 4.5     | 6.1   | 2.5   | 11     | 23   | 14   | 47    | 3.8   | 3.4   | 2.6   | 9.7   |
| 18          | 10    | 9.9     | 5.9   | 2.6   | 10     | 21   | 13   | 25    | 3.0   | 5.8   | 2.0   | 4.8   |
| 19          | 16    | 9.8     | 6.1   | 2.8   | 11     | 21   | 14   | 17    | 2.9   | 17    | 1.9   | 11    |
| 20          | 8.0   | 8.1     | 5.4   | 2.8   | 25     | 20   | 12   | 14    | 9.8   | 20    | 1.8   | 8.1   |
| 21          | 4.9   | 7.2     | 4.3   | 2.6   | 51     | 21   | 11   | 11    | 36    | 43    | 1.6   | 4.3   |
| 22          | 3.3   | 7.8     | 3.8   | 2.7   | 32     | 23   | 10   | 9.7   | 32    | 23    | 1.7   | 3.6   |
| 23          | 2.0   | 8.6     | 4.2   | 2.8   | 22     | 27   | 11   | 8.3   | 22    | 11    | 1.5   | 46    |
| 24          | 1.7   | 11      | 4.8   | 2.8   | 51     | 23   | 29   | 7.4   | 9.3   | 7.2   | 1.5   | 27    |
| 25          | 56    | 38      | 4.1   | 2.7   | 180    | 24   | 35   | 6.8   | 15    | 5.2   | 11    | 13    |
| 26          | 99    | 23      | 3.1   | 2.8   | 263    | 23   | 25   | 6.7   | 23    | 4.5   | 4.6   | 7.1   |
| 27          | 32    | 14      | 3.7   | 4.1   | 248    | 29   | 18   | 6.4   | 12    | 7.1   | 2.8   | 5.2   |
| 28          | 19    | 35      | 3.4   | 5.4   | 157    | 27   | 15   | 6.1   | 7.0   | 5.1   | 2.2   | 8.7   |
| 29          | 14    | 50      | 4.2   | 5.2   | ---    | 22   | 24   | 12    | 5.8   | 24    | 1.9   | 4.9   |
| 30          | 9.9   | 26      | 10    | 4.4   | ---    | 20   | 40   | 12    | 4.7   | 17    | 1.7   | 3.3   |
| 31          | 8.1   | ---     | 6.7   | 4.4   | ---    | 18   | ---  | 8.6   | ---   | 9.1   | 1.7   | ---   |
| TOTAL       | 437.8 | 352.7   | 220.3 | 106.0 | 1438.2 | 1039 | 731  | 434.1 | 312.1 | 434.5 | 164.3 | 215.9 |
| MEAN        | 14.1  | 11.8    | 7.11  | 3.42  | 51.4   | 33.5 | 24.4 | 14.0  | 10.4  | 14.0  | 5.30  | 7.20  |
| MAX         | 99    | 50      | 17    | 5.4   | 263    | 113  | 63   | 47    | 36    | 64    | 33    | 46    |
| MIN         | 1.4   | 4.3     | 3.1   | 2.3   | 4.4    | 18   | 10   | 6.1   | 2.9   | 3.4   | 1.5   | 1.3   |
| CAL YR 1980 | TOTAL | 5489.59 | MEAN  | 15.0  | MAX    | 201  | MIN  | .87   |       |       |       |       |
| WTR YR 1981 | TOTAL | 5885.90 | MEAN  | 16.1  | MAX    | 263  | MIN  | 1.3   |       |       |       |       |

## CHARLES RIVER BASIN

41

01103500 CHARLES RIVER AT DOVER, MA  
(National stream-quality accounting network station)

LOCATION.--Lat 42°15'22", long 71°15'38", Norfolk County, Hydrologic Unit 01090001, on right bank 0.3 mi (0.5 km) downstream from highway bridge, 0.8 mi (1.3 km) downstream from Noanet Brook, and 1.3 mi (2.1 km) northeast of intersection of Centre and Walpole Streets in Dover.

DRAINAGE AREA.--184 mi<sup>2</sup> (477 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1937 to current year. Prior to October 1977, published as "at Charles River Village."

GAGE.--Water-stage recorder and concrete control. Datum of gage is 89.76 ft (27.359 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except those for period of no gage-height record, Feb. 28 to Mar. 3, which are fair. Flow affected by diversions to and from basin for municipal supplies.

AVERAGE DISCHARGE.--44 years, 298 ft<sup>3</sup>/s (8.439 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,220 ft<sup>3</sup>/s (91.2 m<sup>3</sup>/s) Aug. 23, 1955, gage height, 9.24 ft (2.816 m) and Mar. 22, 1968, gage height, 8.72 ft (2.658 m); minimum, 0.5 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s) Oct. 24, 1952 (caused by unusual regulation); minimum daily, 0.9 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Oct. 24, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since flood in 1886, that of August 1955 and March 1968. Flood in March 1936 reached a discharge of 3,170 ft<sup>3</sup>/s (89.8 m<sup>3</sup>/s), by computation of flow over dam at site 0.2 mi (0.3 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,250 ft<sup>3</sup>/s (35 m<sup>3</sup>/s) Mar. 1; minimum, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Aug. 23, 24, Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|-------|------|------|------|------|------|------|
| 1           | 25    | 100   | 251      | 56       | 46     | 1230  | 240  | 250  | 140  | 59   | 54   | 20   |
| 2           | 29    | 88    | 231      | 55       | 105    | 1160  | 280  | 240  | 130  | 54   | 50   | 20   |
| 3           | 34    | 80    | 202      | 50       | 167    | 1090  | 310  | 225  | 130  | 51   | 46   | 18   |
| 4           | 62    | 76    | 167      | 50       | 180    | 988   | 330  | 206  | 125  | 77   | 44   | 18   |
| 5           | 50    | 76    | 137      | 49       | 180    | 891   | 360  | 198  | 113  | 115  | 43   | 17   |
| 6           | 57    | 78    | 122      | 47       | 163    | 802   | 420  | 195  | 106  | 125  | 38   | 18   |
| 7           | 60    | 79    | 108      | 50       | 125    | 730   | 397  | 184  | 105  | 143  | 34   | 17   |
| 8           | 55    | 76    | 103      | 50       | 136    | 666   | 391  | 172  | 105  | 146  | 31   | 16   |
| 9           | 46    | 73    | 101      | 47       | 144    | 606   | 375  | 160  | 113  | 125  | 32   | 23   |
| 10          | 42    | 77    | 111      | 46       | 161    | 539   | 338  | 151  | 103  | 97   | 31   | 19   |
| 11          | 44    | 70    | 113      | 46       | 194    | 477   | 299  | 147  | 96   | 77   | 28   | 20   |
| 12          | 48    | 69    | 110      | 46       | 326    | 438   | 261  | 165  | 88   | 61   | 29   | 19   |
| 13          | 44    | 68    | 102      | 46       | 351    | 405   | 234  | 203  | 80   | 56   | 29   | 20   |
| 14          | 44    | 66    | 96       | 44       | 358    | 372   | 217  | 230  | 74   | 55   | 26   | 26   |
| 15          | 43    | 61    | 79       | 41       | 322    | 339   | 225  | 240  | 70   | 47   | 26   | 51   |
| 16          | 41    | 58    | 84       | 39       | 257    | 312   | 240  | 270  | 63   | 43   | 29   | 71   |
| 17          | 39    | 55    | 80       | 41       | 215    | 288   | 250  | 300  | 57   | 41   | 25   | 83   |
| 18          | 45    | 72    | 71       | 40       | 206    | 270   | 240  | 332  | 53   | 42   | 22   | 83   |
| 19          | 49    | 73    | 72       | 41       | 209    | 248   | 230  | 327  | 51   | 56   | 21   | 80   |
| 20          | 42    | 81    | 67       | 41       | 252    | 231   | 220  | 303  | 52   | 54   | 20   | 72   |
| 21          | 40    | 86    | 61       | 41       | 377    | 223   | 198  | 269  | 54   | 67   | 20   | 61   |
| 22          | 41    | 86    | 56       | 42       | 437    | 218   | 184  | 227  | 60   | 67   | 19   | 56   |
| 23          | 40    | 91    | 53       | 41       | 490    | 216   | 177  | 194  | 72   | 69   | 17   | 89   |
| 24          | 39    | 99    | 53       | 40       | 560    | 213   | 210  | 172  | 76   | 71   | 16   | 94   |
| 25          | 72    | 140   | 53       | 40       | 670    | 212   | 240  | 156  | 88   | 67   | 21   | 106  |
| 26          | 153   | 164   | 48       | 40       | 893    | 215   | 260  | 138  | 90   | 59   | 22   | 108  |
| 27          | 167   | 182   | 46       | 42       | 1040   | 225   | 280  | 124  | 88   | 54   | 20   | 98   |
| 28          | 182   | 189   | 45       | 49       | 1210   | 230   | 280  | 111  | 87   | 49   | 19   | 81   |
| 29          | 165   | 219   | 48       | 49       | ---    | 240   | 270  | 130  | 77   | 58   | 18   | 65   |
| 30          | 137   | 240   | 55       | 48       | ---    | 240   | 250  | 155  | 67   | 57   | 17   | 55   |
| 31          | 117   | ---   | 57       | 47       | ---    | 230   | ---  | 150  | ---  | 55   | 17   | ---  |
| TOTAL       | 2052  | 2972  | 2982     | 1404     | 9774   | 14544 | 8206 | 6324 | 2613 | 2197 | 864  | 1524 |
| MEAN        | 66.2  | 99.1  | 96.2     | 45.3     | 349    | 469   | 274  | 204  | 87.1 | 70.9 | 27.9 | 50.8 |
| MAX         | 182   | 240   | 251      | 56       | 1210   | 1230  | 420  | 332  | 140  | 146  | 54   | 108  |
| MIN         | 25    | 55    | 45       | 39       | 46     | 212   | 177  | 111  | 51   | 41   | 16   | 16   |
| CAL YR 1980 | TOTAL | 70915 | MEAN 194 | MAX 1010 | MIN 25 |       |      |      |      |      |      |      |
| WTR YR 1981 | TOTAL | 55456 | MEAN 152 | MAX 1230 | MIN 16 |       |      |      |      |      |      |      |

## CHARLES RIVER BASIN

01103500 CHARLES RIVER AT DOVER, MA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to September 1981 (discontinued).

WATER TEMPERATURES: November 1974 to September 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor November 1974 to September 1981 (discontinued).

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Equipment damaged and out of service Apr. 16, 1980, to June 15, 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 448 micromhos Sept. 24, 1977; minimum recorded, 82 micromhos Feb. 11, 1976.

WATER TEMPERATURES: Maximum recorded, 30.5°C Aug. 2, 1975, July 21, 1977; minimum recorded, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 283 micromhos Sept. 24; minimum recorded, 204 micromhos July 5, 6.

WATER TEMPERATURES: Maximum recorded, 28.0°C July 8; minimum recorded, 14.0°C Sept. 30.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE  | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS) | PH<br>(UNITS) | TEMPER-<br>ATURE<br>(DEG C) | TUR-<br>BID-<br>ITY<br>(NTU) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L) | OXYGEN,<br>DIS-<br>SOLVED<br>SATUR-<br>ATION | COLI-<br>FORM,<br>FECAL,<br>0.7<br>UM-MF<br>(COLS./<br>100 ML) | STREP-<br>TOCOCCI<br>FECAL,<br>KF AGAR<br>(COLS.<br>PER<br>100 ML) | HARD-<br>NESS<br>(MG/L<br>AS<br>CACO3) | HARD-<br>NESS,<br>NONCAR-<br>BONATE<br>(MG/L<br>CACO3) |
|-------|------|-------------------------------------------------|---------------------------------------------------|---------------|-----------------------------|------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------|
| OCT   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 14... | 1710 | 41                                              | 245                                               | --            | 10.5                        | --                           | --                                  | --                                           | --                                                             | --                                                                 | --                                     | --                                                     |
| 28... | 0830 | 177                                             | 231                                               | 6.4           | 9.0                         | .80                          | 10.3                                | 89                                           | 230                                                            | 400                                                                | 46                                     | 35                                                     |
| NOV   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 18... | 1445 | 73                                              | 234                                               | 6.3           | 3.0                         | .35                          | 12.3                                | 93                                           | 8                                                              | 11                                                                 | 50                                     | 28                                                     |
| DEC   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 17... | 0900 | 80                                              | 216                                               | 6.4           | .5                          | .40                          | 12.1                                | 84                                           | 16                                                             | 24                                                                 | 44                                     | 22                                                     |
| JAN   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 08... | 1140 | 48                                              | 300                                               | --            | .0                          | --                           | --                                  | --                                           | --                                                             | --                                                                 | --                                     | --                                                     |
| 20... | 1300 | 41                                              | 325                                               | 7.2           | .5                          | .40                          | 12.1                                | 86                                           | K14                                                            | 77                                                                 | 55                                     | 24                                                     |
| FEB   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 18... | 0900 | 203                                             | 177                                               | 6.1           | 1.9                         | .40                          | 11.2                                | 81                                           | K10                                                            | 21                                                                 | 32                                     | 19                                                     |
| 25... | 1515 | 692                                             | 140                                               | --            | 3.5                         | --                           | --                                  | --                                           | --                                                             | --                                                                 | --                                     | --                                                     |
| MAR   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 25... | 1030 | 211                                             | 188                                               | 6.2           | 6.0                         | .90                          | 11.9                                | 82                                           | 1                                                              | 3                                                                  | 35                                     | --                                                     |
| APR   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 06... | 1540 | 409                                             | --                                                | --            | 12.0                        | --                           | --                                  | --                                           | --                                                             | --                                                                 | --                                     | --                                                     |
| 14... | 1100 | 215                                             | 173                                               | 6.2           | 12.0                        | .70                          | 9.9                                 | 92                                           | 24                                                             | 6                                                                  | 31                                     | --                                                     |
| MAY   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 13... | 1600 | 211                                             | 184                                               | 6.7           | 19.0                        | 2.3                          | 8.8                                 | 96                                           | 120                                                            | 66                                                                 | 35                                     | --                                                     |
| JUN   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 09... | 1500 | 133                                             | 168                                               | 6.5           | 22.5                        | 2.5                          | 7.6                                 | 89                                           | 70                                                             | 410                                                                | 39                                     | --                                                     |
| JUL   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 07... | 1630 | 148                                             | 221                                               | 6.5           | 26.5                        | 2.5                          | 6.2                                 | 77                                           | 350                                                            | 590                                                                | 39                                     | --                                                     |
| AUG   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 05... | 1000 | 42                                              | 295                                               | 7.0           | 26.0                        | 1.3                          | 7.6                                 | 97                                           | 470                                                            | 600                                                                | 44                                     | --                                                     |
| 11... | 0845 | 29                                              | 246                                               | --            | 25.5                        | --                           | --                                  | --                                           | --                                                             | --                                                                 | --                                     | --                                                     |
| SEP   |      |                                                 |                                                   |               |                             |                              |                                     |                                              |                                                                |                                                                    |                                        |                                                        |
| 01... | 1400 | 22                                              | 373                                               | 6.3           | 22.5                        | .70                          | 18.6                                | 215                                          | 93                                                             | 63                                                                 | 45                                     | --                                                     |
| 02... | 1430 | 19                                              | 263                                               | --            | 21.0                        | --                           | --                                  | --                                           | --                                                             | --                                                                 | --                                     | --                                                     |

K, NON-IDEAL COLONY COUNT.



## 43

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

## CHARLES RIVER BASIN

01103500 CHARLES RIVER AT DOVER, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE  | NITRO-<br>GEN, AM-<br>MONIA +<br>ORGANIC<br>DIS.<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) | PHOS-<br>PHORUS<br>TOTAL<br>(MG/L<br>AS P04) | PHOS-<br>PHORUS,<br>DIS-<br>SOLVED<br>(MG/L<br>AS P) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C) | CARBON,<br>ORGANIC<br>SUS-<br>PENDED<br>TOTAL<br>(MG/L<br>AS C) | CARBON,<br>ORGANIC<br>DIS-<br>SOLVED<br>(MG/L<br>AS C) | SEDI-<br>MENT,<br>SUS-<br>PENDED<br>(MG/L) | SEDI-<br>MENT,<br>DIS-<br>CHARGE,<br>SUS-<br>PENDED<br>(T/DAY) | SED.<br>SUSP.<br>SIEVE<br>DIAM.<br>% FINER<br>THAN<br>.062 MM |
|-------|--------------------------------------------------------------------|-------------------------------------------|---------------------------------------------|----------------------------------------------|------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|
| OCT   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 14... | --                                                                 | --                                        | --                                          | --                                           | --                                                   | --                                            | --                                                              | --                                                     | --                                         | --                                                             | --                                                            |
| 28... | .46                                                                | 1.4                                       | .190                                        | .58                                          | .130                                                 | 6.6                                           | --                                                              | --                                                     | 13                                         | 6.2                                                            | 100                                                           |
| NOV   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 18... | .41                                                                | 1.4                                       | .230                                        | .71                                          | .180                                                 | --                                            | .6                                                              | 5.6                                                    | 5                                          | .99                                                            | 86                                                            |
| DEC   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 17... | .53                                                                | 1.5                                       | .300                                        | .92                                          | .270                                                 | 4.8                                           | --                                                              | --                                                     | 2                                          | .43                                                            | 83                                                            |
| JAN   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 08... | --                                                                 | --                                        | --                                          | --                                           | --                                                   | --                                            | --                                                              | --                                                     | --                                         | --                                                             | --                                                            |
| 20... | 1.7                                                                | 3.3                                       | .650                                        | 2.0                                          | .600                                                 | 5.6                                           | --                                                              | --                                                     | 4                                          | .44                                                            | 91                                                            |
| FEB   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 18... | .96                                                                | 1.5                                       | .190                                        | .58                                          | .170                                                 | --                                            | --                                                              | --                                                     | 6                                          | 3.3                                                            | 94                                                            |
| 25... | --                                                                 | --                                        | --                                          | --                                           | --                                                   | --                                            | --                                                              | --                                                     | --                                         | --                                                             | --                                                            |
| MAR   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 25... | .56                                                                | 1.3                                       | .130                                        | .40                                          | .090                                                 | --                                            | .9                                                              | 5.6                                                    | 4                                          | 2.3                                                            | 91                                                            |
| APR   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 06... | --                                                                 | --                                        | --                                          | --                                           | --                                                   | --                                            | --                                                              | --                                                     | --                                         | --                                                             | --                                                            |
| 14... | .74                                                                | 1.2                                       | .210                                        | .64                                          | .130                                                 | 8.2                                           | --                                                              | --                                                     | 15                                         | 8.7                                                            | 100                                                           |
| MAY   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 13... | .35                                                                | 1.2                                       | .180                                        | .55                                          | .090                                                 | 8.7                                           | --                                                              | --                                                     | 13                                         | 7.4                                                            | 100                                                           |
| JUN   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 09... | .59                                                                | 1.1                                       | .290                                        | .89                                          | .200                                                 | --                                            | .5                                                              | 9.0                                                    | 9                                          | 3.2                                                            | 100                                                           |
| JUL   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 07... | .49                                                                | .93                                       | .390                                        | 1.2                                          | .330                                                 | 9.3                                           | --                                                              | --                                                     | 5                                          | 2.0                                                            | 100                                                           |
| AUG   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 05... | .37                                                                | .62                                       | .300                                        | .92                                          | .230                                                 | 17                                            | --                                                              | --                                                     | 5                                          | .57                                                            | 100                                                           |
| 11... | --                                                                 | --                                        | --                                          | --                                           | --                                                   | --                                            | --                                                              | --                                                     | --                                         | --                                                             | --                                                            |
| SEP   |                                                                    |                                           |                                             |                                              |                                                      |                                               |                                                                 |                                                        |                                            |                                                                |                                                               |
| 01... | .47                                                                | .66                                       | .220                                        | .67                                          | .170                                                 | --                                            | .4                                                              | 7.2                                                    | 5                                          | .30                                                            | 67                                                            |
| 02... | --                                                                 | --                                        | --                                          | --                                           | --                                                   | --                                            | --                                                              | --                                                     | --                                         | --                                                             | --                                                            |

| DATE  | ARSENIC<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>SUS-<br>PENDED<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>DIS-<br>SOLVED<br>(UG/L<br>AS AS) | BARIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>SUS-<br>PENDED<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS BA) | CADMIUM<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>SUS-<br>PENDED<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>DIS-<br>SOLVED<br>(UG/L<br>AS CD) | CHRO-<br>MIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>SUS-<br>PENDED<br>RECOV.<br>(UG/L<br>AS CR) |
|-------|-------------------------------------|-------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|
| NOV   |                                     |                                                       |                                              |                                                         |                                                                  |                                              |                                                         |                                                                  |                                              |                                                                |                                                               |
| 18... | 0                                   | 0                                                     | 0                                            | 100                                                     | 70                                                               | 30                                           | 0                                                       | 0                                                                | 0                                            | 10                                                             | --                                                            |
| MAR   |                                     |                                                       |                                              |                                                         |                                                                  |                                              |                                                         |                                                                  |                                              |                                                                |                                                               |
| 25... | 0                                   | 0                                                     | 0                                            | 100                                                     | 0                                                                | 100                                          | 1                                                       | 1                                                                | 0                                            | 10                                                             | 0                                                             |
| JUN   |                                     |                                                       |                                              |                                                         |                                                                  |                                              |                                                         |                                                                  |                                              |                                                                |                                                               |
| 09... | 0                                   | 0                                                     | 0                                            | 100                                                     | 70                                                               | 30                                           | 1                                                       | 0                                                                | 2                                            | 20                                                             | 10                                                            |
| SEP   |                                     |                                                       |                                              |                                                         |                                                                  |                                              |                                                         |                                                                  |                                              |                                                                |                                                               |
| 01... | 2                                   | 1                                                     | 1                                            | 100                                                     | 0                                                                | 100                                          | 1                                                       | --                                                               | <1                                           | 10                                                             | 0                                                             |

| DATE  | CHRO-<br>MIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CR) | COBALT,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>SUS-<br>PENDED<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CO) | COPPER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>SUS-<br>PENDED<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CU) | IRON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>SUS-<br>PENDED<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>DIS-<br>SOLVED<br>(UG/L<br>AS FE) |
|-------|-----------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------|
| NOV   |                                                     |                                                         |                                                                  |                                              |                                                         |                                                                  |                                              |                                                       |                                                                |                                            |
| 18... | 10                                                  | 0                                                       | 0                                                                | 2                                            | 4                                                       | 1                                                                | 3                                            | 280                                                   | 160                                                            | 120                                        |
| MAR   |                                                     |                                                         |                                                                  |                                              |                                                         |                                                                  |                                              |                                                       |                                                                |                                            |
| 25... | 10                                                  | 0                                                       | 0                                                                | 0                                            | 3                                                       | 0                                                                | 3                                            | 320                                                   | 170                                                            | 150                                        |
| JUN   |                                                     |                                                         |                                                                  |                                              |                                                         |                                                                  |                                              |                                                       |                                                                |                                            |
| 09... | 10                                                  | 2                                                       | 2                                                                | 0                                            | 3                                                       | 0                                                                | 4                                            | 680                                                   | 340                                                            | 340                                        |
| SEP   |                                                     |                                                         |                                                                  |                                              |                                                         |                                                                  |                                              |                                                       |                                                                |                                            |
| 01... | 10                                                  | 1                                                       | 0                                                                | 1                                            | 3                                                       | 1                                                                | 2                                            | 300                                                   | 210                                                            | 90                                         |

## 01103500 CHARLES RIVER AT DOVER, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>SUS-<br>PENDE<br>D RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>DIS-<br>SOLVED<br>(UG/L<br>AS PB) | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>SUS-<br>PENDE<br>D RECOV.<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>DIS-<br>SOLVED<br>(UG/L<br>AS MN) | MERCURY<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>DIS-<br>SOLVED<br>(UG/L<br>AS HG) | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>SUS-<br>PENDE<br>D RECOV-<br>ERABLE<br>(UG/L<br>AS NI) |
|--------------|-------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|
| NOV<br>18... | 2                                                     | 2                                                               | 0                                          | 30                                                              | 0                                                               | 30                                                   | .1                                                      | <.1                                          | 3                                                       | 2                                                                 |
| MAR<br>25... | 23                                                    | 22                                                              | 1                                          | 50                                                              | 10                                                              | 40                                                   | <.1                                                     | <.1                                          | 10                                                      | 7                                                                 |
| JUN<br>09... | 10                                                    | 10                                                              | 0                                          | 70                                                              | 40                                                              | 30                                                   | <.1                                                     | <.1                                          | 5                                                       | 0                                                                 |
| SEP<br>01... | 23                                                    | --                                                              | 1                                          | 50                                                              | 20                                                              | 30                                                   | <.1                                                     | .2                                           | 5                                                       | 2                                                                 |

| DATE         | NICKEL,<br>DIS-<br>SOLVED<br>(UG/L<br>AS NI) | SELE-<br>NIUM,<br>TOTAL<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>SUS-<br>PENDE<br>D RECOV-<br>ERABLE<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS SE) | SILVER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>SUS-<br>PENDE<br>D RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS AG) | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>SUS-<br>PENDE<br>D RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>DIS-<br>SOLVED<br>(UG/L<br>AS ZN) |
|--------------|----------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------|
| NOV<br>18... | 1                                            | 0                                          | 0                                                                        | 0                                                   | 0                                                       | 0                                                                 | 0                                            | 20                                                    | 0                                                               | 20                                         |
| MAR<br>25... | 3                                            | 0                                          | 0                                                                        | 0                                                   | 0                                                       | 0                                                                 | 0                                            | 250                                                   | 210                                                             | 40                                         |
| JUN<br>09... | 10                                           | 0                                          | 0                                                                        | 0                                                   | 0                                                       | 0                                                                 | 0                                            | 20                                                    | 0                                                               | 20                                         |
| SEP<br>01... | 3                                            | <1                                         | --                                                                       | <1                                                  | <1                                                      | --                                                                | <1                                           | 10                                                    | 0                                                               | 10                                         |

## CHARLES RIVER BASIN

01103500 CHARLES RIVER AT DOVER, MA--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1980 TO SEPTEMBER 1981

## PHYTOPLANKTON

| DATE<br>TIME               | NOV 18,80<br>1445 | MAR 25,81<br>1030 | MAY 13,81<br>1600 | JUN 9,81<br>1500 |           |              |           |              |
|----------------------------|-------------------|-------------------|-------------------|------------------|-----------|--------------|-----------|--------------|
| TOTAL CELLS/ML             | 1700              | 2000              | 7500              | 33000            |           |              |           |              |
| DIVERSITY: DIVISION        | 1.4               | 1.2               | 1.2               | 1.1              |           |              |           |              |
| ..CLASS                    | 1.4               | 1.2               | 1.2               | 1.1              |           |              |           |              |
| ...ORDER                   | 2.1               | 1.6               | 1.5               | 2.0              |           |              |           |              |
| ...FAMILY                  | 2.1               | 1.6               | 1.6               | 2.1              |           |              |           |              |
| ....GENUS                  | 2.2               | 1.9               | 2.0               | 2.3              |           |              |           |              |
| ORGANISM                   | CELLS /ML         | PER-<br>CENT      | CELLS /ML         | PER-<br>CENT     | CELLS /ML | PER-<br>CENT | CELLS /ML | PER-<br>CENT |
| BACILLARIOPHYTA (DIATOMS)  |                   |                   |                   |                  |           |              |           |              |
| ..BACILLARIOPHYCEAE        |                   |                   |                   |                  |           |              |           |              |
| ...ACHNANTHALES            |                   |                   |                   |                  |           |              |           |              |
| ...ACHNANTHACEAE           |                   |                   |                   |                  |           |              |           |              |
| ....ACHNANTHES             | --                | -                 | --                | -                | --        | -            | *         | 0            |
| ....COCCONEIS              | --                | -                 | --                | -                | --        | -            | --        | -            |
| ..BACILLARIALES            |                   |                   |                   |                  |           |              |           |              |
| ...NITZSCHACEAE            |                   |                   |                   |                  |           |              |           |              |
| ....NITZSCHIA              | --                | -                 | 33                | 2                | 190       | 3            | 580       | 2            |
| ...EUPODISCALES            |                   |                   |                   |                  |           |              |           |              |
| ...COSCINODISCACEAE        |                   |                   |                   |                  |           |              |           |              |
| ....CYCLOTELLA             | 750#              | 44                | 990#              | 50               | 4600#     | 62           | 1200      | 4            |
| ....MELOSIRA               | --                | -                 | 84                | 4                | 510       | 7            | 2800      | 8            |
| ..FRAGILARIALES            |                   |                   |                   |                  |           |              |           |              |
| ...FRAGILARIACEAE          |                   |                   |                   |                  |           |              |           |              |
| ....ASTERIONELLA           | 130               | 8                 | --                | -                | --        | -            | 20000#    | 60           |
| ....DIATOMA                | --                | -                 | 17                | 1                | --        | -            | --        | -            |
| ....FRAGILARIA             | 26                | 2                 | --                | -                | --        | -            | --        | -            |
| ....MERIDION               | --                | -                 | 17                | 1                | --        | -            | --        | -            |
| ....SYNEDRA                | 13                | 1                 | --                | -                | 64        | 1            | *         | 0            |
| ..NAVICULALES              |                   |                   |                   |                  |           |              |           |              |
| ...CYMBELLACEAE            |                   |                   |                   |                  |           |              |           |              |
| ....CYMBELLA               | --                | -                 | --                | -                | --        | -            | --        | -            |
| ...NAVICULACEAE            |                   |                   |                   |                  |           |              |           |              |
| ....NAVICULA               | 13                | 1                 | 50                | 3                | --        | -            | --        | -            |
| CHLOROPHYTA (GREEN ALGAE)  |                   |                   |                   |                  |           |              |           |              |
| ..CHLOROPHYCEAE            |                   |                   |                   |                  |           |              |           |              |
| ...CHLOROCOCCALES          |                   |                   |                   |                  |           |              |           |              |
| ...CHLOROCOCCACEAE         |                   |                   |                   |                  |           |              |           |              |
| ....SCHROEDERIA            | --                | -                 | --                | -                | --        | -            | 580       | 2            |
| ....TETRAEDRON             | --                | -                 | --                | -                | --        | -            | --        | -            |
| ...COCCOMYXACEAE           |                   |                   |                   |                  |           |              |           |              |
| ....ELAKATOTHRIX           | --                | -                 | --                | -                | --        | -            | --        | -            |
| ...DICTYOSPHAERIACEAE      |                   |                   |                   |                  |           |              |           |              |
| ....DICTYOSPHAERIUM        | --                | -                 | --                | -                | --        | -            | --        | -            |
| ...HYDRODICTYACEAE         |                   |                   |                   |                  |           |              |           |              |
| ....PEDIASTRUM             | --                | -                 | --                | -                | --        | -            | --        | -            |
| ...MICRACTINIACEAE         |                   |                   |                   |                  |           |              |           |              |
| ....GOLENKINIA             | --                | -                 | --                | -                | --        | -            | --        | -            |
| ....MICRACTINIUM           | --                | -                 | --                | -                | 320       | 4            | --        | -            |
| ...OOCYSTACEAE             |                   |                   |                   |                  |           |              |           |              |
| ....ANKISTRODESMUS         | --                | -                 | 17                | 1                | 320       | 4            | 350       | 1            |
| ....KIRCHNERIELLA          | --                | -                 | --                | -                | 250       | 3            | --        | -            |
| ....OOCYSTIS               | --                | -                 | --                | -                | --        | -            | --        | -            |
| ....SELENASTRUM            | --                | -                 | --                | -                | --        | -            | 470       | 1            |
| ...SCENEDESMACEAE          |                   |                   |                   |                  |           |              |           |              |
| ....CRUCIGENIA             | --                | -                 | --                | -                | --        | -            | --        | -            |
| ....GLOEOACTINIUM          | --                | -                 | --                | -                | --        | -            | --        | -            |
| ...SCENEDESMUS             | 210               | 12                | --                | -                | --        | -            | 470       | 1            |
| ....TETRASTRUM             | --                | -                 | --                | -                | --        | -            | 470       | 1            |
| ..TETRASPORALES            |                   |                   |                   |                  |           |              |           |              |
| ...GLOEOCYSTACEAE          |                   |                   |                   |                  |           |              |           |              |
| ....GLOEOCYSTIS            | --                | -                 | --                | -                | --        | -            | 230       | 1            |
| ...VOLVOCALES              |                   |                   |                   |                  |           |              |           |              |
| ...CHLAMYDOMONADACEAE      |                   |                   |                   |                  |           |              |           |              |
| ....CHLAMYDOMONAS          | 26                | 2                 | 640#              | 32               | 130       | 2            | 930       | 3            |
| ...VOLVOCAEAE              |                   |                   |                   |                  |           |              |           |              |
| ....PANDORINA              | --                | -                 | --                | -                | --        | -            | 930       | 3            |
| CHRYSTOPHYTA               |                   |                   |                   |                  |           |              |           |              |
| ..CHRYSTOPHYCEAE           |                   |                   |                   |                  |           |              |           |              |
| ...OCHROMONADALES          |                   |                   |                   |                  |           |              |           |              |
| ...DINOBYACEAE             |                   |                   |                   |                  |           |              |           |              |
| ....DINOBYON               | --                | -                 | --                | -                | --        | -            | --        | -            |
| CRYPTOPHYTA (CRYPTOMONADS) |                   |                   |                   |                  |           |              |           |              |
| ..CRYPTOPHYCEAE            |                   |                   |                   |                  |           |              |           |              |
| ...CRYPTOMONADALES         |                   |                   |                   |                  |           |              |           |              |
| ...CRYPTOCHRYSIDACEAE      |                   |                   |                   |                  |           |              |           |              |
| ....CHROOMONAS             | --                | -                 | --                | -                | 64        | 1            | --        | -            |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.



01103500 CHARLES RIVER AT DOVER, MA--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1980 TO SEPTEMBER 1981--Continued

## PHYTOPLANKTON

| DATE<br>TIME                  | NOV 18,80<br>1445 |              | MAR 25,81<br>1030 |              | MAY 13,81<br>1600 |              | JUN 9,81<br>1500 |              |
|-------------------------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|------------------|--------------|
| ORGANISM                      | CELLS<br>/ML      | PER-<br>CENT | CELLS<br>/ML      | PER-<br>CENT | CELLS<br>/ML      | PER-<br>CENT | CELLS<br>/ML     | PER-<br>CENT |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                   |              |                   |              |                   |              |                  |              |
| .CYANOPHYCEAE                 |                   |              |                   |              |                   |              |                  |              |
| ..CHROOCOCCALES               |                   |              |                   |              |                   |              |                  |              |
| ...CHROOCOCCACEAE             |                   |              |                   |              |                   |              |                  |              |
| ....ANACYSTIS                 | 64                | 4            | 120               | 6            | 1000              | 14           | 1800             | 5            |
| ....GOMPHOSPHAERIA            | --                | -            | --                | -            | --                | -            | --               | -            |
| ..NOSTOCALES                  |                   |              |                   |              |                   |              |                  |              |
| ...NOSTOCACEAE                |                   |              |                   |              |                   |              |                  |              |
| ....ANABAENA                  | 450 #             | 27           | --                | -            | --                | -            | --               | -            |
| ..OSCILLATORIALES             |                   |              |                   |              |                   |              |                  |              |
| ...OSCILLATORIACEAE           |                   |              |                   |              |                   |              |                  |              |
| ....OSCILLATORIA              | --                | -            | --                | -            | --                | -            | 2200             | 7            |
| EUGLENOPHYTA (EUGLENOIDS)     |                   |              |                   |              |                   |              |                  |              |
| .EUGLENOPHYCEAE               |                   |              |                   |              |                   |              |                  |              |
| ..EUGLENALES                  |                   |              |                   |              |                   |              |                  |              |
| ...EUGLENACEAE                |                   |              |                   |              |                   |              |                  |              |
| ....EUGLENA                   | --                | -            | --                | -            | --                | -            | --               | -            |
| ....PHACUS                    | --                | -            | --                | -            | --                | -            | --               | -            |
| ....TRACHELOMONAS             | 13                | 1            | --                | -            | --                | -            | --               | -            |
| PYRRHOPHYTA (FIRE ALGAE)      |                   |              |                   |              |                   |              |                  |              |
| .DINOPHYCEAE                  |                   |              |                   |              |                   |              |                  |              |
| ..DINOKONTAE                  |                   |              |                   |              |                   |              |                  |              |
| ...GLENODINIACEAE             |                   |              |                   |              |                   |              |                  |              |
| ....GLENODINIUM               | --                | -            | --                | -            | --                | -            | --               | -            |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.

## CHARLES RIVER BASIN

01103500 CHARLES RIVER AT DOVER, MA--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1980 TO SEPTEMBER 1981--Continued

## PHYTOPLANKTON

| DATE<br>TIME        | JUL 7,81<br>1630 | AUG 5,81<br>1000 | SEP 1,81<br>1400 |
|---------------------|------------------|------------------|------------------|
| TOTAL CELLS/ML      | 3000             | 4900             | 2000             |
| DIVERSITY: DIVISION | 1.5              | 1.5              | 1.6              |
| ..CLASS             | 1.5              | 1.5              | 1.6              |
| ...ORDER            | 1.9              | 2.2              | 2.0              |
| ...FAMILY           | 2.5              | 3.3              | 2.6              |
| ....GENUS           | 2.6              | 3.8              | 2.8              |

| ORGANISM                   | CELLS<br>/ML | PER-<br>CENT | CELLS<br>/ML | PER-<br>CENT | CELLS<br>/ML | PER-<br>CENT |
|----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| BACILLARIOPHYTA (DIATOMS)  |              |              |              |              |              |              |
| ..BACILLARIOPHYCEAE        |              |              |              |              |              |              |
| ...ACHNANTHALES            |              |              |              |              |              |              |
| ...ACHNANTHACEAE           |              |              |              |              |              |              |
| ....ACHNANTHES             | --           | -            | 31           | 1            | --           | -            |
| ....COCONEIS               | --           | -            | 47           | 1            | 29           | 1            |
| ..BACILLARIALES            |              |              |              |              |              |              |
| ...NITZSCHIA               |              |              |              |              |              |              |
| ....NITZSCHIA              | 26           | 1            | 31           | 1            | 14           | 1            |
| ...EUPODISCALES            |              |              |              |              |              |              |
| ...COSCINODISCALES         |              |              |              |              |              |              |
| ....CYCLOTELLA             | 64           | 2            | 140          | 3            | --           | -            |
| ....MELOSIRA               | 1200#        | 40           | 520          | 11           | 130          | 7            |
| ..FRAGILARIALES            |              |              |              |              |              |              |
| ...FRAGILARIA              |              |              |              |              |              |              |
| ....FRAGILARIA             | 190          | 6            | --           | -            | --           | -            |
| ....DIATOMA                | --           | -            | --           | -            | --           | -            |
| ....FRAGILARIA             | --           | -            | --           | -            | --           | -            |
| ....MERIDION               | --           | -            | --           | -            | --           | -            |
| ....SYNEDRA                | --           | -            | 47           | 1            | --           | -            |
| ..NAVICULALES              |              |              |              |              |              |              |
| ...CYMBELLACEAE            |              |              |              |              |              |              |
| ....CYMBELLA               | --           | -            | --           | -            | 14           | 1            |
| ...NAVICULACEAE            |              |              |              |              |              |              |
| ....NAVICULA               | --           | -            | 47           | 1            | 43           | 2            |
| CHLOROPHYTA (GREEN ALGAE)  |              |              |              |              |              |              |
| ..CHLOROPHYCEAE            |              |              |              |              |              |              |
| ...CHLOROCOCCALES          |              |              |              |              |              |              |
| ...CHLOROCOCCACEAE         |              |              |              |              |              |              |
| ....SCHROEDERIA            | --           | -            | *            | 0            | --           | -            |
| ....TETRAEDRON             | --           | -            | 31           | 1            | 29           | 1            |
| ...COCCOMYXACEAE           |              |              |              |              |              |              |
| ....ELAKATOTHRIX           | 26           | 1            | --           | -            | --           | -            |
| ...DICTYOSPHAERIALES       |              |              |              |              |              |              |
| ....DICTYOSPHAERIUM        | 360          | 12           | 490          | 10           | --           | -            |
| ...HYDRODICTYACEAE         |              |              |              |              |              |              |
| ....PEDIASTRUM             | --           | -            | 500          | 10           | 460#         | 23           |
| ...MICRACTINIALES          |              |              |              |              |              |              |
| ....GOLENKINIA             | --           | -            | 31           | 1            | --           | -            |
| ....MICRACTINIUM           | --           | -            | --           | -            | --           | -            |
| ...OOCYSTACEAE             |              |              |              |              |              |              |
| ....ANKISTRODESMUS         | 26           | 1            | --           | -            | --           | -            |
| ....KIRCHNERIELLA          | --           | -            | 47           | 1            | --           | -            |
| ....OOCYSTIS               | --           | -            | 78           | 2            | --           | -            |
| ...SELENASTRUM             | 210          | 7            | --           | -            | --           | -            |
| ...SCENEDESMACEAE          |              |              |              |              |              |              |
| ....CRUCIGENIA             | --           | -            | 600          | 12           | --           | -            |
| ....GLOEOACTINIUM          | --           | -            | --           | -            | 110          | 6            |
| ...SCENEDESMUS             | 340          | 11           | 910#         | 19           | 290          | 15           |
| ...TETRASTRUM              | --           | -            | --           | -            | --           | -            |
| ...TETRASPORALES           |              |              |              |              |              |              |
| ...GLOEOCYSTACEAE          |              |              |              |              |              |              |
| ....GLOEOCYSTIS            | --           | -            | --           | -            | --           | -            |
| ...VOLVOCALES              |              |              |              |              |              |              |
| ...CHLAMYDOMONADACEAE      |              |              |              |              |              |              |
| ....CHLAMYDOMONAS          | 26           | 1            | 160          | 3            | --           | -            |
| ...VOLVOCAEAE              |              |              |              |              |              |              |
| ....PANDORINA              | --           | -            | 250          | 5            | 110          | 6            |
| CHRYSTOPHYTA               |              |              |              |              |              |              |
| ..CHRYSTOPHYCEAE           |              |              |              |              |              |              |
| ...OCHROMONADALES          |              |              |              |              |              |              |
| ...DINOBRYACEAE            |              |              |              |              |              |              |
| ....DINOBYRON              | --           | -            | 63           | 1            | 14           | 1            |
| CRYPTOPHYTA (CRYPTOMONADS) |              |              |              |              |              |              |
| ..CRYPTOPHYCEAE            |              |              |              |              |              |              |
| ...CRYPTOMONADALES         |              |              |              |              |              |              |
| ...CRYPTOCHRYSIDACEAE      |              |              |              |              |              |              |
| ....CHROOMONAS             | --           | -            | --           | -            | --           | -            |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.

01103500 CHARLES RIVER AT DOVER, MA--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1980 TO SEPTEMBER 1981--Continued

## PHYTOPLANKTON

| DATE<br>TIME                  | JUL 7,81<br>1630 |              | AUG 5,81<br>1000 |              | SEP 1,81<br>1400 |              |
|-------------------------------|------------------|--------------|------------------|--------------|------------------|--------------|
| ORGANISM                      | CELLS<br>/ML     | PER-<br>CENT | CELLS<br>/ML     | PER-<br>CENT | CELLS<br>/ML     | PER-<br>CENT |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                  |              |                  |              |                  |              |
| .CYANOPHYCEAE                 |                  |              |                  |              |                  |              |
| ..CHROOCOCCALES               |                  |              |                  |              |                  |              |
| ...CHROOCOCCACEAE             |                  |              |                  |              |                  |              |
| ....ANACYSTIS                 | 520#             | 17           | 110              | 2            | --               | -            |
| ....GOMPHOSPHERIA             | --               | -            | 390              | 8            | --               | -            |
| ..NOSTOCALES                  |                  |              |                  |              |                  |              |
| ...NOSTOCACEAE                |                  |              |                  |              |                  |              |
| ....ANABAENA                  | --               | -            | 250              | 5            | 680#             | 34           |
| ..OSCILLATORIALES             |                  |              |                  |              |                  |              |
| ...OSCILLATORIACEAE           |                  |              |                  |              |                  |              |
| ....OSCILLATORIA              | --               | -            | --               | -            | --               | -            |
| EUGLENOPHYTA (EUGLENOIDS)     |                  |              |                  |              |                  |              |
| .EUGLENOPHYCEAE               |                  |              |                  |              |                  |              |
| ..EUGLENALES                  |                  |              |                  |              |                  |              |
| ...EUGLENACEAE                |                  |              |                  |              |                  |              |
| ....EUGLENA                   | --               | -            | 63               | 1            | --               | -            |
| ....PHACUS                    | --               | -            | --               | -            | 14               | 1            |
| ....TRACHELOMONAS             | *                | 0            | --               | -            | 29               | 1            |
| PYRRHOPHYTA (FIRE ALGAE)      |                  |              |                  |              |                  |              |
| .DINOPHYCEAE                  |                  |              |                  |              |                  |              |
| ..DINOKONTAE                  |                  |              |                  |              |                  |              |
| ...GLENODINIACEAE             |                  |              |                  |              |                  |              |
| ....GLENODINIUM               | *                | 0            | 47               | 1            | --               | -            |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.



## CHARLES RIVER BASIN

51

01104000 MOTHER BROOK AT DEDHAM, MA

LOCATION.--Lat 42°15'18", long 71°09'53", Norfolk County, Hydrologic Unit 01090001, on right bank 100 ft (30 m) upstream from Washington Street Bridge at Dedham and 0.4 mi (0.6 km) downstream from point of diversion from Charles River.

PERIOD OF RECORD.--Discharge: October 1931 to current year.  
Water-quality records: Water years 1959, 1969-70.

REVISED RECORDS.--WSP 1301: 1932(M).

GAGE.--Water-stage recorder. Concrete control since June 10, 1960. Datum of gage is 0.03 ft (0.009 m) below National Geodetic Vertical Datum of 1929. Dec. 9, 1931, to June 9, 1960, nonrecording gage at site 200 ft (60 m) upstream at same datum.

REMARKS.--Records good. Mother Brook is a diversion from Charles River to Neponset River through Dedham and Hyde Park. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--50 years, 78.0 ft<sup>3</sup>/s (2.209 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft<sup>3</sup>/s (29.5 m<sup>3</sup>/s) Mar. 21, 1968, gage height, 87.18 ft (26.572 m); maximum gage height, 92.90 ft (28.316 m) Aug. 24, 1955, from graph based on gage readings; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 361 ft<sup>3</sup>/s (10.2 m<sup>3</sup>/s) Mar. 1, gage height, 83.51 ft (25.454 m); minimum, 0.19 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Sept. 10, 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC    | JAN   | FEB     | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|--------|-------|---------|------|------|-------|-------|-------|-------|-------|
| 1           | .23   | 4.0     | 33     | 2.0   | .35     | 356  | 39   | 49    | 2.4   | 3.1   | .72   | .26   |
| 2           | .23   | 2.1     | 27     | 1.6   | 2.3     | 347  | 61   | 49    | 1.2   | 1.5   | .31   | .23   |
| 3           | .94   | 3.1     | 22     | 1.0   | .74     | 331  | 59   | 39    | 1.9   | .52   | .30   | .23   |
| 4           | 3.4   | 1.5     | 14     | .72   | 1.1     | 293  | 61   | 30    | 11    | 2.0   | 4.3   | .23   |
| 5           | .56   | 1.1     | 8.7    | .49   | 1.7     | 254  | 62   | 27    | 8.3   | 7.5   | 5.2   | .23   |
| 6           | .28   | .93     | 2.4    | .48   | 1.1     | 224  | 81   | 36    | 3.9   | 3.4   | 3.8   | .23   |
| 7           | .28   | .83     | 1.2    | .50   | .46     | 194  | 78   | 34    | 2.4   | 2.7   | 2.3   | .23   |
| 8           | .28   | .88     | .86    | .42   | 2.1     | 161  | 95   | 19    | 1.2   | 8.0   | 1.3   | .24   |
| 9           | .34   | 1.1     | .92    | .41   | .82     | 132  | 86   | 12    | 3.4   | 4.3   | 1.1   | .80   |
| 10          | .48   | .78     | .91    | .41   | .48     | 106  | 74   | 7.4   | 10    | 1.2   | 2.4   | .24   |
| 11          | .94   | 4.4     | .99    | .43   | 2.7     | 100  | 54   | 4.1   | 8.2   | .42   | 1.6   | .35   |
| 12          | .94   | 6.9     | .90    | .46   | 12      | 134  | 37   | 3.6   | 7.0   | .50   | 1.2   | .23   |
| 13          | .48   | 3.9     | .87    | .44   | 15      | 123  | 22   | 13    | 3.6   | .97   | .63   | .21   |
| 14          | .34   | 2.0     | .75    | .43   | 16      | 114  | 16   | 35    | 1.2   | .78   | .49   | 2.3   |
| 15          | .34   | 1.2     | .72    | .39   | 12      | 88   | 23   | 40    | .76   | 1.2   | .48   | 1.1   |
| 16          | .28   | .80     | .77    | .36   | 5.3     | 73   | 16   | 60    | .69   | 1.4   | .50   | 1.0   |
| 17          | .22   | .66     | .81    | .39   | 8.1     | 66   | 29   | 71    | 2.1   | .88   | .38   | .31   |
| 18          | .61   | 1.6     | .72    | .35   | 35      | 53   | 56   | 59    | 1.8   | 1.1   | .33   | .28   |
| 19          | .33   | 1.0     | .69    | .38   | 32      | 38   | 50   | 50    | .97   | .54   | .33   | .64   |
| 20          | .33   | .84     | .60    | .36   | 39      | 37   | 39   | 37    | 2.5   | 1.4   | .33   | .29   |
| 21          | .33   | .86     | .56    | .34   | 73      | 57   | 30   | 23    | 1.8   | 1.0   | .32   | .27   |
| 22          | .42   | .81     | .57    | .34   | 86      | 52   | 19   | 19    | 2.1   | 2.0   | .42   | .24   |
| 23          | .53   | .73     | .58    | .34   | 93      | 46   | 12   | 35    | 1.1   | 1.6   | .37   | 1.4   |
| 24          | .56   | 1.1     | .57    | .34   | 129     | 41   | 16   | 24    | 3.4   | .57   | .34   | .30   |
| 25          | 6.1   | 2.0     | .48    | .34   | 217     | 42   | 23   | 13    | 2.6   | .34   | .52   | .28   |
| 26          | 17    | 1.3     | .48    | .40   | 318     | 51   | 28   | 6.8   | 2.8   | .34   | .32   | .26   |
| 27          | 12    | .83     | .48    | .43   | 356     | 54   | 29   | 4.4   | 5.1   | .56   | .28   | .25   |
| 28          | 9.9   | 7.5     | .63    | .34   | 352     | 51   | 24   | 8.0   | 2.6   | .32   | .26   | .59   |
| 29          | 9.1   | 36      | 1.7    | .34   | ---     | 47   | 18   | 7.1   | 1.1   | 1.4   | .30   | .24   |
| 30          | 11    | 36      | 3.2    | .34   | ---     | 48   | 25   | 5.7   | 2.5   | 1.5   | .28   | 3.5   |
| 31          | 6.8   | ---     | 2.6    | .35   | ---     | 55   | ---  | 3.9   | ---   | 1.8   | .28   | ---   |
| TOTAL       | 85.57 | 126.75  | 130.66 | 15.92 | 1812.25 | 3768 | 1262 | 825.0 | 99.62 | 54.84 | 31.69 | 16.96 |
| MEAN        | 2.76  | 4.23    | 4.21   | .51   | 64.7    | 122  | 42.1 | 26.6  | 3.32  | 1.77  | 1.02  | .57   |
| MAX         | 17    | 36      | 33     | 2.0   | 356     | 356  | 95   | 71    | 11    | 8.0   | 5.2   | 3.5   |
| MIN         | .22   | .66     | .48    | .34   | .35     | 37   | 12   | 3.6   | .69   | .32   | .26   | .21   |
| CAL YR 1980 | TOTAL | 7589.92 | MEAN   | 20.7  | MAX     | 219  | MIN  | .22   |       |       |       |       |
| WTR YR 1981 | TOTAL | 8229.26 | MEAN   | 22.5  | MAX     | 356  | MIN  | .21   |       |       |       |       |



LOCATION.--Lat 42°18'59", long 71°13'42", Norfolk County, Hydrologic Unit 01090001, on left bank at east limits of Wellesley, 30 ft (9 m) upstream from a horseshoe-shaped dam and 50 ft (15 m) upstream from bridge on State Highway 9.

PERIOD OF RECORD.--Discharge: August 1959 to current year.  
Water-quality records: Water year 1968.

GAGE.--Water-stage recorder and masonry dam. Datum of gage is 67.92 ft (20.702 m) National Geodetic Vertical Datum of 1929.

AVERAGE DISCHARGE.--22 years, 269 ft<sup>3</sup>/s (7.618 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,410 ft<sup>3</sup>/s (68.3 m<sup>3</sup>/s) Mar. 21, 1968, gage height, 6.20 ft (1.890 m); no flow Sept. 15, Oct. 6, 1959 (caused by closing of gates at dam at gage); minimum daily discharge, 1.0 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) Aug. 24, 31, Sept. 8, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 958 ft<sup>3</sup>/s (27.1 m<sup>3</sup>/s) Mar. 1, gage height, 4.65 ft (1.417 m); minimum, 5.0 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Aug. 17-20, 25-28; minimum daily, 5.0 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Aug. 18, 19, 25, 26.

| DAY         | OCT    | NOV     | DEC      | JAN     | FEB     | MAR   | APR  | MAY  | JUN  | JUL  | AUG   | SEP  |
|-------------|--------|---------|----------|---------|---------|-------|------|------|------|------|-------|------|
| 1           | 20     | 117     | 229      | 51      | 50      | 933   | 240  | 212  | 169  | 73   | 65    | 25   |
| 2           | 10     | 107     | 232      | 53      | 89      | 949   | 300  | 226  | 169  | 80   | 67    | 28   |
| 3           | 26     | 101     | 202      | 53      | 127     | 940   | 320  | 224  | 86   | 56   | 35    | 30   |
| 4           | 89     | 96      | 176      | 51      | 141     | 910   | 340  | 216  | 109  | 51   | 25    | 30   |
| 5           | 78     | 93      | 152      | 49      | 156     | 860   | 360  | 174  | 131  | 151  | 58    | 28   |
| 6           | 67     | 92      | 148      | 47      | 151     | 780   | 430  | 180  | 131  | 162  | 41    | 26   |
| 7           | 70     | 91      | 130      | 47      | 126     | 700   | 380  | 192  | 131  | 100  | 33    | 26   |
| 8           | 70     | 88      | 116      | 47      | 148     | 640   | 350  | 194  | 131  | 135  | 30    | 26   |
| 9           | 35     | 92      | 105      | 47      | 152     | 580   | 350  | 184  | 78   | 148  | 28    | 31   |
| 10          | 12     | 47      | 112      | 45      | 144     | 530   | 334  | 176  | 97   | 135  | 25    | 17   |
| 11          | 33     | 25      | 114      | 45      | 160     | 460   | 314  | 176  | 89   | 109  | 26    | 15   |
| 12          | 53     | 62      | 120      | 43      | 281     | 400   | 288  | 183  | 91   | 94   | 35    | 20   |
| 13          | 56     | 78      | 115      | 41      | 313     | 370   | 269  | 141  | 103  | 45   | 39    | 23   |
| 14          | 53     | 76      | 103      | 39      | 322     | 350   | 260  | 188  | 97   | 21   | 41    | 37   |
| 15          | 53     | 72      | 91       | 37      | 316     | 330   | 263  | 202  | 94   | 37   | 39    | 43   |
| 16          | 52     | 66      | 94       | 37      | 280     | 310   | 280  | 259  | 47   | 47   | 35    | 67   |
| 17          | 51     | 69      | 92       | 37      | 143     | 300   | 211  | 309  | 43   | 58   | 19    | 89   |
| 18          | 52     | 81      | 82       | 37      | 146     | 280   | 225  | 313  | 73   | 73   | 5.0   | 91   |
| 19          | 62     | 92      | 79       | 38      | 176     | 265   | 234  | 316  | 45   | 106  | 5.0   | 97   |
| 20          | 54     | 93      | 71       | 39      | 217     | 250   | 228  | 309  | 51   | 91   | 10    | 91   |
| 21          | 51     | 93      | 66       | 39      | 310     | 200   | 214  | 287  | 73   | 53   | 21    | 51   |
| 22          | 28     | 93      | 62       | 39      | 342     | 210   | 209  | 187  | 91   | 51   | 26    | 56   |
| 23          | 8.5    | 105     | 59       | 39      | 374     | 215   | 208  | 176  | 60   | 78   | 28    | 97   |
| 24          | 10     | 106     | 58       | 39      | 408     | 220   | 237  | 172  | 73   | 89   | 23    | 103  |
| 25          | 73     | 145     | 51       | 39      | 538     | 210   | 282  | 169  | 103  | 91   | 12    | 109  |
| 26          | 158    | 164     | 36       | 40      | 775     | 200   | 305  | 158  | 75   | 83   | 5.0   | 112  |
| 27          | 163    | 187     | 9.9      | 44      | 903     | 220   | 318  | 97   | 86   | 70   | 5.0   | 109  |
| 28          | 184    | 139     | 13       | 46      | 917     | 230   | 324  | 109  | 103  | 45   | 5.8   | 97   |
| 29          | 149    | 194     | 32       | 49      | ---     | 240   | 320  | 128  | 67   | 14   | 15    | 80   |
| 30          | 136    | 209     | 47       | 51      | ---     | 250   | 234  | 148  | 56   | 39   | 21    | 67   |
| 31          | 133    | ---     | 51       | 51      | ---     | 230   | ---  | 162  | ---  | 58   | 25    | ---  |
| TOTAL       | 2089.5 | 3073    | 3047.9   | 1359    | 8205    | 13562 | 8627 | 6167 | 2752 | 2443 | 847.8 | 1721 |
| MEAN        | 67.4   | 102     | 98.3     | 43.8    | 293     | 437   | 288  | 199  | 91.7 | 78.8 | 27.3  | 57.4 |
| MAX         | 184    | 209     | 232      | 53      | 917     | 949   | 430  | 316  | 169  | 162  | 67    | 112  |
| MIN         | 8.5    | 25      | 9.9      | 37      | 50      | 200   | 208  | 97   | 43   | 14   | 5.0   | 15   |
| CAL YR 1980 | TOTAL  | 71551.1 | MEAN 195 | MAX 891 | MIN 5.0 |       |      |      |      |      |       |      |
| WTR YR 1981 | TOTAL  | 53894.2 | MEAN 148 | MAX 949 | MIN 5.0 |       |      |      |      |      |       |      |

LOCATION.--Lat 42°22'20", long 71°14'03", Middlesex County, Hydrologic Unit 01090001, on right bank 800 ft (250 m) downstream from Moody Street Bridge in Waltham and 0.3 mi (0.5 km) upstream from Beaver Brook.

PERIOD OF RECORD.--Discharge: October 1903 to October 1909 (figures of average weekly discharge, equivalent to records of unadjusted discharge at present site), August 1931 to current year.  
Water-quality records: Water years 1953, 1959, 1968-70.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 20.02 ft (6.102 m) National Geodetic Vertical Datum of 1929. Prior to July 10, 1904, at dam 700 ft (200 m) upstream and July 10, 1904, to Oct. 2, 1909, at dam 0.7 mi (1.1 km) downstream at different datums; discharge computed from flow over dam and through wheels and gates of Boston Manufacturing Co. and Waltham Bleachery, respectively.

REMARKS.--Records good. Flow affected by diversion to Mother Brook (station 01104000), diversions to and from basin for municipal supplies, and at times by water released from Stony Brook Reservoir. Prior to 1960, some regulation by mills upstream. Low flow completely regulated by Boston Edison Co. powerplant prior to 1954. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,150 ft<sup>3</sup>/s (118 m<sup>3</sup>/s) Feb. 3, 1976, gage height, 6.54 ft (1.993 m), caused by release of water stored behind ice jam upstream; minimum, 0.1 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Oct. 1, 12, 1943; minimum daily, 0.2 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Oct. 4, 1943.  
Maximum discharge since 1886, that of Feb. 3, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,220 ft<sup>3</sup>/s (34.6 m<sup>3</sup>/s) Feb. 27, gage height, 3.46 ft (1.055 m); minimum, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Aug. 28; minimum daily, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Aug. 20, 28.

| DAY   | OCT     | NOV   | DEC   | JAN  | FEB   | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|---------|-------|-------|------|-------|-------|------|------|------|------|------|------|
| 1     | 32      | 127   | 227   | 72   | 62    | 1120  | 234  | 209  | 174  | 70   | 65   | 30   |
| 2     | 26      | 115   | 235   | 76   | 133   | 1110  | 308  | 223  | 184  | 80   | 71   | 32   |
| 3     | 26      | 108   | 227   | 71   | 198   | 1070  | 313  | 225  | 172  | 82   | 63   | 34   |
| 4     | 90      | 104   | 190   | 68   | 190   | 1040  | 339  | 219  | 136  | 76   | 34   | 33   |
| 5     | 90      | 105   | 161   | 61   | 202   | 949   | 367  | 206  | 163  | 182  | 53   | 31   |
| 6     | 77      | 98    | 169   | 61   | 204   | 847   | 436  | 185  | 174  | 197  | 58   | 30   |
| 7     | 77      | 98    | 149   | 64   | 196   | 744   | 378  | 191  | 158  | 149  | 47   | 30   |
| 8     | 79      | 100   | 138   | 62   | 262   | 697   | 333  | 197  | 140  | 123  | 40   | 30   |
| 9     | 65      | 101   | 125   | 61   | 279   | 649   | 349  | 191  | 131  | 146  | 38   | 42   |
| 10    | 32      | 92    | 131   | 61   | 223   | 586   | 334  | 184  | 95   | 142  | 36   | 36   |
| 11    | 42      | 38    | 128   | 58   | 225   | 476   | 320  | 182  | 105  | 125  | 34   | 26   |
| 12    | 64      | 53    | 132   | 52   | 312   | 371   | 297  | 192  | 99   | 108  | 38   | 26   |
| 13    | 65      | 78    | 133   | 51   | 339   | 376   | 279  | 178  | 107  | 86   | 43   | 30   |
| 14    | 63      | 86    | 126   | 50   | 344   | 353   | 277  | 161  | 109  | 46   | 46   | 33   |
| 15    | 62      | 84    | 107   | 48   | 344   | 336   | 270  | 207  | 106  | 43   | 47   | 63   |
| 16    | 60      | 80    | 115   | 48   | 319   | 322   | 273  | 274  | 93   | 44   | 48   | 69   |
| 17    | 59      | 78    | 109   | 53   | 241   | 295   | 242  | 323  | 54   | 56   | 39   | 87   |
| 18    | 70      | 103   | 100   | 52   | 147   | 283   | 220  | 324  | 65   | 70   | 23   | 92   |
| 19    | 81      | 105   | 97    | 52   | 193   | 279   | 233  | 322  | 71   | 136  | 16   | 98   |
| 20    | 68      | 104   | 91    | 53   | 241   | 251   | 231  | 317  | 57   | 127  | 13   | 98   |
| 21    | 61      | 105   | 87    | 53   | 335   | 203   | 211  | 304  | 76   | 126  | 16   | 75   |
| 22    | 54      | 105   | 81    | 54   | 362   | 212   | 210  | 251  | 98   | 70   | 25   | 55   |
| 23    | 30      | 111   | 79    | 54   | 393   | 217   | 210  | 181  | 101  | 76   | 30   | 101  |
| 24    | 24      | 118   | 77    | 54   | 511   | 217   | 247  | 186  | 71   | 89   | 32   | 112  |
| 25    | 72      | 164   | 73    | 54   | 654   | 213   | 284  | 185  | 100  | 92   | 32   | 108  |
| 26    | 188     | 167   | 62    | 54   | 946   | 197   | 299  | 176  | 109  | 89   | 20   | 112  |
| 27    | 161     | 186   | 32    | 59   | 1130  | 219   | 313  | 151  | 84   | 85   | 14   | 118  |
| 28    | 185     | 201   | 25    | 62   | 1180  | 231   | 316  | 113  | 101  | 74   | 13   | 116  |
| 29    | 180     | 200   | 37    | 64   | ---   | 238   | 327  | 141  | 99   | 44   | 14   | 97   |
| 30    | 138     | 211   | 61    | 65   | ---   | 244   | 286  | 164  | 73   | 43   | 21   | 84   |
| 31    | 141     | ---   | 70    | 63   | ---   | 217   | ---  | 168  | ---  | 52   | 26   | ---  |
| TOTAL | 2462    | 3425  | 3574  | 1810 | 10165 | 14562 | 8736 | 6530 | 3305 | 2928 | 1095 | 1928 |
| MEAN  | 79.4    | 114   | 115   | 58.4 | 363   | 470   | 291  | 211  | 110  | 94.5 | 35.3 | 64.3 |
| MAX   | 188     | 211   | 235   | 76   | 1180  | 1120  | 436  | 324  | 184  | 197  | 71   | 118  |
| MIN   | 24      | 38    | 25    | 48   | 62    | 197   | 210  | 113  | 54   | 43   | 13   | 26   |
| CAL   | YR 1980 | TOTAL | 78759 | MEAN | 215   | MAX   | 1100 | MIN  | 22   |      |      |      |
| WTR   | YR 1981 | TOTAL | 60520 | MEAN | 166   | MAX   | 1180 | MIN  | 13   |      |      |      |

## NEPONSET RIVER BASIN

## 01105000 NEPONSET RIVER AT NORWOOD, MA

LOCATION.--Lat 42°10'39", long 71°12'05", Norfolk County, Hydrologic Unit 01090001, on left bank 200 ft (60 m) upstream from Pleasant Street Bridge, 200 ft (60 m) downstream from railroad bridge, 0.45 mi (0.72 km) downstream from Hawes Brook, and 0.5 mi (0.8 km) south of Norwood.

DRAINAGE AREA.--35.2 mi<sup>2</sup> (91.2 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1939 to current year. October 1939 monthly discharge only, published in WSP 1301.

Water-quality records: Water years 1958-59, 1966-68.

REVISED RECORDS.--WDR MA-RI-78-1: 1976(M).

GAGE.--Water-stage recorder. Datum of gage is 44.04 ft (13.423 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by mills and reservoirs upstream. Flow affected by several diversions upstream for municipal and industrial use. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 52.9 ft<sup>3</sup>/s (1.498 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft<sup>3</sup>/s (42.2 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 14.65 ft (4.465 m), from floodmarks; minimum daily, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Oct. 20, 1963.  
Maximum discharge since 1886, that of Aug. 19, 1955. Flood of July 24, 1938, reached a stage of 11.05 ft (3.368 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 306 ft<sup>3</sup>/s (8.67 m<sup>3</sup>/s) Feb. 26, gage height, 7.73 ft (2.356 m), at upstream side of railroad bridge; minimum daily, 2.9 ft<sup>3</sup>/s (0.082 m<sup>3</sup>/s) Sept. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB    | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|-------|-------|--------|------|------|------|-------|-------|-------|-------|
| 1           | 6.6   | 14      | 30    | 13    | 6.2    | 201  | 30   | 34   | 15    | 4.3   | 4.6   | 3.8   |
| 2           | 6.6   | 15      | 22    | 12    | 42     | 179  | 61   | 30   | 13    | 4.0   | 5.2   | 3.3   |
| 3           | 10    | 11      | 19    | 11    | 61     | 147  | 58   | 31   | 17    | 4.0   | 4.6   | 3.3   |
| 4           | 24    | 9.2     | 15    | 9.5   | 35     | 106  | 47   | 35   | 14    | 4.3   | 5.9   | 3.3   |
| 5           | 15    | 9.9     | 12    | 8.2   | 19     | 98   | 47   | 26   | 11    | 16    | 5.2   | 2.9   |
| 6           | 12    | 9.5     | 10    | 5.2   | 13     | 92   | 73   | 30   | 17    | 11    | 4.6   | 2.9   |
| 7           | 9.3   | 9.2     | 11    | 4.6   | 11     | 89   | 66   | 26   | 17    | 9.5   | 4.0   | 3.1   |
| 8           | 8.1   | 9.9     | 11    | 5.2   | 50     | 93   | 52   | 21   | 11    | 11    | 3.5   | 4.3   |
| 9           | 7.3   | 12      | 10    | 4.6   | 43     | 83   | 44   | 19   | 11    | 9.5   | 3.3   | 8.2   |
| 10          | 6.2   | 12      | 12    | 4.3   | 23     | 71   | 40   | 20   | 11    | 8.2   | 3.3   | 4.3   |
| 11          | 7.0   | 9.6     | 11    | 4.0   | 34     | 59   | 37   | 21   | 11    | 6.6   | 3.3   | 4.3   |
| 12          | 8.5   | 9.5     | 9.5   | 3.8   | 81     | 48   | 35   | 26   | 11    | 5.2   | 3.5   | 7.4   |
| 13          | 9.0   | 9.1     | 11    | 3.5   | 56     | 50   | 28   | 30   | 8.6   | 7.0   | 3.5   | 5.5   |
| 14          | 8.4   | 7.9     | 13    | 3.5   | 33     | 49   | 34   | 26   | 6.2   | 5.5   | 3.8   | 22    |
| 15          | 6.3   | 7.2     | 11    | 3.5   | 26     | 47   | 45   | 26   | 5.9   | 4.3   | 3.8   | 23    |
| 16          | 6.2   | 8.1     | 13    | 3.3   | 22     | 45   | 40   | 56   | 5.2   | 4.3   | 5.2   | 19    |
| 17          | 6.1   | 6.5     | 11    | 3.3   | 19     | 42   | 34   | 76   | 4.3   | 4.0   | 4.6   | 13    |
| 18          | 7.6   | 9.5     | 11    | 3.3   | 21     | 40   | 32   | 57   | 4.0   | 14    | 4.6   | 14    |
| 19          | 7.2   | 11      | 11    | 4.3   | 21     | 39   | 31   | 39   | 4.0   | 11    | 4.3   | 15    |
| 20          | 6.6   | 9.5     | 11    | 4.3   | 38     | 35   | 27   | 32   | 4.3   | 8.2   | 4.0   | 13    |
| 21          | 6.6   | 10      | 9.5   | 4.0   | 73     | 35   | 22   | 25   | 4.6   | 13    | 4.0   | 9.0   |
| 22          | 6.6   | 12      | 8.6   | 3.8   | 68     | 35   | 19   | 23   | 5.9   | 11    | 4.0   | 4.6   |
| 23          | 6.2   | 15      | 8.2   | 3.3   | 53     | 28   | 21   | 21   | 6.2   | 9.5   | 4.0   | 11    |
| 24          | 6.2   | 17      | 9.0   | 3.1   | 79     | 29   | 39   | 21   | 5.2   | 5.9   | 9.5   | 7.0   |
| 25          | 30    | 41      | 11    | 3.5   | 143    | 31   | 44   | 19   | 7.0   | 6.2   | 5.2   | 8.6   |
| 26          | 57    | 37      | 10    | 4.6   | 269    | 31   | 42   | 14   | 5.9   | 7.0   | 3.8   | 8.2   |
| 27          | 42    | 27      | 8.2   | 5.2   | 275    | 34   | 37   | 11   | 5.5   | 6.2   | 3.5   | 7.4   |
| 28          | 28    | 34      | 8.2   | 5.9   | 229    | 36   | 34   | 13   | 8.2   | 4.6   | 3.5   | 7.4   |
| 29          | 20    | 55      | 8.6   | 7.0   | ---    | 36   | 37   | 16   | 6.2   | 8.2   | 3.5   | 4.3   |
| 30          | 16    | 43      | 14    | 5.9   | ---    | 33   | 39   | 19   | 5.2   | 5.9   | 3.5   | 4.0   |
| 31          | 14    | ---     | 13    | 5.2   | ---    | 32   | ---  | 20   | ---   | 5.2   | 4.0   | ---   |
| TOTAL       | 410.6 | 490.6   | 372.8 | 165.9 | 1843.2 | 1973 | 1195 | 863  | 261.4 | 234.6 | 133.3 | 247.1 |
| MEAN        | 13.2  | 16.4    | 12.0  | 5.35  | 65.8   | 63.6 | 39.8 | 27.8 | 8.71  | 7.57  | 4.30  | 8.24  |
| MAX         | 57    | 55      | 30    | 13    | 275    | 201  | 73   | 76   | 17    | 16    | 9.5   | 23    |
| MIN         | 6.1   | 6.5     | 8.2   | 3.1   | 6.2    | 28   | 19   | 11   | 4.0   | 4.0   | 3.3   | 2.9   |
| CAL YR 1980 | TOTAL | 11731.7 | MEAN  | 32.1  | MAX    | 304  | MIN  | 3.5  |       |       |       |       |
| WTR YR 1981 | TOTAL | 8190.5  | MEAN  | 22.4  | MAX    | 275  | MIN  | 2.9  |       |       |       |       |

## 01105500 EAST BRANCH NEPONSET RIVER AT CANTON, MA

LOCATION.--Lat 42°09'16", long 71°08'47", Norfolk County, Hydrologic Unit 01090001, on right bank 100 ft (30 m) downstream from Washington Street Bridge at Canton, 200 ft (60 m) downstream from Forge Pond Dam, and 900 ft (250 m) downstream from Massapoag Brook.

DRAINAGE AREA.--27.2 mi<sup>2</sup> (70.4 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1952 to current year.  
Water-quality records: Water years 1959, 1967-68.

REVISED RECORDS.--WSP 1901: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 80.18 ft (24.439 m) Massachusetts Department of Public Works datum.

REMARKS.--Records good. Flow regulated by Forge, Bolivar, Massapoag, and Reservoir Ponds, and other ponds upstream. Flow affected by diversion for municipal supply of Canton and Stoughton. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--29 years, 50.9 ft<sup>3</sup>/s (1.441 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,790 ft<sup>3</sup>/s (50.7 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 8.18 ft (2.493 m), from rating curve extended above 690 ft<sup>3</sup>/s (20 m<sup>3</sup>/s); minimum daily, 0.60 ft<sup>3</sup>/s (0.017 m<sup>3</sup>/s) July 7, Sept. 1, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 279 ft<sup>3</sup>/s (7.90 m<sup>3</sup>/s) Feb. 26, gage height, 3.41 ft (1.039 m); minimum daily, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN   | FEB  | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|------|-------|------|------|------|------|-------|-------|-------|-------|
| 1           | 4.9   | 10      | 24   | 15    | 11   | 137  | 23   | 33   | 11    | 5.0   | 4.6   | 3.6   |
| 2           | 4.6   | 9.7     | 22   | 13    | 48   | 120  | 43   | 29   | 9.4   | 4.8   | 4.2   | 4.2   |
| 3           | 5.6   | 9.3     | 21   | 13    | 71   | 116  | 41   | 26   | 9.1   | 4.4   | 5.4   | 3.6   |
| 4           | 19    | 9.2     | 17   | 12    | 37   | 106  | 32   | 24   | 9.9   | 4.1   | 5.4   | 3.7   |
| 5           | 15    | 9.3     | 16   | 11    | 23   | 97   | 29   | 25   | 9.1   | 8.1   | 5.4   | 2.6   |
| 6           | 11    | 9.6     | 17   | 11    | 19   | 90   | 54   | 25   | 11    | 9.9   | 6.7   | 3.2   |
| 7           | 9.0   | 9.5     | 14   | 11    | 18   | 89   | 48   | 24   | 16    | 8.1   | 6.2   | 2.6   |
| 8           | 8.3   | 9.5     | 14   | 11    | 50   | 88   | 39   | 23   | 11    | 6.2   | 5.6   | 4.4   |
| 9           | 8.4   | 9.4     | 16   | 11    | 55   | 80   | 34   | 21   | 13    | 5.0   | 5.2   | 4.4   |
| 10          | 7.1   | 9.4     | 20   | 11    | 39   | 74   | 34   | 19   | 15    | 4.2   | 5.4   | 4.1   |
| 11          | 7.4   | 9.6     | 16   | 11    | 42   | 68   | 31   | 19   | 11    | 3.7   | 5.6   | 4.2   |
| 12          | 10    | 9.3     | 14   | 9.7   | 80   | 70   | 27   | 22   | 8.8   | 3.2   | 6.7   | 2.9   |
| 13          | 9.7   | 9.1     | 14   | 9.1   | 51   | 73   | 28   | 23   | 7.8   | 4.8   | 6.0   | 2.5   |
| 14          | 8.1   | 8.9     | 15   | 9.4   | 40   | 72   | 28   | 21   | 7.4   | 7.1   | 5.6   | 6.0   |
| 15          | 7.1   | 8.6     | 17   | 9.4   | 36   | 67   | 44   | 20   | 7.1   | 6.2   | 3.4   | 18    |
| 16          | 7.6   | 8.5     | 12   | 9.7   | 35   | 63   | 37   | 27   | 6.7   | 5.8   | 2.9   | 17    |
| 17          | 7.8   | 8.0     | 14   | 10    | 35   | 61   | 31   | 39   | 5.8   | 5.8   | 4.4   | 14    |
| 18          | 7.4   | 8.0     | 13   | 11    | 34   | 57   | 28   | 31   | 5.4   | 5.4   | 4.1   | 9.7   |
| 19          | 6.8   | 12      | 14   | 11    | 35   | 54   | 27   | 24   | 4.8   | 4.8   | 4.4   | 9.4   |
| 20          | 6.5   | 14      | 13   | 11    | 46   | 52   | 26   | 20   | 5.2   | 4.8   | 4.8   | 9.1   |
| 21          | 6.0   | 13      | 12   | 10    | 79   | 51   | 24   | 18   | 7.8   | 8.8   | 4.4   | 6.4   |
| 22          | 6.1   | 14      | 11   | 9.9   | 65   | 49   | 23   | 16   | 8.6   | 19    | 2.5   | 5.8   |
| 23          | 6.2   | 13      | 11   | 9.9   | 53   | 47   | 24   | 12   | 12    | 8.8   | 1.8   | 6.0   |
| 24          | 8.5   | 14      | 13   | 9.9   | 66   | 45   | 39   | 13   | 8.8   | 8.1   | 4.8   | 6.9   |
| 25          | 25    | 27      | 12   | 9.9   | 130  | 30   | 43   | 13   | 8.6   | 6.2   | 3.9   | 6.4   |
| 26          | 75    | 27      | 10   | 10    | 224  | 32   | 39   | 12   | 14    | 5.2   | 4.2   | 5.8   |
| 27          | 29    | 18      | 10   | 13    | 203  | 36   | 33   | 11   | 9.7   | 5.4   | 4.2   | 6.0   |
| 28          | 22    | 20      | 10   | 14    | 154  | 38   | 31   | 11   | 6.9   | 5.8   | 3.7   | 6.0   |
| 29          | 17    | 42      | 11   | 12    | ---  | 35   | 35   | 11   | 6.0   | 6.4   | 2.8   | 6.0   |
| 30          | 12    | 33      | 20   | 11    | ---  | 32   | 37   | 11   | 5.2   | 8.6   | 5.6   | 5.6   |
| 31          | 12    | ---     | 18   | 11    | ---  | 28   | ---  | 11   | ---   | 7.4   | 3.4   | ---   |
| TOTAL       | 390.1 | 411.9   | 461  | 340.9 | 1779 | 2057 | 1012 | 634  | 272.1 | 201.1 | 143.3 | 190.1 |
| MEAN        | 12.6  | 13.7    | 14.9 | 11.0  | 63.5 | 66.4 | 33.7 | 20.5 | 9.07  | 6.49  | 4.62  | 6.34  |
| MAX         | 75    | 42      | 24   | 15    | 224  | 137  | 54   | 39   | 16    | 19    | 6.7   | 18    |
| MIN         | 4.6   | 8.0     | 10   | 9.1   | 11   | 28   | 23   | 11   | 4.8   | 3.2   | 1.8   | 2.5   |
| CAL YR 1980 | TOTAL | 10486.5 | MEAN | 28.7  | MAX  | 248  | MIN  | 1.6  |       |       |       |       |
| WTR YR 1981 | TOTAL | 7892.5  | MEAN | 21.6  | MAX  | 224  | MIN  | 1.8  |       |       |       |       |

## WEYMOUTH FORE RIVER BASIN

01105585 TOWN BROOK AT QUINCY, MA

LOCATION.--Lat 42°14'52", long 70°59'52", Norfolk County, Hydrologic Unit 01090001, on left bank 200 ft (61 m) downstream from Miller Stile Road at Quincy and 0.8 mi (1.3 km) upstream from Town River Bay.

DRAINAGE AREA.--4.25 mi<sup>2</sup> (11.01 km<sup>2</sup>).

PERIOD OF RECORD.--September 1972 to current year. Prior to October 1974 published as Town River at Quincy.

GAGE.--Water-stage recorder. Altitude of gage is 5 ft (2 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, Dec. 12 to Jan. 12, which are poor.

Diurnal fluctuation caused by plant upstream. Flow regulated by Old Quincy Reservoir 2.2 mi (3.5 km) upstream.

Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--9 years, 8.11 ft<sup>3</sup>/s (0.230 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 381 ft<sup>3</sup>/s (13.6 m<sup>3</sup>/s), revised, May 13, 1975, gage height,

7.40 ft (2.256 m), from rating curve extended above 210 ft<sup>3</sup>/s (5.9 m<sup>3</sup>/s) on basis of Corps of Engineers

computation of the backwater effect from culvert downstream; minimum daily, 0.62 ft<sup>3</sup>/s (0.018 m<sup>3</sup>/s)

Sept. 25, 27, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 260 ft<sup>3</sup>/s (7.4 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date     | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|----------|------|-------------------------------------------------------|-------------------------|
| July 18 | 1715 | a*365 10.3                                            | 7.04 2.146              | Sept. 14 | 2030 | 292 8.27                                              | 5.98 1.823              |
| Aug. 5  | 1800 | 336 9.52                                              | 6.48 1.975              |          |      |                                                       |                         |

a From rating curve extended above 210 ft<sup>3</sup>/s (5.9 m<sup>3</sup>/s) as explained above.

Minimum daily discharge, 0.73 ft<sup>3</sup>/s (0.021 m<sup>3</sup>/s) Sept. 8.

REVISIONS.--Peak discharges and annual maximums (\*) for water years 1975-80 have been revised as shown in the following table. They supersede figures published in the reports for those years.

| Date           | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date          | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|----------------|------|-------------------------------------------------------|-------------------------|---------------|------|-------------------------------------------------------|-------------------------|
| May 13, 1975   | 2315 | *381 10.8                                             | 7.40 2.256              | Aug. 12, 1977 | 1430 | *237 6.71                                             | 5.34 1.628              |
| June 6, 1975   | -    | 289 8.18                                              | 5.75 1.753              | Jan. 26, 1978 | 1000 | *260 7.36                                             | 5.62 1.713              |
| Sept. 27, 1975 | 0530 | 249 7.05                                              | 5.49 1.673              | Oct. 6, 1978  | 0800 | 308 8.72                                              | 6.16 1.878              |
| Oct. 18, 1975  | 1045 | 281 7.96                                              | 5.85 1.783              | Jan. 21, 1979 | 1300 | 360 10.2                                              | 6.93 2.112              |
| Feb. 2, 1976   | 0345 | 292 8.27                                              | 5.98 1.823              | Jan. 25, 1979 | 0900 | 352 9.97                                              | 6.76 2.060              |
| Aug. 7, 1976   | 0415 | 254 7.19                                              | 5.55 1.692              | July 27, 1979 | 0415 | 338 9.57                                              | 6.52 1.987              |
| Aug. 8, 1976   | 0945 | 354 10.0                                              | 6.80 2.073              | Aug. 3, 1979  | 1600 | *368 10.4                                             | 7.11 2.167              |
| Aug. 9, 1976   | 1645 | *367 10.4                                             | 7.08 2.158              | Oct. 3, 1979  | 1745 | *366 10.4                                             | 7.07 2.155              |

NOTE.--All discharges from rating curve extended above 210 ft<sup>3</sup>/s (5.9 m<sup>3</sup>/s) on basis of Corps of Engineers computation of the backwater effect from culvert downstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT    | NOV   | DEC  | JAN  | FEB   | MAR   | APR   | MAY   | JUN  | JUL    | AUG   | SEP    |
|-------|--------|-------|------|------|-------|-------|-------|-------|------|--------|-------|--------|
| 1     | .79    | 2.7   | 2.8  | 2.7  | 2.5   | 20    | 2.4   | 7.4   | 5.5  | 1.4    | 1.2   | 2.0    |
| 2     | .79    | 2.5   | 2.8  | 2.7  | 2.5   | 18    | 15    | 7.4   | 1.7  | 1.3    | 1.2   | .98    |
| 3     | 6.9    | 2.7   | 3.3  | 2.5  | 4.4   | 16    | 2.8   | 7.4   | 1.5  | 1.3    | 1.2   | .91    |
| 4     | 18     | 4.2   | 2.8  | 2.3  | 3.1   | 15    | 2.7   | 9.4   | 2.5  | 1.4    | 1.5   | .91    |
| 5     | 1.2    | 3.1   | 2.8  | 2.2  | 2.8   | 14    | 5.7   | 8.0   | 1.7  | 6.4    | 19    | .79    |
| 6     | 1.1    | 2.7   | 2.8  | 2.2  | 2.7   | 14    | 12    | 7.7   | 7.4  | 1.4    | 2.7   | .85    |
| 7     | 1.1    | 2.8   | 2.8  | 2.7  | 2.7   | 18    | 3.5   | 7.2   | 2.0  | 1.1    | 1.7   | .85    |
| 8     | 1.1    | 3.7   | 3.0  | 2.7  | 20    | 14    | 3.3   | 7.2   | 1.6  | .98    | 1.6   | .73    |
| 9     | 1.1    | 4.8   | 3.3  | 2.3  | 3.8   | 13    | 5.2   | 7.2   | 7.4  | .98    | 2.1   | 5.0    |
| 10    | .98    | 3.0   | 4.2  | 2.5  | 3.1   | 13    | 3.3   | 7.7   | 1.6  | .98    | 1.6   | .91    |
| 11    | 4.6    | 2.8   | 2.7  | 2.5  | 17    | 13    | 3.1   | 7.7   | 1.5  | 1.2    | 1.3   | 1.4    |
| 12    | 3.7    | 3.0   | 2.7  | 2.2  | 8.3   | 13    | 2.8   | 8.8   | 1.5  | .91    | 1.1   | .85    |
| 13    | 1.2    | 3.0   | 3.3  | 2.2  | 4.4   | 12    | 2.7   | 4.5   | 1.5  | 3.8    | .98   | .79    |
| 14    | 1.2    | 3.1   | 2.7  | 2.2  | 3.8   | 12    | 7.9   | 2.5   | 1.3  | 2.4    | .91   | 17     |
| 15    | 1.2    | 3.0   | 2.7  | 2.2  | 3.7   | 12    | 3.5   | 2.7   | 1.5  | .91    | 1.2   | 8.0    |
| 16    | 1.3    | 3.1   | 6.0  | 2.2  | 3.7   | 12    | 2.7   | 13    | 1.3  | .91    | 1.6   | 9.8    |
| 17    | 1.2    | 3.1   | 3.3  | 2.4  | 4.0   | 11    | 2.8   | 3.5   | 1.2  | 1.1    | .91   | 10     |
| 18    | 4.2    | 14    | 2.7  | 2.2  | 3.7   | 11    | 2.8   | 3.0   | 1.2  | 38     | .91   | 9.4    |
| 19    | 1.6    | 4.2   | 2.5  | 2.5  | 3.5   | 8.5   | 2.7   | 2.4   | 1.2  | 6.4    | .91   | 9.8    |
| 20    | 1.2    | 3.3   | 2.5  | 2.4  | 11    | 2.7   | 2.7   | 2.5   | 2.0  | 7.7    | .91   | 8.3    |
| 21    | 1.1    | 3.0   | 2.5  | 2.2  | 11    | 2.8   | 2.5   | 2.2   | 1.7  | 8.3    | .91   | 7.4    |
| 22    | 1.1    | 3.0   | 2.5  | 2.2  | 5.7   | 2.5   | 4.2   | 2.1   | 2.4  | 2.7    | .79   | 7.2    |
| 23    | .91    | 3.0   | 3.5  | 2.4  | 4.8   | 2.5   | 11    | 2.0   | 1.4  | 4.2    | .85   | 4.0    |
| 24    | .79    | 4.2   | 2.7  | 2.4  | 23    | 2.5   | 12    | 2.0   | 1.2  | 11     | .91   | .79    |
| 25    | 35     | 6.5   | 2.5  | 2.4  | 44    | 2.4   | 8.3   | 2.0   | 3.7  | 11     | .91   | .75    |
| 26    | 6.2    | 3.3   | 2.4  | 4.4  | 77    | 2.4   | 7.7   | 2.1   | 1.4  | 11     | .98   | .75    |
| 27    | 2.0    | 3.0   | 2.4  | 4.0  | 29    | 4.6   | 7.4   | 2.1   | 1.2  | 9.1    | 1.1   | 1.3    |
| 28    | 6.4    | 6.0   | 2.4  | 2.7  | 24    | 2.5   | 8.0   | 2.0   | 1.3  | 1.4    | .98   | .80    |
| 29    | 9.8    | 10    | 2.7  | 2.7  | ---   | 2.5   | 9.4   | 2.7   | 1.2  | 6.4    | .98   | .75    |
| 30    | 8.5    | 3.3   | 6.5  | 2.4  | ---   | 3.0   | 7.7   | 4.2   | 1.3  | 1.4    | .79   | .75    |
| 31    | 2.8    | ---   | 3.5  | 2.4  | ---   | 2.4   | ---   | 6.7   | ---  | 1.3    | .98   | ---    |
| TOTAL | 129.06 | 120.1 | 95.3 | 78.0 | 351.7 | 292.3 | 167.8 | 157.3 | 63.9 | 148.37 | 54.71 | 113.76 |
| MEAN  | 4.16   | 4.00  | 3.07 | 2.52 | 12.6  | 9.43  | 5.59  | 5.07  | 2.13 | 4.79   | 1.76  | 3.79   |
| MAX   | 35     | 14    | 6.5  | 4.4  | 77    | 20    | 15    | 13    | 7.4  | 38     | 19    | 17     |
| MIN   | .79    | 2.5   | 2.4  | 2.2  | 2.5   | 2.4   | 2.4   | 2.0   | 1.2  | .91    | .79   | .73    |

|             |       |         |           |        |         |
|-------------|-------|---------|-----------|--------|---------|
| CAL YR 1980 | TOTAL | 1568.99 | MEAN 4.29 | MAX 66 | MIN .62 |
| WTR YR 1981 | TOTAL | 1772.30 | MEAN 4.86 | MAX 77 | MIN .73 |



## WEYMOUTH BACK RIVER BASIN

57

01105600 OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MA

LOCATION.--Lat 42°11'25", long 70°56'43", Norfolk County, Hydrologic Unit 01090001, on left bank between divided lanes of State Highways 3 and 128, 100 ft (30 m) downstream from unnamed tributary entering from left, 0.4 mi (0.6 km) upstream from Whitmans Pond, and 1.2 mi (1.9 km) north of South Weymouth.

DRAINAGE AREA.--4.29 mi<sup>2</sup> (11.11 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: May 1966 to current year.  
Water-quality records: Water years 1967-68.

GAGE.--Water-stage recorder. Altitude of gage is 70 ft (21 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--15 years, 8.92 ft<sup>3</sup>/s (0.253 m<sup>3</sup>/s), 28.24 in/yr (717 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 566 ft<sup>3</sup>/s (16.0 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 5.22 ft (1.591 m); maximum gage height, 5.35 ft (1.631 m) Feb. 15, 1971 (ice jam); minimum discharge, 0.11 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Sept. 5, 6, 9, 10, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 90 ft<sup>3</sup>/s (2.5 m<sup>3</sup>/s) and maximums (\*):

| Date   | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|--------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 4 | 0500 | ice jam                                               | *4.60 1.402             | Feb. 26 | 1745 | *144 4.08                                             | 4.01 1.222              |

Minimum discharge, 0.18 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN  | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1           | .20   | 2.1     | 5.0  | 3.3  | 1.9   | 16    | 4.5   | 5.4   | 2.2   | .96   | 1.0   | .33   |
| 2           | .20   | 2.0     | 4.2  | 2.8  | 18    | 13    | 16    | 5.0   | 2.0   | .96   | .96   | .37   |
| 3           | .54   | 1.8     | 3.9  | 2.4  | 16    | 11    | 14    | 4.8   | 1.9   | .89   | .89   | .40   |
| 4           | 4.2   | 1.7     | 3.5  | 2.2  | 10    | 9.5   | 9.5   | 4.9   | 3.0   | .89   | .81   | .44   |
| 5           | .74   | 2.0     | 3.2  | 2.1  | 7.4   | 8.3   | 7.6   | 6.2   | 2.0   | 2.2   | 6.2   | .40   |
| 6           | .44   | 1.9     | 2.8  | 2.3  | 5.5   | 7.8   | 15    | 5.7   | 2.5   | 1.5   | 5.7   | .37   |
| 7           | .41   | 1.7     | 2.7  | 2.4  | 4.8   | 7.5   | 12    | 5.1   | 2.6   | 1.1   | 3.2   | .37   |
| 8           | .36   | 1.7     | 2.6  | 2.2  | 14    | 7.3   | 8.8   | 4.3   | 1.8   | .96   | 1.9   | .33   |
| 9           | .33   | 1.8     | 2.6  | 2.1  | 12    | 7.9   | 7.5   | 4.1   | 3.3   | .68   | 1.8   | 1.4   |
| 10          | .33   | 2.0     | 3.2  | 2.1  | 7.1   | 7.1   | 7.6   | 3.9   | 2.6   | .63   | 1.7   | .68   |
| 11          | .34   | 1.9     | 3.0  | 2.0  | 9.2   | 6.9   | 6.9   | 3.9   | 1.9   | .58   | 1.2   | .53   |
| 12          | 1.8   | 1.7     | 2.8  | 2.0  | 16    | 6.2   | 6.2   | 4.5   | 1.7   | .53   | 1.1   | .48   |
| 13          | .68   | 1.5     | 2.5  | 1.9  | 9.5   | 6.0   | 5.5   | 4.3   | 1.3   | .48   | .96   | .44   |
| 14          | .50   | 1.5     | 2.5  | 1.9  | 7.1   | 5.5   | 7.4   | 4.1   | 1.2   | 1.7   | .89   | 2.6   |
| 15          | .44   | 1.6     | 2.5  | 1.9  | 6.0   | 5.1   | 10    | 3.5   | 1.2   | .96   | .74   | 6.0   |
| 16          | .44   | 1.5     | 2.5  | 1.9  | 5.3   | 4.8   | 7.9   | 6.2   | 1.2   | .68   | .89   | 5.7   |
| 17          | .44   | 1.4     | 2.5  | 2.0  | 5.4   | 4.8   | 6.5   | 8.6   | 1.2   | .58   | .74   | 4.5   |
| 18          | .56   | 5.2     | 2.4  | 2.0  | 5.7   | 4.4   | 6.1   | 6.2   | 1.1   | 1.5   | .68   | 3.0   |
| 19          | .82   | 5.6     | 2.3  | 1.9  | 5.9   | 4.1   | 5.6   | 4.5   | 1.0   | 3.3   | .63   | 4.1   |
| 20          | .67   | 4.3     | 2.2  | 1.8  | 10    | 4.1   | 5.2   | 4.1   | 1.7   | 2.0   | .58   | 3.5   |
| 21          | .63   | 3.5     | 2.0  | 1.8  | 19    | 3.9   | 4.9   | 3.5   | 1.8   | 3.3   | .53   | 2.3   |
| 22          | .63   | 3.3     | 1.9  | 1.8  | 16    | 3.9   | 4.3   | 3.3   | 1.8   | 5.7   | .44   | 1.9   |
| 23          | .63   | 3.1     | 2.0  | 1.7  | 11    | 3.9   | 4.3   | 3.3   | 3.2   | 3.9   | .48   | 4.1   |
| 24          | .63   | 3.0     | 2.1  | 1.7  | 16    | 3.9   | 8.3   | 3.0   | 1.9   | 2.2   | .44   | 2.6   |
| 25          | 7.2   | 6.7     | 2.0  | 1.7  | 48    | 4.2   | 8.0   | 2.8   | 2.2   | 1.5   | .48   | 2.2   |
| 26          | 9.5   | 5.4     | 1.8  | 2.0  | 117   | 4.1   | 6.7   | 2.6   | 2.6   | 1.2   | .53   | 1.7   |
| 27          | 6.1   | 4.1     | 1.6  | 4.0  | 76    | 4.9   | 5.6   | 2.5   | 2.0   | 1.1   | .48   | 1.3   |
| 28          | 5.0   | 5.5     | 1.7  | 2.7  | 26    | 4.6   | 5.2   | 2.2   | 1.4   | .96   | .44   | 2.0   |
| 29          | 4.2   | 9.0     | 2.0  | 2.3  | ---   | 4.4   | 5.7   | 3.2   | 1.2   | 2.2   | .37   | 1.3   |
| 30          | 3.1   | 6.7     | 5.5  | 2.1  | ---   | 4.3   | 6.2   | 2.8   | .96   | 2.0   | .33   | 1.1   |
| 31          | 2.5   | ---     | 4.5  | 2.0  | ---   | 4.4   | ---   | 2.5   | ---   | 1.5   | .33   | ---   |
| TOTAL       | 54.56 | 95.2    | 86.0 | 67.0 | 505.8 | 193.8 | 229.0 | 131.0 | 56.46 | 48.64 | 37.42 | 56.44 |
| MEAN        | 1.76  | 3.17    | 2.77 | 2.16 | 18.1  | 6.25  | 7.63  | 4.23  | 1.88  | 1.57  | 1.21  | 1.88  |
| MAX         | 9.5   | 9.0     | 5.5  | 4.0  | 117   | 16    | 16    | 8.6   | 3.3   | 5.7   | 6.2   | 6.0   |
| MIN         | .20   | 1.4     | 1.6  | 1.7  | 1.9   | 3.9   | 4.3   | 2.2   | .96   | .48   | .33   | .33   |
| CFSM        | .41   | .74     | .65  | .50  | 4.22  | 1.46  | 1.78  | .99   | .44   | .37   | .28   | .44   |
| IN.         | .47   | .83     | .75  | .58  | 4.38  | 1.68  | 1.99  | 1.14  | .49   | .42   | .32   | .49   |
| CAL YR 1980 | TOTAL | 1676.59 | MEAN | 4.58 | MAX   | 60    | MIN   | .13   | CFSM  | 1.07  | IN    | 14.53 |
| WTR YR 1981 | TOTAL | 1561.32 | MEAN | 4.28 | MAX   | 117   | MIN   | .20   | CFSM  | 1.00  | IN    | 13.54 |

## 01105730 INDIAN HEAD RIVER AT HANOVER, MA

LOCATION.--Lat 42°06'02", long 70°49'23", Plymouth County, Hydrologic Unit 01090002, on right bank at downstream side of Elm Street Bridge, 0.3 mi (0.5 km) upstream from Iron Mine Brook, and 1 mi (2 km) southwest of Hanover.

DRAINAGE AREA.--30.3 mi<sup>2</sup> (78.5 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1966 to current year.

Water-quality records: Water years 1970-71.

Chemical analyses: November 1969 to September 1971.

Water temperatures: November 1969 to September 1971.

GAGE.--Water-stage recorder. Datum of gage is 3.16 ft (0.963 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except those below 10 ft<sup>3</sup>/s (0.3 m<sup>3</sup>/s), which are good. Some regulation by mills and by Wampatuck, Indian Head, Maquan, and other ponds upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--15 years, 60.2 ft<sup>3</sup>/s (1.705 m<sup>3</sup>/s) 26.98 in/yr (685 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft<sup>3</sup>/s (39.4 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 7.13 ft (2.173 m); minimum, 0.14 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) Sept. 26, 27, 1980; minimum daily, 0.18 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Sept. 27, 29, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 310 ft<sup>3</sup>/s (8.8 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 26 | 2030 | *571 16.2                                             | 5.03 1.533              |      |      |                                                       |                         |

Minimum discharge, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Oct. 1; minimum daily, 0.29 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT    | NOV      | DEC   | JAN   | FEB  | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------------|--------|----------|-------|-------|------|------|------|------|-------|-------|-------|-------|
| 1           | .29    | 11       | 33    | 19    | 10   | 195  | 33   | 37   | 14    | 6.5   | 7.3   | 2.0   |
| 2           | .78    | 9.5      | 28    | 16    | 60   | 147  | 101  | 35   | 12    | 7.3   | 8.3   | 5.0   |
| 3           | 1.5    | 8.6      | 27    | 14    | 127  | 125  | 100  | 32   | 11    | 7.2   | 5.1   | 4.9   |
| 4           | 6.6    | 9.0      | 20    | 13    | 59   | 103  | 67   | 28   | 15    | 7.7   | 4.8   | 3.0   |
| 5           | 9.2    | 9.3      | 15    | 13    | 32   | 93   | 55   | 34   | 16    | 14    | 4.3   | 2.5   |
| 6           | 7.8    | 9.1      | 17    | 12    | 24   | 83   | 100  | 35   | 14    | 17    | 8.3   | 2.5   |
| 7           | 4.9    | 9.0      | 16    | 13    | 21   | 90   | 86   | 31   | 21    | 13    | 10    | 2.1   |
| 8           | 3.8    | 8.7      | 16    | 12    | 58   | 101  | 64   | 28   | 16    | 8.7   | 7.9   | 1.7   |
| 9           | 3.4    | 8.3      | 17    | 11    | 77   | 88   | 54   | 24   | 14    | 6.5   | 7.0   | 5.0   |
| 10          | 2.8    | 11       | 19    | 11    | 42   | 78   | 48   | 26   | 16    | 5.8   | 7.3   | 4.3   |
| 11          | 3.0    | 10       | 18    | 9.9   | 43   | 68   | 43   | 24   | 12    | 4.6   | 6.7   | 4.3   |
| 12          | 9.8    | 8.8      | 15    | 9.3   | 99   | 63   | 40   | 14   | 10    | 4.1   | 6.4   | 3.7   |
| 13          | 8.7    | 7.8      | 15    | 8.7   | 61   | 58   | 36   | 28   | 8.3   | 3.7   | 4.5   | 3.5   |
|             | 6.3    | 7.8      | 16    | 8.4   | 42   | 55   | 40   | 24   | 10    | 6.8   | 4.0   | 9.6   |
|             | 4.8    | 7.4      | 14    | 9.1   | 35   | 50   | 70   | 22   | 9.0   | 8.4   | 3.5   | 12    |
| 16          | 3.3    | 7.4      | 17    | 9.2   | 32   | 50   | 53   | 35   | 8.3   | 7.0   | 4.0   | 27    |
| 17          | 2.7    | 7.0      | 19    | 10    | 33   | 47   | 45   | 60   | 8.6   | 5.8   | 3.7   | 24    |
|             | 5.1    | 23       | 15    | 9.7   | 36   | 43   | 41   | 45   | 7.6   | 5.9   | 2.9   | 15    |
| 19          | 5.9    | 39       |       | 9.7   | 36   | 40   | 37   | 32   | 6.9   | 15    | 2.4   | 13    |
| 20          | 3.7    | 27       | 12    | 9.7   | 51   | 39   | 35   | 26   | 7.8   | 15    | 2.0   | 24    |
| 21          | 3.6    | 21       | 9.8   | 9.6   | 123  | 40   | 32   | 23   | 12    | 21    | 2.3   | 15    |
| 22          | 3.6    | 20       | 8.6   | 9.4   | 100  | 39   | 29   | 20   | 13    | 21    | 2.4   | 11    |
| 23          | 2.9    | 18       | 9.3   | 9.4   | 72   | 38   | 29   | 19   | 21    | 22    | 2.1   | 17    |
| 24          | 3.6    | 17       | 11    | 9.4   | 94   | 37   | 59   | 17   | 19    | 14    | 1.2   | 19    |
| 25          | 18     | 33       |       |       | 227  | 35   | 57   | 15   | 16    | 10    | 6.4   | 16    |
| 26          | 49     | 36       | 8.7   | 9.5   | 488  | 34   | 47   | 14   | 21    | 8.3   | 3.6   | 12    |
| 27          | 32     | 26       | 7.2   | 12    | 509  | 37   | 40   | 13   | 18    | 7.9   | 2.3   | 9.6   |
| 28          | 21     | 28       | 7.3   | 15    | 299  | 40   | 36   | 12   | 13    | 6.1   | 2.1   | 8.3   |
| 29          | 20     | 57       |       |       | ---  | 36   | 38   | 15   | 11    | 7.3   | 2.2   | 6.5   |
|             | 16     | 46       | 34    | 14    | ---  | 35   | 42   | 22   | 9.1   | 9.7   | 1.8   | 5.7   |
|             | 13     | ---      |       |       | ---  | 36   | ---  | 18   | ---   | 9.0   | 1.7   | ---   |
| TOTAL       | 277.07 | 540.7    | 508.8 | 352.4 | 2890 | 2023 | 1557 | 808  | 390.6 | 306.3 | 138.5 | 289.2 |
| MEAN        | 8.94   | 18.0     |       |       | 103  | 65.3 | 51.9 | 26.1 | 13.0  | 9.88  | 4.47  | 9.64  |
| MAX         | 49     | 57       | 34    | 19    | 509  | 195  | 101  | 60   | 21    | 22    | 10    | 27    |
| MIN         | .29    | 7.0      |       |       | 10   | 34   | 29   | 12   | 6.9   | 3.7   | 1.2   | 1.7   |
| CFSM        | .30    | .59      | .54   | .38   | 3.40 | 2.16 | 1.71 | .86  | .43   | .33   | .15   | .32   |
| IN.         | .34    | .66      | .62   | .43   | 3.55 | 2.48 | 1.91 | .99  | .48   | .38   | .17   | .36   |
| CAL YR 1980 | TOTAL  | 11208.67 | MEAN  | 30.6  | MAX  | 311  | MIN  | .18  | CFSM  | 1.01  | IN    | 13.76 |
| WTR YR 1981 | TOTAL  | 10081.57 | MEAN  | 27.6  | MAX  | 509  | MIN  | .29  | CFSM  | .91   | IN    | 12.38 |

## 01105870 JONES RIVER AT KINGSTON, MA

LOCATION.--Lat 41°59'27", long 70°44'03", Plymouth County, Hydrologic Unit 01090002, on left bank 100 ft (30 m) downstream from Elm Street Bridge at Kingston and 2.8 mi (4.5 km) upstream from mouth.

DRAINAGE AREA.--15.8 mi<sup>2</sup> (40.9 km<sup>2</sup>), excludes 4.09 mi<sup>2</sup> (10.59 km<sup>2</sup>) above outlet of Silver Lake from which flow is diverted for municipal supply of Brockton, Whitman, and Hanson.

PERIOD OF RECORD.--Discharge: August 1966 to current year.

Water-quality records: Water years 1970-71.

Chemical analyses: November 1969 to September 1971.

Water temperatures: November 1969 to September 1971.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 4.76 ft (1.451 m) National Geodetic Vertical Datum of 1929 (levels by Massachusetts Department of Public Works).

REMARKS.--Records fair. Flow regulated by pond upstream. Flow affected at times during springs of 1968-76, 1978-79 by wastage from 4.09 mi<sup>2</sup> (10.59 km<sup>2</sup>) upstream from outlet of Silver Lake. Surface flow may be affected by ground water that enters from or moves into adjacent basins. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--15 years, 30.3 ft<sup>3</sup>/s (0.858 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 575 ft<sup>3</sup>/s (16.3 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 4.60 ft (1.402 m); maximum gage height, 5.88 ft (1.792 m) Feb. 7, 1978, from peak-stage indicator (backwater from tide); minimum daily discharge, 0.59 ft<sup>3</sup>/s (0.017 m<sup>3</sup>/s) Aug. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 186 ft<sup>3</sup>/s (5.27 m<sup>3</sup>/s) Feb. 26, gage height, 3.67 ft (1.119 m); maximum gage height, 3.69 ft (1.125 m) Mar. 7, backwater from tide; minimum daily discharge, 3.9 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Aug. 25-31, Sept. 3-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC   | JAN   | FEB    | MAR  | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|--------|-------|-------|--------|------|-------|-------|-------|-------|-------|-------|
| 1           | 7.2   | 9.2    | 21    | 12    | 8.7    | 98   | 21    | 18    | 10    | 8.0   | 6.6   | 4.4   |
| 2           | 7.2   | 8.3    | 18    | 10    | 22     | 72   | 28    | 18    | 10    | 8.7   | 6.6   | 4.4   |
| 3           | 7.2   | 7.6    | 16    | 10    | 42     | 61   | 36    | 18    | 8.7   | 8.7   | 6.0   | 3.9   |
| 4           | 11    | 6.9    | 15    | 10    | 29     | 57   | 34    | 19    | 11    | 8.0   | 6.0   | 3.9   |
| 5           | 8.7   | 7.2    | 15    | 9.7   | 20     | 46   | 31    | 25    | 11    | 8.0   | 5.4   | 3.9   |
| 6           | 7.2   | 7.7    | 11    | 9.5   | 17     | 40   | 38    | 19    | 10    | 8.0   | 4.9   | 3.9   |
| 7           | 6.6   | 8.0    | 10    | 9.5   | 15     | 39   | 39    | 14    | 13    | 7.2   | 4.9   | 3.9   |
| 8           | 6.6   | 8.0    | 10    | 9.5   | 30     | 42   | 34    | 10    | 13    | 6.6   | 4.9   | 3.9   |
| 9           | 6.6   | 8.0    | 10    | 9.0   | 38     | 42   | 28    | 10    | 12    | 6.0   | 4.9   | 3.9   |
| 10          | 6.6   | 8.0    | 10    | 8.7   | 39     | 42   | 23    | 11    | 12    | 6.0   | 4.9   | 3.9   |
| 11          | 6.9   | 8.0    | 10    | 8.7   | 40     | 41   | 21    | 12    | 12    | 4.9   | 4.9   | 4.4   |
| 12          | 9.5   | 8.0    | 10    | 8.7   | 51     | 34   | 18    | 15    | 10    | 4.9   | 4.9   | 4.4   |
| 13          | 8.3   | 7.3    | 10    | 8.7   | 40     | 29   | 15    | 25    | 9.5   | 4.9   | 4.9   | 4.4   |
| 14          | 7.1   | 7.2    | 10    | 8.7   | 31     | 30   | 17    | 21    | 8.7   | 4.9   | 4.9   | 4.4   |
| 15          | 5.8   | 6.9    | 8.7   | 8.7   | 25     | 31   | 18    | 15    | 8.7   | 4.9   | 4.9   | 5.4   |
| 16          | 5.4   | 7.2    | 10    | 8.7   | 23     | 30   | 22    | 17    | 8.7   | 4.9   | 4.9   | 8.7   |
| 17          | 5.4   | 7.2    | 11    | 8.7   | 21     | 29   | 21    | 22    | 8.7   | 4.9   | 4.4   | 7.2   |
| 18          | 5.9   | 19     | 10    | 8.7   | 21     | 28   | 17    | 21    | 7.2   | 5.4   | 4.4   | 6.6   |
| 19          | 6.6   | 21     | 9.5   | 8.7   | 21     | 26   | 14    | 17    | 6.6   | 5.4   | 4.4   | 9.5   |
| 20          | 6.6   | 16     | 8.2   | 8.7   | 21     | 26   | 12    | 14    | 8.0   | 5.4   | 4.4   | 10    |
| 21          | 6.6   | 15     | 6.6   | 8.7   | 41     | 24   | 13    | 11    | 10    | 6.6   | 4.4   | 9.5   |
| 22          | 6.6   | 15     | 6.6   | 8.4   | 42     | 23   | 11    | 11    | 11    | 7.2   | 4.9   | 7.2   |
| 23          | 6.6   | 13     | 7.8   | 8.0   | 39     | 23   | 9.5   | 10    | 11    | 7.2   | 4.9   | 7.2   |
| 24          | 5.8   | 12     | 8.5   | 8.0   | 39     | 22   | 17    | 10    | 8.7   | 6.6   | 4.9   | 7.2   |
| 25          | 8.0   | 14     | 7.3   | 8.0   | 70     | 21   | 22    | 10    | 7.2   | 6.0   | 3.9   | 7.2   |
| 26          | 17    | 14     | 6.3   | 8.0   | 145    | 21   | 22    | 13    | 8.0   | 6.0   | 3.9   | 6.6   |
| 27          | 13    | 13     | 6.1   | 8.3   | 167    | 21   | 18    | 12    | 8.0   | 6.0   | 3.9   | 4.9   |
| 28          | 9.6   | 17     | 7.0   | 9.5   | 130    | 22   | 14    | 8.7   | 8.0   | 6.0   | 3.9   | 4.9   |
| 29          | 10    | 28     | 8.4   | 9.5   | ---    | 22   | 13    | 11    | 8.0   | 6.0   | 3.9   | 4.9   |
| 30          | 11    | 24     | 19    | 9.0   | ---    | 21   | 17    | 12    | 8.0   | 6.6   | 3.9   | 4.9   |
| 31          | 10    | ---    | 18    | 8.7   | ---    | 21   | ---   | 11    | ---   | 6.6   | 3.9   | ---   |
| TOTAL       | 246.6 | 351.7  | 335.0 | 279.0 | 1227.7 | 1084 | 643.5 | 460.7 | 286.7 | 196.5 | 148.5 | 169.5 |
| MEAN        | 7.95  | 11.7   | 10.8  | 9.00  | 43.8   | 35.0 | 21.5  | 14.9  | 9.56  | 6.34  | 4.79  | 5.65  |
| MAX         | 17    | 28     | 21    | 12    | 167    | 98   | 39    | 25    | 13    | 8.7   | 6.6   | 10    |
| MIN         | 5.4   | 6.9    | 6.1   | 8.0   | 8.7    | 21   | 9.5   | 8.7   | 6.6   | 4.9   | 3.9   | 3.9   |
| CAL YR 1980 | TOTAL | 6849.3 | MEAN  | 18.7  | MAX    | 102  | MIN   | 5.4   |       |       |       |       |
| WTR YR 1981 | TOTAL | 5429.4 | MEAN  | 14.9  | MAX    | 167  | MIN   | 3.9   |       |       |       |       |

## HERRING RIVER BASIN

01105880 HERRING RIVER AT NORTH HARWICH, MA

LOCATION.--Lat 41°42'00", long 70°06'27", Barnstable County, Hydrologic Unit 01090002, on left bank 30 ft (9 m) upstream from bridge on U.S. Route 6, 0.8 mi (1.3 km) northeast of North Harwich, 1.1 mi (1.8 km) downstream from Hinckleys Pond, and 2 mi (3 km) northwest of Harwich.

DRAINAGE AREA.--About 9.4 mi<sup>2</sup> (24.3 km<sup>2</sup>).

PERIOD OF RECORD.--June 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 10 ft (3 m), from topographic map.

REMARKS.--Records fair Oct. 1 to June 19, poor thereafter. No gage-height record June 20 to July 27, July 31 to Aug. 27. Shifting-control method used Aug. 28 to Sept. 30. Flow regulated by many ponds (some with no outlets) upstream. Surface flow may be affected by ground water that enters from or moves into adjacent basins. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--15 years, 9.79 ft<sup>3</sup>/s (0.277 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59 ft<sup>3</sup>/s (1.67 m<sup>3</sup>/s) Sept. 3, 1972, gage height, 4.43 ft (1.350 m), from rating curve extended above 23 ft<sup>3</sup>/s (0.65 m<sup>3</sup>/s) and Aug. 7, 1978, gage height, 3.56 ft (1.085 m), from rating curve extended above 18 ft<sup>3</sup>/s (0.51 m<sup>3</sup>/s); maximum gage height, 4.88 ft (1.487 m) June 6, 1967; minimum discharge, 0.32 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s) Sept. 13-15, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28 ft<sup>3</sup>/s (0.79 m<sup>3</sup>/s) June 20; minimum, 0.32 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s) Sept. 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR   | MAY   | JUN   | JUL   | AUG  | SEP   |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|------|-------|
| 1     | 1.1  | 2.7  | 3.1  | 1.2  | 1.2  | 7.3  | 3.1   | 7.8   | 5.0   | 5.6   | 4.8  | .93   |
| 2     | 1.1  | 2.5  | 3.0  | 1.1  | 1.5  | 2.6  | 4.1   | 7.5   | 5.0   | 5.3   | 4.5  | .73   |
| 3     | 1.1  | 2.4  | 3.0  | 1.1  | 1.9  | 2.5  | 5.2   | 7.4   | 4.8   | 5.2   | 4.3  | .64   |
| 4     | 1.1  | 2.2  | 2.8  | 1.1  | 1.7  | 2.5  | 7.8   | 7.2   | 4.6   | 5.5   | 4.1  | .64   |
| 5     | 1.1  | 2.5  | 2.5  | 1.1  | 1.6  | 2.5  | 8.8   | 7.1   | 4.6   | 6.5   | 4.3  | .55   |
| 6     | 1.1  | 2.5  | 2.3  | 1.1  | 1.4  | 2.5  | 8.1   | 7.0   | 4.4   | 6.5   | 4.2  | .47   |
| 7     | 1.1  | 2.3  | 2.0  | 1.1  | 1.4  | 2.7  | 6.1   | 6.5   | 4.2   | 6.0   | 3.9  | .47   |
| 8     | 1.4  | 2.3  | 2.0  | 1.1  | 1.7  | 2.8  | 4.4   | 5.7   | 5.0   | 5.5   | 3.7  | .55   |
| 9     | 1.9  | 2.3  | 2.0  | 1.1  | 1.8  | 2.8  | 2.6   | 5.7   | 4.6   | 5.1   | 4.5  | .47   |
| 10    | 3.2  | 3.0  | 2.0  | 1.1  | 1.8  | 2.8  | 5.2   | 5.7   | 4.2   | 4.8   | 4.0  | .47   |
| 11    | 2.7  | 3.0  | 2.0  | 1.1  | 1.8  | 2.8  | 6.2   | 6.2   | 3.8   | 4.6   | 3.6  | .73   |
| 12    | 2.6  | 2.5  | 2.0  | 1.1  | 1.9  | 2.8  | 6.1   | 7.2   | 3.4   | 4.5   | 3.5  | .64   |
| 13    | 2.5  | 2.0  | 2.0  | 1.1  | 1.9  | 2.8  | 5.7   | 8.3   | 3.4   | 7.0   | 4.5  | .39   |
| 14    | 2.5  | 1.9  | 2.0  | 1.1  | 1.9  | 2.8  | 5.7   | 9.2   | 3.4   | 8.0   | 3.8  | .32   |
| 15    | 2.3  | 1.9  | 1.9  | 1.1  | 1.9  | 2.8  | 5.9   | 7.2   | 3.4   | 7.0   | 3.4  | .73   |
| 16    | 3.2  | 1.9  | 3.0  | 1.1  | 1.9  | 2.9  | 5.5   | 7.2   | 3.0   | 6.4   | 4.0  | 1.9   |
| 17    | 3.6  | 1.9  | 3.5  | 1.1  | 1.9  | 3.0  | 5.4   | 8.6   | 3.0   | 5.9   | 3.4  | 1.4   |
| 18    | 2.7  | 2.9  | 3.2  | 1.1  | 1.9  | 2.8  | 5.2   | 7.0   | 3.0   | 5.6   | 2.9  | 1.3   |
| 19    | 2.8  | 3.2  | 2.9  | 1.1  | 1.8  | 2.8  | 4.9   | 6.0   | 3.0   | 5.4   | 2.5  | 1.9   |
| 20    | 2.8  | 2.7  | 2.8  | 1.1  | 2.1  | 2.8  | 4.5   | 6.0   | 8.0   | 6.0   | 2.3  | 1.6   |
| 21    | 4.2  | 2.5  | 2.5  | 1.1  | 3.7  | 2.9  | 4.3   | 6.0   | 12    | 9.0   | 2.1  | 1.9   |
| 22    | 7.2  | 3.0  | 2.3  | 1.1  | 3.6  | 2.8  | 5.7   | 5.5   | 10    | 10    | 1.9  | 2.8   |
| 23    | 1.8  | 2.9  | 2.4  | 1.1  | 3.2  | 2.7  | 5.1   | 5.3   | 8.0   | 8.5   | 1.8  | 1.8   |
| 24    | 1.8  | 2.8  | 2.7  | 1.1  | 3.5  | 2.7  | 4.2   | 4.8   | 7.0   | 7.4   | 2.3  | 1.6   |
| 25    | 2.5  | 3.7  | 2.7  | 1.1  | 4.6  | 2.8  | 4.4   | 4.6   | 9.0   | 6.6   | 2.5  | 1.6   |
| 26    | 2.9  | 3.2  | 2.6  | 1.1  | 7.1  | 2.8  | 4.4   | 4.6   | 11    | 6.0   | 2.0  | 1.5   |
| 27    | 2.5  | 2.9  | 2.2  | 1.1  | 6.6  | 4.5  | 7.1   | 4.4   | 9.0   | 7.0   | 1.5  | 1.4   |
| 28    | 2.4  | 3.2  | 1.9  | 1.1  | 9.2  | 3.5  | 7.8   | 4.4   | 7.8   | 7.5   | 1.4  | 1.4   |
| 29    | 2.7  | 3.7  | 1.6  | 1.1  | ---  | 2.6  | 7.3   | 5.3   | 6.8   | 7.0   | 1.3  | 1.4   |
| 30    | 2.7  | 3.4  | 1.6  | 1.1  | ---  | 2.9  | 8.1   | 5.0   | 6.2   | 6.0   | 1.3  | 1.5   |
| 31    | 2.7  | ---  | 1.3  | 1.1  | ---  | 3.2  | ---   | 3.8   | ---   | 5.3   | 1.3  | ---   |
| TOTAL | 75.3 | 79.9 | 73.8 | 34.2 | 76.5 | 92.7 | 168.9 | 194.2 | 170.6 | 196.7 | 95.6 | 33.73 |
| MEAN  | 2.43 | 2.66 | 2.38 | 1.10 | 2.73 | 2.99 | 5.63  | 6.26  | 5.69  | 6.35  | 3.08 | 1.12  |
| MAX   | 7.2  | 3.7  | 3.5  | 1.2  | 9.2  | 7.3  | 8.8   | 9.2   | 12    | 10    | 4.8  | 2.8   |
| MIN   | 1.1  | 1.9  | 1.3  | 1.1  | 1.2  | 2.5  | 2.6   | 3.8   | 3.0   | 4.5   | 1.3  | .32   |

CAL YR 1980 TOTAL 1967.40 MEAN 5.38 MAX 18 MIN 1.1  
WTR YR 1981 TOTAL 1292.13 MEAN 3.54 MAX 12 MIN .32

## 01108500 WADING RIVER AT WEST MANSFIELD, MA

LOCATION.--Lat 42°00'00", long 71°15'38", Bristol County, Hydrologic Unit 01090004, on right bank 200 ft (60 m) downstream from Balcolm Street Bridge at West Mansfield, 2 mi (3 km) upstream from Hodges Brook, and 3 mi (5 km) southwest of Mansfield.

DRAINAGE AREA.--19.2 mi<sup>2</sup> (49.7 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1953 to current year.  
Water-quality records: Water years 1967-68.

REVISED RECORDS.--WSP 1621: 1953-58 (monthly runoff). WDR MA-NH-RI-VT-71-1: 1970.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 120.85 ft (36.835 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter period, which are poor. Flow regulated by Lake Mirimichi and other lakes and reservoirs upstream. Diversion upstream for municipal supply of Attleboro and small diversions to and from basin for other municipal supplies. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--28 years, 32.0 ft<sup>3</sup>/s (0.906 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 541 ft<sup>3</sup>/s (15.3 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 6.60 ft (2.012 m); no flow Oct. 22-24, 1957, Sept. 12, 1981 (caused by temporary storage upstream).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 94 ft<sup>3</sup>/s (2.66 m<sup>3</sup>/s) Mar. 1, gage height, 4.66 ft (1.420 m); minimum, no flow Sept. 12; minimum daily, 0.47 ft<sup>3</sup>/s (0.013 m<sup>3</sup>/s) Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC       | JAN     | FEB     | MAR  | APR  | MAY  | JUN   | JUL  | AUG  | SEP   |
|-------------|-------|---------|-----------|---------|---------|------|------|------|-------|------|------|-------|
| 1           | 5.3   | 1.7     | 11        | 1.2     | 1.2     | 92   | 19   | 25   | 15    | 2.9  | 4.3  | 1.7   |
| 2           | 5.3   | 1.6     | 7.9       | 1.3     | 11      | 89   | 26   | 24   | 13    | 2.7  | 4.3  | 1.8   |
| 3           | 5.8   | 1.5     | 7.6       | 1.1     | 12      | 78   | 30   | 23   | 11    | 2.6  | 3.9  | 1.8   |
| 4           | 8.1   | 1.5     | 5.8       | 1.3     | 8.3     | 68   | 29   | 21   | 12    | 2.5  | 3.5  | 1.6   |
| 5           | 6.0   | 1.3     | 5.5       | 1.3     | 6.5     | 59   | 29   | 20   | 12    | 4.5  | 4.1  | 1.0   |
| 6           | 5.3   | 1.3     | 4.1       | 1.2     | 6.0     | 55   | 37   | 19   | 11    | 7.3  | 3.9  | 1.1   |
| 7           | 5.1   | 1.2     | 3.6       | 1.2     | 5.5     | 52   | 38   | 19   | 13    | 6.6  | 3.2  | 1.2   |
| 8           | 5.1   | 2.6     | 3.5       | 1.3     | 13      | 53   | 33   | 16   | 12    | 4.7  | 2.8  | 1.6   |
| 9           | 4.9   | 2.0     | 4.1       | 1.2     | 10      | 50   | 31   | 14   | 11    | 3.8  | 2.7  | 2.7   |
| 10          | 4.6   | 1.5     | 4.1       | 1.3     | 5.8     | 46   | 30   | 13   | 12    | 3.3  | 2.9  | 2.2   |
| 11          | 5.1   | 1.4     | 3.2       | 1.3     | 11      | 42   | 28   | 13   | 9.9   | 2.7  | 4.9  | 1.3   |
| 12          | 5.6   | 1.1     | 2.6       | 1.4     | 25      | 40   | 26   | 15   | 7.5   | 2.6  | 2.3  | .48   |
| 13          | 4.8   | .94     | 2.8       | 1.5     | 15      | 38   | 23   | 19   | 6.5   | 2.3  | 3.5  | 2.5   |
| 14          | 4.4   | 1.5     | 2.8       | 1.6     | 11      | 37   | 23   | 18   | 5.3   | 2.1  | 3.1  | 2.1   |
| 15          | 3.7   | 3.4     | 2.3       | 1.6     | 9.5     | 35   | 26   | 16   | 5.1   | 2.1  | 3.2  | 4.0   |
| 16          | 3.6   | 4.3     | 2.0       | 1.6     | 9.9     | 32   | 25   | 22   | 5.3   | 1.9  | 3.7  | 5.1   |
| 17          | 3.9   | 2.8     | 1.8       | 1.7     | 9.0     | 30   | 24   | 30   | 4.6   | 1.8  | 3.1  | 3.2   |
| 18          | 4.0   | 5.7     | 1.6       | 1.7     | 8.0     | 28   | 24   | 29   | 3.6   | 1.7  | 2.6  | .47   |
| 19          | 4.8   | 6.9     | 1.6       | 1.7     | 8.5     | 26   | 25   | 26   | 2.8   | 1.6  | 2.2  | 1.0   |
| 20          | 4.4   | 6.1     | 1.4       | 1.6     | 11      | 26   | 24   | 24   | 2.8   | 1.6  | 2.0  | 1.4   |
| 21          | 4.1   | 3.9     | 1.2       | 1.6     | 25      | 26   | 23   | 22   | 3.9   | 1.6  | 2.0  | 1.7   |
| 22          | 3.9   | 3.6     | .99       | 1.6     | 24      | 25   | 20   | 21   | 5.3   | 1.7  | 1.9  | 2.3   |
| 23          | 3.5   | 4.6     | 1.0       | 1.5     | 21      | 23   | 19   | 18   | 7.3   | 1.5  | 1.9  | 2.0   |
| 24          | 3.4   | 5.0     | 1.2       | 1.4     | 23      | 22   | 25   | 17   | 6.7   | 1.5  | 1.8  | 2.3   |
| 25          | 9.5   | 14      | 1.1       | 1.4     | 32      | 22   | 27   | 16   | 6.2   | 1.9  | 2.0  | 2.7   |
| 26          | 18    | 12      | 1.0       | 1.3     | 48      | 25   | 26   | 17   | 7.5   | 2.4  | 2.0  | 2.8   |
| 27          | 5.6   | 8.4     | .98       | 1.3     | 72      | 25   | 25   | 15   | 6.5   | 3.8  | 1.9  | 2.8   |
| 28          | 3.9   | 11      | .95       | 1.2     | 87      | 25   | 25   | 12   | 5.1   | 3.6  | 1.8  | 2.8   |
| 29          | 3.3   | 16      | .97       | 1.2     | ---     | 23   | 24   | 12   | 4.3   | 4.2  | 1.7  | 2.8   |
| 30          | 2.2   | 13      | 2.0       | 1.2     | ---     | 21   | 25   | 17   | 3.5   | 3.9  | 1.8  | 2.6   |
| 31          | 1.9   | ---     | 1.6       | 1.1     | ---     | 20   | ---  | 17   | ---   | 3.5  | 1.8  | ---   |
| TOTAL       | 159.1 | 141.84  | 90.09     | 42.9    | 529.2   | 1233 | 789  | 590  | 231.7 | 90.9 | 86.8 | 63.05 |
| MEAN        | 5.13  | 4.73    | 2.91      | 1.38    | 18.9    | 39.8 | 26.3 | 19.0 | 7.72  | 2.93 | 2.80 | 2.10  |
| MAX         | 18    | 16      | 11        | 1.7     | 87      | 92   | 38   | 30   | 15    | 7.3  | 4.9  | 5.1   |
| MIN         | 1.9   | .94     | .95       | 1.1     | 1.2     | 20   | 19   | 12   | 2.8   | 1.5  | 1.7  | .47   |
| CAL YR 1980 | TOTAL | 6536.23 | MEAN 17.9 | MAX 144 | MIN .94 |      |      |      |       |      |      |       |
| WTR YR 1981 | TOTAL | 4047.58 | MEAN 11.1 | MAX 92  | MIN .47 |      |      |      |       |      |      |       |



## TAUNTON RIVER BASIN

01109000 WADING RIVER NEAR NORTON, MA

LOCATION.--Lat 41°56'51", long 71°10'38", Bristol County, Hydrologic Unit 01090004, on left bank 200 ft (60 m) downstream from bridge on State Highway 140, 0.9 mi (1.4 km) upstream from confluence with Rumford River, and 1.5 mi (2.4 km) southeast of Norton.

DRAINAGE AREA.--42.4 mi<sup>2</sup> (109.8 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1925 to current year.  
Water-quality records: Water year 1967-68.

REVISED RECORDS.--WSP 871: 1938. WSP 1301: 1929-33(M). WSP 1621: 1925-58 (monthly runoff).

GAGE.--Water-stage recorder. Datum of gage is 55.14 ft (15.127 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1930, nonrecording gage at same site at datum 0.62 ft (0.189 m) higher and Oct. 1, 1930, to May 5, 1933, at same site at present datum.

REMARKS.--Records good. Flow regulated to some extent by Lake Mirimichi and other lakes and reservoirs upstream. Diversion upstream for municipal supply of Attleboro and small diversions to and from basin for other municipal supplies. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--56 years, 72.5 ft<sup>3</sup>/s (2.053 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,460 ft<sup>3</sup>/s (41.3 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 11.47 ft (3.496 m); minimum, 0.3 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Sept. 10, 1926.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 280 ft<sup>3</sup>/s (7.9 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 27 | 0900 | *278 7.87                                             | 7.71 2.350              |      |      |                                                       |                         |
|         |      |                                                       |                         |      |      | No peak discharge above base.                         |                         |
|         |      |                                                       |                         |      |      |                                                       |                         |

Minimum discharge, 4.2 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) June 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN  | FEB  | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|-------|------|------|------|------|------|-------|-------|-------|-------|
| 1           | 13    | 14      | 43    | 15   | 10   | 202  | 40   | 58   | 18    | 9.9   | 7.8   | 4.9   |
| 2           | 16    | 11      | 37    | 13   | 28   | 190  | 69   | 55   | 5.6   | 9.5   | 6.8   | 5.1   |
| 3           | 15    | 11      | 34    | 12   | 56   | 167  | 82   | 51   | 16    | 9.5   | 6.8   | 4.8   |
| 4           | 23    | 10      | 29    | 12   | 58   | 154  | 71   | 46   | 19    | 9.5   | 7.8   | 5.1   |
| 5           | 22    | 12      | 23    | 12   | 34   | 143  | 66   | 44   | 19    | 11    | 12    | 5.7   |
| 6           | 16    | 12      | 23    | 12   | 25   | 125  | 98   | 43   | 19    | 15    | 15    | 5.6   |
| 7           | 12    | 12      | 22    | 12   | 21   | 118  | 109  | 40   | 21    | 16    | 12    | 5.1   |
| 8           | 11    | 11      | 21    | 12   | 32   | 114  | 89   | 38   | 19    | 14    | 8.1   | 4.9   |
| 9           | 8.8   | 12      | 22    | 12   | 52   | 108  | 77   | 35   | 17    | 12    | 8.1   | 6.4   |
| 10          | 7.5   | 15      | 23    | 12   | 48   | 99   | 71   | 33   | 17    | 9.9   | 7.5   | 7.5   |
| 11          | 7.5   | 14      | 23    | 13   | 41   | 89   | 65   | 33   | 17    | 8.5   | 6.2   | 8.0   |
| 12          | 10    | 12      | 20    | 14   | 83   | 79   | 58   | 34   | 15    | 7.8   | 6.2   | 7.5   |
| 13          | 11    | 12      | 19    | 14   | 79   | 77   | 53   | 40   | 13    | 7.1   | 7.5   | 7.0   |
| 14          | 12    | 11      | 19    | 14   | 56   | 73   | 53   | 40   | 12    | 7.8   | 4.7   | 6.5   |
| 15          | 11    | 9.9     | 18    | 15   | 44   | 67   | 71   | 37   | 12    | 7.8   | 5.2   | 16    |
| 16          | 9.5   | 10      | 17    | 16   | 39   | 64   | 68   | 43   | 9.2   | 7.8   | 6.4   | 28    |
| 17          | 9.2   | 11      | 17    | 19   | 40   | 60   | 60   | 65   | 8.8   | 7.1   | 6.5   | 32    |
| 18          | 9.5   | 17      | 15    | 18   | 41   | 55   | 56   | 67   | 8.8   | 7.1   | 6.1   | 23    |
| 19          | 10    | 22      | 15    | 16   | 40   | 51   | 52   | 58   | 7.8   | 7.5   | 5.4   | 19    |
| 20          | 10    | 23      | 14    | 15   | 47   | 49   | 51   | 53   | 8.8   | 8.1   | 5.1   | 17    |
| 21          | 10    | 20      | 12    | 15   | 96   | 47   | 46   | 51   | 11    | 12    | 5.8   | 13    |
| 22          | 9.9   | 20      | 11    | 16   | 120  | 46   | 43   | 40   | 12    | 11    | 5.4   | 10    |
| 23          | 9.2   | 20      | 11    | 15   | 92   | 45   | 52   | 37   | 16    | 9.5   | 5.7   | 10    |
| 24          | 8.8   | 20      | 12    | 14   | 87   | 43   | 60   | 33   | 18    | 8.1   | 11    | 12    |
| 25          | 17    | 31      | 12    | 14   | 137  | 41   | 72   | 30   | 16    | 7.1   | 13    | 11    |
| 26          | 38    | 43      | 11    | 13   | 235  | 40   | 69   | 29   | 18    | 6.2   | 14    | 10    |
| 27          | 42    | 34      | 9.5   | 13   | 265  | 43   | 61   | 28   | 18    | 5.6   | 11    | 9.0   |
| 28          | 25    | 34      | 8.8   | 12   | 221  | 45   | 56   | 26   | 14    | 5.9   | 8.6   | 8.2   |
| 29          | 20    | 54      | 9.2   | 12   | ---  | 45   | 55   | 24   | 12    | 8.5   | 7.3   | 7.2   |
| 30          | 17    | 56      | 14    | 12   | ---  | 43   | 59   | 25   | 11    | 8.8   | 5.9   | 6.5   |
| 31          | 15    | ---     | 17    | 11   | ---  | 43   | ---  | 26   | ---   | 8.8   | 5.4   | ---   |
| TOTAL       | 455.9 | 593.9   | 581.5 | 425  | 2127 | 2565 | 1932 | 1262 | 429.0 | 284.4 | 244.3 | 316.0 |
| MEAN        | 14.7  | 19.8    | 18.8  | 13.7 | 76.0 | 82.7 | 64.4 | 40.7 | 14.3  | 9.17  | 7.88  | 10.5  |
| MAX         | 42    | 56      | 43    | 19   | 265  | 202  | 109  | 67   | 21    | 16    | 15    | 32    |
| MIN         | 7.5   | 9.9     | 8.8   | 11   | 10   | 40   | 40   | 24   | 5.6   | 5.6   | 4.7   | 4.8   |
| CAL YR 1980 | TOTAL | 17883.3 | MEAN  | 48.9 | MAX  | 490  | MIN  | 2.3  |       |       |       |       |
| WTR YR 1981 | TOTAL | 11216.0 | MEAN  | 30.7 | MAX  | 265  | MIN  | 4.7  |       |       |       |       |

## 01109060 THREEMILE RIVER AT NORTH DIGHTON, MA

LOCATION.--Lat 41°51'58", long 71°07'24", Bristol County, Hydrologic Unit 01090004, on right bank 800 ft (250 m) downstream from Warner Boulevard at North Dighton and 1.4 mi (2.3 km) upstream from mouth.

DRAINAGE AREA.--83.8 mi<sup>2</sup> (217.0 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1966 to current year.  
Water-quality records: Water years 1967-68.

GAGE.--Water-stage recorder. Datum of gage is 11.38 ft (3.469 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Lake Mirimichi and other lakes and reservoirs upstream. Diversions to and from basin upstream for municipal supplies may be compensating. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--15 years, 169 ft<sup>3</sup>/s (4.786 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,490 ft<sup>3</sup>/s (70.5 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 8.30 ft (2.530 m); minimum, 5.1 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Sept. 8, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft<sup>3</sup>/s (17 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 27 | 2145 | *487 13.8                                             | 4.42 1.347              |      |      | No peak discharge above base.                         |                         |

Minimum discharge, 6.2 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN  | FEB     | MAR     | APR  | MAY  | JUN  | JUL  | AUG  | SEP   |
|-------------|-------|---------|------|------|---------|---------|------|------|------|------|------|-------|
| 1           | 25    | 27      | 81   | 39   | 30      | 420     | 106  | 123  | 47   | 24   | 23   | 12    |
| 2           | 30    | 25      | 66   | 37   | 64      | 378     | 156  | 119  | 37   | 28   | 21   | 11    |
| 3           | 30    | 22      | 60   | 33   | 125     | 347     | 170  | 113  | 27   | 28   | 20   | 11    |
| 4           | 40    | 21      | 55   | 33   | 110     | 311     | 162  | 104  | 40   | 28   | 20   | 10    |
| 5           | 38    | 23      | 44   | 30   | 95      | 285     | 149  | 97   | 41   | 39   | 34   | 9.0   |
| 6           | 30    | 22      | 45   | 29   | 70      | 263     | 184  | 94   | 42   | 43   | 38   | 7.8   |
| 7           | 25    | 24      | 45   | 32   | 62      | 242     | 196  | 90   | 51   | 38   | 39   | 7.8   |
| 8           | 22    | 24      | 43   | 32   | 89      | 230     | 187  | 84   | 45   | 35   | 31   | 8.2   |
| 9           | 20    | 24      | 44   | 29   | 107     | 218     | 163  | 79   | 45   | 31   | 29   | 11    |
| 10          | 19    | 27      | 47   | 29   | 103     | 205     | 151  | 75   | 42   | 27   | 29   | 14    |
| 11          | 19    | 28      | 46   | 28   | 101     | 190     | 132  | 71   | 38   | 24   | 26   | 16    |
| 12          | 26    | 26      | 43   | 27   | 129     | 176     | 109  | 74   | 34   | 23   | 24   | 15    |
| 13          | 22    | 25      | 42   | 27   | 137     | 163     | 97   | 80   | 32   | 23   | 23   | 16    |
| 14          | 20    | 24      | 40   | 25   | 120     | 155     | 96   | 80   | 29   | 27   | 22   | 13    |
| 15          | 21    | 23      | 35   | 24   | 98      | 147     | 121  | 76   | 27   | 24   | 16   | 30    |
| 16          | 21    | 22      | 40   | 27   | 85      | 143     | 121  | 86   | 27   | 21   | 26   | 56    |
| 17          | 20    | 21      | 38   | 29   | 83      | 136     | 112  | 110  | 24   | 21   | 20   | 56    |
| 18          | 20    | 38      | 31   | 30   | 86      | 128     | 103  | 120  | 22   | 21   | 14   | 48    |
| 19          | 21    | 47      | 36   | 31   | 87      | 122     | 97   | 115  | 20   | 25   | 12   | 43    |
| 20          | 20    | 46      | 29   | 31   | 101     | 118     | 93   | 101  | 32   | 26   | 11   | 39    |
| 21          | 19    | 43      | 29   | 31   | 154     | 114     | 91   | 95   | 34   | 41   | 10   | 32    |
| 22          | 19    | 42      | 26   | 30   | 181     | 114     | 85   | 86   | 30   | 37   | 10   | 27    |
| 23          | 18    | 41      | 28   | 30   | 181     | 111     | 83   | 74   | 31   | 29   | 11   | 26    |
| 24          | 16    | 41      | 30   | 30   | 180     | 108     | 125  | 68   | 34   | 26   | 15   | 25    |
| 25          | 33    | 64      | 28   | 30   | 227     | 107     | 141  | 61   | 35   | 23   | 22   | 26    |
| 26          | 73    | 66      | 25   | 30   | 352     | 105     | 144  | 57   | 35   | 22   | 22   | 24    |
| 27          | 61    | 64      | 24   | 29   | 463     | 107     | 134  | 53   | 34   | 21   | 22   | 22    |
| 28          | 57    | 63      | 24   | 29   | 471     | 111     | 122  | 51   | 31   | 18   | 19   | 25    |
| 29          | 44    | 82      | 28   | 28   | ---     | 111     | 121  | 50   | 26   | 24   | 17   | 20    |
| 30          | 35    | 88      | 48   | 28   | ---     | 109     | 124  | 49   | 23   | 27   | 14   | 17    |
| 31          | 31    | ---     | 42   | 27   | ---     | 110     | ---  | 49   | ---  | 24   | 14   | ---   |
| TOTAL       | 895   | 1133    | 1242 | 924  | 4091    | 5584    | 3875 | 2584 | 1015 | 848  | 654  | 677.8 |
| MEAN        | 28.9  | 37.8    | 40.1 | 29.8 | 146     | 180     | 129  | 83.4 | 33.8 | 27.4 | 21.1 | 22.6  |
| MAX         | 73    | 88      | 81   | 39   | 471     | 420     | 196  | 123  | 51   | 43   | 39   | 56    |
| MIN         | 16    | 21      | 24   | 24   | 30      | 105     | 83   | 49   | 20   | 18   | 10   | 7.8   |
| CAL YR 1980 | TOTAL | 37119.7 | MEAN | 101  | MAX 935 | MIN 8.2 |      |      |      |      |      |       |
| WTR YR 1981 | TOTAL | 23522.8 | MEAN | 64.4 | MAX 471 | MIN 7.8 |      |      |      |      |      |       |

## TAUNTON RIVER BASIN

01109070 SEGREGANSET RIVER NEAR DIGHTON, MA

LOCATION.--Lat 41°50'25", long 71°08'36", Bristol County, Hydrologic Unit 01090004, on left bank 50 ft (15 m) upstream from twin culverts on Center Street and 1.8 mi (2.9 km) northwest of Dighton.

DRAINAGE AREA.--10.6 mi<sup>2</sup> (27.5 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1966 to current year.  
Water-quality records: Water years 1967-68.

GAGE.--Water-stage recorder. Altitude of gage is 30 ft (9 m), from topographic map.

REMARKS.--Records good except those for winter period and periods of no gage-height record, Oct. 16 to Nov. 24, Feb. 11-19, Feb. 24 to Apr. 1, Apr. 5 to May 14, July 30 to Aug. 13, Sept. 5-30, which are poor. Occasional regulation by ponds upstream. Diversion upstream for Dighton Water District. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--15 years, 22.0 ft<sup>3</sup>/s (0.623 m<sup>3</sup>/s), 28.18 in/yr (716 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 867 ft<sup>3</sup>/s (24.6 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 7.51 ft (2.289 m); no flow at times in water years 1966, 1969, 1974, 1980, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 170 ft<sup>3</sup>/s (4.8 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date                         | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------------------------------|------|-------------------------------------------------------|-------------------------|
| Feb. 26 | --   | *163 4.62                                             | a3.94 1.201             | No peak discharge above base |      |                                                       |                         |

a From peak-stage indicator.

No flow Oct. 1-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC    | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1           | .00   | 2.5     | 9.2    | 5.3   | 3.1   | 60    | 10    | 12    | 1.9   | .73   | .35   | .14   |
| 2           | .00   | 2.0     | 7.1    | 4.4   | 25    | 45    | 36    | 10    | 1.5   | .73   | .25   | .10   |
| 3           | .00   | 1.8     | 6.3    | 4.1   | 46    | 40    | 41    | 9.2   | 1.4   | .59   | .20   | .09   |
| 4           | .00   | 1.7     | 4.7    | 3.9   | 28    | 35    | 32    | 8.5   | 1.5   | .53   | .15   | .08   |
| 5           | .00   | 2.5     | 4.3    | 3.7   | 18    | 30    | 21    | 11    | 1.6   | .80   | .70   | .06   |
| 6           | .00   | 2.2     | 3.3    | 3.6   | 12    | 25    | 40    | 9.5   | 1.7   | .97   | .60   | .05   |
| 7           | .00   | 2.0     | 3.1    | 4.0   | 9.1   | 30    | 30    | 8.6   | 4.2   | 1.4   | .40   | .04   |
| 8           | .00   | 1.8     | 3.6    | 4.0   | 25    | 28    | 24    | 8.2   | 2.9   | 1.5   | .30   | .03   |
| 9           | .00   | 1.7     | 4.0    | 3.8   | 37    | 26    | 19    | 8.0   | 2.4   | 1.1   | .28   | .10   |
| 10          | .00   | 2.3     | 4.5    | 3.5   | 29    | 24    | 16    | 8.0   | 2.4   | .80   | .25   | .20   |
| 11          | .00   | 2.1     | 4.2    | 3.3   | 21    | 22    | 14    | 10    | 1.5   | .73   | .20   | .30   |
| 12          | .00   | 1.9     | 3.4    | 3.2   | 30    | 20    | 13    | 8.6   | .97   | .53   | .10   | .50   |
| 13          | .00   | 1.8     | 3.8    | 3.1   | 21    | 18    | 12    | 7.8   | .73   | .38   | .04   | .80   |
| 14          | .00   | 1.7     | 3.6    | 3.1   | 17    | 17    | 13    | 7.5   | .66   | .42   | .02   | 1.5   |
| 15          | .00   | 1.6     | 2.7    | 3.0   | 13    | 16    | 18    | 7.3   | .66   | .34   | .01   | 2.0   |
| 16          | .00   | 1.5     | 3.0    | 2.8   | 11    | 17    | 15    | 12    | .66   | .26   | .27   | 5.0   |
| 17          | .00   | 2.0     | 3.8    | 2.7   | 12    | 15    | 13    | 21    | .53   | .24   | .68   | 4.0   |
| 18          | .00   | 4.0     | 2.8    | 2.7   | 13    | 13    | 12    | 17    | .42   | .24   | .75   | 2.5   |
| 19          | .00   | 8.0     | 2.7    | 2.7   | 16    | 12    | 11    | 12    | .42   | .24   | .55   | 2.0   |
| 20          | .00   | 7.0     | 2.0    | 2.7   | 23    | 12    | 10    | 9.0   | 1.6   | .24   | .40   | 4.0   |
| 21          | .00   | 5.8     | 1.3    | 2.6   | 33    | 13    | 9.5   | 7.3   | 3.7   | .80   | .35   | 2.5   |
| 22          | .00   | 5.0     | 1.0    | 2.5   | 29    | 12    | 9.0   | 6.1   | 2.2   | .88   | .31   | 1.5   |
| 23          | .00   | 4.0     | 1.1    | 2.5   | 26    | 11    | 9.0   | 4.7   | 1.6   | .88   | .27   | 2.0   |
| 24          | .00   | 8.0     | 1.6    | 2.3   | 27    | 11    | 14    | 4.2   | .97   | .80   | .24   | 1.7   |
| 25          | 1.0   | 11      | 1.7    | 2.3   | 55    | 10    | 17    | 3.3   | 1.2   | .66   | .50   | 1.4   |
| 26          | 10    | 9.7     | 1.1    | 2.4   | 130   | 10    | 14    | 2.9   | 1.4   | .47   | .50   | 1.2   |
| 27          | 6.0   | 6.8     | .96    | 3.3   | 120   | 13    | 12    | 2.4   | 1.4   | .34   | .50   | 1.0   |
| 28          | 4.0   | 8.4     | 1.0    | 4.1   | 80    | 12    | 10    | 1.7   | 1.2   | .42   | .50   | 1.4   |
| 29          | 4.5   | 17      | 1.9    | 4.2   | ---   | 11    | 12    | 1.9   | 1.2   | .38   | .45   | 1.1   |
| 30          | 3.5   | 13      | 11     | 4.0   | ---   | 10    | 13    | 2.2   | .88   | .60   | .35   | .90   |
|             | 3.0   | ---     | 9.8    | 3.7   | ---   | 9.5   | ---   | 2.2   | ---   | .45   | .24   | ---   |
| TOTAL       | 32.00 | 140.8   | 114.56 | 103.5 | 909.2 | 627.5 | 519.5 | 244.1 | 45.40 | 19.45 | 10.71 | 38.19 |
| MEAN        | 1.03  | 4.69    | 3.70   | 3.34  | 32.5  | 20.2  | 17.3  | 7.87  | 1.51  | .63   | .35   | 1.27  |
| MAX         | 10    | 17      | 11     | 5.3   | 130   | 60    | 41    | 21    | 4.2   | 1.5   | .75   | 5.0   |
| MIN         | .00   | 1.5     | .96    | 2.3   | 3.1   | 9.5   | 9.0   | 1.7   | .42   | .24   | .01   | .03   |
| CFSM        | .10   | .44     | .35    | .32   | 3.07  | 1.91  | 1.63  | .74   | .14   | .06   | .03   | .12   |
| IN.         | .11   | .49     | .40    | .36   | 3.19  | 2.20  | 1.82  | .86   | .16   | .07   | .04   | .13   |
| CAL YR 1980 | TOTAL | 4929.15 | MEAN   | 13.5  | MAX   | 250   | MIN   | .00   | CFSM  | 1.27  | IN    | 17.30 |
| WTR YR 1981 | TOTAL | 2804.91 | MEAN   | 7.68  | MAX   | 130   | MIN   | .00   | CFSM  | .73   | IN    | 9.84  |

## 01110000 QUINSIGAMOND RIVER AT NORTH GRAFTON, MA

LOCATION.--Lat 42°13'49", long 71°42'41", Worcester County, Hydrologic Unit 01090003, on right bank 800 ft (250 m) downstream from dam at outlet of Hovey Pond at North Grafton and 0.3 mi (0.5 km) upstream from Bummett Brook.

DRAINAGE AREA.--25.5 mi<sup>2</sup> (66.0 km<sup>2</sup>).

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 335 ft (102 m), from topographic map. Prior to Dec. 7, 1939, staff gage at same site and datum.

REMARKS.--Records fair. Some regulation by Lake Quinsigamond 2.3 mi (3.7 km) upstream and by ponds upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 40.8 ft<sup>3</sup>/s (1.155 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 820 ft<sup>3</sup>/s (23.2 m<sup>3</sup>/s) Aug. 20, 1955, gage height, 5.15 ft (1.570 m); no flow Aug. 6-9, 22, 1966 (caused by unusual regulation), Sept. 13-17, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 211 ft<sup>3</sup>/s (5.98 m<sup>3</sup>/s) Feb. 27, gage height, 2.83 ft (0.863 m); minimum daily, 0.33 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT    | NOV   | DEC   | JAN   | FEB    | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------|--------|-------|-------|-------|--------|------|------|------|-------|-------|-------|-------|
| 1     | .08    | 12    | 48    | 10    | 6.7    | 157  | 22   | 34   | 25    | 10    | 25    | 2.0   |
| 2     | .03    | 11    | 42    | 10    | 22     | 127  | 43   | 34   | 21    | 10    | 23    | 2.0   |
| 3     | .06    | 13    | 43    | 10    | 44     | 108  | 44   | 32   | 21    | 9.7   | 20    | 2.2   |
| 4     | 13     | 11    | 31    | 9.7   | 37     | 87   | 41   | 30   | 21    | 10    | 17    | 2.2   |
| 5     | 14     | 9.5   | 28    | 9.3   | 31     | 74   | 39   | 28   | 20    | 30    | 16    | 1.9   |
| 6     | 12     | 11    | 25    | 8.5   | 25     | 69   | 49   | 28   | 20    | 45    | 15    | 1.7   |
| 7     | 9.8    | 11    | 22    | 9.3   | 21     | 64   | 46   | 28   | 21    | 40    | 13    | 1.7   |
| 8     | 8.3    | 14    | 21    | 9.5   | 24     | 60   | 40   | 23   | 17    | 35    | 17    | 1.6   |
| 9     | 7.5    | 14    | 21    | 8.3   | 26     | 56   | 38   | 22   | 18    | 29    | 16    | 5.2   |
| 10    | 6.3    | 10    | 21    | 8.3   | 22     | 53   | 38   | 21   | 19    | 24    | 14    | 4.5   |
| 11    | 11     | 7.5   | 21    | 8.1   | 25     | 50   | 35   | 20   | 17    | 20    | 11    | 4.1   |
| 12    | 19     | 7.1   | 18    | 7.7   | 46     | 47   | 32   | 29   | 15    | 17    | 8.5   | 4.3   |
| 13    | 16     | 6.6   | 18    | 7.8   | 39     | 44   | 30   | 41   | 14    | 15    | 7.0   | 5.7   |
| 14    | 13     | 6.9   | 18    | 7.3   | 33     | 46   | 30   | 37   | 13    | 24    | 5.0   | 6.5   |
| 15    | 10     | 7.4   | 16    | 7.1   | 28     | 39   | 41   | 37   | 13    | 21    | 6.0   | 13    |
| 16    | 8.7    | 14    | 16    | 7.0   | 24     | 34   | 35   | 59   | 12    | 18    | 8.0   | 16    |
| 17    | 7.8    | 14    | 16    | 7.9   | 23     | 37   | 32   | 60   | 10    | 15    | 6.5   | 17    |
| 18    | 8.3    | 14    | 14    | 7.8   | 21     | 29   | 34   | 53   | 9.7   | 14    | 5.0   | 15    |
| 19    | 16     | 13    | 14    | 7.3   | 20     | 28   | 32   | 46   | 8.6   | 24    | 4.2   | 20    |
| 20    | 15     | 13    | 13    | 7.1   | 26     | 28   | 28   | 41   | 9.7   | 26    | 3.5   | 20    |
| 21    | 12     | 13    | 12    | 6.9   | 62     | 27   | 28   | 36   | 16    | 37    | 3.0   | 17    |
| 22    | 11     | 13    | 12    | 6.9   | 71     | 28   | 24   | 33   | 16    | 46    | 2.7   | 15    |
| 23    | 9.6    | 13    | 11    | 7.0   | 64     | 27   | 23   | 31   | 23    | 41    | 2.5   | 39    |
| 24    | 7.4    | 15    | 11    | 6.9   | 92     | 26   | 30   | 28   | 20    | 35    | 3.0   | 40    |
| 25    | 12     | 35    | 12    | 6.8   | 143    | 23   | 37   | 25   | 18    | 29    | 3.2   | 35    |
| 26    | 44     | 30    | 11    | 6.4   | 178    | 23   | 37   | 23   | 20    | 25    | 2.9   | 30    |
| 27    | 38     | 24    | 10    | 6.6   | 203    | 24   | 34   | 21   | 17    | 24    | 2.5   | 25    |
| 28    | 22     | 31    | 9.9   | 6.6   | 186    | 25   | 32   | 20   | 14    | 21    | 2.2   | 23    |
| 29    | 19     | 58    | 9.6   | 7.0   | ---    | 23   | 32   | 23   | 13    | 26    | 2.0   | 21    |
| 30    | 17     | 56    | 11    | 7.2   | ---    | 22   | 36   | 28   | 11    | 32    | 1.9   | 17    |
| 31    | 15     | ---   | 11    | 7.0   | ---    | 25   | ---  | 27   | ---   | 29    | 1.9   | ---   |
| TOTAL | 402.87 | 508.0 | 586.5 | 243.3 | 1542.7 | 1510 | 1042 | 998  | 493.0 | 781.7 | 268.5 | 408.6 |
| MEAN  | 13.0   | 16.9  | 18.9  | 7.85  | 55.1   | 48.7 | 34.7 | 32.2 | 16.4  | 25.2  | 8.66  | 13.6  |
| MAX   | 44     | 58    | 48    | 10    | 203    | 157  | 49   | 60   | 25    | 46    | 25    | 40    |
| MIN   | .03    | 6.6   | 9.6   | 6.4   | 6.7    | 22   | 22   | 20   | 8.6   | 9.7   | 1.9   | 1.6   |

|             |       |          |      |      |     |     |     |     |
|-------------|-------|----------|------|------|-----|-----|-----|-----|
| CAL YR 1980 | TOTAL | 10389.15 | MEAN | 28.4 | MAX | 222 | MIN | .00 |
| WTR YR 1981 | TOTAL | 8785.17  | MEAN | 24.1 | MAX | 203 | MIN | .03 |

## BLACKSTONE RIVER BASIN

01111200 WEST RIVER BELOW WEST HILL DAM, NEAR UXBRIDGE, MA

LOCATION.--Lat 42°06'17", long 71°36'28", Worcester County, Hydrologic Unit 01090003, on right bank 250 ft (76 m) downstream from West Hill Dam, 2.2 mi (3.5 km) northeast of Uxbridge, and 3.5 mi (5.6 km) upstream from mouth.

DRAINAGE AREA.--27.9 mi<sup>2</sup> (72.3 km<sup>2</sup>).

PERIOD OF RECORD.--March 1962 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 234.35 ft (71.430 m) Corps of Engineers datum.

REMARKS.--Records good October to April, fair thereafter. Flow regulated by West Hill Reservoir, usable capacity, 542,000,000 ft<sup>3</sup> (15,350,000 m<sup>3</sup>). See table below for figures of monthend contents. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--19 years, 45.1 ft<sup>3</sup>/s (1.277 m<sup>3</sup>/s), 21.95 in/yr (558 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 435 ft<sup>3</sup>/s (12.3 m<sup>3</sup>/s) Feb. 1, 1979, gage height, 3.69 ft (1.125 m); maximum gage height, about 3.99 ft (1.216 m) Jan. 31, 1978, ice jam; no flow for part of Aug. 17, 1967, caused by unusual regulation; minimum daily discharge, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Sept. 12, 1963, Aug. 12, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 386 ft<sup>3</sup>/s (10.9 m<sup>3</sup>/s) Feb. 28, gage height, 3.50 ft (1.067 m); minimum, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) May 5; minimum daily, 2.0 ft<sup>3</sup>/s (0.057 m<sup>3</sup>/s) Sept. 1-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN   | FEB    | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |     |       |
|-------------|-------|---------|------|-------|--------|------|------|------|-------|-------|-------|-------|-----|-------|
| 1           | 3.1   | 11      | 70   | 13    | 7.9    | 330  | 33   | 64   | 35    | 13    | 11    | 2.0   |     |       |
| 2           | 3.0   | 11      | 61   | 12    | 18     | 268  | 43   | 58   | 32    | 9.5   | 9.5   | 2.0   |     |       |
| 3           | 2.9   | 10      | 49   | 12    | 45     | 142  | 60   | 53   | 27    | 13    | 7.9   | 2.0   |     |       |
| 4           | 5.9   | 9.2     | 39   | 12    | 57     | 98   | 65   | 50   | 27    | 13    | 7.0   | 2.0   |     |       |
| 5           | 9.1   | 9.6     | 29   | 11    | 45     | 96   | 64   | 48   | 25    | 22    | 5.9   | 2.0   |     |       |
| 6           | 7.6   | 11      | 27   | 11    | 27     | 95   | 62   | 49   | 22    | 43    | 4.5   | 2.0   |     |       |
| 7           | 5.8   | 11      | 24   | 10    | 19     | 90   | 64   | 47   | 23    | 52    | 5.2   | 2.0   |     |       |
| 8           | 4.7   | 10      | 22   | 9.5   | 19     | 87   | 65   | 44   | 24    | 49    | 6.4   | 2.0   |     |       |
| 9           | 4.2   | 9.9     | 24   | 9.6   | 28     | 84   | 59   | 41   | 22    | 34    | 6.2   | 2.4   |     |       |
| 10          | 4.1   | 11      | 25   | 9.4   | 23     | 79   | 52   | 40   | 23    | 24    | 5.9   | 2.7   |     |       |
| 11          | 4.6   | 14      | 26   | 8.8   | 22     | 73   | 45   | 39   | 22    | 18    | 5.9   | 2.7   |     |       |
| 12          | 13    | 13      | 23   | 8.2   | 49     | 66   | 41   | 50   | 19    | 14    | 4.5   | 2.7   |     |       |
| 13          | 13    | 12      | 22   | 7.6   | 61     | 59   | 36   | 79   | 18    | 12    | 4.5   | 3.4   |     |       |
| 14          | 9.5   | 11      | 22   | 7.0   | 56     | 55   | 36   | 82   | 16    | 15    | 4.5   | 4.5   |     |       |
| 15          | 8.0   | 10      | 19   | 7.0   | 40     | 50   | 47   | 71   | 15    | 18    | 4.0   | 7.6   |     |       |
| 16          | 7.0   | 9.4     | 19   | 7.0   | 30     | 48   | 50   | 77   | 15    | 16    | 3.8   | 11    |     |       |
| 17          | 6.0   | 8.9     | 19   | 7.1   | 29     | 45   | 48   | 100  | 13    | 14    | 3.8   | 13    |     |       |
| 18          | 5.6   | 10      | 16   | 7.3   | 29     | 42   | 44   | 140  | 12    | 12    | 3.8   | 11    |     |       |
| 19          | 5.8   | 14      | 16   | 7.6   | 29     | 39   | 43   | 111  | 11    | 12    | 4.0   | 9.5   |     |       |
| 20          | 6.1   | 14      | 16   | 7.9   | 32     | 38   | 39   | 86   | 11    | 11    | 4.9   | 8.5   |     |       |
| 21          | 6.2   | 14      | 15   | 7.9   | 32     | 36   | 36   | 71   | 14    | 15    | 3.6   | 7.6   |     |       |
| 22          | 5.6   | 13      | 13   | 7.9   | 77     | 36   | 35   | 60   | 17    | 18    | 3.3   | 6.4   |     |       |
| 23          | 5.3   | 13      | 13   | 7.9   | 136    | 36   | 34   | 56   | 24    | 20    | 2.9   | 13    |     |       |
| 24          | 5.1   | 14      | 13   | 7.9   | 89     | 36   | 44   | 48   | 22    | 19    | 2.7   | 25    |     |       |
| 25          | 7.0   | 28      | 14   | 7.3   | 162    | 35   | 62   | 43   | 18    | 16    | 2.9   | 19    |     |       |
| 26          | 24    | 40      | 13   | 7.0   | 231    | 34   | 76   | 38   | 19    | 14    | 2.9   | 13    |     |       |
| 27          | 29    | 40      | 11   | 8.2   | 318    | 34   | 81   | 34   | 20    | 12    | 2.9   | 9.9   |     |       |
| 28          | 19    | 41      | 11   | 8.8   | 367    | 36   | 77   | 32   | 19    | 12    | 2.9   | 8.8   |     |       |
| 29          | 16    | 53      | 11   | 8.5   | ---    | 36   | 67   | 31   | 16    | 12    | 2.9   | 7.9   |     |       |
| 30          | 15    | 68      | 13   | 8.5   | ---    | 34   | 64   | 40   | 15    | 11    | 2.6   | 7.0   |     |       |
| 31          | 13    | ---     | 14   | 8.5   | ---    | 34   | ---  | 40   | ---   | 12    | 2.6   | ---   |     |       |
| TOTAL       | 274.2 | 544.0   | 709  | 273.4 | 2077.9 | 2271 | 1572 | 1822 | 596   | 575.5 | 145.4 | 212.6 |     |       |
| MEAN        | 8.85  | 18.1    | 22.9 | 8.82  | 74.2   | 73.3 | 52.4 | 58.8 | 19.9  | 18.6  | 4.69  | 7.09  |     |       |
| MAX         | 29    | 68      | 70   | 13    | 367    | 330  | 81   | 140  | 35    | 52    | 11    | 25    |     |       |
| MIN         | 2.9   | 8.9     | 11   | 7.0   | 7.9    | 34   | 33   | 31   | 11    | 9.5   | 2.6   | 2.0   |     |       |
| (†)         | 1.5   | 10.4    | 1.7  | 1.3   | 47.5   | 3.7  | 5.8  | 2.6  | 1.3   | 1.5   | .7    | 0     |     |       |
| MEAN‡       | 9.11  | 21.6    | 19.6 | 8.67  | 93.3   | 56.9 | 53.2 | 57.6 | 19.4  | 18.6  | 4.39  | 6.82  |     |       |
| CFSM‡       | .33   | .77     | .70  | .31   | 3.34   | 2.04 | 1.91 | 2.06 | .70   | .67   | .16   | .24   |     |       |
| IN.‡        | .38   | .86     | .81  | .36   | 3.48   | 2.35 | 2.13 | 2.38 | .77   | .77   | .18   | .27   |     |       |
| CAL YR 1980 | TOTAL | 12078.7 | MEAN | 33.0  | MAX    | 356  | MIN  | 2.6  | MEAN‡ | 33.0  | CFSM‡ | 1.18  | IN‡ | 16.09 |
| WTR YR 1981 | TOTAL | 11073.0 | MEAN | 30.3  | MAX    | 367  | MIN  | 2.0  | MEAN‡ | 30.3  | CFSM‡ | 1.09  | IN‡ | 14.75 |

† Monthend contents, in millions of cubic feet, in West Hill Reservoir; records furnished by Corps of Engineers.

‡ Adjusted for change in contents in West Hill Reservoir.



## BLACKSTONE RIVER BASIN

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01111230 BLACKSTONE RIVER AT MILLVILLE, MA

LOCATION.--Lat 42°01'16", long 71°34'04", Worcester County, Hydrologic Unit 01090003, on left bank 400 ft (100 m) above railroad bridge, 0.8 mi (1.3 km) southeast of Millville, and 1.4 mi (2.3 km) upstream from Branch River.

DRAINAGE AREA.--277 mi<sup>2</sup> (717 km<sup>2</sup>).

PERIOD OF RECORD.--Water years 1969 to current year.

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1969 to December 1980 (discontinued).

pH: July 1969 to December 1980 (discontinued).

WATER TEMPERATURES: July 1969 to December 1980 (discontinued).

DISSOLVED OXYGEN: July 1969 to December 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor July 1969 to December 1980.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. No daily record during winter periods in water years 1973, 1977-1980.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,000 micromhos May 30, June 3, 5, 1975; minimum recorded, 49 micromhos June 30, 1973.

pH: Maximum recorded, 9.3 units Sept. 10, 1976; minimum recorded, 4.3 units Sept. 6, 1973.

WATER TEMPERATURES: Maximum recorded, 29.0°C July 29, 1970, July 21, 1977, July 23, 1978; minimum recorded, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum recorded, 14.9 mg/L Feb. 25, 1971; minimum recorded, 0.0 mg/L July 12, 15-20, 26-30, Aug. 2, 3, 1971.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 408 micromhos Nov. 21; minimum recorded, 160 micromhos Nov. 29.

pH: Maximum recorded, 6.7 units Nov. 20; minimum recorded, 5.8 units on several days in October.

WATER TEMPERATURES: Maximum recorded, 17.5°C Oct. 2, 3; minimum recorded, 0.5°C Dec. 5, 6.

DISSOLVED OXYGEN: Maximum recorded, 12.7 mg/L Dec. 5; minimum recorded, 4.4 mg/L Oct. 19.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE  | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS) | PH<br>(UNITS) | TEMPER-<br>ATURE<br>(DEG C) | TUR-<br>BID-<br>ITY<br>(NTU) | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L) | OXYGEN,<br>DIS-<br>SOLVED<br>(PER-<br>CENT<br>SATUR-<br>ATION) | OXYGEN<br>DEMAND,<br>CHEM-<br>ICAL<br>(HIGH<br>LEVEL)<br>(MG/L) | C.O.D.<br>TOTAL<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(MG/KG) | COLI-<br>FORM,<br>TOTAL,<br>IMMED.<br>(COLS.<br>PER<br>100 ML) |
|-------|------|-------------------------------------------------|---------------------------------------------------|---------------|-----------------------------|------------------------------|----------------------------------------------|-------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------|
| OCT   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 15... | 0945 | E180                                            | 240                                               | 6.0           | 9.4                         | .40                          | --                                           | 8.9                                 | 78                                                             | --                                                              | --                                                          | 812                                                            |
| NOV   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 18... | 0845 | 250                                             | 320                                               | 6.5           | 2.5                         | .40                          | --                                           | 10.5                                | 78                                                             | --                                                              | --                                                          | 15000                                                          |
| DEC   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 18... | 1000 | E230                                            | 320                                               | 7.1           | .5                          | .40                          | 8                                            | 12.7                                | 88                                                             | 19                                                              | --                                                          | 2200                                                           |
| JAN   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 20... | 0900 | 840                                             | 360                                               | 6.9           | 1.0                         | 4.0                          | --                                           | 11.0                                | 79                                                             | --                                                              | --                                                          | 15000                                                          |
| FEB   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 17... | 1020 | 955                                             | 265                                               | 6.8           | 4.5                         | 2.5                          | --                                           | 11.2                                | 89                                                             | --                                                              | --                                                          | 2000                                                           |
| MAR   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 10... | 0900 | 835                                             | 198                                               | 6.4           | 4.5                         | 1.0                          | 10                                           | 12.1                                | 93                                                             | 32                                                              | 4600                                                        | 6400                                                           |
| APR   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 07... | 0945 | 540                                             | 168                                               | 6.8           | 9.0                         | 3.0                          | --                                           | 10.2                                | 90                                                             | --                                                              | --                                                          | 2500                                                           |
| MAY   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 12... | 0900 | 195                                             | 254                                               | 6.1           | 16.5                        | 1.8                          | --                                           | 7.2                                 | 76                                                             | --                                                              | --                                                          | 4100                                                           |
| JUN   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 10... | 0945 | 512                                             | 270                                               | 6.8           | 20.0                        | 3.3                          | 17                                           | 2.7                                 | 30                                                             | 17                                                              | 22000                                                       | 36000                                                          |
| JUL   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 07... | 0930 | 1420                                            | 217                                               | 6.2           | 24.0                        | 6.7                          | --                                           | 5.6                                 | 67                                                             | --                                                              | --                                                          | 14000                                                          |
| AUG   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 18... | 0930 | E130                                            | 340                                               | 6.5           | 20.0                        | 2.0                          | --                                           | 5.5                                 | 62                                                             | --                                                              | --                                                          | 6100                                                           |
| SEP   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                |                                                                 |                                                             |                                                                |
| 01... | 1000 | 275                                             | 369                                               | 5.6           | 20.5                        | 1.3                          | 5                                            | 5.4                                 | 59                                                             | 110                                                             | 17000                                                       | 1500                                                           |

E, ESTIMATED.

## BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) | STREP-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) | HARD-NESS (MG/L AS CAC03) | HARD-NESS, NONCARBONATE (MG/L AS CAC03) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNESIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) | PERCENT SODIUM | SODIUM AD-SORPTION RATIO | POTASSIUM, DIS-SOLVED (MG/L AS K) | ALKALINITY LAB (MG/L AS CAC03) | SULFATE DIS-SOLVED (MG/L AS S04) |
|-----------|--------------------------------------------|---------------------------------------------------|---------------------------|-----------------------------------------|---------------------------------|------------------------------------|---------------------------------|----------------|--------------------------|-----------------------------------|--------------------------------|----------------------------------|
| OCT 15... | 225                                        | 22                                                | --                        | --                                      | --                              | --                                 | --                              | --             | --                       | --                                | --                             | --                               |
| NOV 18... | 620                                        | 92                                                | 47                        | 16                                      | 15                              | 2.3                                | 34                              | 58             | 2.2                      | 5.1                               | 31                             | 26                               |
| DEC 18... | 680                                        | 190                                               | 44                        | 25                                      | 14                              | 2.2                                | 34                              | 60             | 2.2                      | 3.8                               | 19                             | 26                               |
| JAN 20... | 2000                                       | 2100                                              | 53                        | 14                                      | 17                              | 2.5                                | 39                              | 59             | 2.3                      | 5.2                               | 39                             | 30                               |
| FEB 17... | 690                                        | 240                                               | --                        | --                                      | --                              | --                                 | --                              | --             | --                       | --                                | --                             | --                               |
| MAR 10... | 1300                                       | 320                                               | 35                        | --                                      | 11                              | 1.9                                | 22                              | 56             | 1.6                      | 2.3                               | 20                             | 16                               |
| APR 07... | 270                                        | 65                                                | --                        | --                                      | --                              | --                                 | --                              | --             | --                       | --                                | --                             | --                               |
| MAY 12... | 1200                                       | 1400                                              | 38                        | --                                      | 12                              | 1.9                                | 26                              | 58             | 1.8                      | 2.9                               | 25                             | 19                               |
| JUN 10... | 310                                        | 8500                                              | 49                        | --                                      | 16                              | 2.3                                | 34                              | 58             | 2.1                      | 3.6                               | 26                             | 18                               |
| JUL 07... | 280                                        | 1200                                              | 31                        | --                                      | 9.8                             | 1.5                                | 19                              | 55             | 1.5                      | 2.6                               | 17                             | 12                               |
| AUG 18... | 1100                                       | 380                                               | --                        | --                                      | --                              | --                                 | --                              | --             | --                       | --                                | --                             | --                               |
| SEP 01... | 120                                        | 1000                                              | 55                        | --                                      | 18                              | 2.5                                | 37                              | 57             | 2.2                      | 4.6                               | 16                             | 33                               |

| DATE      | CHLORIDE, DIS-SOLVED (MG/L AS CL) | FLUORIDE, TOTAL (MG/L AS F) | FLUORIDE, DIS-SOLVED (MG/L AS F) | SILICA, DIS-SOLVED (MG/L AS SIO2) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) | SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) | NITROGEN, NITRATE TOTAL (MG/L AS N) | NITROGEN, NITRITE TOTAL (MG/L AS N) |
|-----------|-----------------------------------|-----------------------------|----------------------------------|-----------------------------------|-------------------------------------------------|------------------------------------------------|-------------------------------------|-----------------------------------|--------------------------------------------------|---------------------------------------------|-------------------------------------|-------------------------------------|
| OCT 15... | --                                | --                          | --                               | --                                | --                                              | --                                             | --                                  | --                                | --                                               | --                                          | 1.7                                 | .070                                |
| NOV 18... | 51                                | --                          | .3                               | 6.7                               | 185                                             | 166                                            | .25                                 | 125                               | --                                               | --                                          | 1.4                                 | .070                                |
| DEC 18... | 49                                | .3                          | --                               | --                                | --                                              | --                                             | --                                  | --                                | 7                                                | 178                                         | .67                                 | .020                                |
| JAN 20... | 61                                | --                          | .4                               | 8.7                               | 199                                             | 190                                            | .27                                 | 451                               | --                                               | --                                          | .63                                 | .030                                |
| FEB 17... | --                                | --                          | --                               | --                                | --                                              | --                                             | --                                  | --                                | --                                               | --                                          | .55                                 | .030                                |
| MAR 10... | 36                                | .1                          | .1                               | 6.6                               | 117                                             | 111                                            | .16                                 | 264                               | 10                                               | 148                                         | --                                  | --                                  |
| APR 07... | --                                | --                          | --                               | --                                | --                                              | --                                             | --                                  | --                                | --                                               | --                                          | .48                                 | .030                                |
| MAY 12... | 41                                | --                          | .2                               | 3.8                               | 137                                             | 128                                            | .19                                 | 72.1                              | --                                               | --                                          | 1.5                                 | .110                                |
| JUN 10... | 46                                | .3                          | --                               | --                                | --                                              | --                                             | --                                  | --                                | 20                                               | 180                                         | 1.4                                 | .090                                |
| JUL 07... | 31                                | --                          | .1                               | 4.3                               | 111                                             | 95                                             | .15                                 | 426                               | --                                               | --                                          | .93                                 | .050                                |
| AUG 18... | --                                | --                          | --                               | --                                | --                                              | --                                             | --                                  | --                                | --                                               | --                                          | 3.8                                 | .040                                |
| SEP 01... | 58                                | .4                          | .4                               | 5.1                               | 198                                             | 179                                            | .27                                 | 147                               | 10                                               | 233                                         | --                                  | <.010                               |

## 01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | NITRO-<br>GEN,<br>NO2+NO3<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>ORGANIC<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,AM-<br>MONIA +<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,NH4<br>+ ORG.<br>SUSP.<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,AM-<br>MONIA +<br>ORGANIC<br>DIS.<br>(MG/L<br>AS N) | NITRO-<br>GEN<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) |
|-----------|------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------|---------------------------------------------|
| OCT 15... | 1.8                                                  | --                                                            | .310                                                 | --                                                            | .45                                                  | --                                                            | .76                                                                | --                                                              | --                                                                | --                                                | 2.6                                       | .290                                        |
| NOV 18... | 1.5                                                  | 1.5                                                           | 3.40                                                 | 3.30                                                          | .00                                                  | .20                                                           | 3.20                                                               | .00                                                             | 3.5                                                               | 5.0                                               | 4.7                                       | .640                                        |
| DEC 18... | .69                                                  | --                                                            | 3.70                                                 | --                                                            | .00                                                  | --                                                            | 2.90                                                               | --                                                              | --                                                                | --                                                | 3.6                                       | .370                                        |
| JAN 20... | .66                                                  | .68                                                           | 4.10                                                 | 1.50                                                          | .70                                                  | 2.2                                                           | 4.80                                                               | 1.1                                                             | 3.7                                                               | 4.4                                               | 5.5                                       | .730                                        |
| FEB 17... | .58                                                  | --                                                            | 1.80                                                 | --                                                            | .40                                                  | --                                                            | 2.20                                                               | --                                                              | --                                                                | --                                                | 2.8                                       | .390                                        |
| MAR 10... | .57                                                  | .65                                                           | .750                                                 | .780                                                          | .16                                                  | .00                                                           | .91                                                                | .34                                                             | .57                                                               | 1.2                                               | 1.5                                       | .190                                        |
| APR 07... | .51                                                  | --                                                            | .640                                                 | --                                                            | .07                                                  | --                                                            | .71                                                                | --                                                              | --                                                                | --                                                | 1.2                                       | .230                                        |
| MAY 12... | 1.6                                                  | 1.5                                                           | .530                                                 | .510                                                          | .77                                                  | .32                                                           | 1.30                                                               | .47                                                             | .83                                                               | 2.3                                               | 2.9                                       | .210                                        |
| JUN 10... | 1.5                                                  | --                                                            | .220                                                 | --                                                            | 1.3                                                  | --                                                            | 1.50                                                               | --                                                              | --                                                                | --                                                | 3.0                                       | .240                                        |
| JUL 07... | .98                                                  | .95                                                           | .070                                                 | .080                                                          | .56                                                  | .54                                                           | .63                                                                | .01                                                             | .62                                                               | 1.6                                               | 1.6                                       | .360                                        |
| AUG 18... | 3.8                                                  | --                                                            | .060                                                 | --                                                            | 1.0                                                  | --                                                            | 1.10                                                               | --                                                              | --                                                                | --                                                | 4.9                                       | .320                                        |
| SEP 01... | 4.5                                                  | 2.3                                                           | .030                                                 | .020                                                          | .56                                                  | .36                                                           | .59                                                                | .21                                                             | .38                                                               | 2.7                                               | 5.1                                       | .310                                        |

| DATE      | PHOS-<br>PHATE,<br>TOTAL<br>(MG/L<br>AS P04) | PHOS-<br>PHORUS,<br>DIS-<br>SOLVED<br>(MG/L<br>AS P) | PHOS-<br>PHORUS,<br>ORTHOD,<br>TOTAL<br>(MG/L<br>AS P) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C) | CARBON,<br>ORGANIC<br>DIS-<br>SOLVED<br>(MG/L<br>AS C) | CARBON,<br>ORGANIC<br>SUS-<br>PENDEED<br>TOTAL<br>(MG/L<br>AS C) | PHENOLS<br>(UG/L) | METHY-<br>LENE<br>BLUE<br>ACTIVE<br>SUB-<br>STANCE<br>(MG/L) | OIL AND<br>GREASE,<br>TOTAL<br>RECOV.<br>GRAVI-<br>METRIC<br>(MG/L) | SEDI-<br>MENT,<br>SUS-<br>PENDEED<br>(MG/L) | SEDI-<br>MENT,<br>DIS-<br>CHARGE,<br>SUS-<br>PENDEED<br>(T/DAY) | SED.<br>SUSP.<br>SIEVE<br>DIAM.<br>% FINER<br>THAN<br>.062 MM |
|-----------|----------------------------------------------|------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------|-------------------|--------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|
| OCT 15... | .61                                          | --                                                   | .200                                                   | --                                            | --                                                     | --                                                               | --                | --                                                           | --                                                                  | --                                          | --                                                              | --                                                            |
| NOV 18... | 1.50                                         | .530                                                 | .500                                                   | --                                            | 3.2                                                    | .7                                                               | --                | --                                                           | --                                                                  | 9                                           | 6.1                                                             | 100                                                           |
| DEC 18... | .80                                          | --                                                   | .260                                                   | 8.2                                           | --                                                     | --                                                               | 2                 | .40                                                          | 1                                                                   | --                                          | --                                                              | --                                                            |
| JAN 20... | 1.00                                         | .430                                                 | .330                                                   | 10                                            | --                                                     | --                                                               | --                | --                                                           | --                                                                  | 13                                          | 29                                                              | 86                                                            |
| FEB 17... | --                                           | --                                                   | .250                                                   | --                                            | --                                                     | --                                                               | --                | --                                                           | --                                                                  | --                                          | --                                                              | --                                                            |
| MAR 10... | --                                           | .150                                                 | --                                                     | 5.1                                           | 19                                                     | .5                                                               | 0                 | .10                                                          | 1                                                                   | 8                                           | 18                                                              | 90                                                            |
| APR 07... | --                                           | --                                                   | .140                                                   | --                                            | --                                                     | --                                                               | --                | --                                                           | --                                                                  | --                                          | --                                                              | --                                                            |
| MAY 12... | --                                           | .080                                                 | .120                                                   | 7.7                                           | --                                                     | --                                                               | --                | --                                                           | --                                                                  | 10                                          | 5.3                                                             | 96                                                            |
| JUN 10... | --                                           | --                                                   | .100                                                   | 8.1                                           | --                                                     | --                                                               | 0                 | .10                                                          | 1                                                                   | --                                          | --                                                              | --                                                            |
| JUL 07... | --                                           | .240                                                 | .170                                                   | --                                            | 5.9                                                    | .9                                                               | --                | --                                                           | --                                                                  | 23                                          | 88                                                              | 94                                                            |
| AUG 18... | --                                           | --                                                   | <.010                                                  | --                                            | --                                                     | --                                                               | --                | --                                                           | --                                                                  | --                                          | --                                                              | --                                                            |
| SEP 01... | --                                           | .110                                                 | .230                                                   | 5.5                                           | 4.7                                                    | .5                                                               | --                | .10                                                          | <1                                                                  | 3                                           | 2.2                                                             | 86                                                            |

## BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | ARSENIC<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>SUS-<br>PENDE<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>DIS-<br>SOLVED<br>(UG/L<br>AS AS) | ARSENIC<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AS) | BARIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS BA) | BORON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS B) | CADMIUM<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>DIS-<br>SOLVED<br>(UG/L<br>AS CD) | CADMIUM<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CD) |
|--------------|-------------------------------------|------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|
| NOV<br>18... | 3                                   | 1                                                    | 2                                            | --                                                                  | 100                                                     | 70                                                              | 30                                           | --                                                                 | 9                                                       | 1                                                               | 8                                            | --                                                                   |
| MAR<br>10... | 1                                   | 0                                                    | 1                                            | 0                                                                   | 100                                                     | 0                                                               | 100                                          | 0                                                                  | 2                                                       | 1                                                               | 1                                            | 4                                                                    |
| JUL<br>07... | 3                                   | 0                                                    | 6                                            | --                                                                  | 100                                                     | 70                                                              | 30                                           | --                                                                 | 4                                                       | --                                                              | <1                                           | --                                                                   |
| SEP<br>01... | 4                                   | 4                                                    | 0                                            | 2                                                                   | 100                                                     | 0                                                               | 100                                          | <10                                                                | 5                                                       | 3                                                               | 2                                            | 39                                                                   |

| DATE         | CHRO-<br>MIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>SUS-<br>PENDE<br>RECOV.<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | COBALT,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CO) | COBALT,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CO) | COPPER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CU) |
|--------------|----------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|
| NOV<br>18... | 10                                                             | 0                                                            | 10                                                  | --                                                                 | 0                                                       | 0                                                               | 1                                            | --                                                                   | 26                                                      | 6                                                               | 20                                           |
| MAR<br>10... | 10                                                             | --                                                           | <10                                                 | 20                                                                 | 0                                                       | 0                                                               | 0                                            | <1                                                                   | 15                                                      | 7                                                               | 8                                            |
| JUL<br>07... | 30                                                             | 20                                                           | 10                                                  | --                                                                 | 1                                                       | 1                                                               | 0                                            | --                                                                   | 30                                                      | 22                                                              | 8                                            |
| SEP<br>01... | 20                                                             | 10                                                           | 10                                                  | 260                                                                | 1                                                       | 0                                                               | 1                                            | <10                                                                  | 15                                                      | 4                                                               | 11                                           |

| DATE         | COPPER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CU) | IRON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>DIS-<br>SOLVED<br>(UG/L<br>AS FE) | IRON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS FE) | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>DIS-<br>SOLVED<br>(UG/L<br>AS PB) | LEAD,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS PB) | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>SUS-<br>PENDE<br>RECOV.<br>(UG/L<br>AS MN) |
|--------------|----------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|
| NOV<br>18... | --                                                                   | 740                                                   | 610                                                           | 130                                        | --                                                                 | 6                                                     | 4                                                             | 2                                          | --                                                                 | 160                                                             | 0                                                             |
| MAR<br>10... | 21                                                                   | 640                                                   | 380                                                           | 260                                        | 3200                                                               | 18                                                    | 15                                                            | 3                                          | 38                                                                 | 120                                                             | 10                                                            |
| JUL<br>07... | --                                                                   | 1900                                                  | 1500                                                          | 360                                        | --                                                                 | 28                                                    | 23                                                            | 5                                          | --                                                                 | 130                                                             | 50                                                            |
| SEP<br>01... | 280                                                                  | 560                                                   | 450                                                           | 110                                        | 13000                                                              | 29                                                    | --                                                            | <1                                         | 230                                                                | 50                                                              | 10                                                            |

| DATE         | MANGA-<br>NESE,<br>DIS-<br>SOLVED<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | MERCURY<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>DIS-<br>SOLVED<br>(UG/L<br>AS HG) | MERCURY<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS HG) | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>DIS-<br>SOLVED<br>(UG/L<br>AS NI) | NICKEL,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS NI) | SELE-<br>NIUM,<br>TOTAL<br>(UG/L<br>AS SE) |
|--------------|------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|--------------------------------------------|
| NOV<br>18... | 160                                                  | --                                                                  | .1                                                      | .0                                                              | .1                                           | --                                                                   | 71                                                      | 51                                                              | 20                                           | --                                                                   | 0                                          |
| MAR<br>10... | 110                                                  | 40                                                                  | <.1                                                     | --                                                              | <.1                                          | .00                                                                  | 18                                                      | 0                                                               | 55                                           | <1                                                                   | 0                                          |
| JUL<br>07... | 80                                                   | --                                                                  | .1                                                      | --                                                              | <.1                                          | --                                                                   | 30                                                      | 1                                                               | 29                                           | --                                                                   | 1                                          |
| SEP<br>01... | 40                                                   | 500                                                                 | <.1                                                     | --                                                              | .2                                           | <.01                                                                 | 48                                                      | 8                                                               | 40                                           | 80                                                                   | <1                                         |

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | SELE-<br>NIUM,<br>SUS-<br>PENDE<br>TOTAL<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | SILVER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS AG) | SILVER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AG) | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>DIS-<br>SOLVED<br>(UG/L<br>AS ZN) | ZINC,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS ZN) |
|--------------|-------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|
| NOV<br>18... | 0                                                           | 0                                                   | --                                                                | 0                                                       | 0                                                               | 0                                            | --                                                                   | 150                                                   | 0                                                             | 190                                        | --                                                                 |
| MAR<br>10... | 0                                                           | 0                                                   | 0                                                                 | 1                                                       | 1                                                               | 0                                            | 0                                                                    | 110                                                   | 20                                                            | 90                                         | 40                                                                 |
| JUL<br>07... | 0                                                           | 1                                                   | --                                                                | 0                                                       | 0                                                               | 0                                            | --                                                                   | 110                                                   | 70                                                            | 40                                         | --                                                                 |
| SEP<br>01... | --                                                          | <1                                                  | 1                                                                 | <1                                                      | --                                                              | <1                                           | --                                                                   | 90                                                    | 0                                                             | 90                                         | 520                                                                |

| DATE         | PCB,<br>TOTAL<br>(UG/L) | PCB,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | PCN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | NAPH-<br>THA-<br>LENES,<br>POLY-<br>CHLOR.<br>TOTAL<br>(UG/L) | ALDRIN,<br>TOTAL<br>(UG/L) | ALDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | CHLOR-<br>DANE,<br>TOTAL<br>(UG/L) | CHLOR-<br>DANE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DDD,<br>TOTAL<br>(UG/L) | DDD,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DDE,<br>TOTAL<br>(UG/L) | DDE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) |
|--------------|-------------------------|----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|----------------------------|-------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------|-------------------------|----------------------------------------------------------|-------------------------|----------------------------------------------------------|
| SEP<br>01... | <.10                    | 410                                                      | <1.0                                                     | <.10                                                          | <.01                       | <.1                                                         | <.10                               | 55                                                                  | <.01                    | 27                                                       | <.01                    | <.1                                                      |

| DATE         | DDT,<br>TOTAL<br>(UG/L) | DDT,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DI-<br>ELDRIN<br>TOTAL<br>(UG/L) | DI-<br>ELDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | ENDO-<br>SULFAN,<br>TOTAL<br>(UG/L) | ENDO-<br>SULFAN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | ENDRIN,<br>TOTAL<br>(UG/L) | ENDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | HEPTA-<br>CHLOR,<br>TOTAL<br>(UG/L) | HEPTA-<br>CHLOR,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | HEPTA-<br>CHLOR<br>EPOXIDE<br>TOTAL<br>(UG/L) |
|--------------|-------------------------|----------------------------------------------------------|----------------------------------|--------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------|----------------------------|-------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------|-----------------------------------------------|
| SEP<br>01... | <.01                    | 4.0                                                      | .01                              | 21                                                                 | <.01                                | <.1                                                                  | <.01                       | <.1                                                         | <.01                                | <.1                                                                  | <.01                                          |

| DATE         | HEPTA-<br>CHLOR<br>EPOXIDE<br>TOT. IN<br>BOTTOM<br>MATL.<br>(UG/KG) | LINDANE<br>TOTAL<br>(UG/L) | LINDANE<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | METH-<br>OXY-<br>CHLOR,<br>TOTAL<br>(UG/L) | METH-<br>OXY-<br>CHLOR,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | MIREX,<br>TOTAL<br>(UG/L) | MIREX,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | PER-<br>THANE<br>TOTAL<br>(UG/L) | PER-<br>THANE<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | TOX-<br>APHENE,<br>TOTAL<br>(UG/L) | TOXA-<br>PHENE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) |
|--------------|---------------------------------------------------------------------|----------------------------|-------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------------|---------------------------|------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------|
| SEP<br>01... | <.1                                                                 | <.01                       | <.1                                                         | <.01                                       | <.1                                                                         | <.01                      | <.1                                                        | <.01                             | <.10                                                              | <.10                               | <1.0                                                                |



## BLACKSTONE RIVER BASIN

0111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, NOVEMBER 1980 TO SEPTEMBER 1981

| PHYTOPLANKTON                 |           |      |           |      |           |      |          |      |          |      |  |
|-------------------------------|-----------|------|-----------|------|-----------|------|----------|------|----------|------|--|
| DATE                          | NOV 18,80 |      | MAR 10,81 |      | MAY 12,81 |      | JUL 7,81 |      | SEP 1,81 |      |  |
| TIME                          | 0845      |      | 0900      |      | 0900      |      | 0930     |      | 1000     |      |  |
| TOTAL CELLS/ML                | 190       |      | 570       |      | 1100      |      | 2500     |      | 2800     |      |  |
| DIVERSITY: DIVISION           | 0.9       |      | 1.2       |      | 1.8       |      | 1.5      |      | 1.5      |      |  |
| ..CLASS                       | 0.9       |      | 1.2       |      | 1.8       |      | 1.5      |      | 1.5      |      |  |
| ..ORDER                       | 2.6       |      | 1.7       |      | 3.0       |      | 2.4      |      | 2.1      |      |  |
| ...FAMILY                     | 2.6       |      | 1.7       |      | 3.3       |      | 2.7      |      | 2.3      |      |  |
| ....GENUS                     | 2.6       |      | 1.8       |      | 3.6       |      | 2.8      |      | 2.8      |      |  |
| ORGANISM                      | CELLS     | PER- | CELLS     | PER- | CELLS     | PER- | CELLS    | PER- | CELLS    | PER- |  |
|                               | /ML       | CENT | /ML       | CENT | /ML       | CENT | /ML      | CENT | /ML      | CENT |  |
| BACILLARIOPHYTA (DIATOMS)     |           |      |           |      |           |      |          |      |          |      |  |
| ..BACILLARIOPHYCEAE           |           |      |           |      |           |      |          |      |          |      |  |
| ...ACHNANTHALES               |           |      |           |      |           |      |          |      |          |      |  |
| ...ACHNANTHACEAE              |           |      |           |      |           |      |          |      |          |      |  |
| ....ACHNANTHES                | 13        | 7    | --        | -    | --        | -    | --       | -    | 36       | 1    |  |
| ..BACILLARIALES               |           |      |           |      |           |      |          |      |          |      |  |
| ...NITZSCHIAEAE               |           |      |           |      |           |      |          |      |          |      |  |
| ...NITZSCHIA                  | 13        | 7    | 26        | 5    | 170#      | 15   | 90       | 4    | 110      | 4    |  |
| ..EUPODISCALES                |           |      |           |      |           |      |          |      |          |      |  |
| ...COSCINODISCAEAE            |           |      |           |      |           |      |          |      |          |      |  |
| ....CYCLOTELLA                | 52#       | 27   | 52        | 9    | 39        | 4    | 39       | 2    | 130      | 5    |  |
| ....MELOSIRA                  | --        | -    | --        | -    | 26        | 2    | 90       | 4    | --       | -    |  |
| ..FRAGILARIALES               |           |      |           |      |           |      |          |      |          |      |  |
| ...FRAGILARIAEAE              |           |      |           |      |           |      |          |      |          |      |  |
| ....ASTERIONELLA              | 52#       | 27   | 52        | 9    | --        | -    | --       | -    | --       | -    |  |
| ....FRAGILARIA                | --        | -    | --        | -    | 26        | 2    | 13       | 1    | --       | -    |  |
| ....SYNEDRA                   | --        | -    | 13        | 2    | 77        | 7    | 26       | 1    | --       | -    |  |
| ..NAVICULALES                 |           |      |           |      |           |      |          |      |          |      |  |
| ...GOMPHONEMACEAE             |           |      |           |      |           |      |          |      |          |      |  |
| ....GOMPHONEMA                | --        | -    | 13        | 2    | 65        | 6    | 26       | 1    | --       | -    |  |
| ...NAVICULACEAE               |           |      |           |      |           |      |          |      |          |      |  |
| ....NAVICULA                  | 26        | 13   | --        | -    | 52        | 5    | 26       | 1    | 500#     | 18   |  |
| ....PINNULARIA                | --        | -    | --        | -    | 13        | 1    | --       | -    | --       | -    |  |
| CHLOROPHYTA (GREEN ALGAE)     |           |      |           |      |           |      |          |      |          |      |  |
| ..CHLOROPHYCEAE               |           |      |           |      |           |      |          |      |          |      |  |
| ...CHLOROCOCCALES             |           |      |           |      |           |      |          |      |          |      |  |
| ...CHLOROCOCCACEAE            |           |      |           |      |           |      |          |      |          |      |  |
| ....SCHROEDERIA               | --        | -    | --        | -    | --        | -    | --       | -    | 18       | 1    |  |
| ...HYDRODICTYACEAE            |           |      |           |      |           |      |          |      |          |      |  |
| ....PEDIASTRUM                | --        | -    | --        | -    | --        | -    | 100      | 4    | --       | -    |  |
| ...MICRACTINIACEAE            |           |      |           |      |           |      |          |      |          |      |  |
| ....MICRACTINIUM              | --        | -    | --        | -    | 150       | 14   | --       | -    | 110      | 4    |  |
| ...OOCYSTACEAE                |           |      |           |      |           |      |          |      |          |      |  |
| ....ANKISTRODESMUS            | --        | -    | --        | -    | --        | -    | 26       | 1    | --       | -    |  |
| ....SELENASTRUM               | --        | -    | --        | -    | --        | -    | 13       | 1    | --       | -    |  |
| ...SCENEDESMACEAE             |           |      |           |      |           |      |          |      |          |      |  |
| ....GLOEOACTINIUM             | --        | -    | --        | -    | --        | -    | --       | -    | 180      | 6    |  |
| ....SCENEDESMUS               | 26        | 13   | --        | -    | 52        | 5    | 800#     | 33   | 940#     | 34   |  |
| ....TETRASTRUM                | --        | -    | --        | -    | 52        | 5    | --       | -    | --       | -    |  |
| ..VOLVOCALES                  |           |      |           |      |           |      |          |      |          |      |  |
| ...CHLAMYDOMONADACEAE         |           |      |           |      |           |      |          |      |          |      |  |
| ....CHLAMYDOMONAS             | --        | -    | 26        | 5    | 90        | 8    | 13       | 1    | 110      | 4    |  |
| ..ZYGNEATALES                 |           |      |           |      |           |      |          |      |          |      |  |
| ...DESMIDIACEAE               |           |      |           |      |           |      |          |      |          |      |  |
| ....CLOSTERIUM                | --        | -    | --        | -    | 13        | 1    | --       | -    | --       | -    |  |
| CRYPTOPHYTA (CRYPTOMONADS)    |           |      |           |      |           |      |          |      |          |      |  |
| ..CRYPTOPHYCEAE               |           |      |           |      |           |      |          |      |          |      |  |
| ...CRYPTOMONADALES            |           |      |           |      |           |      |          |      |          |      |  |
| ...CRYPTOMONADACEAE           |           |      |           |      |           |      |          |      |          |      |  |
| ....CRYPTOMONAS               | --        | -    | --        | -    | 13        | 1    | --       | -    | --       | -    |  |
| CYANOPHYTA (BLUE-GREEN ALGAE) |           |      |           |      |           |      |          |      |          |      |  |
| ..CYANOPHYCEAE                |           |      |           |      |           |      |          |      |          |      |  |
| ...CHROOCOCCALES              |           |      |           |      |           |      |          |      |          |      |  |
| ...CHROOCOCCACEAE             |           |      |           |      |           |      |          |      |          |      |  |
| ....AGMENELLUM                | --        | -    | --        | -    | --        | -    | 210      | 8    | --       | -    |  |
| ....ANACYSTIS                 | 13        | 7    | --        | -    | 170#      | 15   | --       | -    | --       | -    |  |
| ..NOSTOCALES                  |           |      |           |      |           |      |          |      |          |      |  |
| ...NOSTOCACEAE                |           |      |           |      |           |      |          |      |          |      |  |
| ....ANABAENA                  | --        | -    | --        | -    | --        | -    | 610#     | 25   | --       | -    |  |
| ..OSCILLATORIALES             |           |      |           |      |           |      |          |      |          |      |  |
| ...OSCILLATORIAEAE            |           |      |           |      |           |      |          |      |          |      |  |
| ....OSCILLATORIA              | --        | -    | 370#      | 66   | --        | -    | 360      | 15   | --       | -    |  |
| EUGLENOPHYTA (EUGLENOIDS)     |           |      |           |      |           |      |          |      |          |      |  |
| ..EUGLENOPHYCEAE              |           |      |           |      |           |      |          |      |          |      |  |
| ...EUGLENALES                 |           |      |           |      |           |      |          |      |          |      |  |
| ...EUGLENACEAE                |           |      |           |      |           |      |          |      |          |      |  |
| ....EUGLENA                   | --        | -    | 13        | 2    | 65        | 6    | --       | -    | 90       | 3    |  |
| ....PHACUS                    | --        | -    | --        | -    | --        | -    | --       | -    | 72       | 3    |  |
| ....TRACHELOMONAS             | --        | -    | --        | -    | 13        | 1    | --       | -    | 500#     | 18   |  |
| PYRRHOPHYTA (FIRE ALGAE)      |           |      |           |      |           |      |          |      |          |      |  |
| ..DINOPHYCEAE                 |           |      |           |      |           |      |          |      |          |      |  |
| ...DINOKONTAE                 |           |      |           |      |           |      |          |      |          |      |  |
| ...GLENODINIACEAE             |           |      |           |      |           |      |          |      |          |      |  |
| ....GLENODINIUM               | --        | -    | --        | -    | --        | -    | 13       | 1    | --       | -    |  |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.

## BLACKSTONE RIVER BASIN

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01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 297     | 235 | 281  | 277      | 262 | 270  | 200      | 192 | 195  |         |     |      |
| 2     | 298     | 235 | 278  | 291      | 276 | 283  | 209      | 199 | 203  |         |     |      |
| 3     | 300     | 249 | 283  | 303      | 286 | 292  | 230      | 210 | 220  |         |     |      |
| 4     | 357     | 270 | 309  | 303      | 295 | 299  | 243      | 224 | 234  |         |     |      |
| 5     | 283     | 185 | 207  | 311      | 277 | 292  | 259      | 224 | 241  |         |     |      |
| 6     | 189     | 173 | 179  | 333      | 307 | 317  | 284      | 230 | 261  |         |     |      |
| 7     | 221     | 192 | 210  | 329      | 299 | 311  | 257      | 247 | 252  |         |     |      |
| 8     | 243     | 223 | 233  | 313      | 297 | 305  | 263      | 252 | 259  |         |     |      |
| 9     | 278     | 244 | 258  | 324      | 303 | 313  | 257      | 253 | 255  |         |     |      |
| 10    | 291     | 274 | 280  | 339      | 292 | 319  | 264      | 249 | 255  |         |     |      |
| 11    | 296     | 287 | 291  | 319      | 285 | 294  | 278      | 263 | 271  |         |     |      |
| 12    | 346     | 227 | 287  | 285      | 245 | 258  | 274      | 271 | 273  |         |     |      |
| 13    | 224     | 210 | 213  | 305      | 260 | 277  | ---      | --- | ---  |         |     |      |
| 14    | 230     | 209 | 216  | 325      | 307 | 315  | ---      | --- | ---  |         |     |      |
| 15    | 259     | 230 | 244  | 337      | 312 | 323  | ---      | --- | ---  |         |     |      |
| 16    | 274     | 260 | 267  | 337      | 315 | 325  | ---      | --- | ---  |         |     |      |
| 17    | 276     | 265 | 273  | 331      | 315 | 323  | ---      | --- | ---  |         |     |      |
| 18    | 291     | 277 | 287  | 325      | 314 | 320  | ---      | --- | ---  |         |     |      |
| 19    | 373     | 269 | 321  | 322      | 296 | 310  | ---      | --- | ---  |         |     |      |
| 20    | 354     | 235 | 276  | 350      | 311 | 327  | ---      | --- | ---  |         |     |      |
| 21    | 236     | 211 | 222  | 408      | 352 | 390  | ---      | --- | ---  |         |     |      |
| 22    | 265     | 223 | 245  | 403      | 377 | 387  | ---      | --- | ---  |         |     |      |
| 23    | 299     | 266 | 283  | 379      | 351 | 363  | ---      | --- | ---  |         |     |      |
| 24    | 309     | 293 | 301  | 358      | 338 | 345  | ---      | --- | ---  |         |     |      |
| 25    | 316     | 280 | 304  | 347      | 285 | 317  | ---      | --- | ---  |         |     |      |
| 26    | 350     | 179 | 228  | 281      | 206 | 229  | ---      | --- | ---  |         |     |      |
| 27    | 200     | 173 | 182  | 237      | 223 | 231  | ---      | --- | ---  |         |     |      |
| 28    | 217     | 201 | 212  | 248      | 216 | 238  | ---      | --- | ---  |         |     |      |
| 29    | 258     | 215 | 240  | 245      | 160 | 191  | ---      | --- | ---  |         |     |      |
| 30    | 258     | 242 | 251  | 194      | 163 | 181  | ---      | --- | ---  |         |     |      |
| 31    | 262     | 243 | 252  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 373     | 173 | 255  | 408      | 160 | 298  | 284      | 192 | 243  |         |     |      |

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 6.2     | 6.0 | 6.1  | 6.3      | 6.1 | 6.2  | 6.3      | 6.1 | 6.2  |         |     |      |
| 2     | 6.4     | 6.0 | 6.2  | 6.3      | 6.1 | 6.2  | 6.3      | 6.1 | 6.2  |         |     |      |
| 3     | 6.3     | 6.0 | 6.1  | 6.3      | 6.0 | 6.1  | 6.3      | 6.2 | 6.2  |         |     |      |
| 4     | 6.2     | 6.1 | 6.1  | 6.4      | 6.2 | 6.3  | 6.2      | 6.1 | 6.2  |         |     |      |
| 5     | 6.1     | 5.8 | 5.9  | 6.3      | 6.1 | 6.2  | 6.3      | 6.1 | 6.2  |         |     |      |
| 6     | 6.0     | 5.8 | 5.9  | 6.4      | 6.0 | 6.2  | 6.5      | 6.1 | 6.3  |         |     |      |
| 7     | 6.1     | 5.9 | 6.0  | 6.4      | 6.2 | 6.3  | 6.4      | 6.3 | 6.3  |         |     |      |
| 8     | 6.3     | 5.9 | 6.1  | 6.4      | 6.2 | 6.3  | 6.6      | 6.3 | 6.5  |         |     |      |
| 9     | 6.3     | 6.1 | 6.2  | 6.3      | 6.1 | 6.2  | 6.5      | 6.4 | 6.4  |         |     |      |
| 10    | 6.2     | 6.0 | 6.1  | 6.3      | 6.1 | 6.2  | 6.4      | 6.3 | 6.3  |         |     |      |
| 11    | 6.1     | 6.1 | 6.1  | 6.3      | 6.2 | 6.2  | 6.3      | 6.2 | 6.3  |         |     |      |
| 12    | 6.2     | 5.9 | 6.1  | 6.3      | 6.1 | 6.2  | 6.3      | 6.2 | 6.2  |         |     |      |
| 13    | 5.9     | 5.8 | 5.8  | 6.4      | 6.1 | 6.3  | ---      | --- | ---  |         |     |      |
| 14    | 6.0     | 5.8 | 5.9  | 6.6      | 6.4 | 6.5  | ---      | --- | ---  |         |     |      |
| 15    | 6.3     | 5.9 | 6.1  | 6.4      | 6.2 | 6.3  | ---      | --- | ---  |         |     |      |
| 16    | 6.3     | 6.1 | 6.2  | 6.4      | 6.2 | 6.3  | ---      | --- | ---  |         |     |      |
| 17    | 6.3     | 6.1 | 6.2  | 6.4      | 6.2 | 6.3  | ---      | --- | ---  |         |     |      |
| 18    | 6.2     | 6.1 | 6.1  | 6.5      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 19    | 6.3     | 6.0 | 6.1  | 6.6      | 6.4 | 6.5  | ---      | --- | ---  |         |     |      |
| 20    | 6.2     | 5.9 | 6.0  | 6.7      | 6.4 | 6.5  | ---      | --- | ---  |         |     |      |
| 21    | 6.0     | 5.8 | 5.9  | 6.6      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 22    | 6.2     | 5.9 | 6.0  | 6.6      | 6.3 | 6.5  | ---      | --- | ---  |         |     |      |
| 23    | 6.2     | 6.0 | 6.1  | 6.6      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 24    | 6.2     | 6.0 | 6.1  | 6.5      | 6.4 | 6.4  | ---      | --- | ---  |         |     |      |
| 25    | 6.2     | 6.0 | 6.1  | 6.5      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 26    | 6.3     | 6.0 | 6.1  | 6.3      | 6.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 27    | 6.1     | 5.9 | 6.0  | 6.3      | 6.2 | 6.2  | ---      | --- | ---  |         |     |      |
| 28    | 6.1     | 6.0 | 6.0  | 6.3      | 6.2 | 6.3  | ---      | --- | ---  |         |     |      |
| 29    | 6.3     | 6.0 | 6.1  | 6.3      | 6.0 | 6.2  | ---      | --- | ---  |         |     |      |
| 30    | 6.2     | 6.0 | 6.1  | 6.2      | 6.1 | 6.1  | ---      | --- | ---  |         |     |      |
| 31    | 6.3     | 6.0 | 6.1  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 6.4     | 5.8 | 6.1  | 6.7      | 6.0 | 6.3  | 6.6      | 6.1 | 6.3  |         |     |      |

## BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX  | MIN  | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 16.0 | 14.5 | 15.0     | 8.0 | 7.0 | 7.5      | 5.0 | 4.0 | 4.5     |     |     |      |
| 2       | 17.5 | 16.0 | 16.5     | 7.5 | 6.5 | 7.0      | 6.0 | 4.5 | 5.0     |     |     |      |
| 3       | 17.5 | 16.5 | 17.0     | 6.5 | 5.5 | 6.0      | 6.0 | 4.0 | 5.5     |     |     |      |
| 4       | 17.0 | 16.0 | 16.5     | 8.5 | 6.0 | 7.0      | 4.0 | 1.5 | 2.5     |     |     |      |
| 5       | 17.0 | 15.5 | 16.0     | 9.5 | 8.5 | 9.0      | 1.0 | .5  | .5      |     |     |      |
| 6       | 15.5 | 14.5 | 15.0     | 8.5 | 7.0 | 7.5      | 1.0 | .5  | 1.0     |     |     |      |
| 7       | 14.5 | 13.5 | 13.5     | 8.5 | 7.0 | 8.0      | 2.5 | 1.0 | 1.5     |     |     |      |
| 8       | 13.5 | 12.5 | 13.0     | 9.5 | 8.5 | 9.0      | 5.0 | 2.5 | 3.5     |     |     |      |
| 9       | 14.5 | 13.5 | 14.0     | 8.5 | 7.0 | 7.5      | 5.5 | 5.0 | 5.0     |     |     |      |
| 10      | 14.0 | 12.0 | 13.0     | 8.0 | 7.0 | 7.5      | 5.0 | 4.5 | 5.0     |     |     |      |
| 11      | 13.5 | 12.5 | 13.0     | 6.5 | 5.5 | 6.0      | 4.5 | 2.0 | 3.5     |     |     |      |
| 12      | 14.5 | 13.5 | 14.0     | 5.5 | 4.5 | 5.0      | 2.0 | 1.5 | 2.0     |     |     |      |
| 13      | 13.5 | 12.0 | 12.5     | 5.0 | 4.0 | 4.5      | --- | --- | ---     |     |     |      |
| 14      | 11.5 | 10.5 | 11.0     | 6.5 | 5.0 | 6.0      | --- | --- | ---     |     |     |      |
| 15      | 10.5 | 9.5  | 10.0     | 6.5 | 6.0 | 6.5      | --- | --- | ---     |     |     |      |
| 16      | 13.0 | 10.5 | 11.5     | 6.0 | 4.5 | 5.5      | --- | --- | ---     |     |     |      |
| 17      | 14.5 | 13.0 | 13.5     | 4.5 | 3.5 | 4.0      | --- | --- | ---     |     |     |      |
| 18      | 15.5 | 14.5 | 15.0     | 4.0 | 2.5 | 3.0      | --- | --- | ---     |     |     |      |
| 19      | 16.0 | 15.0 | 15.5     | 3.0 | 2.0 | 2.5      | --- | --- | ---     |     |     |      |
| 20      | 15.5 | 14.0 | 14.5     | 3.5 | 2.0 | 2.5      | --- | --- | ---     |     |     |      |
| 21      | 13.5 | 12.0 | 12.5     | 4.0 | 2.5 | 3.5      | --- | --- | ---     |     |     |      |
| 22      | 12.0 | 10.5 | 11.0     | 4.5 | 3.5 | 4.0      | --- | --- | ---     |     |     |      |
| 23      | 10.5 | 9.0  | 10.0     | 4.5 | 3.5 | 4.0      | --- | --- | ---     |     |     |      |
| 24      | 9.5  | 8.0  | 8.5      | 6.0 | 4.5 | 5.0      | --- | --- | ---     |     |     |      |
| 25      | 9.5  | 8.0  | 8.5      | 8.0 | 6.0 | 7.0      | --- | --- | ---     |     |     |      |
| 26      | 11.0 | 9.5  | 10.0     | 7.0 | 4.5 | 5.5      | --- | --- | ---     |     |     |      |
| 27      | 10.0 | 9.0  | 9.5      | 4.5 | 3.5 | 4.0      | --- | --- | ---     |     |     |      |
| 28      | 9.0  | 8.5  | 8.5      | 5.5 | 4.0 | 4.5      | --- | --- | ---     |     |     |      |
| 29      | 8.5  | 7.5  | 8.0      | 5.5 | 5.0 | 5.5      | --- | --- | ---     |     |     |      |
| 30      | 8.0  | 7.0  | 7.5      | 5.0 | 4.0 | 4.5      | --- | --- | ---     |     |     |      |
| 31      | 8.0  | 6.5  | 7.0      | --- | --- | ---      | --- | --- | ---     |     |     |      |
| MONTH   | 17.5 | 6.5  | 12.5     | 9.5 | 2.0 | 5.5      | 6.0 | .5  | 3.5     |     |     |      |

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN  | MEAN | MAX      | MIN  | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|------|------|----------|------|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |      |      | DECEMBER |      |      | JANUARY |     |      |
| 1     | 9.6     | 7.8 | 8.6  | 10.3     | 9.5  | 9.9  | 11.6     | 8.9  | 10.7 |         |     |      |
| 2     | 9.5     | 7.7 | 8.6  | 10.6     | 9.5  | 10.0 | 11.7     | 10.2 | 11.3 |         |     |      |
| 3     | 8.8     | 6.8 | 7.4  | 10.9     | 9.9  | 10.4 | 11.0     | 10.4 | 10.7 |         |     |      |
| 4     | 8.2     | 7.1 | 7.5  | 10.9     | 9.8  | 10.4 | 12.3     | 11.0 | 11.8 |         |     |      |
| 5     | 8.3     | 6.9 | 7.5  | 9.8      | 8.8  | 9.4  | 12.7     | 12.3 | 12.5 |         |     |      |
| 6     | 9.0     | 7.8 | 8.3  | 9.9      | 7.7  | 9.2  | 12.4     | 11.3 | 12.2 |         |     |      |
| 7     | 9.1     | 8.1 | 8.5  | 9.9      | 9.1  | 9.4  | 12.2     | 11.7 | 11.9 |         |     |      |
| 8     | 9.8     | 8.4 | 9.0  | 9.1      | 8.5  | 8.8  | 11.6     | 10.8 | 11.3 |         |     |      |
| 9     | 8.9     | 8.0 | 8.5  | 9.7      | 8.4  | 9.0  | 10.7     | 10.2 | 10.4 |         |     |      |
| 10    | 8.9     | 7.4 | 8.0  | 10.0     | 9.1  | 9.5  | 10.8     | 10.1 | 10.4 |         |     |      |
| 11    | 8.2     | 7.4 | 7.7  | 10.7     | 9.4  | 10.0 | 11.0     | 10.3 | 10.7 |         |     |      |
| 12    | 7.7     | 7.2 | 7.4  | 11.2     | 10.1 | 10.6 | 11.8     | 11.0 | 11.3 |         |     |      |
| 13    | 8.4     | 7.1 | 7.7  | 11.5     | 10.4 | 11.0 | ---      | ---  | ---  |         |     |      |
| 14    | 9.5     | 8.0 | 8.7  | 11.4     | 10.4 | 11.1 | ---      | ---  | ---  |         |     |      |
| 15    | 10.1    | 8.9 | 9.5  | 10.9     | 9.6  | 10.3 | ---      | ---  | ---  |         |     |      |
| 16    | 9.4     | 8.5 | 9.0  | 11.0     | 9.8  | 10.4 | ---      | ---  | ---  |         |     |      |
| 17    | 8.7     | 7.5 | 8.1  | 11.6     | 10.2 | 10.8 | ---      | ---  | ---  |         |     |      |
| 18    | 7.5     | 6.2 | 6.8  | 11.4     | 10.5 | 10.9 | ---      | ---  | ---  |         |     |      |
| 19    | 6.4     | 4.4 | 5.9  | 12.3     | 11.0 | 11.6 | ---      | ---  | ---  |         |     |      |
| 20    | 6.5     | 5.1 | 5.8  | 12.4     | 11.3 | 11.8 | ---      | ---  | ---  |         |     |      |
| 21    | 8.2     | 6.2 | 7.1  | 11.9     | 11.1 | 11.4 | ---      | ---  | ---  |         |     |      |
| 22    | 9.1     | 7.8 | 8.3  | 11.4     | 10.3 | 10.9 | ---      | ---  | ---  |         |     |      |
| 23    | 8.8     | 7.7 | 8.2  | 11.7     | 10.3 | 10.9 | ---      | ---  | ---  |         |     |      |
| 24    | 9.3     | 7.7 | 8.4  | 10.9     | 10.3 | 10.5 | ---      | ---  | ---  |         |     |      |
| 25    | 9.2     | 8.1 | 8.6  | 10.3     | 9.7  | 10.0 | ---      | ---  | ---  |         |     |      |
| 26    | 8.9     | 5.9 | 8.3  | 11.3     | 8.0  | 10.7 | ---      | ---  | ---  |         |     |      |
| 27    | 10.1    | 8.2 | 9.5  | 12.1     | 11.2 | 11.6 | ---      | ---  | ---  |         |     |      |
| 28    | 9.7     | 9.4 | 9.6  | 11.5     | 11.1 | 11.3 | ---      | ---  | ---  |         |     |      |
| 29    | 10.3    | 7.4 | 9.7  | 11.1     | 8.6  | 10.7 | ---      | ---  | ---  |         |     |      |
| 30    | 10.5    | 9.5 | 10.0 | 11.7     | 11.2 | 11.5 | ---      | ---  | ---  |         |     |      |
| 31    | 10.7    | 9.8 | 10.2 | ---      | ---  | ---  | ---      | ---  | ---  |         |     |      |
| MONTH | 10.7    | 4.4 | 8.3  | 12.4     | 7.7  | 10.5 | 12.7     | 8.9  | 11.3 |         |     |      |

## BLACKSTONE RIVER BASIN

75

0111300 NIPMUC RIVER NEAR HARRISVILLE, RI

LOCATION.--Lat 41°58'52", long 71°41'11", Providence County, Hydrologic Unit 01090003, on left bank 1.0 mi (1.6 km) upstream from mouth and 1.2 mi (1.9 km) northwest of Harrisville.

DRAINAGE AREA.--16.0 mi<sup>2</sup> (41.4 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: March 1964 to current year.  
Water-quality records: Water year 1968.

GAGE.--Water-stage recorder. Altitude of gage is 340 ft (104 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--17 years, 29.5 ft<sup>3</sup>/s (0.835 m<sup>3</sup>/s), 25.04 in/yr (636 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft<sup>3</sup>/s (52.1 m<sup>3</sup>/s) Jan. 25, 1979, gage height, 8.53 ft (2.600 m), from rating curve extended above 530 ft<sup>3</sup>/s (15 m<sup>3</sup>/s); minimum, 0.09 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Sept. 10, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 270 ft<sup>3</sup>/s (7.6 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 24 | 2030 | *273 7.73                                             | 5.30 1.615              |      |      |                                                       |                         |

Minimum discharge, 0.47 ft<sup>3</sup>/s (0.013 m<sup>3</sup>/s) Aug. 23-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB    | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP    |
|-------------|-------|---------|-------|-------|--------|------|------|------|-------|-------|-------|--------|
| 1           | 1.1   | 11      | 36    | 11    | 7.0    | 88   | 21   | 27   | 15    | 7.5   | 2.8   | .56    |
| 2           | 1.1   | 9.4     | 29    | 9.0   | 20     | 72   | 71   | 26   | 13    | 7.5   | 2.2   | .56    |
| 3           | 1.1   | 8.7     | 29    | 8.0   | 50     | 62   | 53   | 22   | 13    | 7.5   | 1.8   | .66    |
| 4           | 11    | 8.6     | 21    | 7.0   | 30     | 52   | 35   | 21   | 13    | 7.5   | 1.6   | .66    |
| 5           | 9.0   | 12      | 19    | 6.6   | 22     | 49   | 29   | 20   | 11    | 31    | 1.6   | .66    |
| 6           | 5.2   | 12      | 21    | 6.1   | 17     | 46   | 49   | 19   | 11    | 41    | 2.0   | .66    |
| 7           | 4.0   | 10      | 19    | 8.5   | 15     | 45   | 41   | 17   | 9.6   | 21    | 1.8   | .66    |
| 8           | 4.0   | 9.6     | 18    | 8.0   | 23     | 46   | 31   | 17   | 8.5   | 14    | 1.6   | .66    |
| 9           | 3.3   | 9.9     | 19    | 7.5   | 30     | 41   | 27   | 15   | 9.6   | 9.6   | 1.6   | 1.0    |
| 10          | 3.3   | 15      | 23    | 7.0   | 23     | 39   | 26   | 15   | 13    | 7.5   | 1.6   | 1.1    |
| 11          | 3.3   | 13      | 21    | 6.1   | 35     | 36   | 22   | 15   | 10    | 5.6   | 1.5   | 1.1    |
| 12          | 7.0   | 10      | 17    | 5.6   | 65     | 34   | 20   | 38   | 8.5   | 4.4   | 1.1   | 1.0    |
| 13          | 8.5   | 9.2     | 17    | 5.2   | 35     | 32   | 18   | 48   | 8.0   | 4.4   | 1.1   | .89    |
| 14          | 8.5   | 8.7     | 19    | 4.8   | 25     | 31   | 23   | 29   | 8.0   | 4.0   | 1.1   | .89    |
| 15          | 6.1   | 8.0     | 17    | 4.4   | 23     | 28   | 47   | 27   | 8.0   | 3.7   | 1.0   | 5.6    |
| 16          | 6.1   | 7.9     | 16    | 4.8   | 21     | 27   | 31   | 111  | 8.0   | 3.3   | 1.0   | 6.6    |
| 17          | 4.8   | 7.3     | 14    | 7.5   | 19     | 26   | 26   | 95   | 7.0   | 2.8   | 1.0   | 7.0    |
| 18          | 3.3   | 11      | 13    | 6.6   | 20     | 23   | 23   | 53   | 6.6   | 2.2   | .77   | 4.4    |
| 19          | 4.4   | 14      | 15    | 7.5   | 21     | 21   | 20   | 38   | 5.6   | 3.7   | .66   | 4.0    |
| 20          | 4.8   | 12      | 12    | 7.5   | 46     | 21   | 19   | 31   | 6.1   | 4.4   | .66   | 4.4    |
| 21          | 4.8   | 10      | 10    | 7.0   | 160    | 21   | 18   | 27   | 8.0   | 11    | .66   | 3.7    |
| 22          | 4.8   | 11      | 9.0   | 7.0   | 120    | 21   | 17   | 23   | 9.0   | 12    | .66   | 2.5    |
| 23          | 4.8   | 12      | 9.6   | 6.6   | 80     | 21   | 17   | 22   | 17    | 7.3   | .66   | 16     |
| 24          | 4.4   | 14      | 12    | 6.6   | 178    | 21   | 45   | 18   | 12    | 5.2   | .47   | 16     |
| 25          | 17    | 67      | 10    | 6.1   | 208    | 21   | 46   | 17   | 17    | 4.0   | .56   | 9.6    |
| 26          | 62    | 46      | 9.0   | 6.6   | 196    | 21   | 39   | 14   | 36    | 3.0   | .56   | 6.1    |
| 27          | 26    | 28      | 9.6   | 8.0   | 155    | 22   | 31   | 13   | 19    | 3.0   | .56   | 4.8    |
| 28          | 18    | 39      | 10    | 10    | 104    | 24   | 26   | 12   | 13    | 2.5   | .56   | 3.3    |
| 29          | 17    | 107     | 11    | 9.0   | ---    | 22   | 31   | 21   | 9.6   | 3.0   | .56   | 3.3    |
| 30          | 13    | 53      | 12    | 8.0   | ---    | 20   | 33   | 29   | 8.0   | 4.0   | .56   | 2.8    |
| 31          | 12    | ---     | 13    | 7.5   | ---    | 23   | ---  | 19   | ---   | 3.3   | .56   | ---    |
| TOTAL       | 283.7 | 594.3   | 510.2 | 221.1 | 1748.0 | 1056 | 935  | 899  | 341.1 | 250.9 | 34.86 | 111.16 |
| MEAN        | 9.15  | 19.8    | 16.5  | 7.13  | 62.4   | 34.1 | 31.2 | 29.0 | 11.4  | 8.09  | 1.12  | 3.71   |
| MAX         | 62    | 107     | 36    | 11    | 208    | 88   | 71   | 111  | 36    | 41    | 2.8   | 16     |
| MIN         | 1.1   | 7.3     | 9.0   | 4.4   | 7.0    | 20   | 17   | 12   | 5.6   | 2.2   | .47   | .56    |
| CFSM        | .57   | 1.24    | 1.03  | .45   | 3.90   | 2.13 | 1.95 | 1.81 | .71   | .51   | .07   | .23    |
| IN.         | .66   | 1.38    | 1.19  | .51   | 4.06   | 2.46 | 2.17 | 2.09 | .79   | .58   | .08   | .26    |
| CAL YR 1980 | TOTAL | 8282.94 | MEAN  | 22.6  | MAX    | 462  | MIN  | .89  | CFSM  | 1.41  | IN    | 19.26  |
| WTR YR 1981 | TOTAL | 6985.32 | MEAN  | 19.1  | MAX    | 208  | MIN  | .47  | CFSM  | 1.19  | IN    | 16.24  |

## BLACKSTONE RIVER BASIN

## 01111500 BRANCH RIVER AT FORESTDALE, RI

LOCATION.--Lat 41°59'47", long 71°33'47", Providence County, Hydrologic Unit 01090003, on left bank 20 ft (6 m) upstream from abandoned bridge site, 400 ft (100 m) downstream from milldam at Forestdale, 1 mi (2 km) east of Slatersville, and 1.6 mi (2.6 km) upstream from mouth.  
DRAINAGE AREA.--91.2 mi<sup>2</sup> (236.2 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: September to December 1909 and January 1912 to July 1913 (gage heights only; published as "at Branch Village"), January 1940 to September 1981 (discontinued).

REVISED RECORDS.--WSP 2101: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 180 ft (55 m), from topographic map. Prior to July 28, 1913, nonrecording gage at site 1 mi (2 km) downstream at different datum.

REMARKS.--Records excellent. Prior to 1957, flow regulated by mills and reservoirs upstream.

AVERAGE DISCHARGE.--41 years, 169 ft<sup>3</sup>/s (4.786 m<sup>3</sup>/s), 25.16 in/yr (639 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,470 ft<sup>3</sup>/s (155 m<sup>3</sup>/s) Jan. 25, 1979, gage height, 11.80 ft (3.597 m); maximum gage height, 11.90 ft (3.627 m) Mar. 18, 1968; minimum daily discharge, 5.2 ft<sup>3</sup>/s (0.15 m<sup>3</sup>/s) Oct. 7, 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1886, about 5,800 ft<sup>3</sup>/s (160 m<sup>3</sup>/s) Mar. 19, 1936, by computation of flow over dam 1 mi (2 km) upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 880 ft<sup>3</sup>/s (25 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 21 | 2245 | 912 25.8                                              | 5.08 1.548              | Feb. 25 | 0445 | *1180 33.4                                            | 5.70 1.737              |

Minimum daily discharge, 17 ft<sup>3</sup>/s (0.48 m<sup>3</sup>/s) Sept. 1, 3-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR       | APR      | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|-----------|----------|------|------|------|------|------|
| 1           | 39    | 112   | 165      | 52       | 43     | 494       | 112      | 158  | 90   | 71   | 29   | 17   |
| 2           | 42    | 108   | 130      | 49       | 94     | 416       | 229      | 149  | 76   | 67   | 27   | 18   |
| 3           | 48    | 110   | 120      | 43       | 255    | 366       | 291      | 139  | 71   | 67   | 24   | 17   |
| 4           | 80    | 119   | 108      | 43       | 157    | 326       | 214      | 126  | 72   | 69   | 24   | 17   |
| 5           | 71    | 125   | 83       | 40       | 119    | 305       | 177      | 120  | 69   | 107  | 26   | 17   |
| 6           | 57    | 117   | 85       | 40       | 92     | 262       | 221      | 117  | 65   | 171  | 23   | 17   |
| 7           | 52    | 110   | 80       | 44       | 83     | 252       | 233      | 106  | 63   | 139  | 22   | 17   |
| 8           | 51    | 108   | 80       | 43       | 128    | 262       | 190      | 100  | 58   | 105  | 25   | 18   |
| 9           | 46    | 108   | 84       | 40       | 163    | 256       | 161      | 98   | 63   | 82   | 40   | 37   |
| 10          | 42    | 109   | 91       | 40       | 137    | 241       | 148      | 95   | 73   | 67   | 33   | 43   |
| 11          | 43    | 96    | 90       | 38       | 167    | 189       | 137      | 104  | 69   | 56   | 28   | 40   |
| 12          | 48    | 87    | 79       | 37       | 339    | 162       | 127      | 155  | 62   | 48   | 24   | 41   |
| 13          | 46    | 81    | 76       | 35       | 200    | 154       | 111      | 248  | 59   | 44   | 24   | 40   |
| 14          | 41    | 78    | 76       | 34       | 146    | 191       | 112      | 193  | 56   | 46   | 28   | 40   |
| 15          | 37    | 75    | 69       | 33       | 123    | 214       | 178      | 183  | 53   | 37   | 31   | 73   |
| 16          | 36    | 73    | 70       | 34       | 111    | 159       | 186      | 370  | 54   | 35   | 31   | 79   |
| 17          | 39    | 56    | 70       | 37       | 104    | 122       | 160      | 463  | 52   | 32   | 27   | 101  |
| 18          | 44    | 61    | 62       | 36       | 108    | 111       | 156      | 348  | 47   | 32   | 24   | 96   |
| 19          | 50    | 56    | 67       | 37       | 111    | 106       | 138      | 260  | 43   | 37   | 22   | 95   |
| 20          | 51    | 54    | 58       | 37       | 166    | 100       | 104      | 213  | 48   | 38   | 19   | 92   |
| 21          | 43    | 48    | 54       | 37       | 731    | 102       | 97       | 183  | 78   | 54   | 18   | 73   |
| 22          | 37    | 48    | 51       | 36       | 783    | 103       | 94       | 155  | 84   | 68   | 19   | 48   |
| 23          | 36    | 49    | 53       | 36       | 533    | 104       | 97       | 131  | 99   | 57   | 19   | 115  |
| 24          | 35    | 53    | 56       | 35       | 719    | 100       | 158      | 107  | 87   | 45   | 19   | 111  |
| 25          | 111   | 134   | 56       | 35       | 1120   | 100       | 214      | 94   | 93   | 38   | 22   | 99   |
| 26          | 266   | 168   | 48       | 36       | 1030   | 104       | 196      | 85   | 210  | 35   | 21   | 86   |
| 27          | 177   | 123   | 51       | 41       | 892    | 109       | 172      | 87   | 155  | 33   | 21   | 79   |
| 28          | 128   | 137   | 51       | 51       | 650    | 120       | 148      | 84   | 113  | 30   | 20   | 71   |
| 29          | 119   | 330   | 52       | 51       | ---    | 113       | 156      | 92   | 95   | 33   | 19   | 64   |
| 30          | 115   | 266   | 58       | 49       | ---    | 108       | 173      | 133  | 80   | 31   | 19   | 62   |
| 31          | 115   | ---   | 58       | 46       | ---    | 113       | ---      | 112  | ---  | 30   | 18   | ---  |
| TOTAL       | 2145  | 3199  | 2331     | 1245     | 9304   | 5864      | 4890     | 5008 | 2337 | 1804 | 746  | 1723 |
| MEAN        | 69.2  | 107   | 75.2     | 40.2     | 332    | 189       | 163      | 162  | 77.9 | 58.2 | 24.1 | 57.4 |
| MAX         | 266   | 330   | 165      | 52       | 1120   | 494       | 291      | 463  | 210  | 171  | 40   | 115  |
| MIN         | 35    | 48    | 48       | 33       | 43     | 100       | 94       | 84   | 43   | 30   | 18   | 17   |
| CFSM        | .76   | 1.17  | .83      | .44      | 3.64   | 2.07      | 1.79     | 1.78 | .85  | .64  | .26  | .63  |
| IN.         | .87   | 1.30  | .95      | .51      | 3.80   | 2.39      | 1.99     | 2.04 | .95  | .74  | .30  | .70  |
| CAL YR 1980 | TOTAL | 49507 | MEAN 135 | MAX 2270 | MIN 23 | CFSM 1.48 | IN 20.19 |      |      |      |      |      |
| WTR YR 1981 | TOTAL | 40596 | MEAN 111 | MAX 1120 | MIN 17 | CFSM 1.22 | IN 16.56 |      |      |      |      |      |



## BLACKSTONE RIVER BASIN

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01111500 BRANCH RIVER AT FORESTDALE, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954, 1968, 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS) | PH<br>(UNITS) | TEMPER-<br>ATURE<br>(DEG C) | TUR-<br>BID-<br>ITY<br>(NTU) | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L) | OXYGEN<br>DEMAND,<br>CHEM-<br>ICAL<br>(HIGH<br>LEVEL)<br>(MG/L) | C.O.D.<br>TOTAL<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(MG/KG) | COLI-<br>FORM,<br>TOTAL,<br>IMMED.<br>(COLS.<br>PER<br>100 ML) |
|--------------|------|-------------------------------------------------|---------------------------------------------------|---------------|-----------------------------|------------------------------|----------------------------------------------|-------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------|
| OCT<br>15... | 1215 | 43                                              | 88                                                | 7.2           | 12.8                        | .30                          | --                                           | 10.9                                | --                                                              | --                                                          | 500                                                            |
| NOV<br>18... | 1100 | 74                                              | 68                                                | 7.0           | 3.0                         | .40                          | --                                           | 13.4                                | --                                                              | --                                                          | 940                                                            |
| DEC<br>18... | 1210 | 65                                              | 77                                                | 6.6           | 2.0                         | .50                          | 21                                           | 14.2                                | 12                                                              | --                                                          | 260                                                            |
| JAN<br>20... | 1045 | 43                                              | 112                                               | 6.7           | 1.0                         | .80                          | --                                           | 13.9                                | --                                                              | --                                                          | 1600                                                           |
| FEB<br>17... | 1115 | 115                                             | 81                                                | 6.4           | 3.5                         | 1.5                          | --                                           | 13.2                                | --                                                              | --                                                          | 220                                                            |
| MAR<br>10... | 1045 | 237                                             | 65                                                | 6.5           | 4.0                         | .80                          | 15                                           | 13.5                                | 18                                                              | --                                                          | 520                                                            |
| APR<br>07... | 1055 | 227                                             | 67                                                | 6.5           | 11.0                        | 1.0                          | --                                           | 11.3                                | --                                                              | --                                                          | 230                                                            |
| MAY<br>12... | 1040 | 142                                             | 67                                                | 6.6           | 16.0                        | 3.0                          | --                                           | 9.8                                 | --                                                              | --                                                          | 1700                                                           |
| JUN<br>10... | 1230 | 67                                              | 72                                                | 6.7           | 21.5                        | 1.6                          | 30                                           | 4.5                                 | 47                                                              | 35000                                                       | 2800                                                           |
| JUL<br>07... | 1050 | 144                                             | 67                                                | 6.3           | 25.0                        | 1.2                          | --                                           | 8.6                                 | --                                                              | --                                                          | 2200                                                           |
| AUG<br>18... | 1030 | 30                                              | 83                                                | 6.7           | 22.5                        | 1.2                          | --                                           | 8.8                                 | --                                                              | --                                                          | 1500                                                           |
| SEP<br>01... | 1230 | 17                                              | 85                                                | 7.1           | 23.0                        | --                           | 15                                           | 9.7                                 | 37                                                              | 2000                                                        | 2600                                                           |

| DATE         | COLI-<br>FORM,<br>FECAL,<br>0.7<br>UM-MF<br>(COLS./<br>100 ML) | STREP-<br>TOCOCCHI<br>FECAL,<br>KF AGAR<br>(COLS.<br>PER<br>100 ML) | HARD-<br>NESS<br>(MG/L<br>AS<br>CAC03) | HARD-<br>NESS,<br>NONCAR-<br>BONATE<br>(MG/L<br>CAC03) | CALCIUM<br>DIS-<br>SOLVED<br>(MG/L<br>AS CA) | MAGNE-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS MG) | SODIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS NA) | SODIUM<br>AD-<br>SORP-<br>TION<br>RATIO | PERCENT<br>SODIUM | POTAS-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS K) | ALKA-<br>LITY<br>LAB<br>(MG/L<br>AS<br>CAC03) |
|--------------|----------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------|----------------------------------------------|------------------------------------------------------|----------------------------------------------|-----------------------------------------|-------------------|-----------------------------------------------------|-----------------------------------------------|
| OCT<br>15... | 480                                                            | 25                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| NOV<br>18... | 400                                                            | 97                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| DEC<br>18... | 35                                                             | 4                                                                   | 15                                     | 3                                                      | 4.4                                          | 1.0                                                  | 7.7                                          | .9                                      | 51                | .9                                                  | 12                                            |
| JAN<br>20... | 640                                                            | 56                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| FEB<br>17... | 56                                                             | 100                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| MAR<br>10... | 62                                                             | 13                                                                  | 13                                     | 6                                                      | 3.6                                          | .9                                                   | 6.9                                          | .8                                      | 52                | 1.0                                                 | 7.0                                           |
| APR<br>07... | 54                                                             | 9                                                                   | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| MAY<br>12... | 900                                                            | 900                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| JUN<br>10... | 1200                                                           | 720                                                                 | 15                                     | --                                                     | 4.5                                          | .8                                                   | 8.7                                          | 1.0                                     | 55                | 1.0                                                 | 7.0                                           |
| JUL<br>07... | 340                                                            | 300                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| AUG<br>18... | 310                                                            | 69                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| SEP<br>01... | 700                                                            | 44                                                                  | 18                                     | --                                                     | 5.4                                          | 1.1                                                  | 10                                           | 1.0                                     | 53                | 1.3                                                 | 23                                            |

## BLACKSTONE RIVER BASIN

01111500 BRANCH RIVER AT FORESTDALE, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE  | SULFATE<br>DIS-<br>SOLVED<br>(MG/L<br>AS SO4) | CHLO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS CL) | FLUO-<br>RIDE,<br>TOTAL<br>(MG/L<br>AS F) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>SUS-<br>PENDED<br>(MG/L) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>TOTAL<br>(MG/L) | NITRO-<br>GEN,<br>NITRATE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NITRITE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS NH4) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) |
|-------|-----------------------------------------------|-----------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|
| OCT   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 15... | --                                            | --                                                  | --                                        | --                                                                  | --                                                         | .12                                                  | .010                                                 | .13                                                  | .110                                                 | .13                                                    | .48                                                  |
| NOV   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 18... | --                                            | --                                                  | --                                        | --                                                                  | --                                                         | .24                                                  | .010                                                 | .25                                                  | .300                                                 | .36                                                    | .29                                                  |
| DEC   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 18... | 11                                            | 10                                                  | .1                                        | 10                                                                  | 62                                                         | .32                                                  | .000                                                 | .32                                                  | .310                                                 | .38                                                    | .03                                                  |
| JAN   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 20... | --                                            | --                                                  | --                                        | --                                                                  | --                                                         | --                                                   | <.010                                                | .47                                                  | .270                                                 | .33                                                    | .22                                                  |
| FEB   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 17... | --                                            | --                                                  | --                                        | --                                                                  | --                                                         | --                                                   | <.010                                                | .31                                                  | .200                                                 | --                                                     | .15                                                  |
| MAR   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 10... | 9.0                                           | 12                                                  | .1                                        | 6                                                                   | 50                                                         | --                                                   | <.010                                                | .27                                                  | .130                                                 | --                                                     | .18                                                  |
| APR   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 07... | --                                            | --                                                  | --                                        | --                                                                  | --                                                         | .22                                                  | .010                                                 | .23                                                  | .100                                                 | --                                                     | .36                                                  |
| MAY   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 12... | --                                            | --                                                  | --                                        | --                                                                  | --                                                         | .28                                                  | .010                                                 | .29                                                  | .290                                                 | --                                                     | .60                                                  |
| JUN   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 10... | 7.3                                           | 13                                                  | .2                                        | 16                                                                  | 62                                                         | 2.1                                                  | .200                                                 | 2.3                                                  | .600                                                 | --                                                     | .00                                                  |
| JUL   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 07... | --                                            | --                                                  | --                                        | --                                                                  | --                                                         | .11                                                  | .010                                                 | .12                                                  | .120                                                 | --                                                     | .48                                                  |
| AUG   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 18... | --                                            | --                                                  | --                                        | --                                                                  | --                                                         | .15                                                  | .020                                                 | .17                                                  | .150                                                 | --                                                     | .67                                                  |
| SEP   |                                               |                                                     |                                           |                                                                     |                                                            |                                                      |                                                      |                                                      |                                                      |                                                        |                                                      |
| 01... | 6.8                                           | 16                                                  | .1                                        | 12                                                                  | 71                                                         | .23                                                  | .020                                                 | .25                                                  | .120                                                 | --                                                     | .64                                                  |

| DATE  | NITRO-<br>GEN, AM-<br>MONIA +<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS NO3) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) | PHOS-<br>PHATE,<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS,<br>ORTHO,<br>TOTAL<br>(MG/L<br>AS P) | PHENOLS<br>(UG/L) | METHY-<br>LENE<br>BLUE<br>ACTIVE<br>SUB-<br>STANCE<br>(MG/L) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C) | OIL AND<br>GREASE,<br>TOTAL<br>RECOV.<br>GRAVI-<br>METRIC<br>(MG/L) |
|-------|---------------------------------------------------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------------------|-------------------|--------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------|
| OCT   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 15... | .59                                                                 | .72                                       | 3.2                                         | .030                                        | .00                                          | .09                                          | .000                                                  | --                | --                                                           | --                                            | --                                                                  |
| NOV   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 18... | .59                                                                 | .84                                       | 3.7                                         | .020                                        | .03                                          | .06                                          | .010                                                  | --                | --                                                           | --                                            | --                                                                  |
| DEC   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 18... | .34                                                                 | .66                                       | 2.9                                         | .040                                        | .03                                          | .12                                          | .010                                                  | 12                | .00                                                          | 5.3                                           | 0                                                                   |
| JAN   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 20... | .49                                                                 | .96                                       | 4.3                                         | .050                                        | .12                                          | .15                                          | .040                                                  | --                | --                                                           | --                                            | --                                                                  |
| FEB   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 17... | .35                                                                 | .66                                       | 2.9                                         | .050                                        | --                                           | .15                                          | .010                                                  | --                | --                                                           | --                                            | --                                                                  |
| MAR   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 10... | .31                                                                 | .58                                       | 2.6                                         | .010                                        | --                                           | .03                                          | <.010                                                 | 0                 | .00                                                          | --                                            | 1                                                                   |
| APR   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 07... | .46                                                                 | .69                                       | 3.1                                         | .020                                        | --                                           | .06                                          | .010                                                  | --                | --                                                           | --                                            | --                                                                  |
| MAY   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 12... | .89                                                                 | 1.2                                       | 5.2                                         | .050                                        | --                                           | .15                                          | .040                                                  | --                | --                                                           | --                                            | --                                                                  |
| JUN   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 10... | .56                                                                 | 2.9                                       | 13                                          | .040                                        | --                                           | .12                                          | .010                                                  | 0                 | .00                                                          | 8.2                                           | 0                                                                   |
| JUL   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 07... | .60                                                                 | .72                                       | 3.2                                         | .040                                        | --                                           | .12                                          | <.010                                                 | --                | --                                                           | --                                            | --                                                                  |
| AUG   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 18... | .82                                                                 | .99                                       | 4.4                                         | .020                                        | --                                           | .06                                          | .010                                                  | --                | --                                                           | --                                            | --                                                                  |
| SEP   |                                                                     |                                           |                                             |                                             |                                              |                                              |                                                       |                   |                                                              |                                               |                                                                     |
| 01... | .76                                                                 | 1.0                                       | 4.5                                         | .030                                        | --                                           | .09                                          | <.010                                                 | --                | .00                                                          | 5.3                                           | <1                                                                  |

## BLACKSTONE RIVER BASIN

79

01111500 BRANCH RIVER AT FORESTDALE, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | ARSENIC<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AS) | BORON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS B) | BORON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS B) | CADMIUM<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CD) | CHRO-<br>MIUM,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CR) | CHRO-<br>MIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CR) | COBALT,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CO) |
|------|-------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------|
|------|-------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------|

|           |   |   |     |    |   |   |    |    |     |
|-----------|---|---|-----|----|---|---|----|----|-----|
| MAR 10... | 0 | 0 | --  | 20 | 0 | 7 | 40 | 10 | <1  |
| SEP 01... | 1 | 0 | <20 | 10 | 1 | 5 | 20 | 20 | <10 |

| DATE | COPPER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CU) | IRON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS FE) | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS PB) | MANGA-<br>NESE,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS MN) | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN) | MERCURY<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) |
|------|---------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------|
|------|---------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------|

|           |   |    |     |      |    |    |     |     |     |
|-----------|---|----|-----|------|----|----|-----|-----|-----|
| MAR 10... | 5 | 40 | 270 | 3400 | 2  | 37 | 180 | 80  | .1  |
| SEP 01... | 3 | 30 | 760 | 2800 | 14 | 64 | 87  | 100 | <.1 |

| DATE | MERCURY<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS HG) | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS NI) | SELE-<br>NIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS SE) | SILVER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AG) | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/L<br>AS ZN) |
|------|----------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|
|------|----------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|

|           |      |   |     |    |    |    |    |     |     |
|-----------|------|---|-----|----|----|----|----|-----|-----|
| MAR 10... | .01  | 7 | 19  | 0  | 0  | 0  | 0  | 120 | 190 |
| SEP 01... | <.01 | 3 | <10 | <1 | <1 | <1 | <1 | 40  | 73  |

| DATE | PCB,<br>TOTAL<br>(UG/L) | PCB,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | PCN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | NAPH-<br>THA-<br>LENES,<br>POLY-<br>CHLOR.<br>TOTAL<br>(UG/L) | ALDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | ALDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | CHLOR-<br>DANE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | CHLOR-<br>DANE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DDD,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | DDD,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DDE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | DDE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) |
|------|-------------------------|----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|
|------|-------------------------|----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|

|           |      |    |      |      |      |     |      |    |      |    |      |     |
|-----------|------|----|------|------|------|-----|------|----|------|----|------|-----|
| SEP 01... | <.10 | 22 | <1.0 | <.10 | <.01 | <.1 | <.10 | 20 | <.01 | 21 | <.01 | <.1 |
|-----------|------|----|------|------|------|-----|------|----|------|----|------|-----|

| DATE | DDT,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | DDT,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DI-<br>ELDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | DI-<br>ELDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | ENDO-<br>SULFAN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | ENDO-<br>SULFAN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | ENDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | ENDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | HEPTA-<br>CHLOR,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | HEPTA-<br>CHLOR,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | HEPTA-<br>CHLOR<br>EPOXIDE<br>TOTAL<br>(UG/L) |
|------|---------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------|
|------|---------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------|

|           |      |    |      |     |      |     |      |     |      |     |      |
|-----------|------|----|------|-----|------|-----|------|-----|------|-----|------|
| SEP 01... | <.01 | 13 | <.01 | <.1 | <.01 | <.1 | <.01 | <.1 | <.01 | <.1 | <.01 |
|-----------|------|----|------|-----|------|-----|------|-----|------|-----|------|

| DATE | HEPTA-<br>CHLOR<br>EPOXIDE<br>TOT. IN<br>BOTTOM<br>MATL.<br>(UG/KG) | LINDANE<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | LINDANE<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | METH-<br>OXY-<br>CHLOR,<br>TOT. IN<br>BOTTOM<br>MATL.<br>(UG/L) | METH-<br>OXY-<br>CHLOR,<br>TOT. IN<br>BOTTOM<br>MATL.<br>(UG/KG) | MIREX,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L) | MIREX,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | PER-<br>THANE<br>IN<br>BOTTOM<br>MATERIL<br>(UG/L) | PER-<br>THANE<br>IN<br>BOTTOM<br>MATERIL<br>(UG/KG) | TOX-<br>APHENE,<br>TOTAL<br>(UG/L) | TOX-<br>APHENE,<br>TOTAL<br>(UG/KG) |
|------|---------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------|------------------------------------|-------------------------------------|
|------|---------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------|------------------------------------|-------------------------------------|

|           |     |      |     |      |     |      |     |      |      |      |      |
|-----------|-----|------|-----|------|-----|------|-----|------|------|------|------|
| SEP 01... | <.1 | <.01 | <.1 | <.01 | <.1 | <.01 | <.1 | <.01 | <.10 | <.10 | <1.0 |
|-----------|-----|------|-----|------|-----|------|-----|------|------|------|------|

## BLACKSTONE RIVER BASIN

## 01112500 BLACKSTONE RIVER AT WOONSOCKET, RI

LOCATION.--Lat 42°00'22", long 71°30'13", Providence County, Hydrologic Unit 01090003, on right bank 50 ft (15 m) upstream from Peters River pressure conduit at Woonsocket. Records include flow of Peters River.

DRAINAGE AREA.--416 mi<sup>2</sup> (1,077 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: February 1929 to current year.

Water-quality records: Water years 1952-53, 1957-58.

Water temperatures: November 1961 to October 1964, April 1966 to March 1967.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1931(M). WSP 871: 1938. WSP 1051: 1931.

GAGE.--Water-stage recorder. Datum of gage is 107.42 ft (32.742 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except those for winter period, which are fair. Flow regulated by powerplants, by West Hill Reservoir since May 1961, and by other reservoirs upstream. Extremes and figures of daily discharge include flow diverted from Nashua River basin and, at times since January 1966, from Quabbin Reservoir for supply of Worcester, MA, and, prior to July 1964, flow diverted around station in Hamlet Trench. See table with station 01111200 for monthend contents of West Hill Reservoir. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--52 years, 753 ft<sup>3</sup>/s (21.32 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,900 ft<sup>3</sup>/s (932 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 21.8 ft (6.64 m), from floodmarks, from rating curve extended above 15,000 ft<sup>3</sup>/s (420 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow (affected by failure of Horseshoe Dam on Mill River); minimum daily, 21 ft<sup>3</sup>/s (0.59 m<sup>3</sup>/s) Aug. 11, 1934 (flow diverted around station in Hamlet Trench not included).  
Maximum discharge since at least 1645, that of Aug. 19, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,370 ft<sup>3</sup>/s (124 m<sup>3</sup>/s) Feb. 27, gage height, 7.09 ft (2.161 m); minimum daily, 101 ft<sup>3</sup>/s (2.86 m<sup>3</sup>/s) Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC   | JAN  | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG  | SEP  |
|-------------|-------|--------|-------|------|-------|-------|-------|-------|-------|-------|------|------|
| 1           | 145   | 353    | 858   | 240  | 185   | 2640  | 530   | 745   | 487   | 262   | 253  | 111  |
| 2           | 161   | 312    | 695   | 215  | 413   | 2250  | 1200  | 680   | 423   | 240   | 230  | 156  |
| 3           | 170   | 288    | 633   | 205  | 1250  | 1900  | 1340  | 640   | 395   | 259   | 212  | 105  |
| 4           | 422   | 297    | 561   | 200  | 799   | 1570  | 934   | 599   | 370   | 273   | 193  | 144  |
| 5           | 390   | 322    | 424   | 190  | 577   | 1430  | 778   | 533   | 384   | 543   | 180  | 104  |
| 6           | 275   | 313    | 413   | 180  | 469   | 1290  | 936   | 574   | 359   | 981   | 205  | 101  |
| 7           | 240   | 294    | 405   | 200  | 371   | 1230  | 1020  | 497   | 360   | 751   | 187  | 103  |
| 8           | 228   | 293    | 382   | 195  | 504   | 1200  | 846   | 497   | 316   | 579   | 183  | 127  |
| 9           | 206   | 294    | 398   | 190  | 649   | 1110  | 762   | 441   | 325   | 449   | 194  | 141  |
| 10          | 172   | 324    | 424   | 185  | 503   | 1090  | 700   | 440   | 390   | 369   | 206  | 240  |
| 11          | 182   | 307    | 419   | 180  | 560   | 1000  | 658   | 469   | 331   | 315   | 201  | 180  |
| 12          | 379   | 276    | 372   | 175  | 1340  | 912   | 585   | 642   | 280   | 262   | 156  | 181  |
| 13          | 287   | 259    | 355   | 170  | 1010  | 853   | 540   | 1190  | 277   | 132   | 165  | 185  |
| 14          | 241   | 246    | 348   | 160  | 723   | 853   | 550   | 916   | 272   | 333   | 139  | 206  |
| 15          | 217   | 232    | 317   | 155  | 578   | 825   | 860   | 807   | 232   | 338   | 182  | 364  |
| 16          | 202   | 221    | 317   | 160  | 493   | 733   | 832   | 1430  | 248   | 292   | 133  | 410  |
| 17          | 188   | 198    | 312   | 170  | 473   | 635   | 726   | 1740  | 251   | 249   | 161  | 441  |
| 18          | 201   | 241    | 290   | 165  | 506   | 569   | 665   | 1460  | 226   | 243   | 150  | 343  |
| 19          | 279   | 265    | 295   | 170  | 506   | 556   | 608   | 1190  | 212   | 389   | 168  | 347  |
| 20          | 237   | 254    | 277   | 170  | 668   | 512   | 505   | 956   | 239   | 383   | 116  | 380  |
| 21          | 206   | 239    | 250   | 165  | 2050  | 503   | 515   | 828   | 370   | 508   | 156  | 268  |
| 22          | 184   | 243    | 240   | 165  | 2350  | 516   | 459   | 778   | 327   | 602   | 138  | 239  |
| 23          | 178   | 244    | 243   | 160  | 1850  | 529   | 495   | 552   | 507   | 473   | 106  | 605  |
| 24          | 155   | 251    | 249   | 160  | 2110  | 482   | 735   | 550   | 373   | 366   | 151  | 676  |
| 25          | 318   | 620    | 240   | 160  | 3660  | 507   | 1040  | 463   | 400   | 310   | 142  | 536  |
| 26          | 978   | 773    | 230   | 175  | 4010  | 512   | 986   | 444   | 598   | 283   | 151  | 416  |
| 27          | 705   | 596    | 220   | 190  | 4130  | 454   | 865   | 442   | 451   | 252   | 141  | 324  |
| 28          | 526   | 605    | 220   | 205  | 3240  | 560   | 753   | 390   | 351   | 237   | 156  | 320  |
| 29          | 475   | 1370   | 225   | 217  | ---   | 530   | 753   | 452   | 457   | 274   | 108  | 288  |
| 30          | 412   | 1160   | 240   | 210  | ---   | 500   | 827   | 746   | 287   | 391   | 120  | 250  |
| 31          | 382   | ---    | 260   | 200  | ---   | 520   | ---   | 571   | ---   | 312   | 142  | ---  |
| TOTAL       | 9341  | 11690  | 11112 | 5682 | 35977 | 28771 | 23003 | 22662 | 10498 | 11650 | 5125 | 8291 |
| MEAN        | 301   | 390    | 358   | 183  | 1285  | 928   | 767   | 731   | 350   | 376   | 165  | 276  |
| MAX         | 978   | 1370   | 858   | 240  | 4130  | 2640  | 1340  | 1740  | 598   | 981   | 253  | 676  |
| MIN         | 145   | 198    | 220   | 155  | 185   | 454   | 459   | 390   | 212   | 132   | 106  | 101  |
| CAL YR 1980 | TOTAL | 211558 | MEAN  | 578  | MAX   | 5810  | MIN   | 123   |       |       |      |      |
| WTR YR 1981 | TOTAL | 183802 | MEAN  | 504  | MAX   | 4130  | MIN   | 101   |       |       |      |      |

## BLACKSTONE RIVER BASIN

81

01112900 BLACKSTONE RIVER AT MANVILLE, RI

LOCATION---Lat 41°58'18", long 71°28'14", Providence County, Hydrologic Unit 01090003, on left bank 15 ft (5 m) upstream from milldam at Manville, and 400 ft (120 m) upstream from Manville Road Bridge.

PERIOD OF RECORD---Water years 1970, 1979 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS) | PH<br>(UNITS) | TEMPER-<br>ATURE<br>(DEG C) | TUR-<br>BID-<br>ITY<br>(NTU) | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L) | OXYGEN<br>DEMAND,<br>CHEM-<br>ICAL<br>(HIGH<br>LEVEL)<br>(MG/L) | C.O.D.<br>TOTAL<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(MG/KG) | COLI-<br>FORM,<br>TOTAL,<br>IMMED.<br>(COLS.<br>PER<br>100 ML) |
|--------------|------|-------------------------------------------------|---------------------------------------------------|---------------|-----------------------------|------------------------------|----------------------------------------------|-------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------|
| OCT<br>15... | 1400 | 239                                             | 218                                               | 7.2           | 12.0                        | .50                          | --                                           | 9.6                                 | --                                                              | --                                                          | 290                                                            |
| NOV<br>18... | 1230 | 285                                             | 275                                               | 7.3           | 4.0                         | .55                          | --                                           | 12.4                                | --                                                              | --                                                          | 4900                                                           |
| DEC<br>18... | 1430 | 330                                             | 280                                               | 7.1           | 1.0                         | 1.4                          | 9                                            | 13.6                                | 14                                                              | --                                                          | 7                                                              |
| JAN<br>20... | 1305 | 324                                             | 410                                               | 7.4           | 1.0                         | 3.4                          | --                                           | 13.2                                | --                                                              | --                                                          | 260                                                            |
| FEB<br>17... | 1200 | 496                                             | 225                                               | 6.8           | 5.0                         | 3.0                          | --                                           | 12.6                                | --                                                              | --                                                          | 200                                                            |
| MAR<br>10... | 1400 | 1070                                            | 158                                               | 7.0           | 5.0                         | 1.1                          | 5                                            | 13.1                                | 11                                                              | --                                                          | 490                                                            |
| APR<br>07... | 1140 | 1050                                            | 162                                               | 6.6           | 11.0                        | 2.5                          | --                                           | 11.0                                | --                                                              | --                                                          | 780                                                            |
| MAY<br>12... | 1135 | 1350                                            | 187                                               | 6.9           | 17.0                        | 4.0                          | --                                           | 8.2                                 | --                                                              | --                                                          | 770                                                            |
| JUN<br>10... | 1415 | 427                                             | 291                                               | 6.7           | 21.0                        | 2.4                          | 18                                           | 86.0                                | 68                                                              | 14000                                                       | 2300                                                           |
| JUL<br>07... | 1215 | 794                                             | 135                                               | 6.5           | 24.8                        | 3.3                          | --                                           | 7.2                                 | --                                                              | --                                                          | 6200                                                           |
| AUG<br>18... | 1315 | 164                                             | 300                                               | 7.3           | 21.0                        | 2.5                          | --                                           | 5.4                                 | --                                                              | --                                                          | 260                                                            |
| SEP<br>01... | 1545 | 142                                             | 320                                               | 7.6           | 22.0                        | --                           | 5                                            | 10.2                                | 68                                                              | 4400                                                        | 570                                                            |

| DATE         | COLI-<br>FORM,<br>FECAL,<br>0.7<br>UM-MF<br>(COLS./<br>100 ML) | STREP-<br>TOCOCCHI<br>FECAL,<br>KF AGAR<br>(COLS.<br>PER<br>100 ML) | HARD-<br>NESS<br>(MG/L<br>AS<br>CAC03) | HARD-<br>NESS,<br>NONCAR-<br>BONATE<br>(MG/L<br>CAC03) | CALCIUM<br>DIS-<br>SOLVED<br>(MG/L<br>AS CA) | MAGNE-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS MG) | SODIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS NA) | SODIUM<br>AD-<br>SORP-<br>TION<br>RATIO | PERCENT<br>SODIUM | POTAS-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS K) | ALKA-<br>LITY<br>LAB<br>(MG/L<br>AS<br>CAC03) |
|--------------|----------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------|----------------------------------------------|------------------------------------------------------|----------------------------------------------|-----------------------------------------|-------------------|-----------------------------------------------------|-----------------------------------------------|
| OCT<br>15... | 3                                                              | 2                                                                   | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| NOV<br>18... | 700                                                            | 62                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| DEC<br>18... | 2                                                              | 4                                                                   | 38                                     | 24                                                     | 12                                           | 2.0                                                  | 33                                           | 2.3                                     | 63                | 3.1                                                 | 14                                            |
| JAN<br>20... | 14                                                             | 33                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| FEB<br>17... | 11                                                             | 14                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| MAR<br>10... | 33                                                             | 20                                                                  | 29                                     | 12                                                     | 8.9                                          | 1.6                                                  | 20                                           | 1.6                                     | 58                | 2.1                                                 | 17                                            |
| APR<br>07... | 110                                                            | 12                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| MAY<br>12... | 130                                                            | 140                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| JUN<br>10... | 310                                                            | 48                                                                  | 38                                     | --                                                     | 12                                           | 2.0                                                  | 25                                           | 1.8                                     | 57                | 2.8                                                 | 15                                            |
| JUL<br>07... | 500                                                            | 490                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| AUG<br>18... | 44                                                             | 120                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| SEP<br>01... | 87                                                             | 20                                                                  | 50                                     | --                                                     | 16                                           | 2.5                                                  | 34                                           | 2.1                                     | 57                | 4.8                                                 | 21                                            |



## BLACKSTONE RIVER BASIN

01112900 BLACKSTONE RIVER AT MANVILLE, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | SULFATE<br>DIS-<br>SOLVED<br>(MG/L<br>AS SO4) | CHLO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS CL) | FLUO-<br>RIDE,<br>TOTAL<br>(MG/L<br>AS F) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>SUS-<br>PENDEED<br>(MG/L) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>TOTAL<br>(MG/L) | NITRO-<br>GEN,<br>NITRATE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NITRITE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS NH4) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) |
|-----------|-----------------------------------------------|-----------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|
| OCT 15... | --                                            | --                                                  | --                                        | --                                                                   | --                                                         | 1.2                                                  | .080                                                 | 1.3                                                  | 1.60                                                 | 1.9                                                    | .50                                                  |
| NOV 18... | --                                            | --                                                  | --                                        | --                                                                   | --                                                         | .92                                                  | .080                                                 | 1.0                                                  | 2.50                                                 | 3.0                                                    | .00                                                  |
| DEC 18... | 23                                            | 47                                                  | .1                                        | 19                                                                   | 161                                                        | .66                                                  | .020                                                 | .68                                                  | 2.10                                                 | 2.5                                                    | .00                                                  |
| JAN 20... | --                                            | --                                                  | --                                        | --                                                                   | --                                                         | .63                                                  | .030                                                 | .66                                                  | 5.20                                                 | 6.3                                                    | .00                                                  |
| FEB 17... | --                                            | --                                                  | --                                        | --                                                                   | --                                                         | .49                                                  | .020                                                 | .51                                                  | 1.30                                                 | --                                                     | .50                                                  |
| MAR 10... | 14                                            | 30                                                  | .1                                        | 10                                                                   | 111                                                        | .50                                                  | .010                                                 | .51                                                  | .680                                                 | --                                                     | .20                                                  |
| APR 07... | --                                            | --                                                  | --                                        | --                                                                   | --                                                         | .45                                                  | .030                                                 | .48                                                  | .760                                                 | --                                                     | .17                                                  |
| MAY 12... | --                                            | --                                                  | --                                        | --                                                                   | --                                                         | 1.0                                                  | .080                                                 | 1.1                                                  | .500                                                 | --                                                     | .90                                                  |
| JUN 10... | 16                                            | 35                                                  | .1                                        | 16                                                                   | 136                                                        | 1.4                                                  | .090                                                 | 1.5                                                  | .230                                                 | --                                                     | .87                                                  |
| JUL 07... | --                                            | --                                                  | --                                        | --                                                                   | --                                                         | .75                                                  | .050                                                 | .80                                                  | .150                                                 | --                                                     | .60                                                  |
| AUG 18... | --                                            | --                                                  | --                                        | --                                                                   | --                                                         | 2.2                                                  | .070                                                 | 2.3                                                  | .920                                                 | --                                                     | .58                                                  |
| SEP 01... | 28                                            | 52                                                  | .4                                        | 16                                                                   | 205                                                        | 3.0                                                  | .130                                                 | 3.1                                                  | .960                                                 | --                                                     | 1.1                                                  |

| DATE      | NITRO-<br>GEN, AM-<br>MONIA +<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS NO3) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) | PHOS-<br>PHATE,<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS,<br>ORTHO,<br>TOTAL<br>(MG/L<br>AS P) | PHENOLS<br>(UG/L) | METHY-<br>LENE<br>BLUE<br>ACTIVE<br>SUB-<br>STANCE<br>(MG/L) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C) | OIL AND<br>GREASE,<br>TOTAL<br>RECOV.<br>GRAVI-<br>METRIC<br>(MG/L) |
|-----------|---------------------------------------------------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------------------|-------------------|--------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------|
| OCT 15... | 2.10                                                                | 3.4                                       | 15                                          | .490                                        | 1.20                                         | 1.5                                          | .390                                                  | --                | --                                                           | --                                            | --                                                                  |
| NOV 18... | 2.50                                                                | 3.5                                       | 16                                          | .470                                        | 1.00                                         | 1.4                                          | .340                                                  | --                | --                                                           | --                                            | --                                                                  |
| DEC 18... | 1.80                                                                | 2.5                                       | 11                                          | .320                                        | .71                                          | .98                                          | .230                                                  | 11                | .30                                                          | 7.8                                           | 0                                                                   |
| JAN 20... | 5.00                                                                | 5.7                                       | 25                                          | 1.10                                        | 2.60                                         | 3.4                                          | .840                                                  | --                | --                                                           | --                                            | --                                                                  |
| FEB 17... | 1.80                                                                | 2.3                                       | 10                                          | .370                                        | --                                           | 1.1                                          | .200                                                  | --                | --                                                           | --                                            | --                                                                  |
| MAR 10... | .88                                                                 | 1.4                                       | 6.2                                         | .190                                        | --                                           | .58                                          | .130                                                  | 0                 | .10                                                          | --                                            | 0                                                                   |
| APR 07... | .93                                                                 | 1.4                                       | 6.2                                         | .220                                        | --                                           | .67                                          | .120                                                  | --                | --                                                           | --                                            | --                                                                  |
| MAY 12... | 1.40                                                                | 2.5                                       | 11                                          | .250                                        | --                                           | .77                                          | .150                                                  | --                | --                                                           | --                                            | --                                                                  |
| JUN 10... | 1.10                                                                | 2.6                                       | 12                                          | .190                                        | --                                           | .58                                          | .110                                                  | 0                 | .10                                                          | 8.8                                           | 0                                                                   |
| JUL 07... | .75                                                                 | 1.6                                       | 6.9                                         | .270                                        | --                                           | .83                                          | .120                                                  | --                | --                                                           | --                                            | --                                                                  |
| AUG 18... | 1.50                                                                | 3.8                                       | 17                                          | .400                                        | --                                           | 1.2                                          | .330                                                  | --                | --                                                           | --                                            | --                                                                  |
| SEP 01... | 2.10                                                                | 5.2                                       | 23                                          | .530                                        | --                                           | 1.6                                          | .460                                                  | 6                 | .10                                                          | 7.5                                           | 1                                                                   |

## BLACKSTONE RIVER BASIN

83

01112900 BLACKSTONE RIVER AT MANVILLE, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | ARSENIC<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AS) | BORON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS B) | BORON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS B) | CADMIUM<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CD) | CHRO-<br>MIUM,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CR) | CHRO-<br>MIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CR) | COBALT,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CO) |
|--------------|-------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------|
| MAR<br>10... | 0                                   | 0                                                                   | --                                                    | 20                                                                 | 1                                                       | 2                                                                    | <10                                                                         | 10                                                             | <1                                                                   |
| SEP<br>01... | 4                                   | 0                                                                   | 240                                                   | <10                                                                | 3                                                       | 4                                                                    | 20                                                                          | 20                                                             | <10                                                                  |

| DATE         | COPPER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CU) | IRON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS FE) | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS PB) | MANGA-<br>NESE,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN) | MERCURY<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) |
|--------------|---------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------|
| MAR<br>10... | 12                                                      | 14                                                                   | 490                                                   | 2300                                                               | 6                                                     | 23                                                                 | 30                                                                  | 80                                                              | <.1                                                     |
| SEP<br>01... | 16                                                      | 30                                                                   | 570                                                   | 2400                                                               | 24                                                    | 33                                                                 | 42                                                                  | 90                                                              | .2                                                      |

| DATE         | MERCURY<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS HG) | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS NI) | SELE-<br>NIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | SILVER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AG) | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS ZN) |
|--------------|----------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|
| MAR<br>10... | .00                                                                  | 33                                                      | <1                                                                   | 0                                                              | 0                                                                 | 1                                                       | <0                                                                   | 70                                                    | 30                                                                 |
| SEP<br>01... | <.01                                                                 | 32                                                      | 10                                                                   | <1                                                             | <1                                                                | <1                                                      | <1                                                                   | 60                                                    | 85                                                                 |

| DATE         | PCB,<br>TOTAL<br>(UG/L) | PCB,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | PCN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | NAPH-<br>THA-<br>LENES,<br>POLY-<br>CHLOR.<br>TOTAL<br>(UG/L) | ALDRIN,<br>TOTAL<br>(UG/L) | ALDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | CHLOR-<br>DANE,<br>TOTAL<br>(UG/L) | CHLOR-<br>DANE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DDD,<br>TOTAL<br>(UG/L) | DDD,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DDE,<br>TOTAL<br>(UG/L) | DDE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) |
|--------------|-------------------------|----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|----------------------------|-------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------|-------------------------|----------------------------------------------------------|-------------------------|----------------------------------------------------------|
| SEP<br>01... | <.10                    | 26                                                       | <1.0                                                     | <.10                                                          | <.01                       | <.1                                                         | <.10                               | 12                                                                  | <.01                    | 8.0                                                      | <.01                    | <.1                                                      |

| DATE         | DDT,<br>TOTAL<br>(UG/L) | DDT,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DI-<br>ELDRIN,<br>TOTAL<br>(UG/L) | DI-<br>ELDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | ENDO-<br>SULFAN,<br>TOTAL<br>(UG/L) | ENDO-<br>SULFAN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | ENDRIN,<br>TOTAL<br>(UG/L) | ENDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | HEPTA-<br>CHLOR,<br>TOTAL<br>(UG/L) | HEPTA-<br>CHLOR,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | HEPTA-<br>CHLOR<br>EPOXIDE<br>TOTAL<br>(UG/L) |
|--------------|-------------------------|----------------------------------------------------------|-----------------------------------|--------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------|----------------------------|-------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------|-----------------------------------------------|
| SEP<br>01... | <.01                    | 1.0                                                      | .01                               | 5.0                                                                | <.01                                | <.1                                                                  | <.01                       | <.1                                                         | <.01                                | <.1                                                                  | <.01                                          |

| DATE         | HEPTA-<br>CHLOR<br>EPOXIDE<br>TOT. IN<br>BOTTOM<br>MATL.<br>(UG/KG) | LINDANE<br>TOTAL<br>(UG/L) | LINDANE<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | METH-<br>OXY-<br>CHLOR,<br>TOTAL<br>(UG/L) | METH-<br>OXY-<br>CHLOR,<br>TOT. IN<br>BOTTOM<br>MATL.<br>(UG/KG) | MIREX,<br>TOTAL<br>(UG/L) | MIREX,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | PER-<br>THANE<br>TOTAL<br>(UG/L) | PER-<br>THANE<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | TOX-<br>APHENE,<br>TOTAL<br>(UG/L) | TOXA-<br>PHENE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) |
|--------------|---------------------------------------------------------------------|----------------------------|-------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------|---------------------------|------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------|
| SEP<br>01... | <.1                                                                 | <.01                       | <.1                                                         | <.01                                       | <.1                                                              | <.01                      | <.1                                                        | <.01                             | <.10                                                              | <.10                               | <1.0                                                                |

## MOSHASSUCK RIVER BASIN

01114000 MOSHASSUCK RIVER AT PROVIDENCE, RI

LOCATION.--Lat 41°50'02", long 71°24'42", Providence County, Hydrologic Unit 01090004, on left bank 800 ft (250 m) upstream from bridge on U.S. Highway 44 at Providence and 0.5 mi (0.8 km) above mouth.

DRAINAGE AREA.--23.1 mi<sup>2</sup> (59.8 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1963 to current year.  
Water-quality records: Water year 1971.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 8.19 ft (2.496 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 7, 1973, at datum 0.88 ft (0.268 m) lower. Mar. 10, 1972, to Nov. 7, 1973, stage record obtained at site 200 ft upstream.

REMARKS.--Records good. Occasional regulation at low flow. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--18 years, 40.0 ft<sup>3</sup>/s (1.133 m<sup>3</sup>/s), 23.52 in/yr (597 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,390 ft<sup>3</sup>/s (67.7 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 3.46 ft (1.055 m), present datum, from rating curve extended above 460 ft<sup>3</sup>/s (13 m<sup>3</sup>/s); maximum gage height, 5.81 ft (1.771 m) July 30, 1976; minimum discharge, 1.3 ft<sup>3</sup>/s (0.037 m<sup>3</sup>/s) Aug. 23, 1970; minimum daily, 1.7 ft<sup>3</sup>/s (0.048 m<sup>3</sup>/s) Aug. 10, 1970.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft<sup>3</sup>/s (17 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date                | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------------------|------|-------------------------------------------------------|-------------------------|
| Oct. 25 | 1745 | *294 8.33                                             | 3.27 0.997              | No peak above base. |      |                                                       |                         |

Minimum discharge, 3.1 ft<sup>3</sup>/s (0.088 m<sup>3</sup>/s) Sept. 7, 8, minimum daily, 3.1 ft<sup>3</sup>/s (0.088 m<sup>3</sup>/s) Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC | JAN | FEB  | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-----|-----|------|------|------|------|-------|-------|-------|-------|
| 1     | 7.0   | 8.7   | 21  | 15  | 11   | 55   | 20   | 35   | 16    | 8.4   | 5.4   | 5.1   |
| 2     | 7.3   | 7.6   | 19  | 14  | 84   | 48   | 81   | 42   | 15    | 8.7   | 4.9   | 5.4   |
| 3     | 27    | 7.0   | 20  | 14  | 45   | 45   | 39   | 31   | 15    | 8.4   | 5.7   | 5.1   |
| 4     | 30    | 8.4   | 18  | 14  | 31   | 39   | 30   | 26   | 21    | 9.1   | 6.3   | 4.6   |
| 5     | 13    | 12    | 15  | 15  | 28   | 38   | 35   | 24   | 17    | 32    | 8.7   | 4.3   |
| 6     | 7.6   | 9.1   | 14  | 14  | 27   | 38   | 73   | 24   | 26    | 18    | 6.3   | 3.2   |
| 7     | 7.6   | 9.1   | 14  | 14  | 26   | 37   | 39   | 23   | 21    | 12    | 5.7   | 3.1   |
| 8     | 7.6   | 9.1   | 14  | 14  | 65   | 37   | 31   | 21   | 15    | 9.1   | 5.4   | 3.4   |
| 9     | 8.0   | 19    | 15  | 13  | 40   | 35   | 29   | 20   | 23    | 8.7   | 7.0   | 32    |
| 10    | 7.6   | 15    | 19  | 14  | 35   | 34   | 27   | 19   | 15    | 7.3   | 5.1   | 5.7   |
| 11    | 8.7   | 11    | 15  | 12  | 44   | 32   | 23   | 21   | 13    | 6.3   | 5.1   | 6.3   |
| 12    | 9.9   | 10    | 14  | 12  | 70   | 32   | 23   | 64   | 13    | 5.1   | 5.7   | 4.3   |
| 13    | 7.0   | 8.7   | 14  | 14  | 29   | 32   | 23   | 36   | 13    | 15    | 5.4   | 4.3   |
| 14    | 6.6   | 8.0   | 13  | 13  | 23   | 31   | 50   | 26   | 10    | 11    | 5.1   | 3.6   |
| 15    | 7.0   | 7.6   | 11  | 13  | 19   | 26   | 45   | 29   | 9.9   | 7.6   | 4.9   | 49    |
| 16    | 7.0   | 7.3   | 12  | 12  | 18   | 26   | 31   | 69   | 11    | 5.7   | 29    | 34    |
| 17    | 7.0   | 6.6   | 12  | 12  | 18   | 29   | 28   | 50   | 11    | 6.3   | 6.6   | 12    |
| 18    | 10    | 21    | 12  | 11  | 19   | 25   | 28   | 32   | 10    | 41    | 6.0   | 9.1   |
| 19    | 7.3   | 16    | 13  | 11  | 18   | 25   | 24   | 28   | 9.1   | 20    | 6.0   | 37    |
| 20    | 6.0   | 13    | 13  | 12  | 61   | 25   | 23   | 25   | 19    | 17    | 6.0   | 9.9   |
| 21    | 6.0   | 12    | 11  | 11  | 90   | 25   | 23   | 23   | 19    | 32    | 6.0   | 7.3   |
| 22    | 6.0   | 12    | 11  | 11  | 55   | 24   | 21   | 21   | 17    | 12    | 5.4   | 6.3   |
| 23    | 6.6   | 11    | 12  | 11  | 40   | 23   | 29   | 21   | 26    | 9.5   | 5.1   | 29    |
| 24    | 6.3   | 11    | 15  | 11  | 100  | 23   | 56   | 20   | 16    | 7.3   | 28    | 13    |
| 25    | 88    | 53    | 13  | 11  | 103  | 26   | 40   | 18   | 18    | 6.6   | 12    | 9.5   |
| 26    | 27    | 25    | 13  | 12  | 111  | 27   | 32   | 17   | 17    | 6.0   | 6.6   | 7.6   |
| 27    | 13    | 16    | 12  | 17  | 81   | 29   | 29   | 16   | 13    | 6.3   | 5.7   | 6.6   |
| 28    | 16    | 49    | 12  | 15  | 61   | 26   | 26   | 16   | 12    | 6.6   | 5.7   | 7.6   |
| 29    | 11    | 49    | 13  | 14  | ---  | 23   | 36   | 53   | 9.9   | 8.4   | 5.1   | 7.3   |
| 30    | 9.5   | 27    | 36  | 12  | ---  | 24   | 34   | 25   | 8.7   | 7.0   | 4.3   | 6.6   |
| 31    | 8.7   | ---   | 17  | 12  | ---  | 27   | ---  | 19   | ---   | 6.3   | 4.6   | ---   |
| TOTAL | 397.3 | 479.2 | 463 | 400 | 1352 | 966  | 1028 | 894  | 459.6 | 364.7 | 228.8 | 342.2 |
| MAX   | 88    | 53    | 36  | 17  | 111  | 55   | 81   | 69   | 26    | 41    | 29    | 49    |
| MIN   | 6.0   | 6.6   | 11  | 11  | 11   | 23   | 20   | 16   | 8.7   | 5.1   | 4.3   | 3.1   |
| CFSM  | .55   | .69   | .65 | .56 | 2.09 | 1.35 | 1.49 | 1.25 | .66   | .51   | .32   | .49   |
| IN.   | .64   | .77   | .75 | .64 | 2.18 | 1.56 | 1.66 | 1.44 | .74   | .59   | .37   | .55   |

| CAL YR 1980 | TOTAL | 9418.7 | MEAN 25.7 | MAX 340 | MIN 5.4 | CFSM 1.11 | IN 15.17 |
|-------------|-------|--------|-----------|---------|---------|-----------|----------|
| WTR YR 1981 | TOTAL | 7374.8 | MEAN 20.2 | MAX 111 | MIN 3.1 | CFSM .87  | IN 11.88 |

## 01114500 WOONASQUATUCKET RIVER AT CENTERDALE, RI

LOCATION.--Lat 41°51'32", long 71°29'16", Providence County, Hydrologic Unit 01090004, on right bank 75 ft (23 m) downstream from bridge on U.S. Highway 44 at Centerdale and 6.5 mi (10.5 km) upstream from mouth.

DRAINAGE AREA.--38.3 mi<sup>2</sup> (99.2 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1941 to September 1981 (discontinued).  
Water-quality records: Water years 1955-56.

GAGE.--Water-stage recorder. Altitude of gage is 95 ft (29 m), from topographic map.

REMARKS.--Records good. Some regulation by reservoirs upstream; regulation greater prior to 1956. Discharge figures prior to 1966 included leakage around station through bypass canal; leakage negligible subsequently. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--40 years, 71.4 ft<sup>3</sup>/s (2.022 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft<sup>3</sup>/s (40.8 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 7.75 ft (2.362 m), from floodmarks; minimum daily, 2.1 ft<sup>3</sup>/s (0.059 m<sup>3</sup>/s) Aug. 26, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge during March 1936, 1,000 ft<sup>3</sup>/s (28.3 m<sup>3</sup>/s), by computation of flow over dam 0.7 mi (1.1 km) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 294 ft<sup>3</sup>/s (8.33 m<sup>3</sup>/s) Feb. 26, gage height, 3.88 ft (1.183 m); minimum daily, 5.2 ft<sup>3</sup>/s (0.15 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP   |
|-------------|-------|---------|------|------|------|------|------|------|------|------|------|-------|
| 1           | 5.2   | 14      | 28   | 34   | 18   | 167  | 46   | 74   | 36   | 21   | 17   | 10    |
| 2           | 5.2   | 14      | 25   | 36   | 56   | 147  | 91   | 83   | 34   | 21   | 16   | 10    |
| 3           | 6.5   | 13      | 26   | 34   | 49   | 133  | 77   | 73   | 33   | 21   | 16   | 11    |
| 4           | 19    | 13      | 22   | 34   | 27   | 122  | 72   | 66   | 33   | 23   | 16   | 10    |
| 5           | 11    | 16      | 19   | 33   | 24   | 102  | 72   | 63   | 32   | 31   | 16   | 10    |
| 6           | 8.7   | 13      | 19   | 31   | 22   | 52   | 103  | 61   | 35   | 31   | 16   | 9.9   |
| 7           | 7.9   | 13      | 21   | 33   | 22   | 62   | 88   | 56   | 38   | 28   | 16   | 10    |
| 8           | 7.9   | 15      | 21   | 32   | 59   | 72   | 81   | 53   | 31   | 26   | 16   | 9.9   |
| 9           | 7.6   | 16      | 21   | 30   | 43   | 74   | 76   | 51   | 33   | 23   | 18   | 20    |
| 10          | 7.6   | 17      | 22   | 30   | 34   | 74   | 71   | 50   | 32   | 21   | 16   | 9.9   |
| 11          | 9.1   | 15      | 21   | 33   | 49   | 72   | 67   | 51   | 29   | 20   | 16   | 9.9   |
| 12          | 11    | 14      | 20   | 28   | 81   | 71   | 63   | 68   | 26   | 18   | 15   | 9.5   |
| 13          | 9.9   | 13      | 21   | 26   | 58   | 68   | 59   | 70   | 26   | 19   | 16   | 10    |
| 14          | 9.1   | 14      | 21   | 24   | 51   | 66   | 67   | 64   | 23   | 21   | 15   | 9.9   |
| 15          | 8.7   | 14      | 19   | 23   | 45   | 60   | 81   | 64   | 23   | 18   | 16   | 44    |
| 16          | 9.1   | 14      | 19   | 21   | 43   | 60   | 71   | 92   | 22   | 16   | 24   | 34    |
| 17          | 9.5   | 13      | 19   | 21   | 42   | 56   | 68   | 103  | 22   | 16   | 14   | 21    |
| 18          | 11    | 22      | 18   | 19   | 42   | 53   | 68   | 90   | 19   | 24   | 12   | 15    |
| 19          | 11    | 19      | 19   | 18   | 31   | 50   | 61   | 78   | 19   | 27   | 13   | 22    |
| 20          | 9.5   | 16      | 19   | 18   | 66   | 49   | 57   | 70   | 21   | 21   | 12   | 19    |
| 21          | 9.9   | 16      | 18   | 18   | 154  | 49   | 51   | 66   | 24   | 24   | 11   | 15    |
| 22          | 10    | 18      | 17   | 17   | 132  | 49   | 49   | 59   | 27   | 19   | 11   | 14    |
| 23          | 10    | 19      | 18   | 17   | 112  | 48   | 50   | 54   | 35   | 17   | 11   | 48    |
| 24          | 9.9   | 19      | 19   | 18   | 167  | 47   | 72   | 50   | 26   | 15   | 17   | 27    |
| 25          | 40    | 37      | 20   | 18   | 194  | 49   | 73   | 47   | 27   | 16   | 18   | 19    |
| 26          | 43    | 26      | 23   | 18   | 250  | 50   | 70   | 42   | 30   | 16   | 12   | 18    |
| 27          | 20    | 22      | 26   | 20   | 235  | 51   | 72   | 40   | 26   | 17   | 12   | 19    |
| 28          | 17    | 40      | 29   | 19   | 193  | 53   | 67   | 37   | 25   | 15   | 11   | 19    |
| 29          | 17    | 62      | 32   | 19   | ---  | 51   | 72   | 43   | 23   | 18   | 11   | 17    |
| 30          | 14    | 36      | 37   | 18   | ---  | 50   | 71   | 43   | 22   | 17   | 11   | 16    |
| 31          | 14    | ---     | 35   | 18   | ---  | 51   | ---  | 40   | ---  | 16   | 10   | ---   |
| TOTAL       | 389.3 | 593     | 694  | 758  | 2299 | 2158 | 2086 | 1901 | 832  | 636  | 451  | 517.0 |
| MEAN        | 12.6  | 19.8    | 22.4 | 24.5 | 82.1 | 69.6 | 69.5 | 61.3 | 27.7 | 20.5 | 14.5 | 17.2  |
| MAX         | 43    | 62      | 37   | 36   | 250  | 167  | 103  | 103  | 38   | 31   | 24   | 48    |
| MIN         | 5.2   | 13      | 17   | 17   | 18   | 47   | 46   | 37   | 19   | 15   | 10   | 9.5   |
| CAL YR 1980 | TOTAL | 19240.3 | MEAN | 52.6 | MAX  | 311  | MIN  | 5.2  |      |      |      |       |
| WTR YR 1981 | TOTAL | 13314.3 | MEAN | 36.5 | MAX  | 250  | MIN  | 5.2  |      |      |      |       |

## PAWTUXET RIVER BASIN

01115630 NOOSENECK RIVER AT NOOSENECK, RI

LOCATION.--Lat 41°37'36", long 71°37'59", Kent County, Hydrologic Unit 01090004, on right bank at upstream side of bridge on State Highway 3 at Nooseneck and 5.5 mi (8.8 km) southwest of Washington.

DRAINAGE AREA.--8.23 mi<sup>2</sup> (21.32 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: Occasional low-flow measurements, water years 1961-63. November 1963 to September 1981 (discontinued).  
Water-quality records: Water year 1963.

GAGE.--Water-stage recorder. Altitude of gage is 265 ft (81 m), from topographic map.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--17 years (water years 1965-81), 18.6 ft<sup>3</sup>/s (0.527 m<sup>3</sup>/s), 30.69 in/yr (780 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 587 ft<sup>3</sup>/s (16.6 m<sup>3</sup>/s) Aug. 4, 1979, gage height, 7.41 ft (2.259 m); minimum, 0.81 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s) Sept. 8, 9, 1964, Sept. 7-13, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 130 ft<sup>3</sup>/s (3.7 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 24 | 1730 | *74 2.10                                              | 3.68 1.122              |      |      |                                                       |                         |
|         |      |                                                       |                         |      |      | No peak discharge above base.                         |                         |

Minimum discharge, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Oct. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP  |
|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|------|
| 1     | 1.2   | 6.1   | 11    | 6.2   | 4.5   | 33   | 15   | 15    | 8.8   | 4.6   | 3.5   | 2.6  |
| 2     | 1.2   | 5.6   | 9.6   | 5.9   | 18    | 30   | 25   | 15    | 8.1   | 4.6   | 3.1   | 1.8  |
| 3     | 1.3   | 5.1   | 9.1   | 5.0   | 24    | 27   | 21   | 14    | 8.1   | 5.1   | 2.8   | 1.8  |
| 4     | 5.9   | 5.1   | 7.6   | 5.1   | 13    | 25   | 18   | 13    | 9.2   | 4.8   | 2.6   | 1.8  |
| 5     | 2.6   | 5.3   | 6.9   | 5.1   | 10    | 24   | 17   | 13    | 8.8   | 8.8   | 6.1   | 1.6  |
| 6     | 2.3   | 5.3   | 6.9   | 4.9   | 8.4   | 23   | 34   | 13    | 8.1   | 10    | 6.1   | 1.5  |
| 7     | 2.1   | 5.1   | 6.5   | 4.8   | 8.1   | 23   | 26   | 12    | 7.7   | 8.4   | 4.8   | 1.5  |
| 8     | 2.1   | 4.8   | 6.3   | 4.8   | 28    | 22   | 21   | 12    | 7.1   | 7.1   | 4.3   | 1.4  |
| 9     | 2.1   | 5.1   | 6.1   | 4.4   | 18    | 21   | 20   | 11    | 6.4   | 5.9   | 4.3   | 3.5  |
| 10    | 1.9   | 6.1   | 6.7   | 4.3   | 13    | 20   | 19   | 11    | 6.1   | 4.8   | 3.7   | 2.3  |
| 11    | 1.9   | 5.9   | 6.5   | 4.3   | 13    | 18   | 18   | 11    | 5.6   | 4.3   | 3.3   | 2.0  |
| 12    | 2.8   | 4.8   | 5.9   | 4.3   | 19    | 17   | 17   | 19    | 5.1   | 3.7   | 2.9   | 1.9  |
| 13    | 2.6   | 4.6   | 5.9   | 4.5   | 14    | 16   | 16   | 20    | 5.9   | 3.5   | 2.9   | 1.9  |
| 14    | 2.4   | 4.3   | 5.9   | 4.6   | 12    | 16   | 18   | 15    | 5.9   | 3.5   | 2.6   | 1.8  |
| 15    | 2.1   | 4.1   | 5.9   | 4.6   | 9.6   | 15   | 29   | 14    | 5.9   | 3.3   | 2.3   | 2.8  |
| 16    | 2.0   | 4.1   | 5.6   | 4.4   | 8.8   | 15   | 21   | 17    | 5.9   | 2.9   | 13    | 6.7  |
| 17    | 2.0   | 3.9   | 5.6   | 4.3   | 8.8   | 15   | 19   | 18    | 5.1   | 2.6   | 9.2   | 4.8  |
| 18    | 2.4   | 10    | 5.3   | 4.3   | 8.4   | 15   | 18   | 15    | 4.6   | 2.4   | 6.7   | 3.1  |
| 19    | 5.1   | 8.8   | 5.6   | 4.3   | 8.4   | 15   | 17   | 13    | 4.3   | 2.4   | 5.6   | 3.1  |
| 20    | 3.3   | 7.1   | 4.8   | 4.2   | 25    | 14   | 16   | 12    | 13    | 3.1   | 4.6   | 2.9  |
| 21    | 2.9   | 6.4   | 4.2   | 4.1   | 51    | 14   | 14   | 11    | 13    | 9.2   | 4.1   | 2.6  |
| 22    | 2.9   | 6.1   | 4.3   | 3.6   | 42    | 13   | 14   | 10    | 10    | 6.4   | 3.7   | 2.6  |
| 23    | 2.9   | 6.1   | 4.4   | 3.7   | 31    | 13   | 13   | 10    | 8.8   | 5.3   | 3.3   | 3.7  |
| 24    | 2.9   | 6.1   | 4.6   | 3.7   | 54    | 13   | 21   | 9.6   | 7.1   | 4.6   | 3.3   | 3.3  |
| 25    | 12    | 16    | 4.3   | 3.7   | 60    | 13   | 20   | 8.4   | 6.7   | 4.1   | 3.3   | 2.9  |
| 26    | 27    | 11    | 4.4   | 3.8   | 50    | 14   | 18   | 7.7   | 8.1   | 3.9   | 3.1   | 3.1  |
| 27    | 11    | 9.2   | 4.2   | 4.4   | 42    | 15   | 17   | 7.4   | 6.7   | 6.7   | 2.9   | 2.1  |
| 28    | 8.8   | 13    | 4.1   | 4.6   | 35    | 15   | 15   | 7.1   | 5.9   | 4.8   | 2.4   | 2.3  |
| 29    | 8.4   | 23    | 4.1   | 4.4   | ---   | 14   | 16   | 12    | 5.1   | 4.8   | 1.6   | 2.1  |
| 30    | 7.4   | 13    | 8.4   | 4.0   | ---   | 14   | 16   | 12    | 4.6   | 5.1   | 1.5   | 2.1  |
| 31    | 6.4   | ---   | 8.5   | 3.9   | ---   | 16   | ---  | 10    | ---   | 4.3   | 2.6   | ---  |
| TOTAL | 141.9 | 221.1 | 189.2 | 138.2 | 637.0 | 558  | 569  | 388.2 | 215.7 | 155.0 | 126.2 | 77.6 |
| MEAN  | 4.58  | 7.37  | 6.10  | 4.46  | 22.8  | 18.0 | 19.0 | 12.5  | 7.19  | 5.00  | 4.07  | 2.59 |
| MAX   | 27    | 23    | 11    | 6.2   | 60    | 33   | 34   | 20    | 13    | 10    | 13    | 6.7  |
| MIN   | 1.2   | 3.9   | 4.1   | 3.6   | 4.5   | 13   | 13   | 7.1   | 4.3   | 2.4   | 1.5   | 1.4  |
| CFSM  | .56   | .90   | .74   | .54   | 2.77  | 2.19 | 2.31 | 1.52  | .87   | .61   | .50   | .32  |
| IN.   | .64   | 1.00  | .86   | .62   | 2.88  | 2.52 | 2.57 | 1.75  | .97   | .70   | .57   | .35  |

CAL YR 1980 TOTAL 5139.39 MEAN 14.0 MAX 207 MIN .81 CFSM 1.70 IN 23.23  
WTR YR 1981 TOTAL 3417.10 MEAN 9.36 MAX 60 MIN 1.2 CFSM 1.14 IN 15.44



## 01116000 SOUTH BRANCH PAWTUXET RIVER AT WASHINGTON, RI

LOCATION.--Lat 41°41'24", long 71°33'59", Kent County, Hydrologic Unit 01090004, on right bank 150 ft (46 m) downstream from highway bridge at Washington and 0.9 mi (1.4 km) upstream from outlet of Tiogue Lake.

DRAINAGE AREA.--63.8 mi<sup>2</sup> (165.2 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1940 to current year.  
Water-quality records: Water years 1955-1956, 1963.

GAGE.--Water-stage recorder. Datum of gage is 217.76 ft (66.373 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for periods of no gage-height record, Aug. 5 to Sept. 14, Sept. 19-30, which are poor. Flow regulated by Flat River Reservoir 2 mi (3 km) upstream (see table below), usable capacity, 250,000,000 ft<sup>3</sup> (7,080,000 m<sup>3</sup>), and smaller reservoirs. Prior to May 1972, diversion from Carr Pond for municipal supply of Coventry, Warwick, and West Warwick. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--41 years, 128 ft<sup>3</sup>/s (3.625 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft<sup>3</sup>/s (52.7 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 5.13 ft (1.564 m); minimum daily, 2.8 ft<sup>3</sup>/s (0.079 m<sup>3</sup>/s) Aug. 27, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a discharge of 1,810 ft<sup>3</sup>/s (51.3 m<sup>3</sup>/s), by computation of flow over dam just upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 441 ft<sup>3</sup>/s (12.5 m<sup>3</sup>/s) Feb. 26, gage height, 2.71 ft (0.826 m); minimum daily, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR   | MAY  | JUN  | JUL  | AUG   | SEP  |
|-------|-------|------|------|------|------|------|-------|------|------|------|-------|------|
| 1     | 37    | 34   | 47   | 39   | 39   | 339  | 46    | 166  | 71   | 29   | 30    | 28   |
| 2     | 39    | 34   | 46   | 39   | 55   | 239  | 67    | 166  | 69   | 30   | 29    | 27   |
| 3     | 39    | 34   | 47   | 37   | 51   | 236  | 80    | 137  | 69   | 30   | 29    | 27   |
| 4     | 44    | 36   | 46   | 37   | 46   | 247  | 98    | 88   | 47   | 30   | 30    | 26   |
| 5     | 39    | 37   | 46   | 36   | 44   | 276  | 166   | 115  | 39   | 44   | 33    | 30   |
| 6     | 39    | 37   | 44   | 36   | 44   | 228  | 173   | 149  | 37   | 39   | 32    | 28   |
| 7     | 39    | 37   | 44   | 37   | 44   | 225  | 137   | 115  | 37   | 32   | 31    | 28   |
| 8     | 39    | 37   | 46   | 39   | 55   | 166  | 134   | 83   | 37   | 30   | 31    | 29   |
| 9     | 37    | 37   | 61   | 37   | 51   | 53   | 134   | 78   | 37   | 32   | 31    | 33   |
| 10    | 37    | 39   | 65   | 37   | 49   | 149  | 134   | 78   | 37   | 61   | 30    | 31   |
| 11    | 37    | 37   | 63   | 37   | 53   | 163  | 130   | 78   | 32   | 67   | 30    | 30   |
| 12    | 39    | 37   | 63   | 37   | 55   | 163  | 130   | 106  | 30   | 42   | 30    | 29   |
| 13    | 37    | 37   | 65   | 37   | 49   | 159  | 130   | 121  | 32   | 30   | 30    | 28   |
| 14    | 37    | 37   | 63   | 37   | 49   | 159  | 137   | 159  | 32   | 30   | 29    | 28   |
| 15    | 37    | 37   | 61   | 37   | 53   | 149  | 140   | 127  | 32   | 29   | 29    | 30   |
| 16    | 37    | 36   | 61   | 37   | 53   | 83   | 127   | 134  | 32   | 29   | 38    | 63   |
| 17    | 37    | 36   | 61   | 37   | 53   | 78   | 80    | 130  | 32   | 29   | 35    | 67   |
| 18    | 37    | 42   | 61   | 39   | 51   | 78   | 80    | 127  | 61   | 29   | 33    | 37   |
| 19    | 39    | 39   | 61   | 39   | 53   | 73   | 124   | 127  | 69   | 30   | 32    | 33   |
| 20    | 37    | 39   | 59   | 41   | 67   | 41   | 130   | 121  | 69   | 34   | 32    | 31   |
| 21    | 37    | 39   | 59   | 41   | 83   | 39   | 130   | 49   | 39   | 41   | 31    | 29   |
| 22    | 37    | 39   | 59   | 39   | 73   | 39   | 124   | 39   | 34   | 65   | 30    | 31   |
| 23    | 37    | 39   | 59   | 39   | 71   | 39   | 76    | 41   | 63   | 69   | 29    | 33   |
| 24    | 36    | 39   | 59   | 37   | 166  | 37   | 80    | 65   | 67   | 39   | 29    | 32   |
| 25    | 51    | 49   | 57   | 37   | 183  | 39   | 78    | 96   | 69   | 30   | 34    | 30   |
| 26    | 53    | 42   | 57   | 37   | 328  | 39   | 76    | 69   | 67   | 30   | 32    | 30   |
| 27    | 39    | 42   | 57   | 39   | 425  | 39   | 106   | 69   | 36   | 33   | 31    | 29   |
| 28    | 39    | 51   | 59   | 41   | 412  | 55   | 170   | 69   | 30   | 30   | 30    | 29   |
| 29    | 37    | 59   | 59   | 41   | ---  | 121  | 170   | 76   | 29   | 32   | 29    | 28   |
| 30    | 37    | 49   | 46   | 37   | ---  | 127  | 170   | 47   | 29   | 30   | 29    | 28   |
| 31    | 36    | ---  | 41   | 37   | ---  | 118  | ---   | 67   | ---  | 30   | 28    | ---  |
| TOTAL | 1202  | 1187 | 1722 | 1177 | 2755 | 3996 | 3557  | 3092 | 1364 | 1135 | 956   | 962  |
| MEAN  | 38.8  | 39.6 | 55.5 | 38.0 | 98.4 | 129  | 119   | 99.7 | 45.5 | 36.6 | 30.8  | 32.1 |
| MAX   | 53    | 59   | 65   | 41   | 425  | 339  | 173   | 166  | 71   | 69   | 38    | 67   |
| MIN   | 36    | 34   | 41   | 36   | 39   | 37   | 46    | 39   | 29   | 29   | 28    | 26   |
| (†)   | 112.5 | 144  | 108  | 90   | 210  | 210  | 219.5 | 210  | 223  | 226  | 206.5 | 185  |

CAL YR 1980 TOTAL 35348.4 MEAN 96.6 MAX 1320 MIN 8.3  
WTR YR 1981 TOTAL 23105.0 MEAN 63.3 MAX 425 MIN 26

† Monthend contents, in millions of cubic feet, in Flat River Reservoir; records furnished by Quidnick Reservoir Co.

## PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, RI

LOCATION.--Lat 41°45'03", long 71°26'44", Providence County, Hydrologic Unit 01090004, on left bank at Cranston 0.7 mi (1.1 km) upstream from Pocasset River.

DRAINAGE AREA.--200 mi<sup>2</sup> (518 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1939 to September 1981 (discontinued).

REVISED RECORDS.--WSP 971: 1940-42. WSP 1381: 1940-41(M). WDR-MA-NH-RI-VT-73-1: 1972 (adjusted monthly and yearly figures only).

GAGE.--Water-stage recorder. Datum of gage is 8.00 ft (2.438 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by powerplants and by Scituate Reservoir 13 mi (21 km) upstream, Flat River Reservoir, and other reservoirs, combined usable capacity, about 6,000,000,000 ft<sup>3</sup> (170,000,000 m<sup>3</sup>). Diversion from Scituate Reservoir for municipal supply of Providence, North Providence, Cranston, Johnston, Smithfield, Warwick, West Warwick, and Coventry. See table below for figures of diversion and monthend contents in Scituate Reservoir and five smaller reservoirs, and see table with station 01116000 for monthend contents in Flat River Reservoir.

AVERAGE DISCHARGE.--41 years (water years 1941-81), 339 ft<sup>3</sup>/s (9.600 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft<sup>3</sup>/s (113 m<sup>3</sup>/s) Jan. 26, 1979, gage height, 13.26 ft (4.042 m); minimum daily, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) Sept. 4, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 704 ft<sup>3</sup>/s (19.9 m<sup>3</sup>/s) Feb. 27, gage height, 5.34 ft (1.628 m); minimum daily, 59 ft<sup>3</sup>/s (1.67 m<sup>3</sup>/s) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT         | NOV      | DEC      | JAN    | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------------|----------|----------|--------|------|------|------|------|------|------|------|------|
| 1           | 100         | 107      | 130      | 113    | 89   | 562  | 178  | 275  | 143  | 97   | 69   | 67   |
| 2           | 102         | 100      | 130      | 115    | 236  | 387  | 263  | 275  | 148  | 116  | 67   | 67   |
| 3           | 105         | 100      | 135      | 108    | 221  | 363  | 228  | 256  | 151  | 108  | 67   | 65   |
| 4           | 151         | 112      | 125      | 91     | 138  | 349  | 201  | 198  | 167  | 102  | 93   | 65   |
| 5           | 100         | 119      | 112      | 92     | 122  | 423  | 249  | 189  | 149  | 186  | 122  | 81   |
| 6           | 97          | 112      | 102      | 106    | 114  | 355  | 407  | 242  | 124  | 178  | 100  | 75   |
| 7           | 102         | 114      | 105      | 116    | 113  | 343  | 289  | 218  | 117  | 124  | 88   | 67   |
| 8           | 102         | 112      | 105      | 110    | 224  | 320  | 242  | 186  | 110  | 112  | 81   | 77   |
| 9           | 102         | 109      | 112      | 103    | 178  | 188  | 253  | 163  | 126  | 105  | 81   | 138  |
| 10          | 100         | 127      | 143      | 104    | 135  | 209  | 253  | 157  | 116  | 111  | 75   | 105  |
| 11          | 100         | 112      | 140      | 93     | 152  | 261  | 235  | 163  | 110  | 125  | 79   | 81   |
| 12          | 105         | 109      | 138      | 91     | 223  | 261  | 225  | 221  | 109  | 118  | 77   | 73   |
| 13          | 95          | 107      | 140      | 101    | 148  | 259  | 225  | 225  | 116  | 99   | 69   | 67   |
| 14          | 100         | 112      | 132      | 102    | 133  | 255  | 260  | 253  | 99   | 95   | 84   | 59   |
| 15          | 100         | 109      | 130      | 105    | 120  | 241  | 297  | 232  | 103  | 89   | 77   | 88   |
| 16          | 97          | 102      | 141      | 105    | 116  | 205  | 253  | 282  | 112  | 85   | 177  | 146  |
| 17          | 100         | 102      | 136      | 105    | 125  | 189  | 218  | 270  | 110  | 85   | 105  | 125  |
| 18          | 105         | 165      | 131      | 93     | 123  | 180  | 189  | 235  | 113  | 81   | 86   | 107  |
| 19          | 109         | 135      | 135      | 100    | 136  | 175  | 198  | 226  | 139  | 91   | 84   | 86   |
| 20          | 97          | 119      | 126      | 105    | 203  | 162  | 218  | 219  | 206  | 109  | 69   | 71   |
| 21          | 100         | 119      | 117      | 103    | 339  | 135  | 221  | 178  | 150  | 162  | 77   | 71   |
| 22          | 97          | 114      | 113      | 101    | 232  | 127  | 218  | 135  | 116  | 104  | 67   | 77   |
| 23          | 97          | 109      | 121      | 104    | 191  | 128  | 198  | 126  | 121  | 107  | 65   | 95   |
| 24          | 97          | 109      | 126      | 100    | 388  | 132  | 267  | 113  | 136  | 97   | 81   | 84   |
| 25          | 235         | 198      | 114      | 89     | 460  | 142  | 260  | 174  | 150  | 79   | 86   | 79   |
| 26          | 201         | 138      | 111      | 98     | 534  | 148  | 211  | 157  | 153  | 73   | 81   | 77   |
| 27          | 114         | 119      | 114      | 113    | 647  | 147  | 198  | 152  | 126  | 88   | 79   | 75   |
| 28          | 122         | 168      | 114      | 109    | 616  | 140  | 256  | 147  | 99   | 75   | 81   | 77   |
| 29          | 117         | 221      | 128      | 106    | ---  | 182  | 289  | 174  | 92   | 81   | 77   | 77   |
| 30          | 112         | 146      | 145      | 104    | ---  | 216  | 282  | 159  | 99   | 75   | 73   | 73   |
| 31          | 109         | ---      | 125      | 98     | ---  | 234  | ---  | 129  | ---  | 73   | 67   | ---  |
| TOTAL       | 3470        | 3725     | 3876     | 3183   | 6456 | 7418 | 7281 | 6129 | 3810 | 3230 | 2584 | 2495 |
| MEAN        | 112         | 124      | 125      | 103    | 231  | 239  | 243  | 198  | 127  | 104  | 83.4 | 83.2 |
| MAX         | 235         | 221      | 145      | 116    | 647  | 562  | 407  | 282  | 206  | 186  | 177  | 146  |
| MIN         | 95          | 100      | 102      | 89     | 89   | 127  | 178  | 113  | 92   | 73   | 65   | 59   |
| (†)         | 3802        | 3718     | 3590     | 3370   | 4061 | 4154 | 4402 | 4440 | 4182 | 3859 | 3477 | 3206 |
| (‡)         | 104         | 96.1     | 94.1     | 95.6   | 92.0 | 89.3 | 93.3 | 105  | 119  | 123  | 117  | 105  |
| CAL YR 1980 | TOTAL 88989 | MEAN 243 | MAX 2210 | MIN 75 |      |      |      |      |      |      |      |      |
| WTR YR 1981 | TOTAL 53657 | MEAN 147 | MAX 647  | MIN 59 |      |      |      |      |      |      |      |      |

† Monthend contents, in millions of cubic feet, of Scituate Reservoir and five smaller reservoirs.

‡ Diversion, in cubic feet per second, from Scituate Reservoir for municipal supply of Providence, North Providence, Cranston, Johnston, Smithfield, Warwick, West Warwick, and Coventry. Figures of diversion and monthend contents furnished by Providence Water Supply Board.

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1969 to September 1981 (discontinued).

WATER TEMPERATURES: November 1961 to September 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor; prior to June 1969, water temperature recorder.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 693 micromhos Mar. 11, 1980; minimum recorded, 60 micromhos Jan. 25, 1979.

WATER TEMPERATURES: Maximum recorded, 30.0°C July 1, 1964, Aug. 14, 1973; minimum recorded, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 598 micromhos Sept. 4; minimum recorded, 157 micromhos Nov. 16, 28.

WATER TEMPERATURES: Maximum recorded, 29.5°C July 10, 11; minimum recorded, 0.0°C on many days during winter period.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE  | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS) | PH<br>(UNITS) | TEMPER-<br>ATURE<br>(DEG C) | TUR-<br>BID-<br>ITY<br>(NTU) | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L) | OXYGEN<br>DEMAND,<br>CHEM-<br>ICAL<br>(HIGH<br>LEVEL)<br>(MG/L) | C.O.D.<br>TOTAL<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(MG/KG) | COLI-<br>FORM,<br>TOTAL,<br>IMMED.<br>(COLS.<br>PER<br>100 ML) |
|-------|------|-------------------------------------------------|---------------------------------------------------|---------------|-----------------------------|------------------------------|----------------------------------------------|-------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------|
| OCT   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 16... | 0830 | 90                                              | 380                                               | 6.7           | 11.5                        | .40                          | --                                           | 6.6                                 | --                                                              | --                                                          | 280                                                            |
| NOV   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 19... | 0800 | 125                                             | 220                                               | 6.8           | 3.0                         | .40                          | --                                           | 11.2                                | --                                                              | --                                                          | 2800                                                           |
| DEC   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 17... | 1000 | 125                                             | 270                                               | 6.6           | 1.0                         | .90                          | 32                                           | 12.2                                | 19                                                              | --                                                          | 33                                                             |
| JAN   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 21... | 1245 | 88                                              | 450                                               | 6.8           | 1.5                         | --                           | --                                           | 11.0                                | --                                                              | --                                                          | 0                                                              |
| FEB   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 18... | 1140 | 119                                             | 360                                               | 6.8           | 7.0                         | 2.4                          | --                                           | 10.7                                | --                                                              | --                                                          | 18                                                             |
| MAR   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 11... | 1410 | 253                                             | 300                                               | 6.8           | 6.0                         | 1.1                          | 40                                           | 11.5                                | 28                                                              | --                                                          | 1600                                                           |
| APR   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 08... | 1040 | 242                                             | 180                                               | 6.5           | 11.5                        | 2.0                          | --                                           | 10.0                                | --                                                              | --                                                          | 570                                                            |
| MAY   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 13... | 1145 | 215                                             | 290                                               | 6.5           | 17.0                        | 4.0                          | --                                           | 8.2                                 | --                                                              | --                                                          | 15500                                                          |
| JUN   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 09... | 1100 | 122                                             | 350                                               | 6.7           | 21.0                        | 7.5                          | 40                                           | 4.8                                 | 35                                                              | 31000                                                       | 1900                                                           |
| JUL   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 08... | 0930 | 102                                             | 245                                               | 6.5           | 24.5                        | 1.6                          | --                                           | 4.7                                 | --                                                              | --                                                          | 830                                                            |
| AUG   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 19... | 0900 | 93                                              | 360                                               | 6.6           | 20.0                        | 1.9                          | --                                           | --                                  | --                                                              | --                                                          | 1600                                                           |
| SEP   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 02... | 0930 | 63                                              | 385                                               | 6.5           | 20.0                        | --                           | 25                                           | 1.9                                 | 110                                                             | 5200                                                        | 1400                                                           |

## PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | COLI-FORM,<br>FECAL,<br>0.7<br>UM-MF<br>(COLS./<br>100 ML) | STREP-<br>TOCOCCHI<br>FECAL,<br>KF AGAR<br>(COLS.<br>PER<br>100 ML) | HARD-<br>NESS<br>(MG/L<br>AS<br>CAC03) | HARD-<br>NESS,<br>NONCAR-<br>BONATE<br>(MG/L<br>CAC03) | CALCIUM<br>DIS-<br>SOLVED<br>(MG/L<br>AS CA) | MAGNE-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS MG) | SODIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS NA) | SODIUM<br>AD-<br>SORP-<br>TION<br>RATIO | PERCENT<br>SODIUM | POTAS-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS K) | ALKA-<br>LITY<br>LAB<br>(MG/L<br>AS<br>CAC03) |
|-----------|------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------|----------------------------------------------|------------------------------------------------------|----------------------------------------------|-----------------------------------------|-------------------|-----------------------------------------------------|-----------------------------------------------|
| OCT 16... | 17                                                         | 9                                                                   | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| NOV 19... | 85                                                         | 86                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| DEC 17... | 0                                                          | 0                                                                   | 35                                     | 23                                                     | 9.9                                          | 2.5                                                  | 32                                           | 2.4                                     | 63                | 5.2                                                 | 12                                            |
| JAN 21... | 57                                                         | 7                                                                   | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| FEB 18... | 1                                                          | 10                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| MAR 11... | 66                                                         | 7                                                                   | 47                                     | 35                                                     | 13                                           | 3.6                                                  | 35                                           | 2.2                                     | 58                | 5.4                                                 | 12                                            |
| APR 08... | 18                                                         | 12                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| MAY 13... | 160                                                        | 12                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| JUN 09... | 65                                                         | 77                                                                  | 65                                     | --                                                     | 16                                           | 6.0                                                  | 46                                           | 2.5                                     | 59                | 5.0                                                 | 24                                            |
| JUL 08... | 79                                                         | 62                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| AUG 19... | 72                                                         | 78                                                                  | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                            |
| SEP 02... | 100                                                        | 27                                                                  | 76                                     | --                                                     | 18                                           | 7.5                                                  | 57                                           | 2.8                                     | 59                | 8.2                                                 | 24                                            |

| DATE      | SULFATE<br>DIS-<br>SOLVED<br>(MG/L<br>AS SO4) | CHLO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS CL) | FLUO-<br>RIDE,<br>TOTAL<br>(MG/L<br>AS F) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>SUS-<br>PENDE<br>(MG/L) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>TOTAL<br>(MG/L) | NITRO-<br>GEN,<br>NITRATE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NITRITE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS NH4) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) |
|-----------|-----------------------------------------------|-----------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|
| OCT 16... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .86                                                  | .050                                                 | .91                                                  | 1.30                                                 | 1.6                                                    | .60                                                  |
| NOV 19... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .68                                                  | .040                                                 | .72                                                  | 1.50                                                 | 1.8                                                    | .20                                                  |
| DEC 17... | 34                                            | 42                                                  | .1                                        | 11                                                                 | 163                                                        | .49                                                  | .010                                                 | .50                                                  | 1.70                                                 | 2.1                                                    | .20                                                  |
| JAN 21... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | --                                                   | --                                                   | --                                                   | --                                                   | --                                                     | --                                                   |
| FEB 18... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .55                                                  | .020                                                 | .57                                                  | 2.20                                                 | --                                                     | .00                                                  |
| MAR 11... | 40                                            | 45                                                  | .4                                        | 9                                                                  | 179                                                        | .47                                                  | .020                                                 | .49                                                  | 1.40                                                 | --                                                     | .10                                                  |
| APR 08... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .39                                                  | .020                                                 | .41                                                  | .870                                                 | --                                                     | .63                                                  |
| MAY 13... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .45                                                  | .020                                                 | .47                                                  | .830                                                 | --                                                     | 1.2                                                  |
| JUN 09... | 58                                            | 54                                                  | .2                                        | 8                                                                  | 238                                                        | .83                                                  | .130                                                 | .96                                                  | 1.90                                                 | --                                                     | .50                                                  |
| JUL 08... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .92                                                  | .180                                                 | 1.1                                                  | .640                                                 | --                                                     | .46                                                  |
| AUG 19... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | 1.1                                                  | .110                                                 | 1.2                                                  | .600                                                 | --                                                     | .90                                                  |
| SEP 02... | 76                                            | 78                                                  | .3                                        | 14                                                                 | 315                                                        | 1.6                                                  | .150                                                 | 1.7                                                  | .990                                                 | --                                                     | .91                                                  |

## PAWTUXET RIVER BASIN

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01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | NITRO-<br>GEN, AM-<br>MONIA +<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS NO3) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) | PHOS-<br>PHATE,<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS,<br>ORTHO,<br>TOTAL<br>(MG/L<br>AS P) | PHENOLS<br>(UG/L) | METHY-<br>LENE<br>BLUE<br>ACTIVE<br>SUB-<br>STANCE<br>(MG/L) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C) | OIL AND<br>GREASE,<br>TOTAL<br>RECOV.<br>GRAVI-<br>METRIC<br>(MG/L) |
|--------------|---------------------------------------------------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------------------|-------------------|--------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------|
| OCT<br>16... | 1.90                                                                | 2.8                                       | 12                                          | .960                                        | 2.60                                         | 2.9                                          | .850                                                  | --                | --                                                           | --                                            | --                                                                  |
| NOV<br>19... | 1.70                                                                | 2.4                                       | 11                                          | .480                                        | 1.20                                         | 1.5                                          | .380                                                  | --                | --                                                           | --                                            | --                                                                  |
| DEC<br>17... | 1.90                                                                | 2.4                                       | 11                                          | .270                                        | .55                                          | .83                                          | .180                                                  | 5                 | .10                                                          | 7.7                                           | 1                                                                   |
| JAN<br>21... | --                                                                  | --                                        | --                                          | --                                          | --                                           | --                                           | --                                                    | --                | --                                                           | --                                            | --                                                                  |
| FEB<br>18... | 2.20                                                                | 2.8                                       | 12                                          | .620                                        | --                                           | 1.9                                          | .510                                                  | --                | --                                                           | --                                            | --                                                                  |
| MAR<br>11... | 1.50                                                                | 2.0                                       | 8.8                                         | .370                                        | --                                           | 1.1                                          | .320                                                  | 0                 | .10                                                          | --                                            | 1                                                                   |
| APR<br>08... | 1.50                                                                | 1.9                                       | 8.5                                         | .420                                        | --                                           | 1.3                                          | .310                                                  | --                | --                                                           | --                                            | --                                                                  |
| MAY<br>13... | 2.00                                                                | 2.5                                       | 11                                          | .460                                        | --                                           | 1.4                                          | .290                                                  | --                | --                                                           | --                                            | --                                                                  |
| JUN<br>09... | 2.40                                                                | 3.4                                       | 15                                          | .840                                        | --                                           | 2.6                                          | .680                                                  | 4                 | .20                                                          | 14                                            | 1                                                                   |
| JUL<br>08... | 1.10                                                                | 2.2                                       | 9.7                                         | .410                                        | --                                           | 1.3                                          | .320                                                  | --                | --                                                           | --                                            | --                                                                  |
| AUG<br>19... | 1.50                                                                | 2.7                                       | 12                                          | .520                                        | --                                           | 1.6                                          | .490                                                  | --                | --                                                           | --                                            | --                                                                  |
| SEP<br>02... | 1.90                                                                | 3.6                                       | 16                                          | 1.20                                        | --                                           | 3.7                                          | 1.10                                                  | 10                | .10                                                          | 7.1                                           | ,1                                                                  |

| DATE         | ARSENIC<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AS) | BORON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS B) | CADMIUM<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CD) | CHRO-<br>MIUM,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | CHRO-<br>MIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CR) | COBALT,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CO) | COPPER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) |    |
|--------------|-------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------|----|
| MAR<br>11... |                                     | 1                                                                   | 0                                                                  | 20                                                      | 2                                                                    | 3                                                                  | 10                                                             | 20                                                                   | <1                                                      | 27 |
| SEP<br>02... |                                     | 3                                                                   | 0                                                                  | <10                                                     | 4                                                                    | 2                                                                  | 8                                                              | 20                                                                   | <10                                                     | 17 |

|              | COPPER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CU) | IRON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS FE) | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS PB) | MANGA-<br>NESE,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN) | MERCURY<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS HG) |
|--------------|----------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|
| MAR<br>11... | 27                                                                   | 480                                                   | 5300                                                               | 5                                                     | 14                                                                 | 60                                                                  | 160                                                             | .1                                                      | .00                                                                  |
| SEP<br>02... | 88                                                                   | 650                                                   | 3200                                                               | 19                                                    | 22                                                                 | 57                                                                  | 360                                                             | < .1                                                    | < .01                                                                |



## PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS NI) | SELE-<br>NIUM,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | SILVER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AG) | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS ZN) |
|--------------|---------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|
| MAR<br>11... | 22                                                      | 14                                                                   | 0                                                                          | 0                                                                 | 1                                                       | 0                                                                    | 130                                                   | 30                                                                 |
| SEP<br>02... | 14                                                      | <10                                                                  | <1                                                                         | <1                                                                | <1                                                      | <1                                                                   | 50                                                    | 43                                                                 |

| DATE         | PCB,<br>TOTAL<br>(UG/L) | PCB,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | PCN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | NAPH-<br>THA-<br>LENES,<br>POLY-<br>CHLOR.<br>TOTAL<br>(UG/L) | ALDRIN,<br>TOTAL<br>(UG/L) | ALDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | CHLOR-<br>DANE,<br>TOTAL<br>(UG/L) | CHLOR-<br>DANE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DDD,<br>TOTAL<br>(UG/L) | DDD,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DDE,<br>TOTAL<br>(UG/L) | DDE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) |
|--------------|-------------------------|----------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|----------------------------|-------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------|-------------------------|----------------------------------------------------------|-------------------------|----------------------------------------------------------|
| SEP<br>02... | .20                     | 38                                                       | <1.0                                                     | <.10                                                          | <.01                       | <.1                                                         | <.10                               | 10                                                                  | <.01                    | .7                                                       | <.01                    | <.1                                                      |

| DATE         | DDT,<br>TOTAL<br>(UG/L) | DDT,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | DI-<br>ELDRIN,<br>TOTAL<br>(UG/L) | DI-<br>ELDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | ENDO-<br>SULFAN,<br>TOTAL<br>(UG/L) | ENDO-<br>SULFAN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | ENDRIN,<br>TOTAL<br>(UG/L) | ENDRIN,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | HEPTA-<br>CHLOR,<br>TOTAL<br>(UG/L) | HEPTA-<br>CHLOR,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | HEPTA-<br>CHLOR<br>EPOXIDE<br>TOTAL<br>(UG/L) |
|--------------|-------------------------|----------------------------------------------------------|-----------------------------------|--------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------|----------------------------|-------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------|-----------------------------------------------|
| SEP<br>02... | <.01                    | <.1                                                      | <.01                              | <.1                                                                | <.01                                | <.1                                                                  | <.01                       | <.1                                                         | <.01                                | <.1                                                                  | <.01                                          |

| DATE         | HEPTA-<br>CHLOR<br>EPOXIDE<br>TOT. IN<br>BOTTOM<br>MATL.<br>(UG/KG) | LINDANE<br>TOTAL<br>(UG/L) | LINDANE<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | METH-<br>OXY-<br>CHLOR,<br>TOTAL<br>(UG/L) | METH-<br>OXY-<br>CHLOR,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | MIREX,<br>TOTAL<br>(UG/L) | MIREX,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | PER-<br>THANE<br>TOTAL<br>(UG/L) | PER-<br>THANE<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | TOX-<br>APHENE,<br>TOTAL<br>(UG/L) | TOXA-<br>PHENE,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) |
|--------------|---------------------------------------------------------------------|----------------------------|-------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------------|---------------------------|------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------|
| SEP<br>02... | <.1                                                                 | <.01                       | <.1                                                         | <.01                                       | <.1                                                                         | <.01                      | <.1                                                        | <.01                             | <.10                                                              | <.10                               | <1.0                                                                |

## 01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 379     | 341 | 369  | 242      | 232 | 238  | 216      | 203 | 208  | 285     | 281 | 284  |
| 2     | 344     | 332 | 338  | 242      | 235 | 238  | 219      | 207 | 213  | 280     | 248 | 270  |
| 3     | 332     | 307 | 328  | 254      | 237 | 245  | 218      | 211 | 214  | 263     | 250 | 258  |
| 4     | 305     | 267 | 285  | 283      | 250 | 261  | 222      | 214 | 217  | 270     | 263 | 267  |
| 5     | 322     | 283 | 295  | 290      | 276 | 284  | 229      | 222 | 226  | 276     | 271 | 274  |
| 6     | 346     | 323 | 336  | 273      | 255 | 266  | 249      | 234 | 241  | ---     | --- | ---  |
| 7     | 362     | 335 | 347  | 250      | 232 | 246  | 267      | 253 | 260  | ---     | --- | ---  |
| 8     | 363     | 327 | 354  | 227      | 223 | 225  | 301      | 273 | 284  | ---     | --- | ---  |
| 9     | 354     | 326 | 340  | 225      | 220 | 222  | 342      | 309 | 327  | ---     | --- | ---  |
| 10    | 362     | 342 | 350  | 223      | 209 | 215  | 354      | 326 | 347  | ---     | --- | ---  |
| 11    | 349     | 317 | 343  | 249      | 220 | 231  | 421      | 325 | 337  | ---     | --- | ---  |
| 12    | 341     | 313 | 325  | 265      | 246 | 259  | 326      | 298 | 309  | ---     | --- | ---  |
| 13    | 372     | 344 | 360  | 246      | 203 | 231  | 305      | 281 | 290  | ---     | --- | ---  |
| 14    | 415     | 375 | 395  | 209      | 173 | 199  | 312      | 300 | 306  | ---     | --- | ---  |
| 15    | 413     | 367 | 403  | 191      | 169 | 183  | 316      | 308 | 312  | 354     | 349 | 351  |
| 16    | 386     | 346 | 368  | 174      | 157 | 165  | 326      | 310 | 319  | 371     | 356 | 364  |
| 17    | 337     | 324 | 329  | 190      | 164 | 175  | 313      | 290 | 304  | 397     | 365 | 381  |
| 18    | 324     | 293 | 316  | 242      | 176 | 207  | 291      | 280 | 285  | 409     | 368 | 390  |
| 19    | 299     | 269 | 284  | 226      | 214 | 221  | 315      | 282 | 293  | 402     | 370 | 386  |
| 20    | 303     | 295 | 300  | 231      | 201 | 215  | 326      | 315 | 322  | 484     | 393 | 428  |
| 21    | 333     | 297 | 312  | 214      | 201 | 206  | 325      | 310 | 316  | 504     | 418 | 462  |
| 22    | 344     | 327 | 337  | 209      | 204 | 206  | 322      | 313 | 317  | 517     | 462 | 489  |
| 23    | 320     | 311 | 315  | 222      | 211 | 216  | 334      | 320 | 326  | 492     | 454 | 474  |
| 24    | 314     | 306 | 308  | 238      | 228 | 234  | 352      | 332 | 341  | 499     | 456 | 466  |
| 25    | 302     | 203 | 272  | 243      | 203 | 222  | 386      | 352 | 373  | 524     | 463 | 482  |
| 26    | 233     | 203 | 217  | 222      | 208 | 215  | 394      | 382 | 390  | 519     | 466 | 479  |
| 27    | 261     | 229 | 246  | 232      | 227 | 231  | 386      | 373 | 379  | 502     | 473 | 487  |
| 28    | 246     | 191 | 220  | 235      | 157 | 211  | 374      | 352 | 361  | 544     | 495 | 531  |
| 29    | 203     | 177 | 190  | 188      | 167 | 178  | 352      | 301 | 339  | 582     | 537 | 556  |
| 30    | 219     | 196 | 205  | 214      | 195 | 207  | 314      | 272 | 289  | 567     | 491 | 524  |
| 31    | 242     | 215 | 233  | ---      | --- | ---  | 293      | 285 | 289  | 510     | 467 | 490  |
| MONTH | 415     | 177 | 310  | 290      | 157 | 222  | 421      | 203 | 301  | 582     | 248 | 413  |

| DAY   | MAX      | MIN | MEAN | MAX   | MIN | MEAN | MAX   | MIN | MEAN | MAX | MIN | MEAN |
|-------|----------|-----|------|-------|-----|------|-------|-----|------|-----|-----|------|
|       | FEBRUARY |     |      | MARCH |     |      | APRIL |     |      | MAY |     |      |
| 1     | 496      | 468 | 482  | 237   | 223 | 227  | 301   | 275 | 291  | 235 | 218 | 229  |
| 2     | 493      | 425 | 470  | 257   | 237 | 247  | 274   | 197 | 229  | 233 | 219 | 225  |
| 3     | 437      | 358 | 376  | 260   | 254 | 257  | 257   | 206 | 223  | 245 | 225 | 234  |
| 4     | 396      | 325 | 372  | 271   | 253 | 260  | 287   | 261 | 276  | 263 | 244 | 254  |
| 5     | 350      | 328 | 343  | 253   | 236 | 245  | 279   | 256 | 267  | 277 | 265 | 272  |
| 6     | 389      | 348 | 374  | 245   | 235 | 239  | 271   | 200 | 229  | 297 | 270 | 280  |
| 7     | 406      | 374 | 388  | 265   | 169 | 231  | 209   | 195 | 200  | 306 | 270 | 299  |
| 8     | 520      | 393 | 436  | 254   | 241 | 248  | 218   | 201 | 206  | 265 | 251 | 260  |
| 9     | 429      | 356 | 401  | 281   | 250 | 265  | 225   | 213 | 219  | 259 | 246 | 253  |
| 10    | 430      | 374 | 399  | 291   | 262 | 277  | 232   | 219 | 226  | 279 | 244 | 260  |
| 11    | 405      | 320 | 368  | 365   | 286 | 339  | 235   | 228 | 231  | 331 | 280 | 304  |
| 12    | 388      | 334 | 354  | 345   | 288 | 305  | 256   | 234 | 247  | 351 | 305 | 335  |
| 13    | 399      | 301 | 347  | 310   | 294 | 300  | 283   | 257 | 271  | 307 | 279 | 291  |
| 14    | 354      | 298 | 333  | 311   | 295 | 304  | 304   | 242 | 281  | 283 | 243 | 266  |
| 15    | 364      | 313 | 333  | 321   | 307 | 312  | 249   | 226 | 233  | 280 | 254 | 272  |
| 16    | 352      | 327 | 336  | 324   | 317 | 321  | 226   | 215 | 220  | 252 | 216 | 232  |
| 17    | 367      | 324 | 350  | 328   | 297 | 317  | 236   | 220 | 226  | 242 | 225 | 232  |
| 18    | 399      | 320 | 381  | 338   | 304 | 323  | 234   | 217 | 227  | 256 | 242 | 249  |
| 19    | 495      | 307 | 372  | 357   | 329 | 345  | 266   | 217 | 242  | 264 | 247 | 255  |
| 20    | 384      | 317 | 353  | 354   | 335 | 346  | 314   | 269 | 298  | 266 | 248 | 256  |
| 21    | 318      | 260 | 292  | 348   | 310 | 334  | 324   | 278 | 302  | 267 | 255 | 261  |
| 22    | 321      | 258 | 281  | 322   | 290 | 305  | 286   | 245 | 266  | 300 | 268 | 285  |
| 23    | 358      | 289 | 328  | 335   | 317 | 325  | 262   | 244 | 253  | 281 | 266 | 274  |
| 24    | 357      | 271 | 307  | 384   | 337 | 364  | 264   | 218 | 246  | 295 | 264 | 279  |
| 25    | 274      | 257 | 265  | 393   | 363 | 377  | 252   | 228 | 239  | 404 | 282 | 320  |
| 26    | 262      | 232 | 245  | 428   | 374 | 399  | 262   | 253 | 257  | 458 | 343 | 420  |
| 27    | 235      | 214 | 225  | 407   | 371 | 389  | 293   | 257 | 279  | 339 | 277 | 307  |
| 28    | 230      | 219 | 226  | 412   | 375 | 393  | 327   | 291 | 300  | 296 | 279 | 287  |
| 29    | ---      | --- | ---  | 401   | 366 | 380  | 326   | 241 | 272  | 341 | 282 | 312  |
| 30    | ---      | --- | ---  | 491   | 386 | 448  | 240   | 225 | 231  | 308 | 239 | 276  |
| 31    | ---      | --- | ---  | 375   | 288 | 320  | ---   | --- | ---  | 241 | 227 | 235  |
| MONTH | 520      | 214 | 348  | 491   | 169 | 314  | 327   | 195 | 250  | 458 | 216 | 275  |

## PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY   | MAX  | MIN | MEAN | MAX  | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|-------|------|-----|------|------|-----|------|--------|-----|------|-----------|-----|------|
|       | JUNE |     |      | JULY |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1     | 252  | 210 | 228  | 339  | 322 | 330  | 314    | 297 | 308  | 506       | 475 | 489  |
| 2     | 366  | 256 | 330  | 335  | 312 | 325  | 322    | 314 | 317  | 552       | 510 | 534  |
| 3     | 364  | 334 | 353  | 324  | 315 | 319  | 318    | 306 | 311  | 586       | 556 | 574  |
| 4     | 329  | 291 | 303  | 323  | 310 | 319  | 313    | 260 | 297  | 598       | 565 | 584  |
| 5     | 331  | 294 | 313  | 310  | 213 | 272  | 266    | 234 | 253  | 564       | 512 | 540  |
| 6     | 330  | 304 | 317  | 276  | 229 | 258  | 249    | 234 | 240  | 526       | 511 | 520  |
| 7     | 335  | 299 | 316  | 277  | 245 | 267  | 256    | 238 | 244  | 527       | 488 | 515  |
| 8     | 361  | 324 | 339  | 244  | 227 | 237  | 260    | 241 | 248  | 492       | 477 | 482  |
| 9     | 415  | 359 | 382  | 232  | 219 | 224  | 261    | 245 | 252  | 528       | 475 | 507  |
| 10    | 441  | 403 | 419  | 224  | 210 | 217  | 260    | 240 | 250  | 522       | 485 | 494  |
| 11    | 439  | 415 | 422  | 267  | 211 | 230  | 251    | 230 | 239  | 523       | 461 | 491  |
| 12    | 414  | 390 | 399  | 384  | 268 | 322  | 251    | 230 | 241  | 470       | 449 | 465  |
| 13    | 388  | 369 | 380  | 383  | 362 | 373  | 251    | 236 | 246  | 446       | 412 | 423  |
| 14    | 381  | 358 | 365  | ---  | --- | ---  | 258    | 242 | 251  | 418       | 409 | 413  |
| 15    | 385  | 374 | 379  | ---  | --- | ---  | 283    | 262 | 272  | 427       | 390 | 408  |
| 16    | 416  | 381 | 399  | ---  | --- | ---  | 270    | 170 | 220  | 502       | 400 | 454  |
| 17    | 417  | 401 | 409  | ---  | --- | ---  | 288    | 215 | 244  | 519       | 463 | 487  |
| 18    | 407  | 386 | 395  | ---  | --- | ---  | 348    | 292 | 314  | 513       | 491 | 497  |
| 19    | 385  | 362 | 369  | ---  | --- | ---  | 377    | 354 | 369  | 488       | 439 | 450  |
| 20    | 415  | 346 | 373  | ---  | --- | ---  | 379    | 343 | 355  | 440       | 429 | 435  |
| 21    | 372  | 343 | 363  | ---  | --- | ---  | 347    | 325 | 335  | 427       | 399 | 409  |
| 22    | 342  | 326 | 335  | 453  | 433 | 438  | 361    | 344 | 352  | 410       | 394 | 400  |
| 23    | 326  | 308 | 319  | 457  | 386 | 430  | 377    | 364 | 370  | 431       | 397 | 414  |
| 24    | 309  | 297 | 303  | 387  | 374 | 379  | 429    | 381 | 405  | 463       | 431 | 448  |
| 25    | 348  | 307 | 329  | 415  | 391 | 406  | 478    | 431 | 448  | 494       | 464 | 476  |
| 26    | 345  | 321 | 336  | 418  | 410 | 414  | 540    | 487 | 526  | 479       | 455 | 466  |
| 27    | 341  | 314 | 327  | 415  | 370 | 389  | 529    | 504 | 520  | 474       | 462 | 469  |
| 28    | 341  | 327 | 334  | 381  | 358 | 364  | 505    | 435 | 465  | 474       | 461 | 466  |
| 29    | 342  | 325 | 334  | 367  | 338 | 349  | 434    | 419 | 427  | 507       | 470 | 485  |
| 30    | 328  | 312 | 320  | 347  | 314 | 329  | 435    | 419 | 424  | 572       | 509 | 546  |
| 31    | ---  | --- | ---  | 317  | 302 | 310  | 470    | 438 | 456  | ---       | --- | ---  |
| MONTH | 441  | 210 | 350  | 457  | 210 | 326  | 540    | 170 | 329  | 598       | 390 | 478  |
| YEAR  | 598  | 157 | 324  |      |     |      |        |     |      |           |     |      |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 16.5    | 14.5 | 15.5 | 10.0     | 8.5 | 9.0  | 6.5      | 4.5 | 5.5  | ---     | --- | ---  |
| 2     | 17.5    | 15.5 | 16.5 | 9.5      | 7.5 | 8.5  | 7.0      | 5.0 | 6.0  | ---     | --- | ---  |
| 3     | 17.0    | 16.0 | 16.5 | 9.0      | 7.0 | 8.0  | 6.5      | 4.5 | 6.0  | ---     | --- | ---  |
| 4     | 17.0    | 15.5 | 16.5 | 10.0     | 7.0 | 8.5  | 4.0      | 2.5 | 3.5  | ---     | --- | ---  |
| 5     | 17.0    | 15.0 | 16.0 | 10.5     | 8.5 | 9.5  | 3.0      | 1.5 | 2.0  | ---     | --- | ---  |
| 6     | 15.5    | 15.0 | 15.0 | 9.5      | 7.5 | 8.5  | 3.5      | 1.0 | 2.0  | ---     | --- | ---  |
| 7     | 15.0    | 13.5 | 14.5 | 10.0     | 8.0 | 9.0  | 3.5      | 1.5 | 2.5  | ---     | --- | ---  |
| 8     | 15.0    | 13.0 | 14.0 | 10.5     | 8.5 | 9.5  | 4.5      | 2.5 | 3.5  | ---     | --- | ---  |
| 9     | 15.0    | 13.5 | 14.5 | 9.5      | 7.5 | 8.5  | 5.5      | 4.0 | 4.5  | ---     | --- | ---  |
| 10    | 14.5    | 13.0 | 13.5 | 9.5      | 7.0 | 8.5  | 5.0      | 4.0 | 4.5  | ---     | --- | ---  |
| 11    | 14.5    | 13.0 | 14.0 | 7.5      | 6.0 | 7.0  | ---      | --- | ---  | ---     | --- | ---  |
| 12    | 15.0    | 13.5 | 14.5 | 7.5      | 5.5 | 6.5  | ---      | --- | ---  | ---     | --- | ---  |
| 13    | 13.5    | 13.0 | 13.5 | 7.0      | 5.0 | 6.0  | ---      | --- | ---  | ---     | --- | ---  |
| 14    | 12.5    | 11.5 | 12.0 | 8.0      | 5.5 | 6.5  | ---      | --- | ---  | ---     | --- | ---  |
| 15    | 13.0    | 11.0 | 12.0 | 8.0      | 6.5 | 7.0  | ---      | --- | ---  | ---     | --- | ---  |
| 16    | 14.0    | 12.0 | 13.0 | 7.5      | 6.0 | 6.5  | ---      | --- | ---  | ---     | --- | ---  |
| 17    | 15.0    | 13.0 | 14.0 | 7.0      | 5.0 | 6.0  | ---      | --- | ---  | ---     | --- | ---  |
| 18    | 15.5    | 14.0 | 14.5 | 5.5      | 4.0 | 4.5  | ---      | --- | ---  | ---     | --- | ---  |
| 19    | 16.0    | 14.5 | 15.0 | 5.0      | 4.0 | 4.5  | ---      | --- | ---  | ---     | --- | ---  |
| 20    | 14.5    | 13.5 | 14.5 | 5.5      | 3.5 | 4.5  | ---      | --- | ---  | ---     | --- | ---  |
| 21    | 14.0    | 13.0 | 13.5 | 6.0      | 3.5 | 4.5  | ---      | --- | ---  | ---     | --- | ---  |
| 22    | 13.0    | 12.0 | 12.5 | 6.0      | 4.0 | 5.0  | ---      | --- | ---  | ---     | --- | ---  |
| 23    | 12.0    | 10.5 | 11.0 | 6.0      | 4.0 | 5.0  | ---      | --- | ---  | ---     | --- | ---  |
| 24    | 11.5    | 9.5  | 10.5 | 6.5      | 5.0 | 5.5  | ---      | --- | ---  | ---     | --- | ---  |
| 25    | 11.0    | 9.5  | 10.0 | 7.5      | 6.0 | 6.5  | ---      | --- | ---  | ---     | --- | ---  |
| 26    | 11.0    | 10.0 | 10.5 | 6.5      | 5.5 | 6.0  | ---      | --- | ---  | 2.0     | .0  | .5   |
| 27    | 11.0    | 9.5  | 10.0 | 6.0      | 5.0 | 5.0  | ---      | --- | ---  | 2.5     | .5  | 1.0  |
| 28    | 10.5    | 9.5  | 10.0 | 6.0      | 4.5 | 5.5  | ---      | --- | ---  | 2.0     | .5  | 1.0  |
| 29    | 11.0    | 9.5  | 10.0 | 6.0      | 5.5 | 5.5  | ---      | --- | ---  | 2.0     | .0  | 1.0  |
| 30    | 11.0    | 9.0  | 10.0 | 5.5      | 4.0 | 5.0  | ---      | --- | ---  | 1.5     | .0  | .5   |
| 31    | 10.5    | 8.5  | 9.5  | ---      | --- | ---  | ---      | --- | ---  | 2.0     | .5  | 1.0  |
| MONTH | 17.5    | 8.5  | 13.0 | 10.5     | 3.5 | 6.5  | 7.0      | 1.0 | 4.0  | 2.5     | .0  | 1.0  |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY      | MAX  | MIN  | MEAN | MAX   | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
|----------|------|------|------|-------|------|------|--------|------|------|-----------|------|------|
| FEBRUARY |      |      |      | MARCH |      |      | APRIL  |      |      | MAY       |      |      |
| 1        | 2.0  | .0   | 1.0  | 7.5   | 5.5  | 6.5  | 14.5   | 11.5 | 12.5 | 16.5      | 14.5 | 15.5 |
| 2        | 3.5  | 1.5  | 2.0  | 7.0   | 6.0  | 6.5  | 13.0   | 11.5 | 12.0 | 15.5      | 14.5 | 15.0 |
| 3        | 1.5  | .5   | 1.0  | 6.5   | 4.5  | 5.5  | 13.5   | 11.0 | 12.0 | 16.0      | 13.5 | 15.0 |
| 4        | 2.0  | .5   | 1.0  | 5.5   | 4.5  | 5.0  | 13.0   | 11.5 | 12.0 | 15.0      | 14.0 | 14.5 |
| 5        | 2.0  | .5   | 1.0  | 5.5   | 5.0  | 5.0  | 12.5   | 12.0 | 12.5 | 15.5      | 13.5 | 14.5 |
| 6        | 2.0  | .5   | 1.0  | 5.5   | 4.5  | 5.0  | 12.5   | 10.5 | 11.5 | 17.0      | 14.5 | 15.5 |
| 7        | 3.0  | .5   | 1.5  | 5.0   | 4.0  | 4.5  | 12.0   | 10.0 | 11.0 | 18.0      | 15.5 | 16.5 |
| 8        | 2.0  | 1.5  | 1.5  | 5.0   | 4.5  | 5.0  | 13.0   | 10.5 | 11.5 | 18.0      | 15.5 | 16.5 |
| 9        | 2.5  | 1.0  | 1.5  | 6.0   | 4.5  | 5.5  | 14.0   | 11.5 | 12.5 | 18.5      | 15.5 | 16.5 |
| 10       | 3.0  | 1.5  | 2.0  | 6.5   | 5.0  | 5.5  | 14.5   | 12.5 | 13.5 | 18.0      | 16.0 | 17.0 |
| 11       | 5.0  | 2.0  | 4.0  | 5.5   | 5.0  | 5.5  | 14.0   | 13.0 | 13.5 | 19.0      | 17.0 | 18.0 |
| 12       | 5.0  | 3.0  | 4.0  | 6.0   | 4.5  | 5.0  | 15.0   | 13.5 | 14.0 | 18.5      | 17.5 | 18.0 |
| 13       | 4.0  | 2.5  | 3.0  | 6.5   | 4.5  | 5.5  | 15.0   | 12.5 | 13.5 | 18.5      | 17.0 | 18.0 |
| 14       | 4.5  | 2.5  | 3.5  | 7.0   | 5.0  | 6.0  | 13.0   | 12.0 | 12.5 | 19.0      | 17.0 | 18.0 |
| 15       | 5.0  | 3.0  | 3.5  | 6.0   | 4.0  | 5.0  | 12.5   | 11.0 | 11.5 | 19.0      | 18.0 | 18.5 |
| 16       | 6.0  | 3.0  | 4.0  | 6.0   | 4.5  | 5.0  | 12.5   | 10.5 | 11.5 | 19.5      | 18.0 | 18.0 |
| 17       | 7.5  | 4.0  | 6.0  | 6.5   | 3.5  | 4.5  | 12.0   | 11.0 | 11.5 | 19.5      | 17.5 | 18.0 |
| 18       | 8.5  | 5.5  | 6.5  | 5.5   | 3.0  | 4.0  | 14.0   | 11.5 | 12.5 | 19.0      | 17.5 | 18.0 |
| 19       | 8.5  | 6.0  | 7.0  | 5.5   | 3.0  | 4.0  | 15.0   | 12.0 | 13.0 | 19.0      | 17.0 | 18.0 |
| 20       | 8.0  | 7.0  | 7.5  | 6.0   | 3.5  | 4.5  | 14.0   | 12.0 | 13.0 | 19.5      | 17.5 | 18.5 |
| 21       | 8.5  | 8.0  | 8.0  | 5.0   | 4.0  | 4.5  | 13.0   | 11.0 | 12.0 | 19.5      | 17.5 | 18.5 |
| 22       | 8.5  | 8.0  | 8.5  | 8.0   | 4.0  | 6.0  | 13.0   | 10.5 | 11.5 | 20.0      | 17.5 | 18.5 |
| 23       | 8.0  | 7.0  | 7.5  | 8.5   | 5.0  | 6.5  | 12.0   | 11.0 | 11.5 | 20.0      | 17.5 | 18.5 |
| 24       | 7.5  | 7.0  | 7.5  | 9.0   | 5.5  | 7.0  | 12.5   | 11.0 | 12.0 | 21.0      | 17.5 | 19.0 |
| 25       | 7.5  | 6.0  | 7.0  | 7.5   | 6.0  | 6.5  | 12.0   | 11.5 | 12.0 | 21.5      | 18.5 | 20.0 |
| 26       | 6.0  | 5.5  | 5.5  | 9.0   | 6.5  | 7.5  | 14.0   | 11.0 | 12.0 | 22.5      | 20.0 | 21.5 |
| 27       | 6.5  | 5.0  | 6.0  | 8.5   | 6.5  | 7.5  | 14.5   | 12.5 | 13.5 | 23.5      | 21.0 | 22.0 |
| 28       | 7.0  | 6.0  | 6.0  | 10.0  | 6.5  | 8.0  | 14.0   | 13.5 | 14.0 | 23.0      | 21.5 | 22.0 |
| 29       | ---  | ---  | ---  | 10.5  | 7.5  | 9.0  | 15.0   | 13.5 | 14.0 | 22.0      | 21.0 | 21.5 |
| 30       | ---  | ---  | ---  | 11.5  | 9.5  | 10.5 | 15.5   | 14.5 | 15.0 | 22.5      | 20.5 | 21.5 |
| 31       | ---  | ---  | ---  | 13.0  | 10.5 | 11.5 | ---    | ---  | ---  | 22.0      | 20.5 | 21.5 |
| MONTH    | 8.5  | .0   | 4.0  | 13.0  | 3.0  | 6.0  | 15.5   | 10.0 | 12.5 | 23.5      | 13.5 | 18.0 |
| DAY      | MAX  | MIN  | MEAN | MAX   | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
| JUNE     |      |      |      | JULY  |      |      | AUGUST |      |      | SEPTEMBER |      |      |
| 1        | 22.5 | 20.0 | 21.0 | 25.5  | 22.0 | 23.5 | 27.0   | 24.5 | 26.0 | 24.0      | 23.0 | 23.5 |
| 2        | 21.0 | 19.5 | 20.0 | 24.5  | 22.5 | 23.5 | 28.0   | 25.0 | 26.0 | 23.5      | 22.5 | 23.0 |
| 3        | 20.0 | 19.0 | 19.5 | 26.0  | 23.0 | 24.0 | 26.5   | 25.5 | 26.0 | 23.0      | 22.0 | 22.5 |
| 4        | 21.5 | 19.0 | 20.0 | 24.5  | 23.0 | 24.0 | 26.5   | 25.5 | 26.0 | 22.5      | 22.0 | 22.5 |
| 5        | 23.0 | 20.5 | 21.5 | 24.0  | 23.5 | 23.5 | 26.5   | 25.5 | 26.0 | 23.0      | 21.0 | 22.0 |
| 6        | 23.5 | 20.5 | 22.0 | 25.5  | 23.0 | 24.0 | 26.0   | 24.5 | 25.5 | 23.0      | 21.5 | 22.0 |
| 7        | 24.0 | 21.0 | 22.0 | 27.0  | 24.0 | 25.5 | 26.5   | 24.0 | 25.5 | 22.5      | 21.0 | 22.0 |
| 8        | 23.5 | 20.0 | 21.5 | 29.0  | 24.5 | 26.5 | 25.5   | 24.5 | 25.0 | 23.0      | 21.5 | 22.0 |
| 9        | 23.0 | 20.5 | 21.5 | 29.0  | 25.0 | 27.0 | 26.0   | 24.5 | 25.5 | 23.5      | 21.5 | 22.5 |
| 10       | 23.0 | 20.0 | 21.0 | 29.5  | 26.5 | 28.0 | 27.5   | 25.5 | 26.0 | 23.0      | 21.0 | 22.0 |
| 11       | 23.5 | 20.0 | 21.5 | 29.5  | 26.5 | 28.0 | 28.0   | 25.5 | 27.0 | 23.5      | 21.5 | 22.5 |
| 12       | 24.0 | 20.0 | 21.5 | 28.0  | 26.0 | 27.0 | 27.5   | 26.0 | 26.5 | 24.0      | 21.5 | 22.5 |
| 13       | 23.5 | 20.5 | 22.0 | 26.0  | 25.0 | 25.5 | 26.5   | 25.0 | 26.0 | 24.0      | 22.0 | 23.0 |
| 14       | 21.5 | 20.5 | 21.0 | ---   | ---  | ---  | 27.0   | 25.0 | 26.0 | 24.0      | 22.0 | 23.0 |
| 15       | 21.5 | 19.5 | 20.5 | ---   | ---  | ---  | 26.5   | 25.0 | 26.0 | 23.5      | 22.5 | 23.0 |
| 16       | 23.0 | 20.0 | 21.5 | ---   | ---  | ---  | 26.5   | 24.5 | 26.0 | 22.5      | 21.5 | 22.0 |
| 17       | 24.5 | 21.5 | 22.5 | ---   | ---  | ---  | 26.0   | 24.0 | 25.0 | 22.5      | 21.0 | 21.5 |
| 18       | 25.0 | 21.0 | 23.0 | ---   | ---  | ---  | 25.5   | 23.0 | 24.5 | 21.5      | 21.0 | 21.0 |
| 19       | 24.5 | 21.5 | 23.0 | ---   | ---  | ---  | 26.0   | 23.0 | 24.5 | 20.5      | 20.0 | 20.5 |
| 20       | 22.5 | 22.0 | 22.5 | ---   | ---  | ---  | 25.0   | 23.0 | 24.0 | 20.5      | 19.0 | 19.5 |
| 21       | 23.5 | 21.5 | 22.5 | ---   | ---  | ---  | 25.5   | 22.5 | 24.0 | 20.5      | 18.5 | 19.5 |
| 22       | 23.0 | 22.0 | 22.5 | 28.0  | 26.0 | 27.0 | 24.0   | 23.0 | 23.5 | 21.0      | 19.0 | 20.0 |
| 23       | 24.0 | 21.0 | 22.5 | 28.5  | 26.0 | 27.0 | 24.5   | 22.5 | 23.5 | 20.5      | 19.5 | 20.0 |
| 24       | 24.0 | 21.0 | 22.5 | 28.0  | 25.5 | 26.5 | 24.0   | 22.5 | 23.5 | 19.0      | 18.5 | 18.5 |
| 25       | 22.5 | 22.0 | 22.0 | 27.0  | 25.0 | 26.0 | 23.0   | 22.5 | 22.5 | 20.0      | 17.5 | 18.5 |
| 26       | 23.5 | 21.5 | 22.5 | 26.5  | 24.5 | 25.5 | 23.5   | 21.0 | 22.0 | 20.0      | 18.0 | 19.0 |
| 27       | 24.0 | 21.0 | 22.0 | 27.5  | 25.5 | 26.5 | 24.0   | 21.5 | 22.5 | 21.0      | 18.5 | 19.5 |
| 28       | 24.5 | 21.0 | 22.5 | 27.5  | 25.0 | 26.0 | 24.5   | 22.5 | 23.5 | 20.0      | 19.0 | 19.5 |
| 29       | 25.0 | 21.5 | 23.0 | 27.0  | 25.5 | 26.5 | 24.5   | 22.0 | 23.5 | 19.0      | 17.5 | 18.5 |
| 30       | 23.5 | 21.5 | 22.5 | 26.0  | 24.5 | 25.5 | 24.0   | 22.5 | 23.5 | 18.0      | 16.5 | 17.5 |
| 31       | ---  | ---  | ---  | 27.0  | 23.5 | 25.5 | 24.5   | 22.5 | 23.5 | ---       | ---  | ---  |
| MONTH    | 25.0 | 19.0 | 22.0 | 29.5  | 22.0 | 25.5 | 28.0   | 21.0 | 25.0 | 24.0      | 16.5 | 21.0 |
| YEAR     | 29.5 | .0   | 14.5 |       |      |      |        |      |      |           |      |      |

## PAWTUXET RIVER BASIN

01116617 PAWTUXET RIVER AT PAWTUXET, RI

LOCATION.--Lat 41°45'51", Long 71° 23'45", Providence County, Hydrologic Unit 01090004, on right bank 1300 ft (400 m) upstream from Narragansett Parkway Bridge at Pawtuxet.

PERIOD OF RECORD.--Water years 1979 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE  | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS) | PH<br>(UNITS) | TEMPER-<br>ATURE<br>(DEG C) | TUR-<br>BID-<br>ITY<br>(NTU) | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L) | OXYGEN<br>DEMAND,<br>CHEM-<br>ICAL<br>(HIGH<br>LEVEL)<br>(MG/L) | C.O.D.<br>TOTAL<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(MG/KG) | COLI-<br>FORM,<br>TOTAL,<br>IMMED.<br>(COLS.<br>PER<br>100 ML) |
|-------|------|-------------------------------------------------|---------------------------------------------------|---------------|-----------------------------|------------------------------|----------------------------------------------|-------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------|
| OCT   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 16... | 1045 | 159                                             | 450                                               | 6.9           | 13.0                        | .50                          | --                                           | 4.4                                 | --                                                              | --                                                          | 11250                                                          |
| NOV   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 19... | 1030 | 193                                             | 285                                               | 6.9           | 4.0                         | .50                          | --                                           | 9.6                                 | --                                                              | --                                                          | 16000                                                          |
| DEC   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 17... | 1230 | 202                                             | 330                                               | 6.8           | 2.0                         | .80                          | 20                                           | 11.0                                | 88                                                              | --                                                          | 0                                                              |
| JAN   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 21... | 1000 | 153                                             | 560                                               | 6.9           | 2.0                         | 2.8                          | --                                           | 9.3                                 | --                                                              | --                                                          | 26000                                                          |
| FEB   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 18... | 1035 | 196                                             | 350                                               | 7.0           | 6.5                         | 4.5                          | --                                           | 9.6                                 | --                                                              | --                                                          | 11000                                                          |
| MAR   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 11... | 1045 | 324                                             | 275                                               | 6.8           | 7.0                         | .70                          | 40                                           | 11.0                                | 45                                                              | --                                                          | 14000                                                          |
| APR   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 08... | 0940 | 320                                             | 245                                               | 6.5           | 11.0                        | 4.3                          | --                                           | 9.0                                 | --                                                              | --                                                          | 12000                                                          |
| MAY   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 13... | 1020 | 289                                             | 335                                               | 6.6           | 16.0                        | 5.0                          | --                                           | 6.1                                 | --                                                              | --                                                          | 26900                                                          |
| JUN   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 09... | 1330 | 187                                             | 420                                               | 6.7           | 21.0                        | 2.4                          | 42                                           | 2.7                                 | 65                                                              | 20000                                                       | 14000                                                          |
| JUL   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 08... | 1120 | 174                                             | 325                                               | 6.6           | 25.0                        | 2.2                          | --                                           | 1.5                                 | --                                                              | --                                                          | 8800                                                           |
| AUG   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 19... | 1200 | 165                                             | 390                                               | 6.7           | 21.0                        | 2.5                          | --                                           | --                                  | --                                                              | --                                                          | 370000                                                         |
| SEP   |      |                                                 |                                                   |               |                             |                              |                                              |                                     |                                                                 |                                                             |                                                                |
| 02... | 1215 | 139                                             | 530                                               | 6.8           | 20.0                        | --                           | 30                                           | .5                                  | 98                                                              | 4900                                                        | 74000                                                          |

| DATE  | COLI-<br>FORM,<br>FECAL,<br>0.7<br>UM-MF<br>(COLS./<br>100 ML) | STREP-<br>TOCOCCI<br>FECAL,<br>KF AGAR<br>(COLS.<br>PER<br>100 ML) | HARD-<br>NESS<br>(MG/L<br>AS<br>CAC03) | HARD-<br>NESS,<br>NONCAR-<br>BONATE<br>(MG/L<br>CAC03) | CALCIUM<br>DIS-<br>SOLVED<br>(MG/L<br>AS CA) | MAGNE-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS MG) | SODIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS NA) | SODIUM<br>AD-<br>SORP-<br>TION<br>RATIO | PERCENT<br>SODIUM | POTAS-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS K) | ALKA-<br>LINITY<br>LAB<br>(MG/L<br>AS<br>CAC03) |
|-------|----------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------|----------------------------------------------|------------------------------------------------------|----------------------------------------------|-----------------------------------------|-------------------|-----------------------------------------------------|-------------------------------------------------|
| OCT   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 16... | 140                                                            | 43                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                              |
| NOV   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 19... | 750                                                            | 155                                                                | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | 2                 | --                                                  | --                                              |
| DEC   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 17... | 0                                                              | 0                                                                  | 39                                     | 27                                                     | 11                                           | 2.8                                                  | 39                                           | 2.7                                     | 65                | 5.6                                                 | 12                                              |
| JAN   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 21... | 55                                                             | 160                                                                | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                              |
| FEB   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 18... | 4                                                              | 12                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                              |
| MAR   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 11... | 4                                                              | 0                                                                  | 46                                     | 29                                                     | 13                                           | 3.2                                                  | 30                                           | 1.9                                     | 56                | 4.5                                                 | 17                                              |
| APR   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 08... | 89                                                             | 59                                                                 | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                              |
| MAY   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 13... | 310                                                            | 150                                                                | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                              |
| JUN   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 09... | 530                                                            | 300                                                                | 64                                     | --                                                     | 17                                           | 5.2                                                  | 58                                           | 3.2                                     | 64                | 5.0                                                 | 75                                              |
| JUL   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 08... | 550                                                            | 340                                                                | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                              |
| AUG   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 19... | 160                                                            | 200                                                                | --                                     | --                                                     | --                                           | --                                                   | --                                           | --                                      | --                | --                                                  | --                                              |
| SEP   |                                                                |                                                                    |                                        |                                                        |                                              |                                                      |                                              |                                         |                   |                                                     |                                                 |
| 02... | 280                                                            | 62                                                                 | 59                                     | --                                                     | 17                                           | 4.0                                                  | 69                                           | 3.9                                     | 68                | 8.0                                                 | 50                                              |



## 01116617 PAWTUXET RIVER AT PAWTUXET, RI--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | SULFATE<br>DIS-<br>SOLVED<br>(MG/L<br>AS SO4) | CHLO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS CL) | FLUO-<br>RIDE,<br>TOTAL<br>(MG/L<br>AS F) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>SUS-<br>PENDE<br>(MG/L) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>TOTAL<br>(MG/L) | NITRO-<br>GEN,<br>NITRATE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NITRITE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS NH4) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) |
|--------------|-----------------------------------------------|-----------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|
| OCT<br>16... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .98                                                  | .120                                                 | 1.1                                                  | 4.30                                                 | 5.2                                                    | 1.2                                                  |
| NOV<br>19... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .64                                                  | .050                                                 | .69                                                  | 2.80                                                 | 3.4                                                    | .30                                                  |
| DEC<br>17... | 41                                            | 49                                                  | .3                                        | 16                                                                 | 200                                                        | .52                                                  | .020                                                 | .54                                                  | 3.80                                                 | 4.6                                                    | .00                                                  |
| JAN<br>21... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .46                                                  | .030                                                 | .49                                                  | 4.40                                                 | 5.3                                                    | .70                                                  |
| FEB<br>18... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .63                                                  | .020                                                 | .65                                                  | 3.00                                                 | --                                                     | .40                                                  |
| MAR<br>11... | 34                                            | 43                                                  | .4                                        | 6                                                                  | 167                                                        | --                                                   | <.010                                                | .24                                                  | .050                                                 | --                                                     | .22                                                  |
| APR<br>08... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .52                                                  | .040                                                 | .56                                                  | 1.20                                                 | --                                                     | 1.2                                                  |
| MAY<br>13... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .50                                                  | .050                                                 | .55                                                  | 1.10                                                 | --                                                     | 1.0                                                  |
| JUN<br>09... | 59                                            | 54                                                  | .3                                        | 8                                                                  | 260                                                        | .62                                                  | .100                                                 | .72                                                  | 3.30                                                 | --                                                     | .00                                                  |
| JUL<br>08... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | .76                                                  | .200                                                 | .96                                                  | 2.10                                                 | --                                                     | .60                                                  |
| AUG<br>19... | --                                            | --                                                  | --                                        | --                                                                 | --                                                         | 1.4                                                  | .140                                                 | 1.5                                                  | 2.00                                                 | --                                                     | 1.8                                                  |
| SEP<br>02... | 85                                            | 71                                                  | .5                                        | 14                                                                 | 325                                                        | 1.4                                                  | .140                                                 | 1.5                                                  | 3.20                                                 | --                                                     | 1.7                                                  |

| DATE         | NITRO-<br>GEN, AM-<br>MONIA +<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS NO3) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) | PHOS-<br>PHATE,<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS<br>TOTAL<br>(MG/L<br>AS PO4) | PHOS-<br>PHORUS,<br>ORTHO,<br>TOTAL<br>(MG/L<br>AS P) | PHENOLS<br>(UG/L) | METHY-<br>LENE<br>BLUE<br>ACTIVE<br>SUB-<br>STANCE<br>(MG/L) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C) | OIL AND<br>GREASE,<br>TOTAL<br>RECOV.<br>GRAVI-<br>METRIC<br>(MG/L) |
|--------------|---------------------------------------------------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------------------|-------------------|--------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------|
| OCT<br>16... | 5.50                                                                | 6.6                                       | 29                                          | .120                                        | 2.60                                         | .37                                          | .840                                                  | --                | --                                                           | --                                            | --                                                                  |
| NOV<br>19... | 3.10                                                                | 3.8                                       | 17                                          | .890                                        | 2.30                                         | 2.7                                          | .740                                                  | --                | --                                                           | --                                            | --                                                                  |
| DEC<br>17... | 3.00                                                                | 3.5                                       | 16                                          | .750                                        | 1.80                                         | 2.3                                          | .600                                                  | 75                | .20                                                          | 18                                            | 1                                                                   |
| JAN<br>21... | 5.10                                                                | 5.6                                       | 25                                          | 1.50                                        | 3.70                                         | 4.6                                          | 1.20                                                  | --                | --                                                           | --                                            | --                                                                  |
| FEB<br>18... | 3.40                                                                | 4.1                                       | 18                                          | .820                                        | --                                           | 2.5                                          | .640                                                  | --                | --                                                           | --                                            | --                                                                  |
| MAR<br>11... | .27                                                                 | .51                                       | 2.3                                         | .440                                        | --                                           | 1.4                                          | <.010                                                 | 12                | .20                                                          | --                                            | 1                                                                   |
| APR<br>08... | 2.40                                                                | 3.0                                       | 13                                          | .450                                        | --                                           | 1.4                                          | .340                                                  | --                | --                                                           | --                                            | --                                                                  |
| MAY<br>13... | 2.10                                                                | 2.7                                       | 12                                          | .490                                        | --                                           | 1.5                                          | .370                                                  | --                | --                                                           | --                                            | --                                                                  |
| JUN<br>09... | 3.30                                                                | 4.0                                       | 18                                          | 1.00                                        | --                                           | 3.1                                          | .930                                                  | 40                | .20                                                          | 10                                            | 0                                                                   |
| JUL<br>08... | 2.70                                                                | 3.7                                       | 16                                          | 1.10                                        | --                                           | 3.4                                          | .940                                                  | --                | --                                                           | --                                            | --                                                                  |
| AUG<br>19... | 3.80                                                                | 5.3                                       | 23                                          | 1.40                                        | --                                           | 4.3                                          | 1.30                                                  | --                | --                                                           | --                                            | --                                                                  |
| SEP<br>02... | 4.90                                                                | 6.4                                       | 28                                          | 2.00                                        | --                                           | 6.1                                          | 1.40                                                  | 86                | .20                                                          | 18                                            | <1                                                                  |

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

## 01117000 HUNT RIVER NEAR EAST GREENWICH, RI

LOCATION.--Lat 41°38'28", long 71°26'45", Washington County, Hydrologic Unit 01090004, on right bank 45 ft (14 m) upstream from Old Forge Dam in North Kingstown, 1.5 mi (2.4 km) south of East Greenwich, and 2.5 mi (4.0 km) upstream from mouth.  
DRAINAGE AREA.--23.0 mi<sup>2</sup> (59.6 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: August 1940 to current year. Prior to October 1977, published as "Potowomut River."

REVISED RECORDS.--WSP 1621: 1957-58.

GAGE.--Water-stage recorder. Datum of gage is 5.42 ft (1.652 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for period of shifting control, May 29 to July 2, and no gage-height record, July 3-27, which are poor. Flow affected by diversions for supply of East Greenwich, North Kingstown, Warwick, and Quonset Point (formerly U.S. Naval establishments).

AVERAGE DISCHARGE.--41 years 44.4 ft<sup>3</sup>/s (1.257 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 899 ft<sup>3</sup>/s (25.5 m<sup>3</sup>/s) Jan. 26, 1978, gage height, 3.59 ft (1.094 m), from rating curve extended above 440 ft<sup>3</sup>/s (12 m<sup>3</sup>/s); maximum gage height, 6.78 ft (2.067 m) Aug. 31, 1954 (backwater from hurricane tidal wave); no flow Oct. 25, 1947, Aug. 28-30, 1960, parts of Oct. 1, 2, 1971, July 25, 1975, June 24, 1976, and Aug. 26, 1977, due to closing of gate at Old Forge Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1915, about 8.5 ft (2.6 m) Sept. 21, 1938 (backwater from hurricane tidal wave).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 230 ft<sup>3</sup>/s (6.5 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date                          | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|-------------------------------|------|-------------------------------------------------------|-------------------------|
| Feb. 25 | 0530 | *114 3.23                                             | 1.72 0.524              | No peak discharge above base. |      |                                                       |                         |

Minimum discharge, 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) Oct. 1-3, 6-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB    | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|--------|------|------|------|-------|-------|-------|-------|
| 1     | 3.0   | 7.5   | 21    | 16    | 7.5    | 55   | 23   | 43   | 16    | 8.5   | 5.6   | 4.9   |
| 2     | 3.0   | 7.5   | 17    | 13    | 29     | 49   | 52   | 40   | 13    | 8.5   | 5.6   | 4.9   |
| 3     | 3.6   | 6.5   | 16    | 11    | 69     | 45   | 49   | 43   | 13    | 9.5   | 5.6   | 4.9   |
| 4     | 4.9   | 6.5   | 12    | 11    | 40     | 42   | 35   | 36   | 16    | 8.5   | 7.5   | 4.9   |
| 5     | 3.6   | 7.5   | 11    | 10    | 26     | 40   | 32   | 35   | 17    | 20    | 23    | 4.2   |
| 6     | 3.6   | 6.5   | 11    | 10    | 16     | 40   | 76   | 35   | 13    | 30    | 12    | 4.2   |
| 7     | 3.6   | 6.5   | 9.6   | 9.5   | 9.6    | 39   | 59   | 31   | 13    | 17    | 7.5   | 3.6   |
| 8     | 3.6   | 6.5   | 9.6   | 9.5   | 42     | 41   | 42   | 28   | 11    | 12    | 6.5   | 4.2   |
| 9     | 3.6   | 7.5   | 11    | 9.0   | 48     | 37   | 37   | 28   | 9.6   | 9.0   | 6.5   | 4.9   |
| 10    | 3.0   | 12    | 12    | 8.5   | 26     | 31   | 36   | 28   | 9.6   | 7.0   | 6.5   | 4.2   |
| 11    | 5.6   | 9.6   | 12    | 8.5   | 23     | 30   | 33   | 26   | 8.5   | 5.8   | 5.6   | 4.9   |
| 12    | 8.5   | 7.5   | 9.9   | 8.5   | 41     | 28   | 31   | 42   | 7.5   | 5.0   | 5.6   | 4.2   |
| 13    | 6.5   | 5.6   | 10    | 9.0   | 28     | 27   | 27   | 47   | 7.5   | 4.5   | 5.6   | 4.2   |
| 14    | 4.9   | 5.6   | 9.6   | 9.0   | 23     | 26   | 42   | 36   | 9.6   | 4.2   | 4.9   | 4.2   |
| 15    | 4.2   | 5.6   | 8.6   | 9.0   | 20     | 24   | 64   | 33   | 9.6   | 4.0   | 4.9   | 5.6   |
| 16    | 4.9   | 6.5   | 9.5   | 9.0   | 18     | 26   | 48   | 42   | 9.6   | 3.8   | 16    | 9.6   |
| 17    | 5.6   | 5.6   | 9.5   | 8.5   | 17     | 28   | 39   | 51   | 7.5   | 3.6   | 23    | 8.5   |
| 18    | 8.5   | 21    | 8.2   | 8.5   | 16     | 25   | 37   | 38   | 6.5   | 4.2   | 13    | 8.5   |
| 19    | 11    | 23    | 8.5   | 8.5   | 16     | 23   | 33   | 30   | 6.5   | 4.0   | 8.5   | 8.5   |
| 20    | 8.5   | 16    | 7.7   | 8.0   | 28     | 22   | 33   | 26   | 42    | 7.0   | 6.5   | 7.5   |
| 21    | 7.5   | 11    | 6.3   | 8.0   | 75     | 22   | 30   | 25   | 40    | 20    | 5.6   | 5.6   |
| 22    | 6.5   | 9.6   | 5.9   | 7.5   | 71     | 22   | 28   | 23   | 26    | 13    | 5.6   | 5.6   |
| 23    | 5.6   | 8.5   | 8.1   | 7.5   | 52     | 21   | 26   | 23   | 19    | 10    | 5.6   | 5.6   |
| 24    | 5.6   | 8.5   | 11    | 8.0   | 63     | 20   | 45   | 22   | 13    | 8.5   | 5.6   | 4.9   |
| 25    | 20    | 35    | 9.2   | 8.0   | 107    | 22   | 61   | 19   | 13    | 7.5   | 4.9   | 4.9   |
| 26    | 42    | 27    | 6.7   | 8.0   | 98     | 25   | 55   | 16   | 16    | 7.0   | 4.9   | 4.9   |
| 27    | 21    | 19    | 6.5   | 8.5   | 81     | 26   | 45   | 16   | 13    | 11    | 4.9   | 4.9   |
| 28    | 14    | 23    | 6.5   | 9.0   | 63     | 25   | 40   | 15   | 12    | 11    | 4.9   | 5.6   |
| 29    | 11    | 45    | 7.6   | 8.5   | ---    | 22   | 40   | 15   | 9.6   | 8.5   | 4.9   | 4.9   |
| 30    | 8.5   | 30    | 43    | 8.0   | ---    | 22   | 45   | 19   | 8.5   | 6.5   | 4.9   | 4.9   |
| 31    | 7.5   | ---   | 25    | 7.5   | ---    | 26   | ---  | 19   | ---   | 6.5   | 4.9   | ---   |
| TOTAL | 252.9 | 397.1 | 359.5 | 282.5 | 1153.1 | 931  | 1243 | 930  | 416.1 | 285.6 | 236.6 | 162.4 |
| MEAN  | 8.16  | 13.2  | 11.6  | 9.11  | 41.2   | 30.0 | 41.4 | 30.0 | 13.9  | 9.21  | 7.63  | 5.41  |
| MAX   | 42    | 45    | 43    | 16    | 107    | 55   | 76   | 51   | 42    | 30    | 23    | 9.6   |
| MIN   | 3.0   | 5.6   | 5.9   | 7.5   | 7.5    | 20   | 23   | 15   | 6.5   | 3.6   | 4.9   | 3.6   |

CAL YR 1980 TOTAL 13615.2 MEAN 37.2 MAX 500 MIN 3.0  
WTR YR 1981 TOTAL 6649.8 MEAN 18.2 MAX 107 MIN 3.0

## POTOWOMUT RIVER BASIN

01117000 HUNT RIVER NEAR EAST GREENWICH, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1963, July 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1977 to September 1981 (discontinued).

WATER TEMPERATURES: July 1977 to September 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor since July 1977.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 289 micromhos Dec. 26, 1979; minimum recorded, 35 micromhos Jan. 26, 1979.

WATER TEMPERATURES: Maximum recorded, 28.5°C July 17, 1979; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 218 micromhos Oct. 27; minimum recorded, 91 micromhos Apr. 7, 16.

WATER TEMPERATURES: Maximum recorded, 28.0°C July 10; minimum, 0.0°C on several days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 152     | 142 | 146  | 190      | 175 | 180  | 153      | 148 | 150  | 153     | 145 | 149  |
| 2     | 155     | 135 | 140  | ---      | --- | ---  | 160      | 152 | 157  | 146     | 136 | 142  |
| 3     | 143     | 132 | 137  | ---      | --- | ---  | 162      | 154 | 158  | 133     | 125 | 129  |
| 4     | 139     | 127 | 134  | ---      | --- | ---  | 164      | 159 | 162  | 132     | 129 | 130  |
| 5     | 158     | 136 | 150  | ---      | --- | ---  | 165      | 156 | 162  | 134     | 130 | 132  |
| 6     | 145     | 139 | 142  | ---      | --- | ---  | 156      | 154 | 155  | 135     | 132 | 133  |
| 7     | 146     | 138 | 143  | 182      | 165 | 172  | 157      | 154 | 156  | 131     | 124 | 127  |
| 8     | 141     | 133 | 136  | 166      | 158 | 161  | 154      | 146 | 151  | 129     | 125 | 127  |
| 9     | 163     | 140 | 149  | 174      | 161 | 167  | 151      | 143 | 148  | 130     | 125 | 127  |
| 10    | 153     | 133 | 143  | 164      | 150 | 157  | 151      | 143 | 147  | 132     | 125 | 128  |
| 11    | 139     | 130 | 134  | 156      | 146 | 151  | 146      | 144 | 145  | 139     | 129 | 132  |
| 12    | 155     | 142 | 149  | 154      | 148 | 151  | 152      | 149 | 151  | 153     | 139 | 146  |
| 13    | 145     | 135 | 141  | 148      | 143 | 145  | 147      | 141 | 144  | 162     | 152 | 158  |
| 14    | 141     | 131 | 135  | 147      | 141 | 144  | 144      | 142 | 143  | 163     | 160 | 161  |
| 15    | 146     | 135 | 141  | 146      | 143 | 144  | 150      | 143 | 146  | ---     | --- | ---  |
| 16    | 148     | 132 | 139  | 174      | 145 | 165  | 149      | 145 | 148  | ---     | --- | ---  |
| 17    | 155     | 146 | 150  | 174      | 167 | 172  | 145      | 142 | 143  | ---     | --- | ---  |
| 18    | 164     | 147 | 155  | 167      | 153 | 160  | 142      | 140 | 141  | ---     | --- | ---  |
| 19    | 174     | 152 | 167  | 159      | 154 | 155  | 146      | 140 | 143  | ---     | --- | ---  |
| 20    | 180     | 160 | 169  | 164      | 160 | 162  | 147      | 142 | 144  | ---     | --- | ---  |
| 21    | 177     | 158 | 167  | 162      | 154 | 158  | 147      | 142 | 144  | ---     | --- | ---  |
| 22    | 180     | 163 | 172  | 157      | 151 | 154  | 147      | 143 | 145  | ---     | --- | ---  |
| 23    | 197     | 176 | 184  | 153      | 149 | 152  | 145      | 143 | 144  | ---     | --- | ---  |
| 24    | 196     | 178 | 184  | 152      | 143 | 147  | 154      | 144 | 148  | ---     | --- | ---  |
| 25    | 201     | 186 | 193  | 149      | 139 | 143  | 173      | 152 | 160  | ---     | --- | ---  |
| 26    | 216     | 196 | 206  | 166      | 151 | 160  | 173      | 170 | 172  | ---     | --- | ---  |
| 27    | 218     | 181 | 199  | 163      | 144 | 154  | 173      | 169 | 171  | ---     | --- | ---  |
| 28    | 193     | 183 | 189  | 144      | 127 | 137  | 173      | 168 | 170  | ---     | --- | ---  |
| 29    | 194     | 188 | 190  | 146      | 126 | 137  | 168      | 164 | 166  | ---     | --- | ---  |
| 30    | 193     | 182 | 189  | 150      | 145 | 148  | 168      | 161 | 165  | ---     | --- | ---  |
| 31    | 182     | 173 | 178  | ---      | --- | ---  | 167      | 153 | 159  | ---     | --- | ---  |
| MONTH | 218     | 127 | 160  | 190      | 126 | 155  | 173      | 140 | 153  | 163     | 124 | 137  |

## 101

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY   | MAX      | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|-------|----------|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
|       | FEBRUARY |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1     | ---      | --- | ---  | 113   | 111 | 112  | 119    | 112 | 116  | 113       | 103 | 109  |
| 2     | ---      | --- | ---  | 115   | 111 | 114  | 117    | 107 | 111  | 114       | 109 | 112  |
| 3     | ---      | --- | ---  | 115   | 113 | 115  | 107    | 103 | 106  | 111       | 106 | 108  |
| 4     | ---      | --- | ---  | 116   | 114 | 115  | 107    | 103 | 105  | 112       | 106 | 108  |
| 5     | ---      | --- | ---  | 116   | 115 | 116  | 108    | 104 | 106  | 112       | 107 | 110  |
| 6     | ---      | --- | ---  | 117   | 115 | 116  | 103    | 94  | 98   | 112       | 107 | 110  |
| 7     | ---      | --- | ---  | 119   | 116 | 117  | 94     | 91  | 92   | 110       | 107 | 109  |
| 8     | ---      | --- | ---  | 118   | 117 | 117  | 95     | 92  | 94   | 112       | 108 | 110  |
| 9     | ---      | --- | ---  | 118   | 116 | 117  | 100    | 93  | 96   | 113       | 109 | 111  |
| 10    | ---      | --- | ---  | 117   | 115 | 116  | 104    | 99  | 101  | 111       | 110 | 111  |
| 11    | ---      | --- | ---  | 118   | 116 | 117  | 105    | 101 | 103  | 112       | 109 | 110  |
| 12    | ---      | --- | ---  | 118   | 116 | 117  | 107    | 104 | 105  | 111       | 105 | 109  |
| 13    | ---      | --- | ---  | 117   | 114 | 116  | 107    | 103 | 105  | 110       | 105 | 107  |
| 14    | ---      | --- | ---  | 116   | 112 | 114  | 106    | 99  | 103  | 108       | 102 | 105  |
| 15    | ---      | --- | ---  | 112   | 110 | 111  | 103    | 100 | 101  | 110       | 107 | 109  |
| 16    | ---      | --- | ---  | 113   | 110 | 111  | 101    | 91  | 97   | 112       | 106 | 109  |
| 17    | ---      | --- | ---  | 112   | 109 | 111  | 104    | 95  | 102  | 107       | 100 | 104  |
| 18    | ---      | --- | ---  | 112   | 108 | 110  | 108    | 98  | 104  | 103       | 98  | 101  |
| 19    | ---      | --- | ---  | 112   | 109 | 110  | 108    | 101 | 105  | 199       | 102 | 119  |
| 20    | ---      | --- | ---  | 112   | 110 | 111  | 113    | 108 | 111  | 196       | 179 | 188  |
| 21    | ---      | --- | ---  | 112   | 111 | 111  | 112    | 105 | 108  | 115       | 111 | 113  |
| 22    | ---      | --- | ---  | 112   | 111 | 111  | 112    | 107 | 109  | 115       | 112 | 114  |
| 23    | ---      | --- | ---  | 113   | 108 | 110  | 120    | 110 | 113  | 117       | 113 | 115  |
| 24    | ---      | --- | ---  | 116   | 109 | 114  | 121    | 110 | 116  | 120       | 116 | 118  |
| 25    | 111      | 108 | 110  | 117   | 114 | 116  | 114    | 112 | 113  | 121       | 118 | 120  |
| 26    | 113      | 105 | 110  | 117   | 114 | 116  | 112    | 101 | 106  | 120       | 117 | 118  |
| 27    | 112      | 109 | 111  | 117   | 115 | 116  | 109    | 100 | 105  | 120       | 117 | 119  |
| 28    | 112      | 110 | 111  | 116   | 112 | 114  | 112    | 105 | 109  | 121       | 119 | 119  |
| 29    | ---      | --- | ---  | 115   | 112 | 114  | 113    | 104 | 109  | 122       | 120 | 121  |
| 30    | ---      | --- | ---  | 115   | 111 | 113  | 111    | 102 | 107  | 121       | 119 | 120  |
| 31    | ---      | --- | ---  | 117   | 111 | 114  | ---    | --- | ---  | 121       | 117 | 119  |
| MONTH | 113      | 105 | 111  | 119   | 108 | 114  | 121    | 91  | 105  | 199       | 98  | 115  |
| DAY   | MAX      | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|       | JUNE     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1     | 118      | 114 | 116  | 120   | 117 | 118  | ---    | --- | ---  | 146       | 144 | 145  |
| 2     | 116      | 113 | 115  | 123   | 119 | 121  | ---    | --- | ---  | 146       | 141 | 144  |
| 3     | 114      | 113 | 114  | 126   | 123 | 125  | ---    | --- | ---  | 146       | 142 | 144  |
| 4     | 114      | 110 | 112  | 129   | 126 | 128  | ---    | --- | ---  | 146       | 140 | 143  |
| 5     | 117      | 112 | 114  | 131   | 129 | 130  | ---    | --- | ---  | 145       | 140 | 142  |
| 6     | 118      | 116 | 117  | 133   | 128 | 131  | ---    | --- | ---  | 147       | 141 | 144  |
| 7     | 122      | 117 | 118  | 135   | 129 | 132  | ---    | --- | ---  | 147       | 141 | 144  |



## POTOWOMUT RIVER BASIN

01117000 HUNT RIVER NEAR EAST GREENWICH, RI--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX  | MIN  | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 17.5 | 15.5 | 17.0     | 7.0 | 6.0 | 6.5      | 5.5 | 4.5 | 5.0     | .5  | .5  | .5   |
| 2       | 17.0 | 16.0 | 16.5     | --- | --- | ---      | 6.0 | 5.0 | 5.5     | .5  | .5  | .5   |
| 3       | 17.5 | 16.5 | 17.0     | --- | --- | ---      | 6.5 | 5.0 | 6.0     | .5  | .5  | .5   |
| 4       | 18.0 | 16.5 | 17.5     | --- | --- | ---      | 4.5 | 2.5 | 3.5     | .5  | .0  | .5   |
| 5       | 17.5 | 16.5 | 16.5     | --- | --- | ---      | 2.5 | 2.0 | 2.5     | .5  | .5  | .5   |
| 6       | 16.5 | 15.5 | 16.0     | --- | --- | ---      | 2.5 | 2.0 | 2.0     | .5  | .0  | .5   |
| 7       | 15.5 | 14.5 | 14.5     | 9.0 | 9.0 | 9.0      | 2.5 | 2.0 | 2.0     | .5  | .0  | .5   |
| 8       | 14.5 | 13.5 | 14.0     | 9.5 | 8.5 | 9.0      | 3.5 | 2.5 | 3.0     | .5  | .0  | .5   |
| 9       | 14.5 | 14.0 | 14.0     | 9.0 | 8.0 | 8.0      | 5.0 | 3.5 | 4.5     | .5  | .0  | .5   |
| 10      | 14.0 | 13.0 | 13.5     | 8.5 | 7.5 | 8.0      | 4.5 | 4.0 | 4.5     | .5  | .0  | .5   |
| 11      | 14.0 | 13.0 | 13.5     | 7.5 | 6.0 | 6.5      | 4.0 | 3.5 | 4.0     | .5  | .5  | .5   |
| 12      | 14.0 | 13.5 | 13.5     | 6.0 | 5.5 | 6.0      | 3.5 | 3.0 | 3.0     | .5  | .5  | .5   |
| 13      | 14.0 | 12.5 | 13.0     | 5.5 | 5.0 | 5.5      | 4.0 | 3.0 | 3.5     | .5  | .0  | .5   |
| 14      | 12.5 | 11.0 | 11.5     | 6.5 | 5.5 | 6.0      | 4.0 | 3.5 | 4.0     | .5  | .5  | .5   |
| 15      | 11.0 | 10.5 | 10.5     | 7.0 | 6.5 | 6.5      | 3.5 | 3.0 | 3.0     | --- | --- | ---  |
| 16      | 11.5 | 10.5 | 11.0     | 6.5 | 5.5 | 6.0      | 3.0 | 2.5 | 2.5     | --- | --- | ---  |
| 17      | 14.0 | 11.5 | 12.0     | 5.5 | 4.5 | 5.0      | 3.0 | 2.5 | 3.0     | --- | --- | ---  |
| 18      | 15.5 | 14.0 | 14.5     | 4.5 | 3.5 | 4.0      | 2.5 | 2.5 | 2.5     | --- | --- | ---  |
| 19      | 15.0 | 14.0 | 14.5     | 3.5 | 3.0 | 3.5      | 2.5 | 2.5 | 2.5     | --- | --- | ---  |
| 20      | 14.0 | 13.0 | 13.5     | 3.5 | 3.0 | 3.5      | 2.5 | 2.5 | 2.5     | --- | --- | ---  |
| 21      | 13.0 | 11.5 | 12.5     | 4.0 | 3.5 | 4.0      | 2.5 | 2.5 | 2.5     | --- | --- | ---  |
| 22      | 12.0 | 10.5 | 11.5     | 5.0 | 4.0 | 4.5      | 3.0 | 2.5 | 2.5     | --- | --- | ---  |
| 23      | 10.0 | 9.5  | 9.5      | 4.5 | 4.0 | 4.5      | 2.5 | 2.0 | 2.5     | --- | --- | ---  |
| 24      | 9.5  | 9.0  | 9.0      | 5.5 | 4.5 | 5.0      | 2.0 | 2.0 | 2.0     | --- | --- | ---  |
| 25      | 10.5 | 9.0  | 9.5      | 7.5 | 5.5 | 7.0      | 2.0 | 1.5 | 2.0     | --- | --- | ---  |
| 26      | 10.5 | 9.0  | 10.0     | 7.5 | 5.5 | 6.5      | 2.0 | 1.5 | 1.5     | --- | --- | ---  |
| 27      | 11.0 | 8.5  | 9.0      | 5.5 | 4.5 | 5.0      | 1.5 | 1.0 | 1.5     | --- | --- | ---  |
| 28      | 8.5  | 8.0  | 8.5      | 5.5 | 4.5 | 5.0      | 1.5 | 1.5 | 1.5     | --- | --- | ---  |
| 29      | 8.0  | 7.0  | 7.5      | 6.0 | 5.5 | 5.5      | 2.0 | 1.5 | 1.5     | --- | --- | ---  |
| 30      | 8.5  | 7.0  | 8.0      | 5.5 | 4.5 | 5.0      | 1.5 | .5  | 1.0     | --- | --- | ---  |
| 31      | 7.5  | 6.5  | 7.0      | --- | --- | ---      | 1.5 | .5  | .5      | --- | --- | ---  |
| MONTH   | 18.0 | 6.5  | 12.5     | 9.5 | 3.0 | 6.0      | 6.5 | .5  | 3.0     | .5  | .0  | .5   |

| DAY      | MAX | MIN | MEAN  | MAX  | MIN  | MEAN  | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|-------|------|------|-------|------|------|------|------|------|------|
| FEBRUARY |     |     | MARCH |      |      | APRIL |      |      | MAY  |      |      |      |
| 1        | --- | --- | ---   | 7.0  | 5.5  | 6.0   | 14.0 | 13.0 | 13.5 | 18.0 | 14.5 | 16.0 |
| 2        | --- | --- | ---   | 6.5  | 5.5  | 6.0   | 14.0 | 12.5 | 13.0 | 16.0 | 14.5 | 15.0 |
| 3        | --- | --- | ---   | 6.5  | 4.5  | 5.5   | 14.0 | 11.5 | 12.5 | 16.5 | 12.5 | 14.5 |
| 4        | --- | --- | ---   | 8.0  | 3.5  | 5.0   | 13.0 | 12.0 | 12.5 | 15.0 | 13.5 | 14.0 |
| 5        | --- | --- | ---   | 7.5  | 3.5  | 5.0   | 13.0 | 12.5 | 13.0 | 15.5 | 13.0 | 14.0 |
| 6        | --- | --- | ---   | 4.0  | 3.5  | 3.5   | 13.0 | 10.5 | 12.0 | 18.0 | 14.5 | 15.5 |
| 7        | --- | --- | ---   | 7.5  | 3.5  | 5.0   | 12.5 | 9.0  | 10.5 | 17.5 | 15.0 | 16.0 |
| 8        | --- | --- | ---   | 4.5  | 4.0  | 4.0   | 13.5 | 10.0 | 11.5 | 18.0 | 15.0 | 16.0 |
| 9        | --- | --- | ---   | 9.0  | 4.0  | 5.5   | 14.5 | 11.5 | 13.0 | 17.5 | 14.5 | 16.0 |
| 10       | --- | --- | ---   | 6.0  | 4.5  | 5.5   | 16.0 | 12.5 | 14.0 | 17.0 | 15.5 | 16.0 |
| 11       | --- | --- | ---   | 6.0  | 5.0  | 5.5   | 14.5 | 13.0 | 13.5 | 18.5 | 16.0 | 17.0 |
| 12       | --- | --- | ---   | 6.0  | 4.0  | 5.0   | 15.0 | 13.5 | 14.0 | 18.0 | 17.0 | 17.5 |
| 13       | --- | --- | ---   | 7.5  | 5.0  | 6.0   | 15.5 | 12.5 | 13.5 | 19.0 | 15.5 | 17.0 |
| 14       | --- | --- | ---   | 7.5  | 5.5  | 7.0   | 14.0 | 11.0 | 12.5 | 19.0 | 16.0 | 17.5 |
| 15       | --- | --- | ---   | 6.5  | 3.5  | 5.0   | 12.5 | 9.5  | 11.0 | 18.0 | 17.0 | 17.5 |
| 16       | --- | --- | ---   | 6.0  | 5.0  | 5.5   | 12.5 | 9.5  | 11.0 | 17.5 | 16.5 | 17.0 |
| 17       | --- | --- | ---   | 6.5  | 4.0  | 5.5   | 12.0 | 10.5 | 12.0 | 19.0 | 16.0 | 17.0 |
| 18       | --- | --- | ---   | 5.0  | 2.5  | 4.0   | 15.0 | 11.0 | 13.0 | 19.0 | 15.5 | 17.5 |
| 19       | --- | --- | ---   | 5.5  | 3.0  | 4.0   | 15.5 | 12.5 | 14.0 | ---  | ---  | ---  |
| 20       | --- | --- | ---   | 5.5  | 3.5  | 4.5   | 14.5 | 12.5 | 13.5 | ---  | ---  | ---  |
| 21       | --- | --- | ---   | 5.0  | 4.0  | 4.5   | ---  | ---  | ---  | 17.5 | 16.0 | 16.5 |
| 22       | --- | --- | ---   | 7.5  | 4.5  | 6.0   | ---  | ---  | ---  | 18.5 | 16.0 | 17.0 |
| 23       | --- | --- | ---   | 8.0  | 5.5  | 7.0   | ---  | ---  | ---  | 18.5 | 16.0 | 17.5 |
| 24       | --- | --- | ---   | 7.5  | 6.0  | 7.0   | ---  | ---  | ---  | 19.5 | 16.5 | 18.0 |
| 25       | 6.0 | 5.0 | 5.5   | 7.5  | 6.0  | 6.5   | ---  | ---  | ---  | 21.0 | 18.5 | 19.5 |
| 26       | 5.0 | 4.5 | 4.5   | 8.5  | 6.0  | 7.5   | ---  | ---  | ---  | 22.0 | 19.5 | 20.0 |
| 27       | 6.5 | 4.5 | 5.5   | 8.0  | 7.0  | 7.5   | ---  | ---  | ---  | 23.5 | 20.5 | 22.0 |
| 28       | 6.0 | 5.0 | 5.5   | 10.0 | 7.0  | 8.5   | 14.5 | 13.0 | 14.0 | 23.0 | 21.0 | 22.0 |
| 29       | --- | --- | ---   | 12.0 | 8.5  | 10.0  | 15.0 | 13.5 | 14.0 | 22.0 | 21.0 | 21.5 |
| 30       | --- | --- | ---   | 12.5 | 10.5 | 12.0  | 16.5 | 14.5 | 15.0 | 22.0 | 20.5 | 21.0 |
| 31       | --- | --- | ---   | 15.0 | 12.0 | 13.5  | ---  | ---  | ---  | 21.5 | 21.0 | 21.0 |
| MONTH    | 6.5 | 4.5 | 5.5   | 15.0 | 2.5  | 6.0   | 16.5 | 9.0  | 13.0 | 23.5 | 12.5 | 17.5 |



## PAWCATUCK RIVER BASIN

01117350 CHIPUXET RIVER AT WEST KINGSTON, RI

LOCATION.--Lat 41°28'56", long 71°33'06", Washington County, Hydrologic Unit 01090005, on right bank at West Kingston, at downstream side of bridge on State Highway 138, 1.5 mi (2.4 km) west of Kingston, and 3.1 mi (5.0 km) upstream from Worden Pond.

DRAINAGE AREA.--9.99 mi<sup>2</sup> (25.87 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1958 to July 1960 in Rhode Island Water Resources Board Geologic Bulletin 13. September 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 89.80 ft (27.371 m), Rhode Island State Board of Public Roads datum.

REMARKS.--Records fair. Doubtful gage-height record June 25 to July 28. Diversion upstream for supply of University of Rhode Island.

AVERAGE DISCHARGE.--9 years (water years 1959, 1974-81), 19.8 ft<sup>3</sup>/s (0.561 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD (SINCE 1973).--Maximum discharge, 208 ft<sup>3</sup>/s (5.89 m<sup>3</sup>/s) Jan. 27, 1978; gage height, 7.54 ft (2.298 m); minimum, 2.4 ft<sup>3</sup>/s (0.068 m<sup>3</sup>/s) Sept. 30, 1980.  
Instantaneous maximum and minimum discharges not available prior to Sept. 14, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) Feb. 25, maximum gage height, 5.02 ft (1.530 m) Feb. 26; minimum discharge, 2.1 ft<sup>3</sup>/s (0.059 m<sup>3</sup>/s) Aug. 27-31, Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG  | SEP  |
|-------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| 1           | 2.3   | 4.9    | 9.3   | 4.7   | 3.0   | 16    | 8.2   | 14    | 8.9   | 9.1   | 4.6  | 2.2  |
| 2           | 2.3   | 4.6    | 7.4   | 4.7   | 4.1   | 14    | 10    | 14    | 8.6   | 8.9   | 3.9  | 2.3  |
| 3           | 2.6   | 4.1    | 7.0   | 4.7   | 5.7   | 13    | 11    | 14    | 7.8   | 9.1   | 3.6  | 2.4  |
| 4           | 3.4   | 3.9    | 6.6   | 4.4   | 7.0   | 12    | 11    | 13    | 7.4   | 9.5   | 3.5  | 2.6  |
| 5           | 3.3   | 4.7    | 6.3   | 4.1   | 7.0   | 11    | 11    | 12    | 7.0   | 9.8   | 3.4  | 2.4  |
| 6           | 3.1   | 4.7    | 6.0   | 3.9   | 6.8   | 11    | 14    | 11    | 7.2   | 11    | 2.9  | 2.4  |
| 7           | 3.0   | 4.4    | 5.8   | 3.9   | 6.4   | 11    | 15    | 11    | 7.6   | 10    | 2.7  | 2.6  |
| 8           | 2.9   | 4.4    | 6.0   | 3.7   | 8.0   | 11    | 15    | 11    | 8.0   | 9.8   | 2.8  | 2.6  |
| 9           | 2.8   | 4.4    | 7.0   | 3.7   | 14    | 10    | 14    | 10    | 7.8   | 9.1   | 2.8  | 2.6  |
| 10          | 2.9   | 4.7    | 7.5   | 3.7   | 14    | 9.8   | 13    | 9.8   | 7.4   | 8.4   | 2.8  | 3.1  |
| 11          | 3.0   | 4.7    | 6.6   | 3.7   | 11    | 9.3   | 13    | 9.8   | 6.6   | 7.4   | 2.4  | 2.9  |
| 12          | 3.5   | 4.6    | 5.8   | 3.7   | 11    | 9.1   | 12    | 11    | 6.3   | 6.4   | 2.6  | 2.9  |
| 13          | 3.3   | 4.2    | 5.1   | 3.7   | 9.3   | 8.6   | 11    | 13    | 6.3   | 5.5   | 2.6  | 2.9  |
| 14          | 3.1   | 4.1    | 4.9   | 3.5   | 8.6   | 8.6   | 11    | 13    | 5.9   | 4.8   | 2.4  | 3.1  |
| 15          | 3.0   | 3.9    | 4.6   | 3.5   | 8.0   | 8.4   | 14    | 13    | 5.9   | 4.3   | 2.6  | 3.2  |
| 16          | 3.0   | 3.8    | 4.9   | 3.6   | 7.4   | 8.4   | 15    | 13    | 5.7   | 3.8   | 3.1  | 4.4  |
| 17          | 3.0   | 3.8    | 4.7   | 3.5   | 7.4   | 8.4   | 15    | 13    | 5.7   | 3.5   | 3.1  | 4.8  |
| 18          | 3.0   | 5.1    | 4.4   | 2.6   | 6.8   | 8.0   | 15    | 14    | 5.5   | 3.1   | 3.1  | 4.8  |
| 19          | 3.5   | 6.3    | 4.4   | 2.5   | 6.8   | 7.6   | 14    | 13    | 5.1   | 3.4   | 3.2  | 4.4  |
| 20          | 3.5   | 7.2    | 3.9   | 2.6   | 8.0   | 7.2   | 13    | 12    | 6.8   | 5.9   | 2.9  | 4.8  |
| 21          | 3.2   | 6.2    | 3.7   | 2.9   | 13    | 7.4   | 12    | 12    | 8.9   | 8.9   | 2.7  | 4.8  |
| 22          | 3.1   | 5.4    | 3.5   | 3.0   | 15    | 7.4   | 11    | 12    | 9.8   | 11    | 2.6  | 3.6  |
| 23          | 3.0   | 5.2    | 3.4   | 3.1   | 14    | 7.2   | 9.8   | 11    | 8.9   | 11    | 2.4  | 3.5  |
| 24          | 2.9   | 5.2    | 3.5   | 3.1   | 14    | 7.0   | 12    | 11    | 9.5   | 9.1   | 2.3  | 3.5  |
| 25          | 3.8   | 7.4    | 3.5   | 3.1   | 18    | 7.0   | 14    | 10    | 9.8   | 8.4   | 2.3  | 3.4  |
| 26          | 6.2   | 8.9    | 3.5   | 3.1   | 20    | 7.0   | 14    | 9.8   | 9.8   | 8.0   | 2.3  | 3.4  |
| 27          | 6.2   | 7.4    | 3.5   | 3.5   | 19    | 7.2   | 15    | 9.1   | 12    | 7.2   | 2.2  | 3.2  |
| 28          | 6.0   | 7.8    | 3.4   | 3.7   | 18    | 7.0   | 14    | 9.3   | 13    | 6.4   | 2.1  | 3.2  |
| 29          | 6.0   | 8.9    | 3.4   | 3.7   | ---   | 7.4   | 14    | 9.5   | 11    | 5.7   | 2.1  | 3.2  |
| 30          | 5.1   | 9.7    | 4.2   | 3.1   | ---   | 7.8   | 14    | 9.3   | 9.8   | 5.7   | 2.1  | 3.1  |
| 31          | 4.7   | ---    | 4.6   | 3.0   | ---   | 8.4   | ---   | 8.9   | ---   | 5.3   | 2.2  | ---  |
| TOTAL       | 110.7 | 164.6  | 158.4 | 109.7 | 291.3 | 283.2 | 385.0 | 356.5 | 240.0 | 229.5 | 86.3 | 98.3 |
| MEAN        | 3.57  | 5.49   | 5.11  | 3.54  | 10.4  | 9.14  | 12.8  | 11.5  | 8.00  | 7.40  | 2.78 | 3.28 |
| MAX         | 6.2   | 9.7    | 9.3   | 4.7   | 20    | 16    | 15    | 14    | 13    | 11    | 4.6  | 4.8  |
| MIN         | 2.3   | 3.8    | 3.4   | 2.5   | 3.0   | 7.0   | 8.2   | 8.9   | 5.1   | 3.1   | 2.1  | 2.2  |
| CAL YR 1980 | TOTAL | 5842.5 | MEAN  | 16.0  | MAX   | 180   | MIN   | 2.3   |       |       |      |      |
| WTR YR 1981 | TOTAL | 2513.5 | MEAN  | 6.89  | MAX   | 20    | MIN   | 2.1   |       |       |      |      |

01117350 CHIPUXET RIVER AT WEST KINGSTON, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to current year.

WATER TEMPERATURES: October 1973 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1973.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 180 micromhos May 7, 1977, June 11, 1979; minimum recorded, 37 micromhos Jan. 22, 23, 1979.

WATER TEMPERATURES: Maximum recorded, 30.5°C July 8, 9, 1981; minimum recorded, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 157 micromhos Oct. 25; minimum recorded, 80 micromhos Feb. 8.

WATER TEMPERATURES: Maximum recorded, 30.5°C July 8, 9; minimum recorded, 0.0°C on many days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 114     | 111 | 113  | 115      | 113 | 114  | 96       | 93  | 95   | 96      | 91  | 94   |
| 2     | 117     | 113 | 115  | 114      | 112 | 113  | 101      | 95  | 98   | 97      | 95  | 96   |
| 3     | 118     | 116 | 117  | 113      | 111 | 112  | 101      | 94  | 98   | 95      | 93  | 94   |
| 4     | 117     | 111 | 115  | 118      | 112 | 114  | 96       | 93  | 95   | 94      | 92  | 93   |
| 5     | 112     | 110 | 111  | 117      | 112 | 114  | 97       | 93  | 95   | 96      | 86  | 91   |
| 6     | 113     | 110 | 111  | 112      | 109 | 110  | 99       | 93  | 96   | 99      | 94  | 96   |
| 7     | 111     | 109 | 110  | 113      | 110 | 111  | 99       | 95  | 97   | 99      | 96  | 98   |
| 8     | 113     | 109 | 111  | 113      | 110 | 112  | 103      | 99  | 101  | 98      | 94  | 96   |
| 9     | 115     | 112 | 113  | 112      | 108 | 109  | 99       | 92  | 94   | 100     | 94  | 97   |
| 10    | 117     | 112 | 114  | 112      | 109 | 111  | 94       | 92  | 93   | 99      | 97  | 98   |
| 11    | 125     | 120 | 123  | 110      | 107 | 108  | 92       | 90  | 91   | 101     | 96  | 99   |
| 12    | 125     | 119 | 123  | 108      | 102 | 103  | 96       | 90  | 93   | 103     | 91  | 97   |
| 13    | 121     | 118 | 119  | 103      | 102 | 103  | 97       | 94  | 96   | 106     | 100 | 103  |
| 14    | 121     | 117 | 119  | 105      | 103 | 104  | 95       | 91  | 93   | 109     | 101 | 105  |
| 15    | 121     | 117 | 119  | 104      | 102 | 103  | 96       | 90  | 93   | 106     | 105 | 105  |
| 16    | 123     | 119 | 122  | 102      | 101 | 102  | 96       | 92  | 94   | 115     | 111 | 113  |
| 17    | 125     | 122 | 124  | 102      | 100 | 101  | 93       | 89  | 92   | 112     | 110 | 111  |
| 18    | 127     | 124 | 126  | 104      | 99  | 102  | 97       | 89  | 94   | 116     | 110 | 114  |
| 19    | 127     | 121 | 124  | 99       | 97  | 98   | 99       | 91  | 96   | 116     | 112 | 113  |
| 20    | 121     | 120 | 121  | 99       | 96  | 97   | 98       | 91  | 95   | 117     | 112 | 114  |
| 21    | 122     | 119 | 120  | 100      | 97  | 99   | 100      | 94  | 97   | 115     | 108 | 110  |
| 22    | 122     | 117 | 119  | 99       | 97  | 99   | 101      | 95  | 98   | 112     | 108 | 110  |
| 23    | 120     | 117 | 118  | 99       | 96  | 98   | 103      | 98  | 100  | 115     | 110 | 113  |
| 24    | 120     | 116 | 118  | 101      | 99  | 100  | 100      | 98  | 99   | 112     | 109 | 110  |
| 25    | 157     | 118 | 130  | 105      | 96  | 100  | 98       | 93  | 95   | 115     | 109 | 112  |
| 26    | 152     | 120 | 127  | 96       | 93  | 94   | 99       | 87  | 93   | 116     | 112 | 115  |
| 27    | 124     | 121 | 123  | 94       | 92  | 93   | 102      | 98  | 100  | 119     | 113 | 117  |
| 28    | 122     | 121 | 121  | 101      | 94  | 97   | 103      | 101 | 102  | 114     | 110 | 112  |
| 29    | 120     | 117 | 119  | 101      | 93  | 96   | 102      | 101 | 102  | 110     | 108 | 109  |
| 30    | 117     | 115 | 116  | 94       | 92  | 93   | 100      | 90  | 95   | 111     | 107 | 109  |
| 31    | 117     | 114 | 115  | ---      | --- | ---  | 94       | 90  | 92   | 114     | 110 | 112  |
| MONTH | 157     | 109 | 119  | 118      | 92  | 104  | 103      | 87  | 96   | 119     | 86  | 105  |

## PAWCATUCK RIVER BASIN

01117350 CHIPUXET RIVER AT WEST KINGSTON, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1        | 118 | 114 | 116  | 95    | 92  | 93   | 98     | 95  | 97   | 95        | 93  | 94   |
| 2        | 118 | 114 | 115  | 94    | 91  | 93   | 99     | 96  | 98   | 94        | 91  | 92   |
| 3        | 114 | 101 | 105  | 94    | 91  | 93   | 99     | 96  | 97   | 95        | 92  | 93   |
| 4        | 104 | 101 | 102  | 95    | 91  | 93   | 99     | 97  | 98   | 96        | 93  | 94   |
| 5        | 104 | 102 | 103  | 93    | 92  | 93   | 99     | 96  | 98   | 100       | 96  | 98   |
| 6        | 106 | 102 | 104  | 94    | 92  | 93   | 95     | 93  | 94   | 101       | 99  | 100  |
| 7        | 108 | 104 | 105  | 94    | 93  | 94   | 96     | 92  | 94   | 101       | 98  | 99   |
| 8        | 113 | 80  | 100  | 96    | 94  | 94   | 96     | 93  | 94   | 100       | 98  | 99   |
| 9        | 103 | 98  | 101  | 95    | 94  | 94   | 96     | 94  | 95   | 101       | 98  | 99   |
| 10       | 104 | 101 | 103  | 95    | 93  | 94   | 97     | 94  | 95   | 100       | 99  | 100  |
| 11       | 105 | 102 | 104  | 95    | 93  | 94   | 96     | 95  | 95   | 101       | 100 | 100  |
| 12       | 101 | 94  | 97   | 97    | 93  | 94   | 98     | 96  | 96   | 102       | 99  | 100  |
| 13       | 102 | 97  | 100  | 99    | 93  | 96   | 97     | 95  | 96   | 99        | 98  | 98   |
| 14       | 103 | 98  | 100  | 96    | 94  | 96   | 97     | 94  | 95   | 99        | 97  | 98   |
| 15       | 103 | 98  | 101  | 99    | 94  | 96   | 94     | 92  | 93   | 100       | 98  | 99   |
| 16       | 105 | 99  | 101  | 98    | 96  | 97   | 94     | 92  | 93   | 101       | 99  | 100  |
| 17       | 104 | 99  | 101  | 101   | 96  | 98   | 96     | 92  | 94   | 101       | 98  | 99   |
| 18       | 103 | 97  | 100  | 101   | 95  | 98   | 97     | 94  | 96   | 100       | 97  | 99   |
| 19       | 100 | 96  | 98   | 99    | 95  | 97   | 97     | 93  | 95   | 101       | 98  | 99   |
| 20       | 96  | 90  | 94   | 99    | 96  | 97   | 96     | 93  | 95   | 103       | 99  | 101  |
| 21       | 95  | 89  | 91   | 98    | 96  | 96   | 95     | 93  | 94   | 103       | 100 | 101  |
| 22       | 96  | 95  | 95   | 101   | 97  | 99   | 98     | 94  | 95   | 104       | 100 | 102  |
| 23       | 98  | 96  | 97   | 99    | 97  | 98   | 97     | 94  | 96   | 104       | 100 | 101  |
| 24       | 99  | 95  | 97   | 100   | 97  | 98   | 96     | 94  | 95   | 105       | 101 | 102  |
| 25       | 95  | 93  | 94   | 99    | 96  | 98   | 98     | 92  | 94   | 107       | 101 | 104  |
| 26       | 94  | 94  | 94   | 101   | 97  | 99   | 95     | 92  | 93   | 106       | 101 | 103  |
| 27       | 95  | 93  | 94   | 101   | 97  | 99   | 95     | 92  | 93   | 104       | 102 | 103  |
| 28       | 93  | 91  | 92   | 102   | 97  | 99   | 94     | 93  | 94   | 107       | 101 | 103  |
| 29       | --- | --- | ---  | 103   | 99  | 101  | 95     | 94  | 94   | 108       | 102 | 103  |
| 30       | --- | --- | ---  | 103   | 99  | 101  | 95     | 93  | 94   | 102       | 101 | 102  |
| 31       | --- | --- | ---  | 102   | 96  | 101  | ---    | --- | ---  | 101       | 101 | 101  |
| MONTH    | 118 | 80  | 100  | 103   | 91  | 96   | 99     | 92  | 95   | 108       | 91  | 100  |
| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
| JUNE     |     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1        | 101 | 99  | 100  | 103   | 97  | 100  | 98     | 96  | 97   | 110       | 106 | 108  |
| 2        | 100 | 99  | 99   | 103   | 98  | 101  | 98     | 97  | 98   | 109       | 106 | 108  |
| 3        | 101 | 100 | 100  | 98    | 97  | 97   | 99     | 98  | 99   | 109       | 106 | 107  |
| 4        | 104 | 100 | 102  | 98    | 97  | 98   | 100    | 99  | 100  | 108       | 106 | 107  |
| 5        | 104 | 100 | 102  | 98    | 97  | 98   | 101    | 100 | 101  | 108       | 105 | 107  |
| 6        | 103 | 99  | 101  | 100   | 97  | 98   | 102    | 100 | 101  | 109       | 106 | 107  |
| 7        | 102 | 98  | 100  | 100   | 97  | 99   | 101    | 100 | 101  | 110       | 106 | 1    |



## 01117350 CHIPUXET RIVER AT WEST KINGSTON, RI--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX  | MIN  | MEAN     | MAX  | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|------|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |      |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 16.5 | 15.0 | 16.0     | 9.0  | 7.0 | 8.0      | 7.0 | 4.0 | 5.5     | .0  | .0  | .0   |
| 2       | 18.0 | 16.5 | 17.0     | 8.5  | 6.0 | 7.5      | 7.0 | 4.5 | 5.5     | .0  | .0  | .0   |
| 3       | 18.0 | 16.5 | 17.5     | 7.5  | 5.0 | 6.5      | 7.5 | 1.0 | 5.0     | .0  | .0  | .0   |
| 4       | 16.5 | 15.0 | 16.0     | 10.5 | 7.0 | 8.5      | 2.0 | 1.0 | 1.5     | .0  | .0  | .0   |
| 5       | 16.5 | 14.0 | 15.5     | 11.0 | 9.5 | 10.5     | 2.0 | 1.0 | 1.5     | .0  | .0  | .0   |
| 6       | 16.0 | 13.5 | 15.0     | 9.0  | 6.0 | 7.5      | 2.5 | 1.0 | 2.0     | .0  | .0  | .0   |
| 7       | 13.5 | 12.0 | 12.5     | 10.0 | 7.5 | 8.5      | 3.5 | 1.0 | 2.5     | .0  | .0  | .0   |
| 8       | 14.0 | 11.0 | 12.0     | 11.0 | 9.5 | 10.0     | 5.5 | 3.0 | 4.5     | .0  | .0  | .0   |
| 9       | 15.5 | 13.5 | 14.0     | 9.0  | 6.0 | 7.5      | 5.5 | 4.0 | 5.0     | .0  | .0  | .0   |
| 10      | 14.0 | 11.5 | 12.5     | 9.5  | 8.0 | 9.0      | 4.5 | 3.0 | 3.5     | .0  | .0  | .0   |
| 11      | 14.5 | 12.5 | 13.5     | 7.5  | 5.0 | 6.0      | 2.5 | 1.0 | 1.5     | .0  | .0  | .0   |
| 12      | 15.0 | 13.0 | 14.5     | 7.0  | 5.0 | 7.0      | 2.0 | .0  | 1.0     | .0  | .0  | .0   |
| 13      | 14.0 | 11.0 | 12.5     | 6.5  | 5.0 | 6.0      | 4.0 | 2.0 | 3.0     | .0  | .0  | .0   |
| 14      | 12.0 | 9.0  | 10.5     | 8.5  | 6.5 | 7.5      | 2.5 | .0  | 1.0     | .0  | .0  | .0   |
| 15      | 12.5 | 9.5  | 11.0     | 8.5  | 6.5 | 7.5      | 1.0 | .0  | .5      | .0  | .0  | .0   |
| 16      | 14.0 | 11.5 | 13.0     | 6.5  | 5.0 | 6.0      | 1.0 | .5  | 1.0     | 1.5 | .5  | 1.0  |
| 17      | 15.5 | 13.0 | 14.5     | 5.0  | 3.0 | 4.5      | 1.0 | .0  | .5      | 1.5 | .5  | 1.0  |
| 18      | 15.5 | 14.5 | 15.5     | 5.0  | 4.0 | 4.5      | .5  | .0  | .0      | 1.5 | .5  | 1.0  |
| 19      | 15.5 | 14.5 | 15.0     | 4.5  | 2.5 | 3.5      | 1.5 | .0  | .5      | 2.0 | 1.0 | 1.5  |
| 20      | 14.5 | 12.0 | 13.0     | 5.0  | 2.0 | 3.5      | --- | --- | ---     | 2.0 | .5  | 1.0  |
| 21      | 13.5 | 11.0 | 11.5     | 6.5  | 3.0 | 4.5      | .5  | .0  | .5      | 1.5 | .5  | 1.0  |
| 22      | 12.0 | 10.0 | 11.0     | 5.5  | 4.0 | 5.0      | 1.0 | .0  | .5      | 1.0 | .5  | .5   |
| 23      | 11.0 | 8.5  | 9.5      | 5.0  | 3.0 | 4.0      | 1.5 | .0  | 1.0     | 1.5 | .5  | 1.0  |
| 24      | 10.0 | 8.0  | 9.0      | 7.0  | 5.0 | 6.0      | 2.0 | .5  | 1.5     | 2.0 | .5  | 1.0  |
| 25      | 11.0 | 9.0  | 10.0     | 8.0  | 6.0 | 7.5      | 1.5 | .5  | 1.0     | 2.0 | .5  | 1.0  |
| 26      | 11.0 | 9.5  | 10.5     | 5.5  | 3.5 | 4.5      | --- | --- | ---     | 2.0 | .5  | 1.5  |
| 27      | 11.0 | 7.5  | 9.5      | 4.5  | 2.0 | 3.5      | 1.0 | .0  | .5      | 3.5 | 1.0 | 2.0  |
| 28      | 9.5  | 9.0  | 9.5      | 6.5  | 4.0 | 5.0      | 2.0 | .0  | 1.0     | 3.0 | 1.0 | 2.0  |
| 29      | 10.5 | 7.5  | 9.0      | 6.5  | 3.5 | 5.0      | 2.5 | 1.0 | 1.5     | 2.5 | 1.0 | 2.0  |
| 30      | 9.5  | 7.0  | 8.5      | 5.5  | 2.5 | 4.0      | 3.0 | 1.0 | 2.0     | 2.5 | .5  | 1.5  |
| 31      | 9.5  | 6.5  | 8.0      | ---  | --- | ---      | 1.5 | .0  | .5      | 2.5 | .5  | 1.5  |
| MONTH   | 18.0 | 6.5  | 12.5     | 11.0 | 2.0 | 6.5      | 7.5 | .0  | 2.0     | 3.5 | .0  | .5   |

| DAY      | MAX | MIN | MEAN  | MAX  | MIN | MEAN  | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|-------|------|-----|-------|------|------|------|------|------|------|
| FEBRUARY |     |     | MARCH |      |     | APRIL |      |      | MAY  |      |      |      |
| 1        | 3.0 | .5  | 2.0   | 7.5  | 4.5 | 5.5   | 12.5 | 8.5  | 10.5 | 18.5 | 13.0 | 15.5 |
| 2        | 4.5 | 3.0 | 3.5   | 6.5  | 3.5 | 5.0   | 13.5 | 9.5  | 11.0 | 15.0 | 12.5 | 14.0 |
| 3        | 3.0 | 1.5 | 2.0   | 7.5  | 3.0 | 4.5   | 14.5 | 8.0  | 11.0 | 16.5 | 11.5 | 14.0 |
| 4        | 3.5 | 1.0 | 2.0   | 7.0  | 2.5 | 4.5   | 12.0 | 9.5  | 10.5 | 13.5 | 11.0 | 12.5 |
| 5        | 3.5 | 1.0 | 2.0   | 4.5  | 2.5 | 3.5   | 11.5 | 10.0 | 10.5 | 17.5 | 11.5 | 14.0 |
| 6        | 3.0 | .0  | 1.5   | 5.0  | 2.5 | 3.5   | 11.0 | 8.0  | 10.0 | 20.0 | 13.5 | 16.0 |
| 7        | 4.5 | 1.0 | 2.5   | 4.5  | 3.0 | 4.0   | 14.0 | 7.0  | 10.0 | 19.0 | 13.5 | 16.0 |
| 8        | 3.5 | 2.5 | 3.0   | 4.5  | 3.0 | 3.5   | 14.0 | 8.0  | 10.5 | 19.5 | 12.5 | 16.0 |
| 9        | 4.5 | 2.0 | 3.0   | 6.0  | 3.0 | 4.5   | 14.5 | 9.5  | 11.5 | 20.5 | 13.5 | 16.5 |
| 10       | 5.0 | 2.0 | 3.0   | 6.5  | 2.5 | 4.5   | 16.0 | 9.5  | 12.5 | 18.5 | 15.5 | 16.5 |
| 11       | 5.5 | 3.0 | 4.5   | 6.0  | 3.0 | 4.5   | 14.0 | 10.5 | 12.0 | 21.5 | 16.0 | 19.0 |
| 12       | 5.0 | 1.5 | 3.5   | 6.5  | 3.0 | 5.0   | 14.5 | 11.0 | 12.5 | 19.0 | 17.0 | 18.0 |
| 13       | 5.0 | 1.0 | 3.0   | 9.0  | 3.0 | 5.5   | 15.5 | 10.0 | 12.5 | 21.0 | 15.5 | 18.0 |
| 14       | 6.0 | 1.0 | 3.5   | 7.0  | 4.0 | 5.5   | 11.0 | 10.0 | 10.5 | 20.5 | 15.5 | 18.0 |
| 15       | 6.0 | 1.0 | 3.5   | ---  | --- | ---   | 14.5 | 8.5  | 11.0 | 18.5 | 16.5 | 17.5 |
| 16       | 7.0 | 1.5 | 4.5   | ---  | --- | ---   | 14.0 | 8.5  | 10.5 | 19.0 | 16.5 | 17.5 |
| 17       | 8.5 | 3.5 | 5.5   | ---  | --- | ---   | 12.0 | 9.0  | 10.5 | 22.5 | 16.0 | 18.5 |
| 18       | 9.0 | 4.0 | 6.0   | ---  | --- | ---   | 16.0 | 10.5 | 13.0 | 21.5 | 16.0 | 18.5 |
| 19       | 7.0 | 4.5 | 6.0   | ---  | --- | ---   | 16.5 | 10.5 | 13.0 | 20.0 | 15.0 | 17.5 |
| 20       | 6.0 | 5.0 | 6.0   | ---  | --- | ---   | 13.5 | 10.0 | 12.0 | 21.0 | 15.0 | 17.5 |
| 21       | 7.0 | 5.0 | 6.0   | ---  | --- | ---   | 14.5 | 8.5  | 11.0 | 19.5 | 14.5 | 17.0 |
| 22       | 7.0 | 5.5 | 6.0   | ---  | --- | ---   | 15.5 | 8.5  | 11.5 | 20.0 | 15.0 | 17.0 |
| 23       | 6.0 | 4.5 | 5.0   | ---  | --- | ---   | 11.5 | 9.5  | 11.0 | 20.0 | 14.5 | 17.0 |
| 24       | 6.0 | 5.5 | 5.5   | 8.0  | 5.0 | 7.0   | 13.5 | 10.5 | 11.5 | 22.0 | 14.5 | 18.0 |
| 25       | 6.0 | 4.0 | 5.0   | 7.5  | 3.5 | 5.5   | 11.5 | 10.5 | 11.0 | 23.5 | 16.5 | 19.5 |
| 26       | 5.5 | 4.0 | 4.5   | 10.0 | 5.0 | 7.0   | 15.5 | 9.5  | 12.5 | 23.5 | 17.5 | 20.5 |
| 27       | 7.5 | 4.0 | 5.5   | 8.5  | 4.5 | 6.0   | 16.0 | 10.5 | 13.0 | 24.0 | 18.5 | 21.0 |
| 28       | 6.0 | 3.5 | 4.5   | 10.5 | 4.5 | 7.0   | 14.5 | 11.5 | 13.0 | 24.0 | 19.0 | 21.5 |
| 29       | --- | --- | ---   | 11.5 | 5.0 | 8.5   | 15.0 | 12.5 | 13.5 | 21.0 | 19.5 | 20.5 |
| 30       | --- | --- | ---   | 11.5 | 7.0 | 9.0   | 17.0 | 12.5 | 14.5 | 23.5 | 19.0 | 21.0 |
| 31       | --- | --- | ---   | 14.5 | 8.0 | 11.0  | ---  | ---  | ---  | 23.0 | 19.5 | 21.0 |
| MONTH    | 9.0 | .0  | 4.0   | 14.5 | 2.5 | 5.5   | 17.0 | 7.0  | 11.5 | 24.0 | 11.0 | 17.5 |



## 01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI

LOCATION.--Lat 41°28'36", long 71°36'19", Washington County, Hydrologic Unit 01090005, on left bank at upstream side of Heaton Orchard Bridge on State Highway 2 in South Kingstown, 1.2 mi (1.9 km) upstream from Chickasheen Brook, 1.8 mi (2.9 km) south of Usquepaug, and 2.6 mi (4.2 km) west of West Kingstown.

DRAINAGE AREA.--36.1 mi<sup>2</sup> (93.5 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1958 to July 1960 in Rhode Island Water Resources Board Geologic Bulletin 13. December 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 81.28 ft (24.774 m) state of Rhode Island datum.

REMARKS.--Records good except those for period of shifting control, May 31 to Sept. 30, which are fair. Flow affected at times by irrigation upstream.

AVERAGE DISCHARGE.--7 years (water years 1959, 1976-81), 73.3 ft<sup>3</sup>/s (2.076 m<sup>3</sup>/s), 27.57 in/yr (700 mm/yr).

EXTREMES FOR PERIOD OF RECORD (SINCE 1974).--Maximum discharge, 658 ft<sup>3</sup>/s (18.6 m<sup>3</sup>/s) Jan. 27, 1978, gage height, 8.21 ft (2.502 m); minimum, 3.9 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Sept. 10, 1977, Sept. 30, 1980. Instantaneous maximum and minimum discharges not available prior to Dec. 5, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 140 ft<sup>3</sup>/s (3.96 m<sup>3</sup>/s) Feb. 26, gage height, 4.53 ft (1.381 m); minimum, 4.1 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG   | SEP   |
|-------------|-------|---------|------|------|------|------|------|------|------|------|-------|-------|
| 1           | 5.1   | 16      | 35   | 27   | 12   | 100  | 46   | 60   | 37   | 27   | 16    | 8.1   |
| 2           | 5.3   | 15      | 30   | 24   | 27   | 87   | 59   | 56   | 33   | 29   | 14    | 8.9   |
| 3           | 5.3   | 14      | 29   | 21   | 49   | 78   | 67   | 56   | 33   | 28   | 12    | 9.2   |
| 4           | 16    | 13      | 27   | 21   | 47   | 72   | 56   | 52   | 37   | 31   | 9.8   | 8.9   |
| 5           | 12    | 16      | 23   | 19   | 29   | 67   | 50   | 48   | 37   | 38   | 9.8   | 8.6   |
| 6           | 9.2   | 15      | 22   | 18   | 22   | 66   | 80   | 48   | 33   | 40   | 10    | 8.4   |
| 7           | 8.1   | 13      | 21   | 19   | 20   | 64   | 92   | 48   | 33   | 34   | 9.5   | 8.1   |
| 8           | 8.1   | 13      | 20   | 20   | 33   | 65   | 71   | 45   | 28   | 28   | 9.5   | 8.4   |
| 9           | 7.6   | 13      | 21   | 17   | 47   | 65   | 59   | 44   | 26   | 24   | 12    | 11    |
| 10          | 6.8   | 16      | 23   | 17   | 33   | 61   | 60   | 44   | 27   | 21   | 11    | 9.8   |
| 11          | 8.1   | 17      | 23   | 17   | 30   | 59   | 56   | 44   | 24   | 19   | 10    | 9.2   |
| 12          | 16    | 14      | 20   | 16   | 45   | 57   | 53   | 50   | 22   | 17   | 10    | 8.9   |
| 13          | 12    | 13      | 19   | 15   | 41   | 55   | 49   | 60   | 24   | 18   | 11    | 8.6   |
| 14          | 10    | 12      | 19   | 15   | 31   | 53   | 50   | 51   | 25   | 15   | 9.8   | 8.4   |
| 15          | 8.9   | 12      | 18   | 15   | 25   | 52   | 88   | 46   | 25   | 14   | 9.5   | 10    |
| 16          | 8.6   | 11      | 21   | 15   | 27   | 50   | 81   | 54   | 23   | 13   | 19    | 21    |
| 17          | 7.8   | 11      | 22   | 16   | 28   | 51   | 64   | 60   | 23   | 12   | 24    | 26    |
| 18          | 8.1   | 22      | 18   | 16   | 27   | 52   | 59   | 51   | 20   | 11   | 20    | 20    |
| 19          | 16    | 33      | 18   | 16   | 27   | 48   | 55   | 45   | 18   | 13   | 16    | 17    |
| 20          | 14    | 26      | 16   | 16   | 37   | 47   | 52   | 42   | 42   | 14   | 13    | 16    |
| 21          | 12    | 21      | 14   | 15   | 86   | 46   | 50   | 40   | 70   | 37   | 11    | 14    |
| 22          | 11    | 19      | 13   | 15   | 105  | 45   | 48   | 39   | 53   | 45   | 10    | 13    |
| 23          | 10    | 17      | 14   | 14   | 92   | 44   | 48   | 37   | 42   | 33   | 11    | 13    |
| 24          | 9.8   | 17      | 18   | 14   | 81   | 44   | 68   | 35   | 35   | 24   | 10    | 13    |
| 25          | 18    | 37      | 18   | 14   | 118  | 44   | 77   | 35   | 33   | 20   | 9.8   | 12    |
| 26          | 60    | 42      | 15   | 13   | 135  | 44   | 71   | 33   | 53   | 18   | 8.9   | 11    |
| 27          | 41    | 30      | 14   | 16   | 134  | 45   | 61   | 33   | 43   | 19   | 9.2   | 10    |
| 28          | 27    | 28      | 14   | 18   | 118  | 45   | 56   | 32   | 34   | 23   | 8.1   | 11    |
| 29          | 24    | 52      | 15   | 16   | ---  | 43   | 60   | 36   | 31   | 23   | 7.6   | 11    |
| 30          | 20    | 47      | 34   | 15   | ---  | 43   | 66   | 45   | 30   | 21   | 8.4   | 10    |
| 31          | 18    | ---     | 39   | 13   | ---  | 49   | ---  | 41   | ---  | 18   | 8.6   | ---   |
| TOTAL       | 443.8 | 625     | 653  | 523  | 1506 | 1741 | 1852 | 1410 | 994  | 727  | 358.5 | 352.5 |
| MEAN        | 14.3  | 20.8    | 21.1 | 16.9 | 53.8 | 56.2 | 61.7 | 45.5 | 33.1 | 23.5 | 11.6  | 11.8  |
| MAX         | 60    | 52      | 39   | 27   | 135  | 100  | 92   | 60   | 70   | 45   | 24    | 26    |
| MIN         | 5.1   | 11      | 13   | 13   | 12   | 43   | 46   | 32   | 18   | 11   | 7.6   | 8.1   |
| CFSM        | .40   | .58     | .58  | .47  | 1.49 | 1.56 | 1.71 | 1.26 | .92  | .65  | .32   | .33   |
| IN.         | .46   | .64     | .67  | .54  | 1.55 | 1.79 | 1.91 | 1.45 | 1.02 | .75  | .37   | .36   |
| CAL YR 1980 | TOTAL | 20699.0 | MEAN | 56.6 | MAX  | 594  | MIN  | 5.1  | CFSM | 1.57 | IN    | 21.33 |
| WTR YR 1981 | TOTAL | 11185.8 | MEAN | 30.6 | MAX  | 135  | MIN  | 5.1  | CFSM | .85  | IN    | 11.53 |

## PAWCATUCK RIVER BASIN

01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1974 to current year.

WATER TEMPERATURES: December 1974 to current year.

INSTRUMENTATION.--Water-quality monitor since December 1974.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 250 micromhos June 4, 1977; minimum recorded, 21 micromhos May 15, 16, 1978, Jan. 22, 1979.

WATER TEMPERATURES: Maximum recorded, 27.0°C Aug. 3, 1975; minimum recorded, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 100 micromhos Oct. 29; minimum recorded, 46 micromhos Feb. 21.

WATER TEMPERATURES: Maximum recorded, 25.0°C July 22; minimum recorded, 0.0°C on many days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 84      | 79  | 82   | 92       | 90  | 91   | 74       | 70  | 72   | 69      | 62  | 66   |
| 2     | 83      | 80  | 81   | 92       | 88  | 91   | 75       | 71  | 73   | 72      | 69  | 70   |
| 3     | 83      | 81  | 82   | 92       | 88  | 91   | 74       | 72  | 73   | 73      | 71  | 72   |
| 4     | 83      | 73  | 76   | 93       | 89  | 91   | 74       | 72  | 73   | 71      | 71  | 71   |
| 5     | 77      | 73  | 75   | 90       | 87  | 88   | 74       | 72  | 73   | 72      | 70  | 71   |
| 6     | 80      | 76  | 78   | 89       | 86  | 88   | 75       | 70  | 73   | 71      | 69  | 70   |
| 7     | 81      | 78  | 80   | 87       | 84  | 86   | 75       | 71  | 74   | 69      | 67  | 68   |
| 8     | 81      | 75  | 79   | 86       | 84  | 85   | 75       | 71  | 74   | 72      | 69  | 71   |
| 9     | 81      | 76  | 79   | 86       | 83  | 84   | 73       | 71  | 72   | 72      | 70  | 71   |
| 10    | 81      | 76  | 80   | 83       | 80  | 82   | 72       | 70  | 71   | 70      | 68  | 69   |
| 11    | 81      | 76  | 79   | 81       | 78  | 80   | 71       | 69  | 70   | 72      | 69  | 71   |
| 12    | 77      | 73  | 75   | 81       | 76  | 80   | 71       | 70  | 71   | 73      | 72  | 72   |
| 13    | 77      | 74  | 76   | 80       | 77  | 79   | 72       | 68  | 71   | 73      | 71  | 72   |
| 14    | 79      | 75  | 77   | 80       | 77  | 79   | 72       | 71  | 72   | 72      | 71  | 72   |
| 15    | 80      | 76  | 79   | 81       | 79  | 80   | 73       | 72  | 72   | 72      | 71  | 72   |
| 16    | 81      | 79  | 80   | 81       | 79  | 81   | 77       | 72  | 73   | 72      | 70  | 71   |
| 17    | 81      | 79  | 80   | 81       | 79  | 81   | 72       | 71  | 72   | 71      | 70  | 70   |
| 18    | 82      | 79  | 81   | 80       | 73  | 76   | 73       | 72  | 72   | 71      | 69  | 70   |
| 19    | 81      | 75  | 77   | 73       | 66  | 69   | 72       | 71  | 71   | 69      | 65  | 67   |
| 20    | 77      | 74  | 75   | 71       | 67  | 69   | 75       | 71  | 73   | 70      | 64  | 67   |
| 21    | 79      | 76  | 77   | 76       | 71  | 73   | 75       | 74  | 75   | 69      | 66  | 68   |
| 22    | 80      | 76  | 79   | 77       | 75  | 77   | 76       | 74  | 75   | 69      | 66  | 68   |
| 23    | 81      | 76  | 79   | 77       | 74  | 76   | 76       | 73  | 75   | 68      | 66  | 67   |
| 24    | 80      | 77  | 79   | 77       | 73  | 75   | 80       | 74  | 76   | 69      | 67  | 68   |
| 25    | 83      | 78  | 80   | 74       | 66  | 69   | 78       | 75  | 76   | 70      | 67  | 69   |
| 26    | 78      | 72  | 73   | 67       | 62  | 65   | 77       | 74  | 75   | 70      | 68  | 69   |
| 27    | 87      | 75  | 78   | 76       | 68  | 72   | 73       | 71  | 72   | 73      | 62  | 67   |
| 28    | 97      | 88  | 93   | 76       | 70  | 73   | 73       | 71  | 71   | 72      | 66  | 68   |
| 29    | 100     | 97  | 98   | 72       | 65  | 67   | 75       | 73  | 74   | 71      | 69  | 71   |
| 30    | 99      | 93  | 96   | 72       | 62  | 67   | 73       | 62  | 67   | 72      | 70  | 72   |
| 31    | 95      | 90  | 93   | ---      | --- | ---  | 62       | 61  | 62   | 74      | 70  | 72   |
| MONTH | 100     | 72  | 81   | 93       | 62  | 79   | 80       | 61  | 72   | 74      | 62  | 70   |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1        | 74  | 71  | 72   | 56    | 52  | 54   | 62     | 59  | 60   | 58        | 56  | 58   |
| 2        | 75  | 68  | 71   | 57    | 54  | 56   | 61     | 55  | 58   | 59        | 56  | 58   |
| 3        | 67  | 60  | 62   | 57    | 53  | 56   | 59     | 53  | 56   | 59        | 55  | 57   |
| 4        | 75  | 65  | 72   | 58    | 55  | 57   | 59     | 57  | 58   | 59        | 58  | 59   |
| 5        | 75  | 73  | 73   | 58    | 58  | 58   | 58     | 56  | 57   | 59        | 57  | 59   |
| 6        | 77  | 75  | 76   | 58    | 57  | 58   | 56     | 50  | 52   | 61        | 58  | 60   |
| 7        | 78  | 72  | 76   | 58    | 57  | 57   | 54     | 49  | 51   | 61        | 59  | 60   |
| 8        | 77  | 65  | 72   | 57    | 55  | 56   | 56     | 52  | 54   | 62        | 59  | 61   |
| 9        | 66  | 60  | 63   | 58    | 54  | 56   | 56     | 54  | 55   | 63        | 61  | 62   |
| 10       | 73  | 64  | 70   | 64    | 55  | 57   | 57     | 53  | 55   | 63        | 61  | 62   |
| 11       | 72  | 63  | 67   | 58    | 55  | 57   | 57     | 55  | 56   | 64        | 62  | 63   |
| 12       | 65  | 57  | 61   | 60    | 56  | 58   | 58     | 55  | 57   | 63        | 58  | 61   |
| 13       | 66  | 60  | 63   | 59    | 56  | 58   | 59     | 56  | 58   | 60        | 57  | 58   |
| 14       | 68  | 66  | 67   | 60    | 59  | 60   | 59     | 55  | 58   | 62        | 60  | 62   |
| 15       | 69  | 65  | 67   | 61    | 60  | 61   | 55     | 49  | 51   | 63        | 61  | 62   |
| 16       | 69  | 65  | 67   | 61    | 59  | 60   | 54     | 51  | 53   | 62        | 58  | 61   |
| 17       | 68  | 65  | 67   | 61    | 59  | 60   | 56     | 53  | 55   | 61        | 58  | 59   |
| 18       | 68  | 64  | 66   | 61    | 57  | 59   | 57     | 53  | 55   | 63        | 60  | 61   |
| 19       | 66  | 61  | 64   | 61    | 57  | 59   | 59     | 55  | 57   | 65        | 62  | 63   |
| 20       | 61  | 51  | 58   | 61    | 58  | 60   | 59     | 58  | 59   | 65        | 62  | 64   |
| 21       | 51  | 46  | 48   | 61    | 61  | 61   | 59     | 58  | 59   | 66        | 63  | 65   |
| 22       | 54  | 51  | 52   | 61    | 58  | 60   | 60     | 58  | 59   | 66        | 64  | 65   |
| 23       | 56  | 54  | 55   | 61    | 60  | 61   | 60     | 59  | 60   | 66        | 64  | 65   |
| 24       | 56  | 51  | 53   | 61    | 59  | 61   | 60     | 53  | 56   | 67        | 65  | 66   |
| 25       | 51  | 50  | 50   | 61    | 59  | 61   | 55     | 54  | 54   | 69        | 66  | 68   |
| 26       | 51  | 50  | 51   | 61    | 57  | 60   | 56     | 52  | 54   | 68        | 67  | 68   |
| 27       | 55  | 49  | 51   | 60    | 57  | 59   | 57     | 54  | 56   | 69        | 68  | 69   |
| 28       | 56  | 52  | 54   | 60    | 57  | 59   | 58     | 56  | 57   | 69        | 68  | 69   |
| 29       | --- | --- | ---  | 60    | 57  | 59   | 58     | 55  | 56   | 70        | 64  | 67   |
| 30       | --- | --- | ---  | 60    | 57  | 59   | 57     | 55  | 56   | 64        | 62  | 63   |
| 31       | --- | --- | ---  | 59    | 56  | 58   | ---    | --- | ---  | 64        | 62  | 63   |
| MONTH    | 78  | 46  | 63   | 64    | 52  | 59   | 62     | 49  | 56   | 70        | 55  | 63   |
| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
| JUNE     |     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1        | 65  | 62  | 64   | ---   | --- | ---  | 72     | 69  | 70   | 79        | 77  | 78   |
| 2        | 65  | 63  | 64   | ---   | --- | ---  | 72     | 69  | 70   | 78        | 77  | 77   |
| 3        | 67  | 62  | 63   | ---   | --- | ---  | 74     | 71  | 72   | 78        | 77  | 77   |
| 4        | 63  | 60  | 61   | ---   | --- | ---  | 74     | 73  | 74   | 79        | 77  | 77   |
| 5        | 62  | 60  | 61   | ---   | --- | ---  | 76     | 74  | 75   | 79        | 77  | 78   |
| 6        | 64  | 62  | 63   | ---   | --- | ---  | 77     | 73  | 75   | 80        | 78  | 79   |
| 7        | 65  | 63  | 64   | ---   | --- | ---  | 76     | 74  | 75   | 81        | 78  | 79   |
| 8        | 66  | 64  | 65   | ---   | --- | ---  | 77     | 75  | 76   | 80        | 78  | 79   |
| 9        | 66  | 64  | 65   | ---   | --- | ---  | 76     | 74  | 75   | 78        | 76  | 77   |
| 10       | 66  | 64  | 65   | ---   | --- | ---  | 79     | 75  | 77   | 78        | 76  | 77   |
| 11       | 67  | 65  | 66   | ---   | --- | ---  | 79     | 75  | 77   | 79        | 77  | 78   |
| 12       | 68  | 66  | 67   | ---   | --- | ---  | 78     | 76  | 77   | 79        | 78  | 79   |
| 13       | 68  | 65  | 67   | 76    | 74  | 75   | 82     | 73  | 75   | 80        | 78  | 79   |
| 14       | 66  | 64  | 65   | 76    | 74  | 75   | 75     | 73  | 74   | 80        | 78  | 79   |
| 15       | 66  | 64  | 65   | 78    | 75  | 76   | 75     | 75  | 75   | 79        | 77  | 79   |
| 16       | 65  | 63  | 64   | 80    | 76  | 78   | 76     | 65  | 71   | 78        | 72  | 75   |
| 17       | 75  | 73  | 74   | 81    | 77  | 79   | 66     | 65  | 65   | 72        | 70  | 71   |
| 18       | 78  | 75  | 76   | 81    | 76  | 78   | 68     | 65  | 66   | 73        | 71  | 72   |
| 19       | 80  | 77  | 78   | 78    | 75  | 77   | 70     | 67  | 69   | 73        | 72  | 72   |
| 20       | 81  | 65  | 72   | 78    | 76  | 77   | 73     | 70  | 71   | 75        | 72  | 73   |
| 21       | 64  | 59  | 61   | 76    | 63  | 69   | 74     | 72  | 73   | 76        | 73  | 75   |
| 22       | --- | --- | ---  | 63    | 62  | 62   | 75     | 72  | 73   | 76        | 74  | 75   |
| 23       | --- | --- | ---  | 70    | 63  | 66   | 74     | 72  | 73   | 76        | 74  | 75   |
| 24       | --- | --- | ---  | 73    | 70  | 71   | 74     | 72  | 73   | 76        | 72  | 74   |
| 25       | --- | --- | ---  | 74    | 72  | 73   | 75     | 72  | 73   | 76        | 73  | 74   |
| 26       | --- | --- | ---  | 74    | 71  | 73   | 76     | 73  | 75   | 76        | 73  | 75   |
| 27       | --- | --- | ---  | 73    | 69  | 71   | 76     | 73  | 75   | 76        | 74  | 75   |
| 28       | --- | --- | ---  | 70    | 66  | 68   | 80     | 75  | 78   | 76        | 73  | 74   |
| 29       | --- | --- | ---  | 68    | 67  | 68   | 79     | 76  | 78   | 76        | 72  | 74   |
| 30       | --- | --- | ---  | 70    | 67  | 68   | 78     | 76  | 77   | 77        | 73  | 75   |
| 31       | --- | --- | ---  | 71    | 68  | 69   | 78     | 76  | 77   | ---       | --- | ---  |
| MONTH    | 81  | 59  | 66   | 81    | 62  | 72   | 82     | 65  | 74   | 81        | 70  | 76   |
| YEAR     | 100 | 46  | 69   |       |     |      |        |     |      |           |     |      |



## PAWCATUCK RIVER BASIN

01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX  | MIN  | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 15.5 | 14.0 | 14.5     | 7.5 | 6.5 | 7.0      | 5.5 | 4.5 | 5.0     | 1.0 | .0  | .5   |
| 2       | 16.5 | 15.5 | 16.0     | 7.0 | 5.5 | 6.0      | 6.0 | 4.5 | 5.0     | 1.0 | .0  | .5   |
| 3       | 16.5 | 16.0 | 16.0     | 5.5 | 4.0 | 5.0      | 6.0 | 3.5 | 5.0     | .0  | .0  | .0   |
| 4       | 16.0 | 15.0 | 15.5     | 8.5 | 5.5 | 6.5      | 3.5 | 1.5 | 2.5     | .0  | .0  | .0   |
| 5       | 16.0 | 14.5 | 15.0     | 8.5 | 7.5 | 8.0      | 1.0 | .0  | 1.0     | .0  | .0  | .0   |
| 6       | 15.0 | 13.5 | 14.5     | 7.5 | 6.0 | 6.5      | 1.0 | .0  | .5      | .0  | .0  | .0   |
| 7       | 13.5 | 12.0 | 12.5     | 8.0 | 6.5 | 7.5      | 2.5 | .5  | 1.5     | .0  | .0  | .0   |
| 8       | 13.0 | 11.0 | 12.0     | 9.5 | 8.0 | 8.5      | 4.5 | 2.5 | 3.5     | .0  | .0  | .0   |
| 9       | 14.0 | 13.0 | 13.5     | 8.0 | 6.0 | 7.0      | 4.5 | 4.0 | 4.0     | .0  | .0  | .0   |
| 10      | 12.5 | 11.0 | 11.5     | 8.5 | 7.0 | 8.0      | 4.0 | 3.5 | 3.5     | .0  | .0  | .0   |
| 11      | 13.5 | 11.5 | 12.5     | 6.5 | 5.5 | 6.0      | 3.5 | 1.5 | 2.5     | .0  | .0  | .0   |
| 12      | 13.5 | 12.5 | 13.0     | 6.0 | 4.5 | 5.0      | 3.5 | 1.5 | 2.0     | .0  | .0  | .0   |
| 13      | 12.5 | 11.0 | 11.5     | 5.5 | 4.5 | 5.0      | 4.5 | 3.5 | 4.0     | .0  | .0  | .0   |
| 14      | 11.0 | 9.5  | 10.0     | 7.0 | 5.5 | 6.5      | 3.5 | 1.5 | 2.5     | .0  | .0  | .0   |
| 15      | 10.5 | 9.0  | 10.0     | 7.0 | 6.0 | 6.5      | 2.5 | .5  | 1.5     | .0  | .0  | .0   |
| 16      | 12.0 | 11.5 | 11.5     | 6.0 | 4.0 | 5.0      | 3.5 | 2.5 | 3.0     | .0  | .0  | .0   |
| 17      | 13.0 | 11.5 | 12.0     | 4.5 | 3.0 | 3.5      | 3.0 | .5  | 2.0     | .0  | .0  | .0   |
| 18      | 14.0 | 12.5 | 13.5     | 4.5 | 3.5 | 4.0      | 2.0 | .0  | 1.0     | .0  | .0  | .0   |
| 19      | 14.0 | 13.0 | 13.5     | 3.5 | 2.0 | 3.0      | 3.0 | .0  | 2.0     | .0  | .0  | .0   |
| 20      | 13.5 | 12.0 | 12.5     | 4.0 | 1.5 | 2.5      | .5  | .0  | .0      | .0  | .0  | .0   |
| 21      | 12.0 | 11.0 | 11.5     | 5.0 | 2.5 | 3.5      | .0  | .0  | .0      | .0  | .0  | .0   |
| 22      | 11.0 | 10.0 | 10.5     | 4.5 | 3.5 | 4.5      | .5  | .0  | .0      | .0  | .0  | .0   |
| 23      | 10.0 | 8.5  | 9.0      | 4.5 | 2.5 | 4.0      | 2.0 | .5  | 1.5     | .0  | .0  | .0   |
| 24      | 9.0  | 8.0  | 8.5      | 6.0 | 4.5 | 5.0      | 2.5 | 1.5 | 2.0     | .0  | .0  | .0   |
| 25      | 10.0 | 8.5  | 9.0      | 6.5 | 6.0 | 6.0      | 2.0 | .0  | .5      | .0  | .0  | .0   |
| 26      | 10.0 | 9.0  | 9.5      | 5.5 | 5.0 | 5.5      | .0  | .0  | .0      | .0  | .0  | .0   |
| 27      | 8.5  | 8.0  | 8.5      | 5.5 | 4.5 | 5.0      | .0  | .0  | .0      | .0  | .0  | .0   |
| 28      | 8.5  | 8.0  | 8.5      | 5.5 | 4.5 | 5.0      | .5  | .0  | .0      | .5  | .0  | .0   |
| 29      | 8.5  | 7.5  | 8.0      | 5.5 | 4.5 | 5.0      | 2.0 | 1.0 | 1.5     | 1.0 | .0  | .5   |
| 30      | 7.5  | 6.5  | 7.0      | 5.0 | 4.0 | 4.5      | 2.0 | .0  | 1.5     | .0  | .0  | .0   |
| 31      | 7.5  | 5.5  | 6.5      | --- | --- | ---      | .0  | .0  | .0      | .0  | .0  | .0   |
| MONTH   | 16.5 | 5.5  | 11.5     | 9.5 | 1.5 | 5.5      | 6.0 | .0  | 2.0     | 1.0 | .0  | .0   |

| DAY      | MAX | MIN | MEAN  | MAX  | MIN  | MEAN  | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|-------|------|------|-------|------|------|------|------|------|------|
| FEBRUARY |     |     | MARCH |      |      | APRIL |      |      | MAY  |      |      |      |
| 1        | 1.5 | .0  | .5    | 5.5  | 4.0  | 5.0   | 13.0 | 11.5 | 12.0 | 16.0 | 13.5 | 14.5 |
| 2        | 2.5 | .5  | 2.0   | 5.5  | 5.0  | 5.0   | 13.0 | 11.5 | 12.0 | 14.5 | 13.0 | 14.0 |
| 3        | .5  | .0  | .0    | 5.0  | 4.0  | 4.5   | 12.5 | 10.5 | 11.5 | 14.0 | 12.0 | 13.0 |
| 4        | .0  | .0  | .0    | 4.5  | 2.5  | 3.5   | 11.5 | 10.5 | 11.0 | 13.0 | 12.0 | 12.5 |
| 5        | .0  | .0  | .0    | 3.5  | 2.5  | 3.0   | 11.5 | 11.5 | 11.5 | 14.5 | 12.0 | 13.0 |
| 6        | .0  | .0  | .0    | 3.0  | 2.0  | 2.5   | 11.5 | 9.5  | 11.0 | 17.0 | 14.0 | 15.0 |
| 7        | .5  | .0  | .0    | 3.5  | 2.5  | 3.0   | 10.0 | 8.0  | 9.0  | 17.0 | 14.5 | 15.5 |
| 8        | 1.5 | .5  | 1.0   | 4.0  | 3.5  | 3.5   | 11.5 | 8.0  | 9.5  | 17.0 | 14.0 | 15.5 |
| 9        | 1.0 | .0  | .5    | 4.5  | 3.5  | 4.0   | 12.5 | 10.0 | 11.0 | 17.0 | 13.5 | 15.0 |
| 10       | 2.0 | .0  | 1.0   | 5.5  | 4.0  | 4.5   | 14.0 | 11.0 | 12.5 | 16.0 | 14.5 | 15.0 |
| 11       | 3.0 | 1.5 | 2.5   | 5.5  | 4.0  | 4.5   | 13.0 | 12.0 | 12.5 | 17.0 | 15.0 | 16.0 |
| 12       | 2.5 | .5  | 1.5   | 5.0  | 3.5  | 4.5   | 13.5 | 12.0 | 12.5 | 16.5 | 16.0 | 16.5 |
| 13       | 3.0 | 1.5 | 2.0   | 6.0  | 4.0  | 5.0   | 14.0 | 11.5 | 12.5 | 17.0 | 15.0 | 16.0 |
| 14       | 3.0 | .5  | 1.5   | 6.5  | 4.5  | 5.5   | 12.0 | 10.5 | 11.0 | 17.0 | 15.0 | 16.0 |
| 15       | 3.0 | .5  | 2.0   | 6.0  | 3.5  | 5.0   | 10.5 | 8.5  | 9.5  | 16.5 | 15.5 | 16.0 |
| 16       | 4.0 | 1.0 | 2.5   | 5.5  | 4.0  | 4.5   | 11.0 | 8.5  | 9.5  | 16.0 | 15.5 | 15.5 |
| 17       | 5.0 | 2.5 | 3.5   | 5.0  | 3.0  | 4.0   | 10.5 | 8.5  | 9.5  | 17.0 | 14.5 | 16.0 |
| 18       | 5.5 | 3.0 | 4.0   | 4.5  | 2.0  | 3.5   | 12.5 | 9.5  | 11.0 | 17.0 | 14.5 | 16.0 |
| 19       | 5.5 | 4.0 | 5.0   | 5.0  | 2.0  | 3.5   | 14.0 | 11.5 | 12.5 | 16.5 | 14.5 | 15.5 |
| 20       | 5.0 | 4.0 | 4.5   | 5.5  | 3.0  | 4.0   | 13.5 | 12.0 | 12.5 | 17.0 | 14.0 | 15.5 |
| 21       | 5.0 | 4.0 | 4.5   | 4.5  | 3.5  | 4.5   | 12.0 | 10.0 | 11.0 | 16.0 | 14.5 | 15.0 |
| 22       | 5.5 | 5.0 | 5.0   | 6.5  | 4.0  | 5.0   | 12.0 | 9.0  | 10.5 | 16.5 | 15.0 | 15.5 |
| 23       | 5.0 | 4.5 | 4.5   | 7.0  | 4.5  | 5.5   | 10.5 | 9.5  | 10.0 | 16.5 | 14.5 | 15.5 |
| 24       | 5.5 | 4.5 | 5.0   | 7.0  | 5.0  | 6.0   | 10.5 | 9.5  | 10.0 | 17.5 | 14.5 | 16.5 |
| 25       | 5.5 | 4.0 | 5.0   | 6.5  | 4.5  | 5.5   | 10.5 | 10.0 | 10.5 | 19.0 | 16.5 | 17.5 |
| 26       | 4.0 | 3.5 | 4.0   | 7.5  | 5.0  | 6.0   | 12.0 | 9.5  | 10.5 | 19.5 | 17.5 | 18.5 |
| 27       | 5.5 | 3.5 | 4.5   | 7.5  | 6.0  | 7.0   | 13.5 | 10.5 | 12.0 | 20.5 | 18.0 | 19.0 |
| 28       | 5.0 | 4.0 | 4.5   | 8.5  | 6.0  | 7.5   | 13.0 | 12.0 | 12.5 | 20.5 | 18.5 | 19.5 |
| 29       | --- | --- | ---   | 10.0 | 7.0  | 8.5   | 13.0 | 12.0 | 12.5 | 20.0 | 19.5 | 19.5 |
| 30       | --- | --- | ---   | 11.0 | 9.0  | 10.0  | 14.5 | 12.5 | 13.5 | 19.5 | 18.0 | 19.0 |
| 31       | --- | --- | ---   | 13.0 | 10.5 | 11.5  | ---  | ---  | ---  | 20.0 | 18.0 | 19.0 |
| MONTH    | 5.5 | .0  | 2.5   | 13.0 | 2.0  | 5.0   | 14.5 | 8.0  | 11.0 | 20.5 | 12.0 | 16.0 |



## PAWCATUCK RIVER BASIN

01117468 BEAVER RIVER NEAR USQUEPAUG, RI

LOCATION.--Lat 41°29'33", long 71°37'43", Washington County, Hydrologic Unit 01090005, on right bank 10 ft (3 m) downstream from Beaver River Bridge on State Highway 138 in Richmond, 1.2 mi (1.9 km) southwest of Usquepaug, 3.3 mi (5.3 km) north of Kenyon, and 3.6 mi (5.8 km) upstream from mouth.

DRAINAGE AREA.--8.87 mi<sup>2</sup> (23.0 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1974 to current year.

REVISED RECORDS.--WDR MA-RI-79-1: 1978.

GAGE.--Water-stage recorder. Datum of gage is 107.68 ft (32.821 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor.

AVERAGE DISCHARGE.--6 years (water years 1976-81), 20.5 ft<sup>3</sup>/s (0.581 m<sup>3</sup>/s), 31.39 in/yr (797 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 250 ft<sup>3</sup>/s (7.08 m<sup>3</sup>/s), revised, Jan. 27, 1978, gage height, 3.36 ft (1.024 m); minimum, 1.7 ft<sup>3</sup>/s (0.048 m<sup>3</sup>/s) Sept. 10, 12, 13, 24, 25, 28, 29, 30, Oct. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 70 ft<sup>3</sup>/s (2.0 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date                          | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|-------------------------------|------|-------------------------------------------------------|-------------------------|
| Feb. 9  | 0800 | ice jam                                               | *2.36 0.719             | No peak discharge above base. |      |                                                       |                         |
| Feb. 25 | 0030 | *46 1.30                                              | 2.10 .640               |                               |      |                                                       |                         |

Minimum discharge, 1.7 ft<sup>3</sup>/s (0.048 m<sup>3</sup>/s) Oct. 1.

REVISIONS.--The peak discharges and annual maximums (\*) for water years 1978-80 have been revised as shown in the following table. They supersede figures published in the reports for those years.

| Date          | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date          | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------------|------|-------------------------------------------------------|-------------------------|---------------|------|-------------------------------------------------------|-------------------------|
| Jan. 27, 1978 | 0115 | *250 7.08                                             | 3.36 1.024              | Jan. 25, 1979 | 1430 | 181 5.13                                              | 3.03 0.924              |
| Jan. 21, 1979 | 2245 | *234 6.63                                             | 3.29 1.003              | Mar. 22, 1980 | 1245 | *232 6.57                                             | 3.28 1.000              |

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN  | FEB   | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP  |
|-------|-------|-------|-------|------|-------|------|------|------|-------|-------|-------|------|
| 1     | 1.8   | 3.8   | 6.8   | 4.2  | 3.0   | 32   | 14   | 17   | 12    | 7.0   | 4.6   | 2.6  |
| 2     | 1.8   | 3.8   | 6.3   | 3.9  | 6.0   | 30   | 20   | 17   | 11    | 7.5   | 4.3   | 2.7  |
| 3     | 1.8   | 3.5   | 5.7   | 3.7  | 11    | 27   | 19   | 16   | 10    | 7.2   | 4.1   | 2.6  |
| 4     | 3.8   | 3.7   | 5.7   | 3.6  | 9.0   | 26   | 16   | 14   | 12    | 7.5   | 4.1   | 2.5  |
| 5     | 2.7   | 3.7   | 5.3   | 3.5  | 7.5   | 22   | 15   | 14   | 11    | 9.0   | 4.3   | 2.3  |
| 6     | 2.1   | 3.7   | 5.2   | 3.4  | 6.6   | 24   | 29   | 14   | 10    | 9.3   | 4.3   | 2.3  |
| 7     | 2.0   | 3.7   | 4.8   | 3.3  | 6.0   | 22   | 25   | 14   | 10    | 7.5   | 3.8   | 2.2  |
| 8     | 2.1   | 3.7   | 4.7   | 3.2  | 9.0   | 22   | 20   | 14   | 9.3   | 6.5   | 3.8   | 2.3  |
| 9     | 2.0   | 3.3   | 4.9   | 3.2  | 11    | 22   | 17   | 14   | 8.7   | 5.8   | 3.9   | 2.9  |
| 10    | 2.0   | 3.8   | 4.7   | 3.1  | 8.0   | 20   | 18   | 14   | 8.1   | 5.4   | 3.8   | 2.6  |
| 11    | 2.4   | 3.3   | 4.6   | 3.1  | 9.0   | 20   | 17   | 14   | 8.1   | 5.2   | 3.5   | 2.4  |
| 12    | 2.9   | 3.8   | 5.0   | 3.0  | 10    | 19   | 16   | 16   | 7.5   | 4.8   | 3.5   | 2.4  |
| 13    | 2.4   | 3.7   | 4.5   | 3.0  | 8.5   | 19   | 16   | 17   | 8.1   | 5.0   | 3.5   | 2.3  |
| 14    | 2.2   | 3.4   | 4.3   | 2.9  | 7.6   | 17   | 19   | 14   | 8.1   | 4.8   | 3.1   | 2.1  |
| 15    | 2.1   | 2.8   | 4.2   | 2.9  | 6.8   | 17   | 31   | 14   | 8.4   | 4.6   | 3.2   | 2.6  |
| 16    | 2.1   | 2.9   | 4.0   | 2.9  | 6.2   | 17   | 24   | 17   | 8.1   | 4.6   | 6.0   | 4.3  |
| 17    | 2.1   | 2.8   | 3.9   | 2.9  | 7.1   | 18   | 20   | 17   | 7.2   | 4.5   | 5.4   | 4.5  |
| 18    | 2.2   | 5.1   | 3.7   | 2.9  | 7.6   | 17   | 19   | 15   | 7.2   | 4.5   | 4.1   | 3.4  |
| 19    | 3.5   | 5.8   | 3.6   | 3.0  | 7.9   | 16   | 17   | 13   | 6.7   | 4.6   | 3.4   | 3.2  |
| 20    | 2.8   | 5.1   | 3.4   | 3.0  | 13    | 16   | 17   | 13   | 15    | 4.6   | 3.0   | 3.1  |
| 21    | 2.4   | 4.6   | 3.3   | 2.9  | 30    | 16   | 17   | 12   | 15    | 12    | 2.9   | 2.6  |
| 22    | 2.3   | 3.9   | 3.3   | 2.7  | 25    | 14   | 16   | 11   | 13    | 8.1   | 2.9   | 2.6  |
| 23    | 2.4   | 4.0   | 3.5   | 2.8  | 19    | 14   | 17   | 12   | 10    | 6.5   | 2.9   | 2.7  |
| 24    | 2.3   | 3.9   | 4.3   | 3.0  | 32    | 14   | 22   | 11   | 9.0   | 5.8   | 2.9   | 2.9  |
| 25    | 7.1   | 8.2   | 3.8   | 2.8  | 45    | 15   | 20   | 10   | 12    | 5.2   | 2.8   | 2.8  |
| 26    | 13    | 6.4   | 3.5   | 3.1  | 41    | 16   | 20   | 10   | 14    | 4.8   | 2.8   | 2.7  |
| 27    | 7.3   | 5.8   | 3.4   | 3.5  | 37    | 16   | 19   | 10   | 10    | 6.5   | 2.9   | 2.7  |
| 28    | 7.1   | 7.1   | 3.4   | 3.5  | 34    | 16   | 16   | 10   | 8.7   | 6.0   | 2.7   | 3.0  |
| 29    | 5.6   | 10    | 4.0   | 3.3  | ---   | 14   | 19   | 13   | 8.1   | 5.8   | 2.5   | 2.4  |
| 30    | 4.7   | 8.4   | 5.0   | 3.1  | ---   | 13   | 19   | 14   | 7.5   | 5.4   | 2.5   | 2.2  |
| 31    | 4.4   | ---   | 4.5   | 3.0  | ---   | 16   | ---  | 13   | ---   | 5.0   | 2.5   | ---  |
| TOTAL | 105.4 | 137.7 | 137.3 | 98.4 | 423.8 | 587  | 574  | 424  | 293.8 | 191.0 | 110.0 | 81.9 |
| MEAN  | 3.40  | 4.59  | 4.43  | 3.17 | 15.1  | 18.9 | 19.1 | 13.7 | 9.79  | 6.16  | 3.55  | 2.73 |
| MAX   | 13    | 10    | 6.8   | 4.2  | 45    | 32   | 31   | 17   | 15    | 12    | 6.0   | 4.5  |
| MIN   | 1.8   | 2.8   | 3.3   | 2.7  | 3.0   | 13   | 14   | 10   | 6.7   | 4.5   | 2.5   | 2.1  |
| CFSM  | .38   | .52   | .50   | .36  | 1.70  | 2.13 | 2.15 | 1.55 | 1.10  | .69   | .40   | .31  |
| IN.   | .44   | .58   | .58   | .41  | 1.78  | 2.46 | 2.41 | 1.78 | 1.23  | .80   | .46   | .34  |

|             |       |        |      |      |     |     |     |     |      |      |    |       |
|-------------|-------|--------|------|------|-----|-----|-----|-----|------|------|----|-------|
| CAL YR 1980 | TOTAL | 6025.5 | MEAN | 16.5 | MAX | 215 | MIN | 1.8 | CFSM | 1.86 | IN | 25.27 |
| WTR YR 1981 | TOTAL | 3164.3 | MEAN | 8.67 | MAX | 45  | MIN | 1.8 | CFSM | .98  | IN | 13.27 |

01117468 BEAVER RIVER NEAR USQUEPAUG, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to current year.

WATER TEMPERATURES: June 1979 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1979.

REMARKS.--Interruptions in record were due to malfunctions of the instrument. Specific conductance record withheld from publication awaiting evaluation of records subsequent to 1981 water year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (Water years 1979-80): Maximum recorded, 69 micromhos Feb. 16, 1980; minimum recorded, 31 micromhos May 21, 1980.

WATER TEMPERATURES: Maximum recorded, 26.0°C July 10, 1980, minimum recorded, 0.0°C on several days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 22.0°C July 9, 10; minimum recorded, 0.0°C on several days during winter period.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX  | MIN<br>OCTOBER | MEAN | MAX  | MIN<br>NOVEMBER | MEAN | MAX | MIN<br>DECEMBER | MEAN | MAX | MIN<br>JANUARY | MEAN |
|-------|------|----------------|------|------|-----------------|------|-----|-----------------|------|-----|----------------|------|
| 1     | 13.0 | 9.0            | 11.5 | ---  | ---             | ---  | 6.5 | 3.5             | 5.0  |     |                |      |
| 2     | 14.5 | 12.0           | 13.0 | ---  | ---             | ---  | 8.0 | 4.0             | 6.0  |     |                |      |
| 3     | 13.5 | 12.0           | 13.0 | ---  | ---             | ---  | 8.0 | 1.5             | 5.0  |     |                |      |
| 4     | 13.0 | 11.0           | 12.0 | ---  | ---             | ---  | 1.0 | .0              | .5   |     |                |      |
| 5     | 12.0 | 8.5            | 10.5 | ---  | ---             | ---  | .0  | .0              | .0   |     |                |      |
| 6     | 11.5 | 7.5            | 10.5 | ---  | ---             | ---  | 1.5 | .0              | .0   |     |                |      |
| 7     | 8.5  | 5.5            | 7.0  | ---  | ---             | ---  | 2.5 | .5              | 1.5  |     |                |      |
| 8     | 11.0 | 5.0            | 8.0  | 7.0  | 3.0             | 5.0  | 7.0 | 2.5             | 4.5  |     |                |      |
| 9     | 13.0 | 8.0            | 10.5 | ---  | ---             | ---  | 7.0 | 5.5             | 6.0  |     |                |      |
| 10    | 9.0  | 4.5            | 7.0  | ---  | ---             | ---  | 5.5 | 3.5             | 5.0  |     |                |      |
| 11    | 12.5 | 7.5            | 10.5 | ---  | ---             | ---  | --- | ---             | ---  |     |                |      |
| 12    | 11.5 | 7.5            | 10.0 | 6.5  | 4.0             | 5.5  | --- | ---             | ---  |     |                |      |
| 13    | 8.0  | 5.0            | 6.5  | 7.0  | 3.0             | 5.0  | --- | ---             | ---  |     |                |      |
| 14    | 7.5  | 2.5            | 5.0  | 10.0 | 5.0             | 8.0  | --- | ---             | ---  |     |                |      |
| 15    | 8.0  | 3.5            | 6.0  | 8.0  | 5.5             | 7.0  | --- | ---             | ---  |     |                |      |
| 16    | 12.0 | 7.5            | 10.0 | 8.0  | 1.0             | 4.5  | --- | ---             | ---  |     |                |      |
| 17    | 14.0 | 9.5            | 11.5 | 5.5  | .0              | 2.5  | --- | ---             | ---  |     |                |      |
| 18    | 15.0 | 12.5           | 14.0 | 4.5  | 2.0             | 3.5  | --- | ---             | ---  |     |                |      |
| 19    | 13.5 | 10.5           | 12.5 | 4.0  | 1.0             | 2.5  | --- | ---             | ---  |     |                |      |
| 20    | 12.0 | 7.5            | 9.5  | ---  | ---             | ---  | --- | ---             | ---  |     |                |      |
| 21    | 10.0 | 6.0            | 7.5  | ---  | ---             | ---  | --- | ---             | ---  |     |                |      |
| 22    | 11.0 | 4.5            | 7.5  | ---  | ---             | ---  | --- | ---             | ---  |     |                |      |
| 23    | 8.5  | 2.0            | 5.0  | 5.0  | .5              | 3.0  | --- | ---             | ---  |     |                |      |
| 24    | 9.5  | 2.0            | 5.0  | 9.0  | 4.5             | 6.5  | --- | ---             | ---  |     |                |      |
| 25    | 10.0 | 5.5            | 8.0  | 9.5  | 6.5             | 8.5  | --- | ---             | ---  |     |                |      |
| 26    | 9.5  | 8.0            | 9.0  | 6.5  | 3.5             | 5.5  | --- | ---             | ---  |     |                |      |
| 27    | 9.0  | 6.5            | 7.5  | 4.5  | 2.0             | 3.5  | --- | ---             | ---  |     |                |      |
| 28    | 8.0  | 6.5            | 7.5  | 7.5  | 4.0             | 5.5  | --- | ---             | ---  |     |                |      |
| 29    | 8.0  | 4.5            | 6.5  | 7.0  | 4.5             | 6.0  | --- | ---             | ---  |     |                |      |
| 30    | 7.0  | 2.5            | 4.5  | 5.0  | 3.5             | 4.0  | --- | ---             | ---  |     |                |      |
| 31    | ---  | ---            | ---  | ---  | ---             | ---  | --- | ---             | ---  |     |                |      |
| MONTH | 15.0 | 2.0            | 9.0  | 10.0 | .0              | 5.0  | 8.0 | .0              | 3.5  |     |                |      |

## PAWCATUCK RIVER BASIN

01117468 BEAVER RIVER NEAR USQUEPAUG, RI--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY      | MAX  | MIN  | MEAN | MAX   | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
|----------|------|------|------|-------|------|------|--------|------|------|-----------|------|------|
| FEBRUARY |      |      |      | MARCH |      |      | APRIL  |      |      | MAY       |      |      |
| 1        |      |      |      | ---   | ---  | ---  | 11.5   | 8.0  | 9.5  | 15.5      | 10.5 | 12.5 |
| 2        |      |      |      | ---   | ---  | ---  | 12.0   | 8.5  | 10.0 | 12.0      | 10.0 | 11.0 |
| 3        |      |      |      | ---   | ---  | ---  | 12.0   | 6.5  | 9.5  | 14.5      | 8.5  | 11.5 |
| 4        |      |      |      | ---   | ---  | ---  | 11.0   | 8.5  | 9.5  | 12.0      | 10.0 | 11.0 |
| 5        |      |      |      | ---   | ---  | ---  | 10.5   | 10.0 | 10.0 | 15.5      | 10.0 | 12.5 |
| 6        |      |      |      | ---   | ---  | ---  | 10.0   | 6.5  | 8.5  | 17.0      | 12.0 | 14.0 |
| 7        |      |      |      | ---   | ---  | ---  | 10.0   | 4.5  | 7.5  | 16.0      | 11.0 | 13.0 |
| 8        |      |      |      | ---   | ---  | ---  | 11.5   | 5.5  | 8.5  | 15.5      | 9.0  | 12.0 |
| 9        |      |      |      | ---   | ---  | ---  | 13.0   | 8.0  | 10.5 | 15.5      | 8.5  | 12.0 |
| 10       |      |      |      | ---   | ---  | ---  | 13.5   | 8.0  | 10.5 | 14.5      | 11.0 | 12.5 |
| 11       |      |      |      | ---   | ---  | ---  | 11.5   | 8.0  | 10.0 | 17.0      | 12.5 | 14.5 |
| 12       |      |      |      | ---   | ---  | ---  | 13.5   | 9.5  | 11.0 | 14.5      | 13.5 | 14.0 |
| 13       |      |      |      | ---   | ---  | ---  | 13.0   | 7.5  | 10.0 | 17.0      | 12.0 | 14.0 |
| 14       |      |      |      | ---   | ---  | ---  | 8.0    | 7.0  | 7.5  | 16.0      | 11.5 | 14.0 |
| 15       |      |      |      | ---   | ---  | ---  | 10.0   | 6.0  | 8.0  | 14.5      | 12.5 | 14.0 |
| 16       |      |      |      | ---   | ---  | ---  | 10.5   | 5.5  | 8.0  | 15.5      | 13.5 | 14.0 |
| 17       |      |      |      | ---   | ---  | ---  | 9.0    | 6.5  | 8.0  | 17.0      | 12.5 | 14.5 |
| 18       |      |      |      | ---   | ---  | ---  | 14.0   | 8.5  | 11.0 | 16.0      | 11.0 | 13.5 |
| 19       |      |      |      | ---   | ---  | ---  | 13.5   | 8.5  | 11.0 | 16.5      | 10.0 | 13.0 |
| 20       |      |      |      | ---   | ---  | ---  | 11.0   | 8.0  | 10.0 | 16.5      | 10.0 | 13.0 |
| 21       |      |      |      | ---   | ---  | ---  | 11.0   | 6.0  | 8.0  | 14.5      | 10.0 | 12.5 |
| 22       |      |      |      | ---   | ---  | ---  | 11.5   | 5.0  | 8.0  | 16.0      | 11.0 | 13.0 |
| 23       |      |      |      | ---   | ---  | ---  | 8.5    | 6.0  | 7.5  | 16.0      | 10.5 | 13.0 |
| 24       |      |      |      | ---   | ---  | ---  | 10.5   | 8.0  | 9.0  | 17.0      | 10.0 | 13.5 |
| 25       |      |      |      | ---   | ---  | ---  | 9.5    | 8.0  | 9.0  | 18.5      | 12.0 | 15.0 |
| 26       |      |      |      | ---   | ---  | ---  | 12.5   | 7.0  | 9.5  | 18.0      | 13.5 | 16.0 |
| 27       |      |      |      | 7.5   | 5.5  | 6.5  | 12.5   | 7.5  | 10.5 | 18.5      | 14.0 | 16.0 |
| 28       |      |      |      | 9.0   | 4.0  | 6.0  | 12.0   | 9.0  | 10.5 | 18.0      | 14.5 | 16.0 |
| 29       |      |      |      | 11.0  | 5.5  | 8.0  | 12.5   | 10.0 | 11.5 | 15.5      | 15.0 | 15.0 |
| 30       |      |      |      | 11.5  | 7.5  | 9.5  | 14.0   | 11.0 | 12.5 | 17.5      | 14.5 | 15.5 |
| 31       |      |      |      | 13.5  | 8.5  | 11.0 | ---    | ---  | ---  | 16.5      | 15.0 | 15.5 |
| MONTH    |      |      |      | 13.5  | 4.0  | 8.0  | 14.0   | 4.5  | 9.5  | 18.5      | 8.5  | 13.5 |
| DAY      | MAX  | MIN  | MEAN | MAX   | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
| JUNE     |      |      |      | JULY  |      |      | AUGUST |      |      | SEPTEMBER |      |      |
| 1        | 16.5 | 12.5 | 14.5 | 17.5  | 14.0 | 16.0 | 19.0   | 14.0 | 16.5 | 17.0      | 15.5 | 16.0 |
| 2        | 14.0 | 12.0 | 13.0 | 18.0  | 16.0 | 17.0 | 19.0   | 14.5 | 17.0 | 17.0      | 15.0 | 16.0 |
| 3        | 14.0 | 13.0 | 13.5 | 17.5  | 16.0 | 17.0 | 19.5   | 15.5 | 17.5 | 17.0      | 15.5 | 16.0 |
| 4        | 16.5 | 13.0 | 15.0 | 17.5  | 16.0 | 16.5 | 20.5   | 16.5 | 18.5 | 17.5      | 15.0 | 16.0 |
| 5        | 18.0 | 14.0 | 16.0 | 17.0  | 16.5 | 17.0 | 18.5   | 17.0 | 18.0 | 17.0      | 12.5 | 15.0 |
| 6        | 17.5 | 14.0 | 16.0 | 19.5  | 16.0 | 17.5 | 20.0   | 16.5 | 18.0 | 17.0      | 12.5 | 15.0 |
| 7        | 17.5 | 14.5 | 16.0 | 20.5  | 16.5 | 18.5 | 19.5   | 15.5 | 17.5 | 16.0      | 12.0 | 14.5 |
| 8        | 16.0 | 12.5 | 14.5 | 21.5  | 17.0 | 19.0 | 17.5   | 15.5 | 16.5 | 17.0      | 14.5 | 15.5 |
| 9        | 16.0 | 13.5 | 14.5 | 22.0  | 18.0 | 20.0 | 19.5   | 16.5 | 18.0 | 17.5      | 14.5 | 16.0 |
| 10       | 16.0 | 13.5 | 14.5 | 22.0  | 18.5 | 20.0 | 21.5   | 17.5 | 19.5 | 15.5      | 11.0 | 13.5 |
| 11       | 17.0 | 13.5 | 15.0 | 21.0  | 16.0 | 18.5 | 20.5   | 17.0 | 19.0 | 17.5      | 13.0 | 15.5 |
| 12       | 16.5 | 12.0 | 14.5 | 19.5  | 16.5 | 18.0 | 19.5   | 17.5 | 18.5 | 18.5      | 14.0 | 16.5 |
| 13       | 16.0 | 13.0 | 15.0 | 19.5  | 17.0 | 18.5 | 20.5   | 17.0 | 18.5 | 18.5      | 13.5 | 16.0 |
| 14       | 15.0 | 13.5 | 14.5 | 19.0  | 16.0 | 18.0 | 19.5   | 16.0 | 18.0 | 19.0      | 13.5 | 16.5 |
| 15       | 15.0 | 13.5 | 14.5 | 19.0  | 15.0 | 17.0 | 19.0   | 16.0 | 17.5 | 17.5      | 16.0 | 16.5 |
| 16       | 16.0 | 14.0 | 15.0 | 19.5  | 14.0 | 17.0 | 20.0   | 17.5 | 18.5 | 16.0      | 15.0 | 15.5 |
| 17       | 18.0 | 14.5 | 16.0 | 19.5  | 14.5 | 17.0 | 18.0   | 15.0 | 16.5 | 15.5      | 13.5 | 14.5 |
| 18       | 17.0 | 13.0 | 15.0 | 20.5  | 15.5 | 18.0 | 18.5   | 14.5 | 16.0 | 14.5      | 13.0 | 14.0 |
| 19       | 17.0 | 13.0 | 15.0 | 19.5  | 16.0 | 17.5 | 18.0   | 12.5 | 15.5 | 14.0      | 12.5 | 13.5 |
| 20       | 15.5 | 14.0 | 15.0 | 17.5  | 17.0 | 17.0 | 18.0   | 12.5 | 15.5 | 15.0      | 12.0 | 13.5 |
| 21       | 18.0 | 15.5 | 16.5 | 21.5  | 17.5 | 19.5 | 18.0   | 13.5 | 15.5 | 13.5      | 9.0  | 11.5 |
| 22       | 17.0 | 16.0 | 16.5 | 20.5  | 18.5 | 19.5 | 16.0   | 13.0 | 14.5 | 15.5      | 10.5 | 13.5 |
| 23       | 17.5 | 15.5 | 16.5 | 19.5  | 16.0 | 18.0 | 17.5   | 14.5 | 16.0 | 15.0      | 11.5 | 13.5 |
| 24       | 16.5 | 13.0 | 15.0 | 18.0  | 15.0 | 16.5 | 17.0   | 13.0 | 15.0 | 12.5      | 10.5 | 11.5 |
| 25       | 16.0 | 14.5 | 15.5 | 18.5  | 14.5 | 16.5 | 16.0   | 12.5 | 15.0 | 15.0      | 10.5 | 12.5 |
| 26       | 17.0 | 15.0 | 16.0 | 18.0  | 14.0 | 16.5 | 15.5   | 10.0 | 13.0 | 14.0      | 10.5 | 12.5 |
| 27       | 16.5 | 13.0 | 15.0 | 20.5  | 17.0 | 18.5 | 17.0   | 12.0 | 15.0 | 16.0      | 11.5 | 14.0 |
| 28       | 17.0 | 13.0 | 15.0 | 18.5  | 15.0 | 17.0 | 18.5   | 15.0 | 16.5 | 15.0      | 11.5 | 14.0 |
| 29       | 17.5 | 13.0 | 15.0 | 20.0  | 17.0 | 18.0 | 17.0   | 12.5 | 15.0 | 12.0      | 8.0  | 10.0 |
| 30       | 16.0 | 12.5 | 14.5 | 17.5  | 15.5 | 16.5 | 16.5   | 15.0 | 15.5 | 10.5      | 6.5  | 8.5  |
| 31       | ---  | ---  | ---  | 18.5  | 14.0 | 16.5 | 17.0   | 13.5 | 15.5 | ---       | ---  | ---  |
| MONTH    | 18.0 | 12.0 | 15.0 | 22.0  | 14.0 | 17.5 | 21.5   | 10.0 | 16.5 | 19.0      | 6.5  | 14.0 |
| YEAR     | 22.0 | .0   | 12.5 |       |      |      |        |      |      |           |      |      |

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20 PERCENT OF YEAR



## 01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI

LOCATION.--Lat 41°26'42", long 71°40'53", Washington County, Hydrologic Unit 01090005, on right bank at downstream side of bridge on Alton-Carolina road, 0.8 mi (1.3 km) northeast of Wood River Junction, 1.5 mi (2.4 km) southwest of Carolina, and 2.9 mi (4.7 km) upstream from Wood River.

DRAINAGE AREA.--100 mi<sup>2</sup> (259 km<sup>2</sup>).

PERIOD OF RECORD.--October 1940 to current year. October and November 1940, monthly discharge only, published in WSP 1301. Prior to October 1943, published as Charles River at Wood River Junction.

REVISED RECORDS.--WSP 1051: Drainage area. WSP 1201: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 43.86 ft (13.369 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except those for period of no gage-height record, Feb. 24 to Mar. 1, which are fair. Occasional regulation by fish hatchery on White Brook. Prior to 1972, occasional regulation at low flow by powerplant and mills upstream; regulation greater prior to 1969. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--41 years, 191 ft<sup>3</sup>/s (5.409 m<sup>3</sup>/s), 25.94 in/yr (659 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,700 ft<sup>3</sup>/s (48.1 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 7.80 ft (2.377 m); minimum, 7.4 ft<sup>3</sup>/s (0.21 m<sup>3</sup>/s) Oct. 10, 1947; minimum daily, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) Oct. 11, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 350 ft<sup>3</sup>/s (9.9 m<sup>3</sup>/s) Feb. 26; minimum, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP   |
|-------------|-------|-------|------|------|------|------|------|------|------|------|------|-------|
| 1           | 26    | 48    | 97   | 69   | 46   | 230  | 126  | 175  | 100  | 78   | 49   | 31    |
| 2           | 27    | 45    | 84   | 65   | 70   | 210  | 145  | 166  | 94   | 76   | 45   | 31    |
| 3           | 27    | 43    | 78   | 59   | 92   | 195  | 158  | 160  | 91   | 74   | 43   | 31    |
| 4           | 33    | 43    | 70   | 59   | 91   | 181  | 155  | 152  | 92   | 73   | 41   | 31    |
| 5           | 34    | 56    | 65   | 57   | 80   | 173  | 142  | 146  | 96   | 78   | 40   | 31    |
| 6           | 34    | 52    | 63   | 57   | 67   | 165  | 186  | 141  | 92   | 84   | 40   | 31    |
| 7           | 33    | 48    | 61   | 58   | 62   | 165  | 205  | 136  | 97   | 80   | 38   | 30    |
| 8           | 31    | 46    | 62   | 58   | 89   | 166  | 202  | 132  | 87   | 74   | 38   | 30    |
| 9           | 29    | 45    | 64   | 55   | 102  | 164  | 179  | 129  | 83   | 67   | 39   | 31    |
| 10          | 28    | 49    | 66   | 53   | 98   | 158  | 168  | 127  | 79   | 62   | 39   | 31    |
| 11          | 29    | 48    | 65   | 51   | 99   | 153  | 158  | 126  | 75   | 58   | 37   | 32    |
| 12          | 33    | 46    | 61   | 48   | 118  | 147  | 150  | 135  | 70   | 53   | 38   | 31    |
| 13          | 35    | 44    | 61   | 46   | 101  | 143  | 141  | 147  | 73   | 52   | 38   | 30    |
| 14          | 31    | 43    | 59   | 45   | 87   | 139  | 149  | 148  | 72   | 50   | 37   | 29    |
| 15          | 29    | 43    | 54   | 45   | 81   | 133  | 195  | 138  | 72   | 49   | 36   | 30    |
| 16          | 29    | 41    | 64   | 46   | 77   | 132  | 208  | 144  | 71   | 46   | 43   | 50    |
| 17          | 30    | 40    | 66   | 48   | 79   | 135  | 196  | 151  | 69   | 44   | 51   | 59    |
| 18          | 31    | 61    | 60   | 48   | 82   | 131  | 177  | 145  | 64   | 43   | 48   | 55    |
| 19          | 37    | 72    | 58   | 49   | 84   | 128  | 164  | 133  | 60   | 43   | 44   | 50    |
| 20          | 37    | 69    | 54   | 50   | 112  | 124  | 153  | 125  | 96   | 46   | 41   | 45    |
| 21          | 34    | 62    | 51   | 50   | 184  | 122  | 145  | 119  | 131  | 72   | 37   | 39    |
| 22          | 32    | 57    | 49   | 49   | 209  | 120  | 140  | 116  | 134  | 82   | 36   | 39    |
| 23          | 30    | 54    | 53   | 48   | 205  | 118  | 139  | 113  | 115  | 76   | 35   | 38    |
| 24          | 30    | 52    | 58   | 48   | 250  | 116  | 167  | 109  | 95   | 66   | 35   | 38    |
| 25          | 50    | 82    | 56   | 47   | 300  | 116  | 188  | 105  | 107  | 58   | 34   | 37    |
| 26          | 85    | 91    | 50   | 47   | 340  | 119  | 193  | 100  | 152  | 53   | 33   | 36    |
| 27          | 85    | 83    | 49   | 50   | 320  | 119  | 180  | 96   | 134  | 53   | 32   | 36    |
| 28          | 73    | 82    | 51   | 52   | 270  | 119  | 167  | 95   | 111  | 55   | 32   | 36    |
| 29          | 64    | 106   | 53   | 52   | ---  | 117  | 168  | 99   | 93   | 57   | 32   | 34    |
| 30          | 56    | 110   | 72   | 50   | ---  | 117  | 176  | 108  | 84   | 57   | 31   | 34    |
| 31          | 51    | ---   | 73   | 48   | ---  | 125  | ---  | 107  | ---  | 53   | 31   | ---   |
| TOTAL       | 1213  | 1761  | 1927 | 1607 | 3795 | 4480 | 5020 | 4023 | 2789 | 1912 | 1193 | 1086  |
| MEAN        | 39.1  | 58.7  | 62.2 | 51.8 | 136  | 145  | 167  | 130  | 93.0 | 61.7 | 38.5 | 36.2  |
| MAX         | 85    | 110   | 97   | 69   | 340  | 230  | 208  | 175  | 152  | 84   | 51   | 59    |
| MIN         | 26    | 40    | 49   | 45   | 46   | 116  | 126  | 95   | 60   | 43   | 31   | 29    |
| CFSM        | .39   | .59   | .62  | .52  | 1.36 | 1.45 | 1.67 | 1.30 | .93  | .62  | .39  | .36   |
| IN.         | .45   | .66   | .72  | .60  | 1.41 | 1.67 | 1.87 | 1.50 | 1.04 | .71  | .44  | .40   |
| CAL YR 1980 | TOTAL | 57061 | MEAN | 156  | MAX  | 1260 | MIN  | 24   | CFSM | 1.56 | IN   | 21.23 |
| WTR YR 1981 | TOTAL | 30806 | MEAN | 84.4 | MAX  | 340  | MIN  | 26   | CFSM | .84  | IN   | 11.46 |

## PAWCATUCK RIVER BASIN

01117800 WOOD RIVER NEAR ARCADIA, RI

LOCATION.--Lat 41°34'26", long 71°43'16", Washington County, Hydrologic Unit 01090005, on left bank at upstream side of bridge on Ten Rod Road, 1.8 mi (2.9 km) northwest of Arcadia, and 4.5 mi (7.2 km) north of Hope Valley.

DRAINAGE AREA.--35.2 mi<sup>2</sup> (91.2 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: January 1964 to September 1981 (discontinued).  
Water-quality records: Water years 1967-74.

GAGE.--Water-stage recorder. Datum of gage is 137.97 ft (42.053 m) Rhode Island State Board of Public Roads datum.

REMARKS.--Records excellent except those for periods of shifting control, Oct. 1 to Nov. 25, July 12 to Sept. 30, which are good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--17 years, 76.0 ft<sup>3</sup>/s (2.152 m<sup>3</sup>/s), 29.32 in/yr (745 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 896 ft<sup>3</sup>/s (25.4 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 8.64 ft (2.633 m); minimum, 4.9 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Sept. 24-26, Sept. 29 to Oct. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft<sup>3</sup>/s (7.1 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 25 | 1745 | *290 8.21                                             | 5.33 1.625              |      |      |                                                       |                         |

Minimum discharge, 4.9 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1     | 5.2   | 22   | 62   | 26   | 18   | 147  | 63   | 70   | 40   | 28   | 23   | 14   |
| 2     | 5.6   | 20   | 53   | 26   | 35   | 129  | 99   | 70   | 38   | 28   | 20   | 14   |
| 3     | 6.2   | 20   | 52   | 24   | 58   | 114  | 100  | 67   | 38   | 28   | 18   | 14   |
| 4     | 17    | 18   | 46   | 23   | 47   | 104  | 95   | 62   | 44   | 28   | 18   | 13   |
| 5     | 12    | 19   | 34   | 24   | 42   | 97   | 88   | 57   | 43   | 44   | 27   | 13   |
| 6     | 10    | 19   | 35   | 23   | 40   | 94   | 124  | 57   | 40   | 69   | 33   | 13   |
| 7     | 9.5   | 18   | 34   | 23   | 37   | 91   | 113  | 54   | 39   | 63   | 30   | 12   |
| 8     | 9.2   | 18   | 33   | 23   | 45   | 90   | 101  | 51   | 35   | 53   | 27   | 12   |
| 9     | 8.8   | 18   | 33   | 21   | 52   | 86   | 92   | 49   | 33   | 44   | 26   | 18   |
| 10    | 8.0   | 20   | 35   | 22   | 50   | 83   | 89   | 48   | 33   | 38   | 25   | 17   |
| 11    | 8.4   | 21   | 34   | 21   | 53   | 80   | 81   | 50   | 31   | 33   | 22   | 16   |
| 12    | 10    | 20   | 30   | 20   | 67   | 78   | 75   | 75   | 30   | 30   | 22   | 15   |
| 13    | 9.2   | 19   | 31   | 19   | 60   | 75   | 69   | 86   | 32   | 27   | 20   | 16   |
| 14    | 9.2   | 18   | 30   | 19   | 53   | 72   | 75   | 80   | 31   | 26   | 19   | 15   |
| 15    | 8.4   | 17   | 29   | 19   | 47   | 70   | 103  | 73   | 31   | 23   | 18   | 16   |
| 16    | 8.0   | 17   | 28   | 19   | 43   | 68   | 93   | 81   | 31   | 22   | 39   | 24   |
| 17    | 8.4   | 16   | 27   | 19   | 41   | 72   | 88   | 84   | 29   | 21   | 47   | 30   |
| 18    | 9.5   | 29   | 26   | 19   | 41   | 68   | 83   | 78   | 27   | 21   | 38   | 26   |
| 19    | 15    | 33   | 27   | 20   | 41   | 64   | 76   | 72   | 26   | 20   | 31   | 22   |
| 20    | 13    | 28   | 22   | 20   | 88   | 62   | 71   | 65   | 46   | 22   | 28   | 20   |
| 21    | 13    | 26   | 21   | 20   | 207  | 60   | 67   | 59   | 53   | 44   | 27   | 19   |
| 22    | 12    | 25   | 22   | 19   | 230  | 58   | 63   | 54   | 50   | 43   | 23   | 19   |
| 23    | 11    | 24   | 22   | 18   | 183  | 56   | 62   | 50   | 42   | 35   | 22   | 24   |
| 24    | 11    | 24   | 23   | 18   | 222  | 55   | 83   | 46   | 38   | 29   | 20   | 27   |
| 25    | 31    | 48   | 23   | 19   | 282  | 58   | 84   | 43   | 41   | 26   | 18   | 26   |
| 26    | 79    | 44   | 21   | 19   | 264  | 64   | 84   | 41   | 45   | 24   | 18   | 23   |
| 27    | 49    | 37   | 21   | 19   | 203  | 66   | 78   | 39   | 38   | 31   | 17   | 21   |
| 28    | 38    | 45   | 21   | 21   | 170  | 65   | 72   | 38   | 34   | 28   | 16   | 22   |
| 29    | 33    | 83   | 21   | 21   | ---  | 61   | 74   | 47   | 31   | 27   | 15   | 20   |
| 30    | 28    | 71   | 29   | 20   | ---  | 60   | 74   | 53   | 29   | 27   | 14   | 19   |
| 31    | 24    | ---  | 28   | 18   | ---  | 65   | ---  | 44   | ---  | 25   | 14   | ---  |
| TOTAL | 519.6 | 837  | 953  | 642  | 2719 | 2412 | 2519 | 1843 | 1098 | 1007 | 735  | 560  |
| MEAN  | 16.8  | 27.9 | 30.7 | 20.7 | 97.1 | 77.8 | 84.0 | 59.5 | 36.6 | 32.5 | 23.7 | 18.7 |
| MAX   | 79    | 83   | 62   | 26   | 282  | 147  | 124  | 86   | 53   | 69   | 47   | 30   |
| MIN   | 5.2   | 16   | 21   | 18   | 18   | 55   | 62   | 38   | 26   | 20   | 14   | 12   |
| CFSM  | .48   | .79  | .87  | .59  | 2.76 | 2.21 | 2.39 | 1.69 | 1.04 | .92  | .67  | .53  |
| IN.   | .55   | .88  | 1.01 | .68  | 2.87 | 2.55 | 2.66 | 1.95 | 1.16 | 1.06 | .78  | .59  |

|             |       |         |      |      |     |     |     |     |      |      |    |       |
|-------------|-------|---------|------|------|-----|-----|-----|-----|------|------|----|-------|
| CAL YR 1980 | TOTAL | 21956.2 | MEAN | 60.0 | MAX | 703 | MIN | 4.9 | CFSM | 1.71 | IN | 23.20 |
| WTR YR 1981 | TOTAL | 15844.6 | MEAN | 43.4 | MAX | 282 | MIN | 5.2 | CFSM | 1.23 | IN | 16.74 |

## 01118000 WOOD RIVER AT HOPE VALLEY, RI

LOCATION.--Lat 41°29'53", long 71°43'01", Washington County, Hydrologic Unit 01090005, on right bank 0.2 mi (0.3 km) downstream from highway bridge at Hope Valley and 6.6 mi (10.6 km) upstream from mouth.  
DRAINAGE AREA.--72.4 mi<sup>2</sup> (187.5 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: August to December 1909 (gage heights only), March 1941 to current year. Records of daily discharge for August to December 1909, published in WSP 261, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1201: 1948(P). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 61.11 ft (18.626 m) National Geodetic Vertical Datum of 1929. August to December 1909, nonrecording gage at site 1,000 ft (300 m) upstream at different datum.

REMARKS.--Records good except those for period of no gage-height record, Apr. 20 to May 26, which are fair. Some seasonal regulation by Locustville Pond on Brushy Brook since 1968. Some regulation at low flow by mills and ponds upstream until 1952; regulation greater prior to 1948.

AVERAGE DISCHARGE.--40 years, 153 ft<sup>3</sup>/s (4.333 m<sup>3</sup>/s), 28.70 in/yr (729 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft<sup>3</sup>/s (50.1 m<sup>3</sup>/s) Mar. 22, 1980, gage height, 8.67 ft (2.643 m); minimum, 4.4 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Oct. 18, 1941; minimum daily, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Oct. 13, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1711, at least 12.4 ft (3.78 m) in February 1886. Flood in November 1927 reached a stage of 11.7 ft (3.57 m), and flood in March 1936 reached a discharge of 1,540 ft<sup>3</sup>/s (43.6 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 550 ft<sup>3</sup>/s (16 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 25 | 0900 | *581 16.5                                             | 4.52 1.378              |      |      |                                                       |                         |

Minimum discharge, 21 ft<sup>3</sup>/s (0.59 m<sup>3</sup>/s) Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP   |
|-------------|-------|-------|------|------|------|------|------|------|------|------|------|-------|
| 1           | 24    | 43    | 109  | 48   | 32   | 301  | 121  | 145  | 82   | 53   | 42   | 27    |
| 2           | 24    | 41    | 92   | 47   | 58   | 256  | 164  | 140  | 76   | 53   | 37   | 27    |
| 3           | 24    | 38    | 90   | 42   | 135  | 227  | 187  | 135  | 72   | 53   | 33   | 27    |
| 4           | 27    | 36    | 80   | 42   | 104  | 204  | 164  | 125  | 84   | 53   | 33   | 28    |
| 5           | 25    | 37    | 64   | 39   | 82   | 189  | 183  | 120  | 85   | 71   | 50   | 27    |
| 6           | 25    | 37    | 62   | 39   | 67   | 177  | 256  | 115  | 79   | 107  | 60   | 27    |
| 7           | 24    | 36    | 59   | 40   | 64   | 173  | 221  | 110  | 76   | 106  | 53   | 26    |
| 8           | 24    | 35    | 58   | 41   | 90   | 173  | 189  | 105  | 68   | 89   | 49   | 26    |
| 9           | 24    | 34    | 72   | 39   | 111  | 164  | 177  | 103  | 64   | 74   | 46   | 28    |
| 10          | 24    | 37    | 82   | 38   | 94   | 156  | 169  | 103  | 62   | 62   | 43   | 26    |
| 11          | 24    | 39    | 77   | 38   | 94   | 148  | 156  | 103  | 59   | 55   | 40   | 26    |
| 12          | 24    | 37    | 68   | 37   | 122  | 141  | 143  | 150  | 55   | 49   | 37   | 26    |
| 13          | 24    | 35    | 64   | 37   | 106  | 137  | 131  | 180  | 57   | 47   | 36   | 26    |
| 14          | 23    | 33    | 64   | 34   | 94   | 131  | 191  | 150  | 57   | 44   | 34   | 25    |
| 15          | 23    | 32    | 61   | 31   | 85   | 124  | 223  | 140  | 55   | 41   | 33   | 27    |
| 16          | 23    | 31    | 62   | 32   | 79   | 124  | 189  | 155  | 55   | 39   | 43   | 31    |
| 17          | 23    | 30    | 58   | 33   | 79   | 128  | 171  | 160  | 54   | 38   | 69   | 49    |
| 18          | 23    | 39    | 49   | 35   | 80   | 122  | 160  | 145  | 50   | 37   | 59   | 45    |
| 19          | 24    | 59    | 50   | 35   | 80   | 116  | 146  | 130  | 48   | 37   | 49   | 40    |
| 20          | 24    | 58    | 44   | 36   | 146  | 112  | 140  | 120  | 77   | 38   | 43   | 37    |
| 21          | 23    | 51    | 41   | 35   | 373  | 111  | 135  | 110  | 116  | 69   | 41   | 34    |
| 22          | 23    | 48    | 37   | 34   | 419  | 109  | 130  | 105  | 101  | 85   | 38   | 32    |
| 23          | 23    | 45    | 36   | 34   | 341  | 106  | 125  | 96   | 85   | 65   | 36   | 31    |
| 24          | 22    | 41    | 40   | 34   | 406  | 104  | 150  | 88   | 72   | 55   | 35   | 36    |
| 25          | 31    | 72    | 41   | 33   | 567  | 107  | 170  | 84   | 74   | 49   | 33   | 36    |
| 26          | 96    | 96    | 37   | 33   | 525  | 121  | 170  | 80   | 92   | 45   | 32   | 34    |
| 27          | 103   | 74    | 35   | 35   | 443  | 128  | 160  | 77   | 82   | 56   | 30   | 32    |
| 28          | 72    | 77    | 35   | 36   | 348  | 124  | 145  | 74   | 69   | 52   | 29   | 32    |
| 29          | 62    | 150   | 37   | 36   | ---  | 116  | 155  | 80   | 61   | 50   | 28   | 31    |
| 30          | 54    | 139   | 51   | 35   | ---  | 114  | 160  | 104  | 55   | 49   | 28   | 28    |
| 31          | 48    | ---   | 53   | 33   | ---  | 128  | ---  | 94   | ---  | 45   | 28   | ---   |
| TOTAL       | 1037  | 1560  | 1808 | 1141 | 5224 | 4571 | 4981 | 3626 | 2122 | 1766 | 1247 | 927   |
| MEAN        | 33.5  | 52.0  | 58.3 | 36.8 | 187  | 147  | 166  | 117  | 70.7 | 57.0 | 40.2 | 30.9  |
| MAX         | 103   | 150   | 109  | 48   | 567  | 301  | 256  | 180  | 116  | 107  | 69   | 49    |
| MIN         | 22    | 30    | 35   | 31   | 32   | 104  | 121  | 74   | 48   | 37   | 28   | 25    |
| CFSM        | .46   | .72   | .81  | .51  | 2.58 | 2.03 | 2.29 | 1.62 | .98  | .79  | .56  | .43   |
| IN.         | .53   | .80   | .93  | .59  | 2.68 | 2.35 | 2.56 | 1.86 | 1.09 | .91  | .64  | .48   |
| CAL YR 1980 | TOTAL | 45992 | MEAN | 126  | MAX  | 1540 | MIN  | 22   | CFSM | 1.74 | IN   | 23.63 |
| WTR YR 1981 | TOTAL | 30010 | MEAN | 82.2 | MAX  | 567  | MIN  | 22   | CFSM | 1.14 | IN   | 15.42 |

## PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1977 to current year.

WATER TEMPERATURES: October 1977 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 216 micromhos July 30, 1980; minimum recorded, 21 micromhos Jan. 23, 1979.

WATER TEMPERATURES: Maximum recorded, 28.0°C July 9, 10, 1981; minimum recorded, 0.0°C on several days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 214 micromhos Feb. 2; minimum recorded, 29 micromhos Oct. 3, 5.

WATER TEMPERATURES: Maximum recorded, 28.0°C July 9, 10; minimum recorded, 0.0°C on several days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 71      | 58  | 67   | ---      | --- | ---  | 73       | 63  | 67   | 86      | 74  | 82   |
| 2     | 72      | 53  | 60   | ---      | --- | ---  | 73       | 66  | 70   | 93      | 77  | 84   |
| 3     | 55      | 29  | 34   | ---      | --- | ---  | 86       | 70  | 79   | 92      | 91  | 92   |
| 4     | ---     | --- | ---  | ---      | --- | ---  | 86       | 71  | 80   | 91      | 86  | 90   |
| 5     | 54      | 29  | 39   | ---      | --- | ---  | 84       | 68  | 78   | 92      | 82  | 90   |
| 6     | ---     | --- | ---  | ---      | --- | ---  | 85       | 66  | 78   | 92      | 82  | 87   |
| 7     | ---     | --- | ---  | ---      | --- | ---  | 86       | 65  | 76   | 121     | 74  | 82   |
| 8     | ---     | --- | ---  | ---      | --- | ---  | 73       | 67  | 70   | 130     | 84  | 99   |
| 9     | ---     | --- | ---  | ---      | --- | ---  | 73       | 68  | 70   | 88      | 75  | 84   |
| 10    | ---     | --- | ---  | ---      | --- | ---  | 74       | 69  | 71   | 85      | 76  | 83   |
| 11    | ---     | --- | ---  | ---      | --- | ---  | 83       | 67  | 77   | 86      | 78  | 84   |
| 12    | ---     | --- | ---  | ---      | --- | ---  | 84       | 68  | 76   | 86      | 76  | 85   |
| 13    | 79      | 61  | 70   | 80       | 77  | 79   | 73       | 65  | 70   | 86      | 76  | 84   |
| 14    | 68      | 59  | 64   | ---      | --- | ---  | 85       | 68  | 79   | 86      | 79  | 84   |
| 15    | 66      | 43  | 51   | ---      | --- | ---  | 84       | 69  | 77   | 86      | 84  | 86   |
| 16    | ---     | --- | ---  | ---      | --- | ---  | 83       | 67  | 73   | 87      | 79  | 84   |
| 17    | ---     | --- | ---  | ---      | --- | ---  | 87       | 70  | 80   | 89      | 81  | 87   |
| 18    | ---     | --- | ---  | ---      | --- | ---  | 88       | 72  | 81   | 89      | 78  | 86   |
| 19    | ---     | --- | ---  | ---      | --- | ---  | 88       | 71  | 79   | 91      | 71  | 80   |
| 20    | ---     | --- | ---  | 77       | 58  | 65   | 89       | 74  | 86   | 91      | 75  | 84   |
| 21    | ---     | --- | ---  | 73       | 56  | 63   | 89       | 73  | 86   | 86      | 69  | 82   |
| 22    | ---     | --- | ---  | 71       | 51  | 60   | 91       | 73  | 86   | 88      | 76  | 84   |
| 23    | ---     | --- | ---  | 81       | 58  | 68   | 166      | 78  | 97   | 84      | 70  | 80   |
| 24    | ---     | --- | ---  | 58       | 52  | 55   | 184      | 100 | 131  | 86      | 73  | 80   |
| 25    | ---     | --- | ---  | 78       | 56  | 63   | 119      | 110 | 113  | 86      | 71  | 82   |
| 26    | ---     | --- | ---  | 71       | 60  | 67   | 109      | 90  | 101  | 86      | 75  | 80   |
| 27    | ---     | --- | ---  | 79       | 67  | 71   | 92       | 80  | 87   | 116     | 75  | 84   |
| 28    | ---     | --- | ---  | 80       | 65  | 69   | 91       | 77  | 82   | 117     | 76  | 89   |
| 29    | ---     | --- | ---  | 87       | 64  | 70   | 84       | 73  | 79   | 89      | 73  | 81   |
| 30    | ---     | --- | ---  | 72       | 59  | 66   | 128      | 86  | 105  | 86      | 73  | 82   |
| 31    | ---     | --- | ---  | ---      | --- | ---  | 96       | 79  | 88   | 86      | 72  | 82   |
| MONTH | 79      | 29  | 55   | 87       | 51  | 66   | 184      | 63  | 83   | 130     | 69  | 85   |





## PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX  | MIN  | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 17.0 | 15.0 | 16.0     | --- | --- | ---      | 4.0 | 3.0 | 3.5     | 1.5 | .5  | 1.0  |
| 2       | 18.0 | 15.5 | 17.0     | --- | --- | ---      | 5.0 | 4.0 | 4.0     | 1.5 | .5  | 1.0  |
| 3       | 17.5 | 16.0 | 16.5     | --- | --- | ---      | 5.5 | 4.0 | 5.0     | 1.0 | .5  | .5   |
| 4       | 15.5 | 11.0 | 13.5     | --- | --- | ---      | 3.5 | 2.0 | 2.5     | 1.0 | .5  | .5   |
| 5       | 14.5 | 12.0 | 13.5     | --- | --- | ---      | 1.5 | .5  | 1.0     | 1.0 | .5  | .5   |
| 6       | 14.0 | 12.5 | 13.5     | --- | --- | ---      | 1.5 | .5  | 1.0     | 1.0 | .5  | .5   |
| 7       | 13.0 | 10.5 | 12.0     | --- | --- | ---      | 2.0 | .5  | 1.0     | 1.0 | .5  | .5   |
| 8       | 13.0 | 10.0 | 11.5     | --- | --- | ---      | 2.5 | 1.5 | 2.0     | 1.0 | .5  | .5   |
| 9       | 14.0 | 9.5  | 12.0     | --- | --- | ---      | 3.0 | 2.5 | 2.5     | 1.0 | .5  | .5   |
| 10      | 13.5 | 10.0 | 11.5     | --- | --- | ---      | 3.5 | 2.5 | 3.0     | 1.0 | .5  | 1.0  |
| 11      | 10.5 | 9.0  | 9.5      | --- | --- | ---      | 3.5 | 2.5 | 3.0     | 1.0 | .5  | 1.0  |
| 12      | 12.0 | 9.5  | 11.0     | --- | --- | ---      | 2.5 | 1.5 | 2.0     | 1.0 | .5  | .5   |
| 13      | 11.5 | 9.5  | 10.5     | 5.5 | 5.0 | 5.5      | 2.5 | 2.0 | 2.5     | 1.0 | .5  | 1.0  |
| 14      | 10.5 | 8.5  | 10.0     | 5.0 | 1.0 | 3.0      | 2.0 | 1.0 | 1.5     | 1.0 | .5  | 1.0  |
| 15      | 10.0 | 7.5  | 9.0      | 3.5 | 2.0 | 2.5      | 1.5 | .0  | 1.0     | 1.0 | 1.0 | 1.0  |
| 16      | 9.5  | 7.5  | 9.0      | 4.0 | 1.5 | 3.0      | 1.5 | .5  | 1.0     | 1.0 | .0  | .5   |
| 17      | ---  | ---  | ---      | 4.0 | 2.0 | 3.5      | 1.5 | .5  | 1.0     | .5  | .0  | .5   |
| 18      | ---  | ---  | ---      | 3.5 | 2.5 | 3.0      | 1.0 | .0  | .5      | .5  | .0  | .5   |
| 19      | ---  | ---  | ---      | 3.0 | 1.0 | 2.5      | 1.5 | .5  | 1.0     | 1.0 | .0  | .5   |
| 20      | ---  | ---  | ---      | 3.5 | 1.0 | 2.5      | 1.0 | .0  | .5      | 1.0 | .0  | .5   |
| 21      | ---  | ---  | ---      | 3.0 | 1.0 | 2.5      | 1.0 | .0  | .5      | 1.0 | .0  | .5   |
| 22      | ---  | ---  | ---      | 3.5 | 1.5 | 2.5      | 1.0 | .0  | .5      | .5  | .0  | .5   |
| 23      | ---  | ---  | ---      | 3.5 | 1.5 | 3.0      | 1.0 | .5  | 1.0     | 1.0 | .0  | .5   |
| 24      | ---  | ---  | ---      | 3.5 | 2.5 | 3.0      | 1.5 | 1.0 | 1.0     | 1.0 | .5  | .5   |
| 25      | ---  | ---  | ---      | 5.0 | 3.5 | 4.5      | 1.5 | .5  | .5      | 1.0 | .0  | .5   |
| 26      | ---  | ---  | ---      | 5.0 | 3.5 | 4.5      | .5  | .5  | .5      | .5  | .5  | .5   |
| 27      | ---  | ---  | ---      | 4.5 | 3.5 | 4.0      | .5  | .5  | .5      | 1.0 | .5  | .5   |
| 28      | ---  | ---  | ---      | 4.0 | 3.0 | 3.5      | 1.0 | .5  | .5      | 1.5 | .5  | 1.0  |
| 29      | ---  | ---  | ---      | 4.0 | 3.5 | 4.0      | 1.0 | .5  | 1.0     | 1.5 | .5  | 1.0  |
| 30      | ---  | ---  | ---      | 4.5 | 2.5 | 3.5      | 2.0 | .5  | 1.0     | 1.0 | .5  | 1.0  |
| 31      | ---  | ---  | ---      | --- | --- | ---      | 1.0 | .5  | .5      | 1.5 | .5  | 1.0  |
| MONTH   | 18.0 | 7.5  | 12.5     | 5.5 | 1.0 | 3.5      | 5.5 | .0  | 1.5     | 1.5 | .0  | .5   |

| DAY      | MAX | MIN | MEAN  | MAX  | MIN  | MEAN  | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|-------|------|------|-------|------|------|------|------|------|------|
| FEBRUARY |     |     | MARCH |      |      | APRIL |      |      | MAY  |      |      |      |
| 1        | 1.0 | .5  | 1.0   | 6.0  | 4.5  | 5.0   | 12.5 | 11.0 | 11.5 | 15.5 | 13.0 | 14.0 |
| 2        | 2.0 | 1.0 | 1.5   | 5.5  | 4.5  | 5.0   | 12.5 | 11.0 | 11.5 | 14.0 | 13.0 | 14.0 |
| 3        | 1.5 | .5  | 1.0   | 5.0  | 4.0  | 4.5   | 12.0 | 10.5 | 11.0 | 15.0 | 12.0 | 13.5 |
| 4        | 1.5 | .5  | 1.0   | 4.5  | 3.0  | 3.5   | 11.5 | 10.5 | 11.0 | 13.0 | 12.0 | 12.5 |
| 5        | 1.0 | .5  | .5    | 3.5  | 3.0  | 3.5   | 11.5 | 11.0 | 11.0 | 15.5 | 12.5 | 13.5 |
| 6        | 1.0 | .5  | .5    | 3.0  | 2.5  | 3.0   | 11.0 | 9.5  | 10.5 | 17.0 | 14.0 | 15.0 |
| 7        | 1.0 | .5  | 1.0   | 3.5  | 2.5  | 3.0   | 10.5 | 8.5  | 9.5  | 17.5 | 14.0 | 15.5 |
| 8        | 1.0 | .5  | 1.0   | 4.0  | 3.0  | 3.5   | 11.0 | 8.5  | 10.0 | 17.5 | 14.0 | 15.5 |
| 9        | 1.5 | .5  | 1.0   | 4.5  | 3.5  | 4.0   | 12.5 | 10.0 | 11.0 | 17.0 | 13.5 | 15.0 |
| 10       | 2.0 | 1.0 | 1.0   | 5.0  | 4.0  | 4.5   | 13.5 | 11.0 | 12.0 | 16.5 | 14.5 | 15.5 |
| 11       | 2.5 | 1.0 | 2.0   | 4.5  | 4.0  | 4.5   | 13.0 | 11.5 | 12.5 | 18.0 | 15.0 | 16.5 |
| 12       | 2.5 | 1.0 | 2.0   | 5.0  | 3.5  | 4.0   | 14.0 | 11.5 | 12.5 | 17.0 | 16.0 | 16.5 |
| 13       | 2.5 | 1.0 | 2.0   | 6.0  | 4.0  | 5.0   | 14.0 | 11.5 | 12.5 | 18.0 | 15.0 | 16.5 |
| 14       | 2.5 | 1.0 | 2.0   | 6.0  | 4.5  | 5.5   | 11.5 | 10.0 | 11.0 | 18.0 | 15.5 | 16.5 |
| 15       | 3.0 | 1.5 | 2.0   | 5.5  | 3.5  | 4.5   | 10.5 | 9.0  | 9.5  | 17.0 | 16.0 | 16.5 |
| 16       | 3.5 | 1.5 | 2.5   | 5.0  | 4.0  | 4.5   | 10.5 | 8.5  | 9.5  | 17.0 | 16.0 | 16.0 |
| 17       | 4.5 | 2.0 | 3.0   | 5.0  | 3.5  | 4.0   | 10.0 | 8.5  | 9.5  | 18.5 | 15.5 | 16.5 |
| 18       | 5.5 | 3.0 | 4.0   | 4.5  | 2.5  | 3.5   | 12.5 | 9.0  | 10.5 | 18.0 | 15.5 | 17.0 |
| 19       | 5.0 | 3.5 | 4.5   | 4.5  | 2.5  | 3.5   | 14.0 | 11.0 | 12.5 | 17.5 | 15.0 | 16.0 |
| 20       | 4.5 | 4.5 | 4.5   | 5.5  | 3.0  | 4.0   | 12.5 | 11.0 | 12.0 | 18.0 | 14.5 | 16.0 |
| 21       | 5.0 | 4.5 | 5.0   | 4.5  | 4.0  | 4.5   | 11.5 | 9.5  | 10.5 | 17.0 | 15.0 | 16.0 |
| 22       | 6.0 | 5.0 | 5.5   | 7.0  | 4.0  | 5.5   | 11.5 | 9.0  | 10.0 | 18.5 | 15.0 | 16.5 |
| 23       | 5.5 | 5.0 | 5.0   | 7.0  | 5.0  | 6.0   | 10.0 | 9.5  | 9.5  | 18.5 | 15.0 | 17.0 |
| 24       | 5.5 | 5.0 | 5.5   | 6.0  | 5.0  | 5.5   | 10.5 | 9.0  | 9.5  | 20.0 | 15.5 | 17.5 |
| 25       | 6.0 | 5.0 | 5.5   | 5.5  | 4.5  | 5.0   | 10.0 | 9.5  | 10.0 | 20.5 | 16.5 | 18.5 |
| 26       | 5.0 | 4.5 | 4.5   | 6.5  | 4.5  | 5.5   | 12.0 | 9.0  | 10.5 | 21.5 | 17.5 | 19.5 |
| 27       | 6.0 | 4.5 | 5.0   | 7.0  | 5.0  | 6.0   | 13.5 | 10.5 | 12.0 | 22.5 | 19.0 | 20.5 |
| 28       | 5.5 | 4.5 | 5.0   | 8.0  | 5.5  | 6.5   | 13.0 | 11.5 | 12.5 | 22.5 | 20.0 | 21.0 |
| 29       | --- | --- | ---   | 9.0  | 6.5  | 8.0   | 13.0 | 12.0 | 12.5 | 21.0 | 20.0 | 20.5 |
| 30       | --- | --- | ---   | 10.5 | 8.5  | 9.5   | 14.5 | 12.5 | 13.5 | 21.5 | 19.5 | 20.5 |
| 31       | --- | --- | ---   | 12.5 | 10.0 | 11.0  | ---  | ---  | ---  | 21.5 | 19.5 | 20.5 |
| MONTH    | 6.0 | .5  | 3.0   | 12.5 | 2.5  | 5.0   | 14.5 | 8.5  | 11.0 | 22.5 | 12.0 | 16.5 |



## PAWCATUCK RIVER BASIN

0118500 PAWCATUCK RIVER AT WESTERLY, RI

LOCATION.--Lat 41°23'01", long 71°50'01", Washington County, Hydrologic Unit 01090005, on left bank at Westerly, 2.1 mi (3.4 km) downstream from Shunock River.

DRAINAGE AREA.--295 mi<sup>2</sup> (764 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1940 to current year.

REVISED RECORDS.--WSP 1051: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.76 ft (0.536 m) below National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Diurnal fluctuation at low flow prior to 1962 by mills upstream; regulation much greater prior to 1958. Diversion upstream for municipal supply of Westerly.

AVERAGE DISCHARGE.--40 years (water years 1942-81), 566 ft<sup>3</sup>/s (16.03 m<sup>3</sup>/s), 26.06 in/yr (662 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,470 ft<sup>3</sup>/s (127 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 10.49 ft (3.197 m); maximum gage height, 12.16 ft (3.706 m) Aug. 31, 1954, backwater from tide; minimum daily discharge, 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s) Aug. 17, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a discharge of 3,150 ft<sup>3</sup>/s (89.2 m<sup>3</sup>/s), by computation of flow over dam 1.5 mi (2.4 km) upstream. Maximum discharge since 1886 occurred in November 1927 and was possibly more than twice that in March 1936. Maximum stage since at least 1635, 15.0 ft (4.57 m) Sept. 21, 1938, due to hurricane tidal wave.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft<sup>3</sup>/s (36.0 m<sup>3</sup>/s) Feb. 26, gage height, 5.70 ft (1.737 m); maximum gage height, 6.37 ft (1.942 m) Oct. 25, backwater from tide; minimum daily discharge, 70 ft<sup>3</sup>/s (1.98 m<sup>3</sup>/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR       | APR      | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|--------|----------|----------|--------|-----------|----------|-------|------|------|------|------|
| 1           | 75    | 124    | 254      | 175      | 125    | 970       | 401      | 480   | 249  | 203  | 124  | 78   |
| 2           | 75    | 120    | 221      | 160      | 170    | 850       | 445      | 452   | 235  | 199  | 117  | 80   |
| 3           | 70    | 117    | 208      | 150      | 350    | 745       | 508      | 445   | 225  | 199  | 107  | 83   |
| 4           | 107   | 110    | 195      | 140      | 340    | 648       | 494      | 420   | 230  | 199  | 107  | 83   |
| 5           | 113   | 127    | 182      | 135      | 290    | 599       | 466      | 388   | 235  | 221  | 107  | 83   |
| 6           | 98    | 127    | 174      | 130      | 240    | 564       | 613      | 371   | 230  | 259  | 104  | 83   |
| 7           | 95    | 124    | 174      | 134      | 220    | 550       | 730      | 359   | 249  | 273  | 104  | 80   |
| 8           | 95    | 124    | 171      | 140      | 270    | 550       | 655      | 342   | 230  | 254  | 110  | 78   |
| 9           | 92    | 113    | 171      | 135      | 360    | 536       | 571      | 331   | 212  | 225  | 117  | 86   |
| 10          | 89    | 113    | 182      | 135      | 320    | 515       | 522      | 325   | 208  | 203  | 113  | 83   |
| 11          | 89    | 117    | 186      | 132      | 320    | 501       | 487      | 315   | 195  | 186  | 107  | 83   |
| 12          | 98    | 120    | 186      | 128      | 420    | 480       | 459      | 353   | 182  | 171  | 107  | 80   |
| 13          | 86    | 117    | 178      | 126      | 390    | 473       | 426      | 445   | 182  | 155  | 104  | 78   |
| 14          | 83    | 113    | 174      | 122      | 365    | 459       | 439      | 432   | 182  | 155  | 104  | 75   |
| 15          | 83    | 113    | 167      | 120      | 355    | 439       | 715      | 395   | 178  | 152  | 101  | 75   |
| 16          | 80    | 110    | 171      | 117      | 331    | 432       | 730      | 395   | 178  | 144  | 107  | 101  |
| 17          | 83    | 110    | 186      | 119      | 320    | 439       | 620      | 401   | 171  | 141  | 134  | 120  |
| 18          | 83    | 134    | 171      | 120      | 325    | 432       | 557      | 388   | 167  | 137  | 137  | 117  |
| 19          | 95    | 163    | 167      | 123      | 331    | 426       | 487      | 359   | 155  | 141  | 127  | 110  |
| 20          | 98    | 167    | 150      | 128      | 395    | 413       | 452      | 331   | 208  | 148  | 113  | 107  |
| 21          | 92    | 163    | 140      | 130      | 715    | 401       | 426      | 315   | 309  | 230  | 104  | 101  |
| 22          | 89    | 152    | 135      | 130      | 948    | 401       | 407      | 304   | 299  | 254  | 101  | 95   |
| 23          | 86    | 141    | 135      | 128      | 918    | 395       | 401      | 283   | 283  | 230  | 101  | 95   |
| 24          | 89    | 141    | 155      | 126      | 955    | 388       | 473      | 278   | 244  | 195  | 95   | 95   |
| 25          | 120   | 171    | 150      | 123      | 1180   | 382       | 557      | 268   | 239  | 171  | 89   | 95   |
| 26          | 216   | 199    | 145      | 122      | 1260   | 388       | 557      | 254   | 371  | 155  | 89   | 95   |
| 27          | 195   | 203    | 140      | 127      | 1210   | 395       | 515      | 244   | 336  | 152  | 86   | 95   |
| 28          | 186   | 195    | 145      | 130      | 1080   | 395       | 466      | 239   | 278  | 144  | 80   | 92   |
| 29          | 163   | 244    | 144      | 133      | ---    | 395       | 473      | 239   | 239  | 141  | 78   | 86   |
| 30          | 148   | 273    | 190      | 130      | ---    | 388       | 501      | 254   | 212  | 137  | 78   | 83   |
| 31          | 134   | ---    | 190      | 128      | ---    | 395       | ---      | 268   | ---  | 130  | 78   | ---  |
| TOTAL       | 3305  | 4345   | 5337     | 4076     | 14503  | 15344     | 15553    | 10673 | 6911 | 5704 | 3230 | 2695 |
| MEAN        | 107   | 145    | 172      | 131      | 518    | 495       | 518      | 344   | 230  | 184  | 104  | 89.8 |
| MAX         | 216   | 273    | 254      | 175      | 1260   | 970       | 730      | 480   | 371  | 273  | 137  | 120  |
| MIN         | 70    | 110    | 135      | 117      | 125    | 382       | 401      | 239   | 155  | 130  | 78   | 75   |
| CFSM        | .36   | .49    | .58      | .44      | 1.76   | 1.68      | 1.76     | 1.17  | .78  | .62  | .35  | .30  |
| IN.         | .42   | .55    | .67      | .51      | 1.83   | 1.93      | 1.96     | 1.35  | .87  | .72  | .41  | .34  |
| CAL YR 1980 | TOTAL | 158759 | MEAN 434 | MAX 3850 | MIN 70 | CFSM 1.47 | IN 20.02 |       |      |      |      |      |
| WTR YR 1981 | TOTAL | 91676  | MEAN 251 | MAX 1260 | MIN 70 | CFSM .85  | IN 11.56 |       |      |      |      |      |

## 01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953, 1963, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1978 to current year

WATER TEMPERATURES: June 1978 to current year

INSTRUMENTATION.--Water-quality monitor since June 1978.

REMARKS.--Interruptions in the record were due to instrument malfunction. Instantaneous records are representative of the cross section while continuous records are based on point samples. The instantaneous record values will not necessarily fall within the corresponding daily range of the continuous records.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 255 micromhos Sept. 15, 1981; minimum, 36 micromhos May 24, 1979.

WATER TEMPERATURES: Maximum, 30.0°C Aug. 9, 1980; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR THE CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 255 micromhos Sept. 15; minimum, 77 micromhos Apr. 16.

WATER TEMPERATURES: Maximum, 29.0°C July 10, 11; minimum, 0.0°C on many days during winter period.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

|             | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS)                | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS)              | PH<br><br>(UNITS)                                               | TEMPER-<br>ATURE,<br>AIR<br>(DEG C)                                | TEMPER-<br>ATURE<br>(DEG C)            | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS)                | TUR-<br>BID-<br>ITY<br>(NTU)                 | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L)                  | OXYGEN,<br>DIS-<br>SOLVED<br>(PER-<br>CENT<br>SATUR-<br>ATION) | OXYGEN<br>DEMAND,<br>CHEM-<br>ICAL<br>(HIGH<br>LEVEL)<br>(MG/L) | C.O.D.<br>TOTAL<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(MG/KG) |                                                     |
|-------------|------|----------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------|----------------------------------------------|------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------|
| DATE<br>OCT |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 21...       | 1140 | 92                                                             | 180                                                            | --                                                              | --                                                                 | 12.5                                   | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          |                                                     |
| 22...       | 1025 | 86                                                             | 177                                                            | 6.6                                                             | 11.5                                                               | 11.5                                   | 15                                                          | 1.0                                          | 8.3                                                  | 75                                                             | --                                                              | --                                                          |                                                     |
| NOV         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 20...       | 1240 | 167                                                            | 141                                                            | 7.0                                                             | 7.0                                                                | 4.0                                    | 10                                                          | 2.0                                          | 11.8                                                 | 88                                                             | --                                                              | --                                                          |                                                     |
| DEC         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 15...       | 0925 | 167                                                            | 141                                                            | --                                                              | --                                                                 | .5                                     | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          |                                                     |
| 18...       | 1330 | 174                                                            | 137                                                            | 6.7                                                             | 3.5                                                                | .0                                     | 10                                                          | 2.0                                          | 14.1                                                 | 97                                                             | 11                                                              | 8100                                                        |                                                     |
| JAN         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 15...       | 1300 | E120                                                           | 150                                                            | 6.8                                                             | <-5.0                                                              | .0                                     | 10                                                          | 1.0                                          | 12.8                                                 | 88                                                             | --                                                              | --                                                          |                                                     |
| FEB         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 10...       | 1040 | E310                                                           | 136                                                            | 6.4                                                             | 3.5                                                                | .5                                     | 25                                                          | 1.0                                          | 12.0                                                 | 82                                                             | --                                                              | --                                                          |                                                     |
| MAR         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 10...       | 1130 | 515                                                            | 92                                                             | 6.4                                                             | 8.0                                                                | 4.0                                    | 20                                                          | 1.0                                          | 12.9                                                 | 98                                                             | 28                                                              | 7600                                                        |                                                     |
| APR         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 16...       | 1300 | 723                                                            | 88                                                             | 6.1                                                             | 11.0                                                               | 10.0                                   | 40                                                          | 2.0                                          | 10.9                                                 | 95                                                             | --                                                              | --                                                          |                                                     |
| MAY         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 14...       | 1245 | 426                                                            | 95                                                             | 6.4                                                             | 20.0                                                               | 16.5                                   | 38                                                          | 2.0                                          | 9.6                                                  | 98                                                             | --                                                              | --                                                          |                                                     |
| 27...       | 0930 | 244                                                            | 96                                                             | --                                                              | --                                                                 | 20.0                                   | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          |                                                     |
| JUN         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 17...       | 1105 | 171                                                            | 114                                                            | 7.0                                                             | 31.5                                                               | 22.0                                   | 20                                                          | 1.0                                          | 9.6                                                  | 109                                                            | <10                                                             | 7600                                                        |                                                     |
| JUL         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 01...       | 1210 | 203                                                            | 85                                                             | --                                                              | --                                                                 | 18.5                                   | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          |                                                     |
| 09...       | 1245 | 216                                                            | 100                                                            | 6.9                                                             | 36.0                                                               | 27.0                                   | 50                                                          | 1.0                                          | 9.7                                                  | 120                                                            | --                                                              | --                                                          |                                                     |
| AUG         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 05...       | 1050 | 104                                                            | 131                                                            | 7.1                                                             | 28.0                                                               | 25.0                                   | 25                                                          | 1.0                                          | 9.2                                                  | 110                                                            | --                                                              | --                                                          |                                                     |
| SEP         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 01...       | 1030 | 78                                                             | 200                                                            | 7.3                                                             | 23.0                                                               | 21.0                                   | 20                                                          | 2.0                                          | 7.0                                                  | 77                                                             | 17                                                              | 7900                                                        |                                                     |
| 10...       | 0810 | 86                                                             | 199                                                            | --                                                              | --                                                                 | 18.5                                   | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          |                                                     |
| DATE        |      | OXYGEN<br>DEMAND,<br>BIO-<br>CHEM-<br>ICAL,<br>5 DAY<br>(MG/L) | COLI-<br>FORM,<br>TOTAL,<br>IMMED.<br>(COLS.<br>PER<br>100 ML) | COLI-<br>FORM,<br>FECAL,<br>0.45<br>UM-MF<br>(COLS./<br>100 ML) | STREP-<br>TOCOCCI<br>FECAL,<br>KF AGAR<br>(COLS.<br>PER<br>100 ML) | HARD-<br>NESS<br>(MG/L<br>AS<br>CAC03) | HARD-<br>NESS<br>NONCAR-<br>BONATE<br>(MG/L<br>AS<br>CAC03) | CALCIUM<br>DIS-<br>SOLVED<br>(MG/L<br>AS CA) | MAGNE-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS MG) | SODIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS NA)                   | PERCENT<br>SODIUM                                               | SODIUM<br>AD-<br>SORP-<br>TION<br>RATIO                     | POTAS-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS K) |
| OCT         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 22...       | --   | 2200                                                           | 29                                                             | 37                                                              | 22                                                                 | .00                                    | 6.2                                                         | 1.7                                          | --                                                   | --                                                             | --                                                              | --                                                          | --                                                  |
| NOV         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 20...       | <1.0 | 640                                                            | 20                                                             | 20                                                              | 25                                                                 | 3.0                                    | 6.5                                                         | 2.2                                          | 21                                                   | 62                                                             | 1.8                                                             | 1.7                                                         |                                                     |
| DEC         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 18...       | --   | 23000                                                          | 130                                                            | K18                                                             | --                                                                 | --                                     | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          | --                                                  |
| JAN         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 15...       | 1.0  | 420                                                            | K15                                                            | K7                                                              | 26                                                                 | 7.0                                    | 6.8                                                         | 2.2                                          | 15                                                   | 54                                                             | 1.3                                                             | 1.6                                                         |                                                     |
| FEB         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 10...       | --   | --                                                             | 130                                                            | 700                                                             | --                                                                 | --                                     | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          | --                                                  |
| MAR         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 10...       | 1.0  | --                                                             | K10                                                            | K4                                                              | 17                                                                 | --                                     | 4.4                                                         | 1.5                                          | 9.1                                                  | 52                                                             | 1.0                                                             | 1.1                                                         |                                                     |
| APR         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 16...       | --   | --                                                             | 320                                                            | 20                                                              | --                                                                 | --                                     | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          | --                                                  |
| MAY         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 14...       | 1.0  | --                                                             | 300                                                            | 36                                                              | 15                                                                 | 3.0                                    | 3.9                                                         | 1.2                                          | 13                                                   | 64                                                             | 1.5                                                             | 1.0                                                         |                                                     |
| JUN         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 17...       | --   | --                                                             | 55                                                             | 29                                                              | 19                                                                 | 2.0                                    | 5.2                                                         | 1.5                                          | 14                                                   | 60                                                             | 1.4                                                             | 1.2                                                         |                                                     |
| JUL         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 09...       | 1.0  | --                                                             | 60                                                             | 8200                                                            | 18                                                                 | 8.0                                    | 4.7                                                         | 1.4                                          | 12                                                   | 58                                                             | 1.2                                                             | 1.2                                                         |                                                     |
| AUG         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 05...       | --   | --                                                             | 200                                                            | 2500                                                            | --                                                                 | --                                     | --                                                          | --                                           | --                                                   | --                                                             | --                                                              | --                                                          | --                                                  |
| SEP         |      |                                                                |                                                                |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                                                |                                                                 |                                                             |                                                     |
| 01...       | 1.0  | --                                                             | 40                                                             | 420                                                             | 21                                                                 | .00                                    | 5.6                                                         | 1.7                                          | 34                                                   | 76                                                             | 3.2                                                             | 1.4                                                         |                                                     |

&lt; Actual value is known to be less than the value shown

E Estimated value

K Results based on colony count outside the acceptable range (non-ideal colony count)

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE  | ALKA-<br>LITY<br>LAB<br>(MG/L<br>AS<br>CAC03) | SULFATE<br>DIS-<br>SOLVED<br>(MG/L<br>AS SO4) | CHLO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS CL) | FLUO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS F) | SILICA,<br>DIS-<br>SOLVED<br>(MG/L<br>AS<br>SI02) | SOLIDS,<br>RESIDUE<br>AT 180<br>DEG. C<br>DIS-<br>SOLVED<br>(MG/L) | SOLIDS,<br>SUM OF<br>CONSTI-<br>TUENTS,<br>DIS-<br>SOLVED<br>(MG/L) | SOLIDS,<br>DIS-<br>SOLVED<br>(TONS<br>PER<br>AC-FT) | SOLIDS,<br>DIS-<br>SOLVED<br>(TONS<br>PER<br>DAY) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>SUS-<br>PENDE<br>(MG/L) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>TOTAL<br>(MG/L) |
|-------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------------|----------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------|
| OCT   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 22... | 22                                            | 29                                            | 12                                                  | --                                                 | 7.1                                               | 105                                                                | --                                                                  | .14                                                 | 24.4                                              | --                                                                 | 104                                                        |
| NOV   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 20... | 23                                            | 29                                            | 15                                                  | .2                                                 | 9.2                                               | 99                                                                 | 100                                                                 | .13                                                 | 44.6                                              | --                                                                 | 105                                                        |
| DEC   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 18... | --                                            | 26                                            | 14                                                  | --                                                 | --                                                | 98                                                                 | --                                                                  | .13                                                 | 46.0                                              | 6                                                                  | 99                                                         |
| JAN   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 15... | 19                                            | 21                                            | 16                                                  | .2                                                 | 11                                                | 90                                                                 | 89                                                                  | .12                                                 | --                                                | --                                                                 | 111                                                        |
| FEB   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 10... | --                                            | 23                                            | 15                                                  | --                                                 | --                                                | 90                                                                 | --                                                                  | .12                                                 | --                                                | --                                                                 | 99                                                         |
| MAR   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 10... | 4.0                                           | 13                                            | 12                                                  | .1                                                 | 7.2                                               | 60                                                                 | 52                                                                  | .08                                                 | 83.4                                              | 8                                                                  | 70                                                         |
| APR   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 16... | --                                            | 13                                            | 12                                                  | --                                                 | --                                                | 70                                                                 | --                                                                  | .10                                                 | 137                                               | --                                                                 | 69                                                         |
| MAY   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 14... | 12                                            | 16                                            | 12                                                  | .1                                                 | 4.9                                               | 75                                                                 | 61                                                                  | .10                                                 | 86.3                                              | --                                                                 | --                                                         |
| JUN   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 17... | 17                                            | 16                                            | 13                                                  | --                                                 | --                                                | 76                                                                 | --                                                                  | .10                                                 | 35.1                                              | 10                                                                 | 101                                                        |
| JUL   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 09... | 10                                            | 10                                            | 13                                                  | .2                                                 | 6.5                                               | 62                                                                 | 57                                                                  | .08                                                 | 36.2                                              | --                                                                 | 71                                                         |
| AUG   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 05... | --                                            | 18                                            | 13                                                  | --                                                 | --                                                | 90                                                                 | --                                                                  | .12                                                 | 25.3                                              | --                                                                 | 90                                                         |
| SEP   |                                               |                                               |                                                     |                                                    |                                                   |                                                                    |                                                                     |                                                     |                                                   |                                                                    |                                                            |
| 01... | 44                                            | 34                                            | 14                                                  | .2                                                 | 4.5                                               | 132                                                                | 125                                                                 | .18                                                 | 27.8                                              | 14                                                                 | 146                                                        |

| DATE  | NITRO-<br>GEN,<br>NITRATE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NITRITE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS NH4) | NITRO-<br>GEN,<br>AMMONIA<br>DIS-<br>SOLVED<br>(MG/L<br>AS NH4) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>ORGANIC<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,AM-<br>MONIA +<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) |
|-------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------|
| OCT   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 22... | .84                                                  | .000                                                 | .84                                                  | --                                                            | .040                                                 | --                                                            | .05                                                    | --                                                              | .28                                                  | --                                                            | .32                                                                |
| NOV   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 20... | .65                                                  | .010                                                 | .66                                                  | .70                                                           | .030                                                 | .030                                                          | .04                                                    | .04                                                             | .49                                                  | .47                                                           | .52                                                                |
| DEC   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 18... | .57                                                  | .000                                                 | .57                                                  | --                                                            | .070                                                 | --                                                            | .08                                                    | --                                                              | .27                                                  | --                                                            | .34                                                                |
| JAN   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 15... | --                                                   | <.010                                                | .76                                                  | .76                                                           | .050                                                 | .030                                                          | .06                                                    | .04                                                             | .31                                                  | .22                                                           | .36                                                                |
| FEB   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 10... | --                                                   | <.010                                                | .52                                                  | --                                                            | .140                                                 | --                                                            | --                                                     | --                                                              | .54                                                  | --                                                            | .68                                                                |
| MAR   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 10... | --                                                   | <.010                                                | .28                                                  | .33                                                           | .040                                                 | .090                                                          | --                                                     | .12                                                             | .24                                                  | .11                                                           | .28                                                                |
| APR   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 16... | --                                                   | <.010                                                | .18                                                  | --                                                            | .080                                                 | --                                                            | --                                                     | --                                                              | .42                                                  | --                                                            | .50                                                                |
| MAY   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 14... | --                                                   | <.010                                                | .25                                                  | .24                                                           | .100                                                 | .040                                                          | --                                                     | .05                                                             | .70                                                  | .47                                                           | .80                                                                |
| JUN   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 17... | .56                                                  | .020                                                 | .58                                                  | --                                                            | .060                                                 | --                                                            | --                                                     | --                                                              | .35                                                  | --                                                            | .41                                                                |
| JUL   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 09... | --                                                   | <.010                                                | .36                                                  | .38                                                           | .020                                                 | .040                                                          | --                                                     | .05                                                             | .31                                                  | .33                                                           | .33                                                                |
| AUG   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 05... | --                                                   | <.010                                                | .34                                                  | --                                                            | .020                                                 | --                                                            | --                                                     | --                                                              | .43                                                  | --                                                            | .45                                                                |
| SEP   |                                                      |                                                      |                                                      |                                                               |                                                      |                                                               |                                                        |                                                                 |                                                      |                                                               |                                                                    |
| 01... | .58                                                  | .020                                                 | .60                                                  | .67                                                           | .020                                                 | .030                                                          | --                                                     | .04                                                             | .51                                                  | .48                                                           | .53                                                                |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.



01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | NITRO-<br>GEN, NH4<br>+ ORG.<br>SUSP.<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN, AM-<br>MONIA +<br>ORGANIC<br>DIS.<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS NO3) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) | PHOS-<br>PHATE,<br>TOTAL<br>(MG/L<br>AS P04) | PHOS-<br>PHORUS<br>TOTAL<br>(MG/L<br>AS P04) | PHOS-<br>PHORUS,<br>DIS-<br>SOLVED<br>(MG/L<br>AS P) | PHOS-<br>PHORUS,<br>ORTHO,<br>TOTAL<br>(MG/L<br>AS P) | ARSENIC<br>TOTAL<br>(UG/L<br>AS AS) |
|-----------|------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|----------------------------------------------|------------------------------------------------------|-------------------------------------------------------|-------------------------------------|
| OCT 22... | --                                                               | --                                                                 | 1.2                                       | --                                                | 5.1                                         | .070                                        | .09                                          | .21                                          | .060                                                 | .030                                                  | --                                  |
| NOV 20... | .02                                                              | .50                                                                | 1.2                                       | 1.2                                               | 5.2                                         | .060                                        | .09                                          | .18                                          | .050                                                 | .030                                                  | 1                                   |
| DEC 18... | --                                                               | --                                                                 | .91                                       | --                                                | 4.0                                         | .050                                        | .09                                          | .15                                          | .040                                                 | .030                                                  | --                                  |
| JAN 15... | .11                                                              | .25                                                                | 1.1                                       | 1.0                                               | 5.0                                         | .040                                        | <.03                                         | .12                                          | .030                                                 | <.010                                                 | 1                                   |
| FEB 10... | --                                                               | --                                                                 | 1.2                                       | --                                                | 5.3                                         | .080                                        | --                                           | .25                                          | .060                                                 | .040                                                  | --                                  |
| MAR 10... | .08                                                              | .20                                                                | .56                                       | .53                                               | 2.5                                         | .020                                        | --                                           | .06                                          | .010                                                 | .010                                                  | --                                  |
| APR 16... | --                                                               | --                                                                 | .68                                       | --                                                | 3.0                                         | .040                                        | --                                           | .12                                          | .020                                                 | .010                                                  | --                                  |
| MAY 14... | .29                                                              | .51                                                                | 1.0                                       | .75                                               | 4.6                                         | .040                                        | --                                           | .12                                          | .020                                                 | .050                                                  | 0                                   |
| JUN 17... | --                                                               | --                                                                 | .99                                       | --                                                | 4.4                                         | .060                                        | --                                           | .18                                          | .070                                                 | .040                                                  | --                                  |
| JUL 09... | .00                                                              | .37                                                                | .69                                       | .75                                               | 3.1                                         | .050                                        | --                                           | .15                                          | .040                                                 | .030                                                  | 1                                   |
| AUG 05... | --                                                               | --                                                                 | .79                                       | --                                                | 3.5                                         | .060                                        | --                                           | .18                                          | .040                                                 | .030                                                  | --                                  |
| SEP 01... | .02                                                              | .51                                                                | 1.1                                       | 1.2                                               | 5.0                                         | .110                                        | --                                           | .34                                          | .100                                                 | .060                                                  | 2                                   |

| DATE      | ARSENIC<br>SUS-<br>PENDE<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>DIS-<br>SOLVED<br>(UG/L<br>AS AS) | ARSENIC<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AS) | BARIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS BA) | BORON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS B) | BORON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS B) | CADMIUM<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>DIS-<br>SOLVED<br>(UG/L<br>AS CD) |
|-----------|------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|
| OCT 22... | --                                                   | --                                           | --                                                                  | --                                                      | --                                                              | --                                           | --                                                    | --                                                                 | --                                                      | --                                                              | 0                                            |
| NOV 20... | 1                                                    | 0                                            | --                                                                  | 100                                                     | 80                                                              | 20                                           | --                                                    | --                                                                 | 0                                                       | 0                                                               | 2                                            |
| DEC 18... | --                                                   | --                                           | --                                                                  | --                                                      | --                                                              | --                                           | --                                                    | --                                                                 | --                                                      | --                                                              | 0                                            |
| JAN 15... | 1                                                    | 0                                            | --                                                                  | --                                                      | --                                                              | 30                                           | --                                                    | --                                                                 | 0                                                       | 0                                                               | 1                                            |
| FEB 10... | --                                                   | --                                           | --                                                                  | --                                                      | --                                                              | --                                           | --                                                    | --                                                                 | --                                                      | --                                                              | 2                                            |
| MAR 10... | --                                                   | --                                           | 0                                                                   | --                                                      | --                                                              | --                                           | --                                                    | --                                                                 | --                                                      | --                                                              | 0                                            |
| APR 16... | --                                                   | --                                           | --                                                                  | --                                                      | --                                                              | --                                           | --                                                    | --                                                                 | --                                                      | --                                                              | 0                                            |
| MAY 14... | 0                                                    | 0                                            | --                                                                  | 100                                                     | 80                                                              | 20                                           | 30                                                    | 0                                                                  | 1                                                       | --                                                              | <1                                           |
| JUN 17... | --                                                   | --                                           | --                                                                  | --                                                      | --                                                              | --                                           | --                                                    | --                                                                 | --                                                      | --                                                              | 1                                            |
| JUL 09... | 0                                                    | 1                                            | --                                                                  | 100                                                     | 90                                                              | 10                                           | --                                                    | --                                                                 | 1                                                       | --                                                              | <1                                           |
| AUG 05... | --                                                   | --                                           | --                                                                  | --                                                      | --                                                              | --                                           | --                                                    | --                                                                 | --                                                      | --                                                              | <1                                           |
| SEP 01... | --                                                   | --                                           | <1                                                                  | --                                                      | --                                                              | --                                           | 80                                                    | <10                                                                | <1                                                      | --                                                              | <1                                           |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | CADMIUM<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CD) | CHRO-<br>MIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>SUS-<br>PENDE<br>RECOV.<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | COBALT,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CO) | COBALT,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CO) | COPPER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) |
|-----------|----------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|
| OCT 22... | --                                                                   | --                                                             | --                                                           | 5                                                   | --                                                                 | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              |
| NOV 20... | --                                                                   | 20                                                             | 10                                                           | 10                                                  | --                                                                 | 3                                                       | 2                                                               | 1                                            | --                                                                   | 3                                                       | 0                                                               |
| DEC 18... | --                                                                   | --                                                             | --                                                           | 1                                                   | --                                                                 | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              |
| JAN 15... | --                                                                   | 10                                                             | 0                                                            | 10                                                  | --                                                                 | 3                                                       | 2                                                               | 1                                            | --                                                                   | 5                                                       | 4                                                               |
| FEB 10... | --                                                                   | --                                                             | --                                                           | 2                                                   | --                                                                 | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              |
| MAR 10... | <1                                                                   | --                                                             | --                                                           | 2                                                   | 10                                                                 | --                                                      | --                                                              | --                                           | <1                                                                   | --                                                      | --                                                              |
| APR 16... | --                                                                   | --                                                             | --                                                           | 1                                                   | --                                                                 | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              |
| MAY 14... | --                                                                   | 20                                                             | --                                                           | 10                                                  | --                                                                 | 1                                                       | 1                                                               | 0                                            | --                                                                   | 5                                                       | 2                                                               |
| JUN 17... | --                                                                   | --                                                             | --                                                           | 0                                                   | --                                                                 | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              |
| JUL 09... | --                                                                   | 10                                                             | --                                                           | <10                                                 | --                                                                 | 1                                                       | 1                                                               | 0                                            | --                                                                   | 3                                                       | 0                                                               |
| AUG 05... | --                                                                   | --                                                             | --                                                           | <1                                                  | --                                                                 | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              |
| SEP 01... | <1                                                                   | <10                                                            | --                                                           | 4                                                   | <10                                                                | --                                                      | --                                                              | --                                           | <10                                                                  | 5                                                       | --                                                              |

| DATE      | COPPER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CU) | COPPER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS CU) | IRON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>DIS-<br>SOLVED<br>(UG/L<br>AS FE) | IRON,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS FE) | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>DIS-<br>SOLVED<br>(UG/L<br>AS PB) | LEAD,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS PB) | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN) |
|-----------|----------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|
| OCT 22... | 1                                            | --                                                                   | --                                                    | --                                                            | 180                                        | --                                                                 | --                                                    | --                                                            | 2                                          | --                                                                 | --                                                              |
| NOV 20... | 5                                            | --                                                                   | 290                                                   | 110                                                           | 180                                        | --                                                                 | 5                                                     | 5                                                             | 0                                          | --                                                                 | 40                                                              |
| DEC 18... | 2                                            | --                                                                   | --                                                    | --                                                            | --                                         | --                                                                 | --                                                    | --                                                            | 1                                          | --                                                                 | --                                                              |
| JAN 15... | 1                                            | --                                                                   | 220                                                   | 50                                                            | 170                                        | --                                                                 | 0                                                     | 0                                                             | 0                                          | --                                                                 | 50                                                              |
| FEB 10... | 4                                            | --                                                                   | --                                                    | --                                                            | --                                         | --                                                                 | --                                                    | --                                                            | 3                                          | --                                                                 | --                                                              |
| MAR 10... | 3                                            | <7                                                                   | --                                                    | --                                                            | --                                         | 1800                                                               | --                                                    | --                                                            | 0                                          | 12                                                                 | --                                                              |
| APR 16... | 1                                            | --                                                                   | --                                                    | --                                                            | --                                         | --                                                                 | --                                                    | --                                                            | 0                                          | --                                                                 | --                                                              |
| MAY 14... | 3                                            | --                                                                   | 430                                                   | 160                                                           | 280                                        | --                                                                 | 10                                                    | 2                                                             | 0                                          | --                                                                 | 50                                                              |
| JUN 17... | 2                                            | --                                                                   | --                                                    | --                                                            | --                                         | --                                                                 | --                                                    | --                                                            | 1                                          | --                                                                 | --                                                              |
| JUL 09... | 5                                            | --                                                                   | 580                                                   | 120                                                           | 460                                        | --                                                                 | 10                                                    | 9                                                             | 1                                          | --                                                                 | 30                                                              |
| AUG 05... | 3                                            | --                                                                   | --                                                    | --                                                            | --                                         | --                                                                 | --                                                    | --                                                            | 2                                          | --                                                                 | --                                                              |
| SEP 01... | 2                                            | 3                                                                    | 410                                                   | --                                                            | --                                         | 1200                                                               | 9                                                     | --                                                            | 1                                          | <10                                                                | <10                                                             |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | MANGA-<br>NESE,<br>SUS-<br>PENDE<br>RECOV.<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>DIS-<br>SOLVED<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | MERCURY<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>DIS-<br>SOLVED<br>(UG/L<br>AS HG) | MERCURY<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS HG) | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>DIS-<br>SOLVED<br>(UG/L<br>AS NI) | NICKEL,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS NI) |
|-----------|---------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|
| OCT 22... | --                                                            | 10                                                   | --                                                                  | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              | 0                                            | --                                                                   |
| NOV 20... | 10                                                            | 30                                                   | --                                                                  | .2                                                      | .0                                                              | .2                                           | --                                                                   | 4                                                       | 1                                                               | 3                                            | --                                                                   |
| DEC 18... | --                                                            | --                                                   | --                                                                  | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              | 1                                            | --                                                                   |
| JAN 15... | 0                                                             | 60                                                   | --                                                                  | .2                                                      | .0                                                              | .2                                           | --                                                                   | 2                                                       | 2                                                               | 0                                            | --                                                                   |
| FEB 10... | --                                                            | --                                                   | --                                                                  | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              | 0                                            | --                                                                   |
| MAR 10... | --                                                            | --                                                   | 40                                                                  | --                                                      | --                                                              | --                                           | .00                                                                  | --                                                      | --                                                              | 0                                            | --                                                                   |
| APR 16... | --                                                            | --                                                   | --                                                                  | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              | 1                                            | --                                                                   |
| MAY 14... | 10                                                            | 50                                                   | --                                                                  | .3                                                      | .1                                                              | .3                                           | --                                                                   | 11                                                      | 0                                                               | 4                                            | 5                                                                    |
| JUN 17... | --                                                            | --                                                   | --                                                                  | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              | 2                                            | --                                                                   |
| JUL 09... | 0                                                             | 30                                                   | --                                                                  | .1                                                      | --                                                              | <.1                                          | --                                                                   | 1                                                       | 0                                                               | 4                                            | --                                                                   |
| AUG 05... | --                                                            | --                                                   | --                                                                  | --                                                      | --                                                              | --                                           | --                                                                   | --                                                      | --                                                              | 3                                            | --                                                                   |
| SEP 01... | --                                                            | --                                                   | 38                                                                  | .1                                                      | --                                                              | --                                           | <.01                                                                 | 3                                                       | --                                                              | <1                                           | <10                                                                  |

| DATE      | SELE-<br>NIUM,<br>TOTAL<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>SUS-<br>PENDE<br>TOTAL<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>TOTAL<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | SILVER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS AG) | SILVER,<br>RECOV.<br>FM BOT-<br>TOM MA-<br>TERIAL<br>(UG/G<br>AS AG) | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>DIS-<br>SOLVED<br>(UG/L<br>AS ZN) |
|-----------|--------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|
| OCT 22... | --                                         | --                                                          | --                                                  | --                                                                | --                                                      | --                                                              | --                                           | --                                                                   | --                                                    | --                                                            | 7                                          |
| NOV 20... | 0                                          | 0                                                           | 0                                                   | --                                                                | 0                                                       | 0                                                               | 0                                            | --                                                                   | 20                                                    | 0                                                             | 20                                         |
| DEC 18... | --                                         | --                                                          | --                                                  | --                                                                | --                                                      | --                                                              | --                                           | --                                                                   | --                                                    | --                                                            | 20                                         |
| JAN 15... | 0                                          | 0                                                           | 0                                                   | --                                                                | 0                                                       | 0                                                               | 0                                            | --                                                                   | 20                                                    | 10                                                            | 10                                         |
| FEB 10... | --                                         | --                                                          | --                                                  | --                                                                | --                                                      | --                                                              | --                                           | --                                                                   | --                                                    | --                                                            | 30                                         |
| MAR 10... | --                                         | --                                                          | --                                                  | 0                                                                 | --                                                      | --                                                              | --                                           | --                                                                   | --                                                    | --                                                            | 20                                         |
| APR 16... | --                                         | --                                                          | --                                                  | --                                                                | --                                                      | --                                                              | --                                           | --                                                                   | --                                                    | --                                                            | 20                                         |
| MAY 14... | 0                                          | 0                                                           | 0                                                   | --                                                                | 0                                                       | 1                                                               | 0                                            | 0                                                                    | 30                                                    | 20                                                            | 10                                         |
| JUN 17... | --                                         | --                                                          | --                                                  | --                                                                | --                                                      | --                                                              | --                                           | --                                                                   | --                                                    | --                                                            | 20                                         |
| JUL 09... | 0                                          | 0                                                           | 0                                                   | --                                                                | 0                                                       | 0                                                               | 0                                            | --                                                                   | 40                                                    | 30                                                            | 10                                         |
| AUG 05... | --                                         | --                                                          | --                                                  | --                                                                | --                                                      | --                                                              | --                                           | --                                                                   | --                                                    | --                                                            | 10                                         |
| SEP 01... | <1                                         | --                                                          | --                                                  | <1                                                                | 5                                                       | --                                                              | --                                           | <1                                                                   | 40                                                    | --                                                            | 20                                         |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| </ |  |  |  |  |  |  |  |  |  |  |  |
|----|--|--|--|--|--|--|--|--|--|--|--|

## SUSPENDED-SEDIMENT MEASUREMENTS, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SEDI-<br>MENT,<br>SUS-<br>PENDED<br>(MG/L) | SEDI-<br>MENT,<br>DIS-<br>CHARGE,<br>SUS-<br>PENDED<br>(T/DAY) | SED.<br>SUSP.<br>SIEVE<br>DIAM.<br>% FINER<br>THAN<br>.062 MM | DATE      | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SEDI-<br>MENT,<br>SUS-<br>PENDED<br>(MG/L) | SEDI-<br>MENT,<br>DIS-<br>CHARGE,<br>SUS-<br>PENDED<br>(T/DAY) | SED.<br>SUSP.<br>SIEVE<br>DIAM.<br>% FINER<br>THAN<br>.062 MM |
|-----------|------|-------------------------------------------------|--------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|-----------|------|-------------------------------------------------|--------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|
| NOV 20... | 1240 | 167                                             | 7                                          | 3.2                                                            | --                                                            | MAY 14... | 1245 | 426                                             | 15                                         | 17                                                             | 100                                                           |
| JAN 15... | 1300 | E120                                            | 3                                          | --                                                             | 55                                                            | JUL 09... | 1245 | 216                                             | 27                                         | 16                                                             | 100                                                           |
| MAR 10... | 1130 | 515                                             | 3                                          | 4.2                                                            | 88                                                            | SEP 01... | 1030 | 78                                              | 7                                          | 1.5                                                            | 100                                                           |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

## PHYTOPLANKTON

| DATE<br>TIME        | NOV 20,80<br>1240 | MAR 10,81<br>1130 | MAY 14,81<br>1245 | JUL 9,81<br>1245 | SEP 1,81<br>1030 |
|---------------------|-------------------|-------------------|-------------------|------------------|------------------|
| TOTAL CELLS/ML      | 310               | 370               | 520               | 930              | 380              |
| DIVERSITY: DIVISION | 0.9               | 0.4               | 1.4               | 1.2              | 1.5              |
| ..CLASS             | 0.9               | 0.4               | 1.4               | 1.2              | 1.5              |
| ..ORDER             | 1.5               | 0.7               | 1.7               | 1.6              | 1.7              |
| ...FAMILY           | 2.3               | 0.7               | 2.1               | 2.0              | 2.2              |
| ....GENUS           | 2.5               | 0.7               | 2.2               | 2.3              | 2.2              |

| ORGANISM                      | CELLS<br>/ML | PER-<br>CENT | CELLS<br>/ML | PER-<br>CENT | CELLS<br>/ML | PER-<br>CENT | CELLS<br>/ML | PER-<br>CENT | CELLS<br>/ML | PER-<br>CENT |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| CHLOROPHYTA (GREEN ALGAE)     |              |              |              |              |              |              |              |              |              |              |
| ..CHLOROPHYCEAE               |              |              |              |              |              |              |              |              |              |              |
| ...CHLOROCOCCALES             |              |              |              |              |              |              |              |              |              |              |
| ....OOCYSTACEAE               |              |              |              |              |              |              |              |              |              |              |
| .....ANKISTRODESMUS           | 120#         | 38           | --           | --           | 39           | 7            | 26           | 3            | --           | --           |
| .....GLOEOACTINIUM            | --           | --           | --           | --           | --           | --           | --           | --           | 58#          | 15           |
| .....OOCYSTIS                 | --           | --           | --           | --           | --           | --           | 250#         | 26           | --           | --           |
| .....SELENASTRUM              | 13           | 4            | --           | --           | --           | --           | --           | --           | --           | --           |
| .....TETRAEDRON               | --           | --           | --           | --           | 13           | 2            | --           | --           | --           | --           |
| ...SCENEDESMACEAE             |              |              |              |              |              |              |              |              |              |              |
| ....CRUCIGENIA                | --           | --           | --           | --           | --           | --           | 52           | 6            | --           | --           |
| ....SCENEDESMUS               | 52#          | 17           | 26           | 7            | 160#         | 30           | 78           | 8            | --           | --           |
| ..VOLVOCALES                  |              |              |              |              |              |              |              |              |              |              |
| ...CHLAMYDOMONADACEAE         |              |              |              |              |              |              |              |              |              |              |
| ....CHLAMYDOMONAS             | 65#          | 21           | --           | --           | 26           | 5            | 130          | 14           | --           | --           |
| CHRYSOPHYTA                   |              |              |              |              |              |              |              |              |              |              |
| ..BACILLARIOPHYCEAE           |              |              |              |              |              |              |              |              |              |              |
| ...CENTRALES                  |              |              |              |              |              |              |              |              |              |              |
| ...COSCINODISCAEAE            |              |              |              |              |              |              |              |              |              |              |
| ....CYCLOTELLA                | --           | --           | --           | --           | 13           | 2            | 13           | 1            | 29           | 8            |
| ....MELOSIRA                  | --           | --           | 26           | 7            | --           | --           | 26           | 3            | --           | --           |
| ..PENNALES                    |              |              |              |              |              |              |              |              |              |              |
| ...ACHNANTHACEAE              |              |              |              |              |              |              |              |              |              |              |
| ....COCONEIS                  | 13           | 4            | --           | --           | --           | --           | --           | --           | 58#          | 15           |
| ...DIATOMACEAE                |              |              |              |              |              |              |              |              |              |              |
| ....DIATOMA                   | --           | --           | --           | --           | --           | --           | --           | --           | 29           | 8            |
| ...FRAGILARIACEAE             |              |              |              |              |              |              |              |              |              |              |
| ....FRAGILARIA                | --           | --           | 320#         | 86           | --           | --           | --           | --           | --           | --           |
| ....SYNEDRA                   | --           | --           | --           | --           | 13           | 2            | --           | --           | --           | --           |
| ...NAVICULACEAE               |              |              |              |              |              |              |              |              |              |              |
| ....NAVICULA                  | 13           | 4            | --           | --           | 13           | 2            | --           | --           | 29           | 8            |
| ...NITZSCHIAEAE               |              |              |              |              |              |              |              |              |              |              |
| ....NITZSCHIA                 | 26           | 8            | --           | --           | 13           | 2            | --           | --           | --           | --           |
| CYANOPHYTA (BLUE-GREEN ALGAE) |              |              |              |              |              |              |              |              |              |              |
| ..CYANOPHYCEAE                |              |              |              |              |              |              |              |              |              |              |
| ...CHROOCOCCALES              |              |              |              |              |              |              |              |              |              |              |
| ....CHROOCOCCACEAE            |              |              |              |              |              |              |              |              |              |              |
| .....ANACYSTIS                | --           | --           | --           | --           | --           | --           | 360#         | 39           | --           | --           |
| ...HORMOGONALES               |              |              |              |              |              |              |              |              |              |              |
| ....OSCILLATORIACEAE          |              |              |              |              |              |              |              |              |              |              |
| .....OSCILLATORIA             | --           | --           | --           | --           | 230#         | 45           | --           | --           | 170#         | 46           |
| EUGLENOPHYTA (EUGLENOIDS)     |              |              |              |              |              |              |              |              |              |              |
| ..EUGLENOPHYCEAE              |              |              |              |              |              |              |              |              |              |              |
| ...EUGLENALES                 |              |              |              |              |              |              |              |              |              |              |
| ....EUGLENACEAE               |              |              |              |              |              |              |              |              |              |              |
| .....TRACHELOMONAS            | 13           | 4            | --           | --           | --           | --           | --           | --           | --           | --           |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%



## PAWCATUCK RIVER BASIN

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 247 | 237 | 242      | 162 | 159 | 161      | 120 | 116 | 118     | 153 | 143 | 147  |
| 2       | 249 | 227 | 239      | 162 | 156 | 161      | 121 | 116 | 118     | 149 | 144 | 146  |
| 3       | 225 | 154 | 201      | 164 | 158 | 162      | 121 | 116 | 118     | 148 | 143 | 144  |
| 4       | 173 | 162 | 169      | 166 | 160 | 164      | 124 | 119 | 121     | 148 | 141 | 145  |
| 5       | 205 | 175 | 191      | 166 | 153 | 158      | 133 | 124 | 129     | 156 | 140 | 148  |
| 6       | 215 | 205 | 210      | 152 | 142 | 147      | 134 | 132 | 133     | 143 | 132 | 139  |
| 7       | 234 | 215 | 222      | 158 | 143 | 148      | 139 | 134 | 136     | 139 | 126 | 130  |
| 8       | 235 | 212 | 222      | 165 | 150 | 160      | 139 | 136 | 138     | 126 | 123 | 124  |
| 9       | 211 | 180 | 196      | 166 | 159 | 163      | 135 | 127 | 130     | 143 | 126 | 135  |
| 10      | 179 | 156 | 165      | 167 | 160 | 163      | 126 | 123 | 124     | 147 | 142 | 145  |
| 11      | 162 | 150 | 155      | 168 | 163 | 166      | 130 | 123 | 126     | 153 | 147 | 151  |
| 12      | 190 | 164 | 180      | 164 | 156 | 160      | 132 | 131 | 131     | 167 | 153 | 159  |
| 13      | 201 | 190 | 196      | 156 | 148 | 152      | 135 | 131 | 133     | 169 | 166 | 168  |
| 14      | 213 | 200 | 204      | 149 | 137 | 143      | 138 | 135 | 136     | 165 | 157 | 163  |
| 15      | 221 | 208 | 216      | 143 | 132 | 137      | 138 | 135 | 137     | 156 | 146 | 151  |
| 16      | 206 | 174 | 187      | 137 | 131 | 133      | 143 | 131 | 135     | 147 | 144 | 145  |
| 17      | 173 | 143 | 155      | 151 | 138 | 144      | 131 | 125 | 127     | 150 | 147 | 149  |
| 18      | 142 | 116 | 134      | 160 | 153 | 157      | 139 | 132 | 137     | 156 | 150 | 153  |
| 19      | 147 | 128 | 135      | 158 | 143 | 150      | 142 | 139 | 140     | 158 | 150 | 155  |
| 20      | 178 | 148 | 167      | 144 | 141 | 143      | 151 | 142 | 146     | 149 | 145 | 146  |
| 21      | 184 | 179 | 181      | 148 | 144 | 146      | 161 | 151 | 155     | 152 | 146 | 149  |
| 22      | 179 | 168 | 174      | 148 | 145 | 146      | 158 | 154 | 157     | 151 | 149 | 150  |
| 23      | 169 | 158 | 164      | 150 | 147 | 148      | 164 | 145 | 151     | 152 | 149 | 150  |
| 24      | 158 | 141 | 149      | 156 | 150 | 153      | 145 | 134 | 140     | 154 | 151 | 153  |
| 25      | 149 | 129 | 140      | 156 | 146 | 151      | 150 | 133 | 139     | 167 | 154 | 160  |
| 26      | 176 | 147 | 161      | 145 | 138 | 141      | 165 | 151 | 161     | 171 | 166 | 169  |
| 27      | 200 | 175 | 182      | 139 | 138 | 139      | 163 | 161 | 162     | 168 | 163 | 166  |
| 28      | 173 | 147 | 158      | 138 | 133 | 136      | 160 | 147 | 154     | 162 | 141 | 153  |
| 29      | 148 | 135 | 141      | 135 | 128 | 132      | 148 | 137 | 141     | 140 | 135 | 136  |
| 30      | 166 | 143 | 153      | 127 | 118 | 122      | 140 | 133 | 138     | 149 | 136 | 144  |
| 31      | 168 | 147 | 161      | --- | --- | ---      | 146 | 132 | 138     | 161 | 137 | 150  |
| MONTH   | 249 | 116 | 179      | 168 | 118 | 150      | 165 | 116 | 137     | 171 | 123 | 149  |

| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN  | MAX | MIN | MEAN | MAX | MIN | MEAN |
|----------|-----|-----|-------|-----|-----|-------|-----|-----|------|-----|-----|------|
| FEBRUARY |     |     | MARCH |     |     | APRIL |     |     | MAY  |     |     |      |
| 1        | --- | --- | ---   | 90  | 88  | 89    | 106 | 101 | 103  | 93  | 91  | 92   |
| 2        | --- | --- | ---   | 91  | 88  | 89    | 108 | 105 | 107  | 93  | 91  | 92   |
| 3        | --- | --- | ---   | 92  | 89  | 91    | 110 | 107 | 108  | 94  | 92  | 93   |
| 4        | --- | --- | ---   | 95  | 92  | 94    | 107 | 105 | 106  | 92  | 88  | 90   |
| 5        | --- | --- | ---   | 96  | 94  | 95    | 105 | 96  | 101  | 88  | 86  | 87   |
| 6        | --- | --- | ---   | 96  | 94  | 95    | 99  | 93  | 95   | 92  | 86  | 89   |
| 7        | --- | --- | ---   | 96  | 94  | 95    | 95  | 81  | 88   | 96  | 92  | 94   |
| 8        | --- | --- | ---   | 96  | 95  | 96    | 99  | 93  | 97   | 98  | 96  | 96   |
| 9        | --- | --- | ---   | 95  | 93  | 95    | 99  | 96  | 97   | 99  | 97  | 98   |
| 10       | --- | --- | ---   | 95  | 91  | 93    | 97  | 95  | 96   | 100 | 98  | 99   |
| 11       | --- | --- | ---   | 97  | 93  | 95    | 97  | 95  | 96   | 100 | 95  | 97   |
| 12       | --- | --- | ---   | 100 | 97  | 98    | 99  | 95  | 96   | 94  | 88  | 90   |
| 13       | --- | --- | ---   | 101 | 99  | 100   | 97  | 91  | 94   | 94  | 88  | 91   |
| 14       | --- | --- | ---   | 102 | 100 | 101   | 93  | 87  | 90   | 98  | 93  | 95   |
| 15       | --- | --- | ---   | 103 | 101 | 102   | 92  | 84  | 89   | 98  | 96  | 97   |
| 16       | 111 | 105 | 107   | 104 | 99  | 101   | 95  | 77  | 86   | 99  | 96  | 97   |
| 17       | 106 | 94  | 102   | 98  | 96  | 97    | 94  | 92  | 93   | 101 | 95  | 98   |
| 18       | 105 | 101 | 102   | 102 | 97  | 100   | 93  | 92  | 93   | 95  | 90  | 92   |
| 19       | 111 | 104 | 108   | 105 | 102 | 104   | 91  | 90  | 90   | 90  | 86  | 88   |
| 20       | 111 | 109 | 110   | 108 | 105 | 106   | 90  | 87  | 88   | 95  | 88  | 91   |
| 21       | 119 | 104 | 111   | 107 | 105 | 106   | 87  | 86  | 86   | 98  | 94  | 95   |
| 22       | 103 | 83  | 90    | 107 | 106 | 106   | 92  | 86  | 89   | 100 | 97  | 98   |
| 23       | 87  | 83  | 84    | 106 | 102 | 104   | 94  | 92  | 93   | 103 | 99  | 101  |
| 24       | 93  | 85  | 89    | 102 | 98  | 100   | 95  | 93  | 94   | 105 | 102 | 103  |
| 25       | 84  | 78  | 80    | 102 | 98  | 100   | 96  | 93  | 94   | 104 | 96  | 100  |
| 26       | 80  | 78  | 79    | 108 | 103 | 105   | 95  | 91  | 94   | 96  | 91  | 94   |
| 27       | 85  | 81  | 83    | 108 | 106 | 107   | 91  | 86  | 89   | 92  | 90  | 91   |
| 28       | 89  | 85  | 87    | 108 | 106 | 107   | 88  | 85  | 86   | 97  | 90  | 93   |
| 29       | --- | --- | ---   | 108 | 106 | 107   | 90  | 87  | 88   | 110 | 98  | 105  |
| 30       | --- | --- | ---   | 107 | 103 | 105   | 92  | 90  | 91   | 118 | 110 | 114  |
| 31       | --- | --- | ---   | 103 | 99  | 101   | --- | --- | ---  | 119 | 115 | 118  |
| MONTH    | 119 | 78  | 95    | 108 | 88  | 99    | 110 | 77  | 94   | 119 | 86  | 96   |

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY        | MAX        | MIN      | MEAN       | MAX  | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|------------|------------|----------|------------|------|-----|------|--------|-----|------|-----------|-----|------|
|            | JUNE       |          |            | JULY |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1          | 115        | 106      | 111        | 100  | 96  | 98   | 151    | 142 | 147  | 201       | 192 | 198  |
| 2          | 106        | 96       | 101        | 99   | 96  | 98   | 152    | 149 | 150  | 201       | 188 | 194  |
| 3          | 102        | 96       | 97         | 99   | 96  | 98   | 152    | 150 | 150  | 189       | 166 | 177  |
| 4          | 114        | 103      | 110        | 100  | 97  | 98   | 152    | 143 | 147  | 166       | 146 | 154  |
| 5          | 120        | 114      | 117        | 98   | 97  | 98   | 145    | 131 | 137  | 156       | 144 | 147  |
| 6          | 119        | 115      | 118        | 98   | 95  | 97   | 134    | 123 | 127  | 192       | 158 | 177  |
| 7          | 121        | 115      | 117        | 97   | 95  | 95   | 136    | 124 | 128  | 209       | 195 | 205  |
| 8          | 122        | 117      | 120        | 99   | 96  | 97   | 155    | 130 | 146  | 218       | 210 | 215  |
| 9          | 116        | 107      | 112        | 103  | 96  | 100  | 165    | 152 | 159  | 219       | 212 | 215  |
| 10         | 110        | 104      | 106        | 106  | 101 | 104  | 169    | 162 | 165  | 211       | 185 | 196  |
| 11         | 122        | 111      | 116        | 108  | 104 | 106  | 169    | 162 | 165  | 185       | 161 | 172  |
| 12         | 128        | 122      | 125        | 110  | 107 | 108  | 164    | 148 | 154  | 160       | 151 | 155  |
| 13         | 133        | 128      | 130        | 110  | 108 | 109  | 147    | 131 | 137  | 200       | 153 | 174  |
| 14         | 138        | 132      | 134        | 112  | 110 | 111  | 131    | 121 | 125  | 249       | 195 | 222  |
| 15         | 139        | 136      | 137        | 110  | 107 | 108  | 127    | 120 | 123  | 255       | 237 | 248  |
| 16         | 134        | 119      | 127        | 108  | 106 | 107  | 145    | 125 | 135  | 250       | 241 | 246  |
| 17         | 118        | 110      | 113        | 116  | 107 | 112  | 168    | 139 | 158  | 241       | 200 | 217  |
| 18         | 122        | 110      | 116        | 130  | 113 | 122  | 185    | 167 | 180  | 246       | 183 | 202  |
| 19         | 132        | 124      | 128        | 141  | 125 | 134  | 182    | 153 | 167  | 253       | 229 | 239  |
| 20         | 132        | 124      | 128        | 149  | 137 | 142  | 159    | 132 | 139  | 229       | 200 | 211  |
| 21         | 143        | 128      | 136        | 148  | 133 | 142  | 144    | 133 | 139  | 201       | 188 | 193  |
| 22         | 137        | 120      | 129        | 140  | 122 | 134  | 154    | 143 | 150  | 190       | 187 | 189  |
| 23         | 121        | 107      | 113        | 155  | 130 | 146  | 172    | 153 | 164  | 190       | 178 | 184  |
| 24         | 108        | 106      | 107        | 156  | 149 | 153  | 178    | 166 | 172  | 178       | 164 | 170  |
| 25         | 108        | 102      | 105        | 152  | 146 | 148  | 180    | 175 | 178  | 164       | 151 | 156  |
| 26         | 109        | 101      | 105        | 151  | 146 | 149  | 181    | 174 | 177  | 174       | 152 | 160  |
| 27         | 119        | 108      | 114        | 151  | 148 | 149  | 175    | 147 | 160  | 190       | 176 | 183  |
| 28         | 118        | 107      | 113        | 149  | 135 | 141  | 151    | 137 | 143  | 190       | 186 | 188  |
| 29         | 110        | 101      | 105        | 134  | 123 | 129  | 168    | 140 | 153  | 188       | 186 | 187  |
| 30         | 104        | 99       | 101        | 128  | 123 | 125  | 189    | 161 | 175  | 188       | 182 | 186  |
| 31         | ---        | ---      | ---        | 143  | 128 | 136  | 198    | 176 | 188  | ---       | --- | ---  |
| MONTH YEAR | 143<br>255 | 96<br>77 | 116<br>133 | 156  | 95  | 119  | 198    | 120 | 153  | 255       | 144 | 192  |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 18.0    | 15.5 | 16.5 | 7.5      | 6.5 | 7.0  | 5.5      | 4.5 | 4.5  | .0      | .0  | .0   |
| 2     | 18.5    | 16.0 | 17.5 | 7.5      | 6.0 | 6.5  | 5.5      | 4.5 | 5.0  | .0      | .0  | .0   |
| 3     | 17.5    | 16.0 | 17.0 | 7.0      | 5.0 | 6.0  | 5.5      | 3.0 | 4.5  | .0      | .0  | .0   |
| 4     | 18.0    | 15.0 | 16.5 | 8.5      | 6.0 | 7.5  | 3.0      | 2.0 | 2.5  | .0      | .0  | .0   |
| 5     | 16.5    | 15.0 | 15.5 | 9.0      | 7.0 | 8.0  | 2.5      | 1.0 | 1.5  | .0      | .0  | .0   |
| 6     | 15.5    | 14.0 | 15.0 | 8.0      | 6.0 | 7.0  | 2.0      | .5  | 1.0  | .0      | .0  | .0   |
| 7     | 14.0    | 13.0 | 13.5 | 9.0      | 7.0 | 8.0  | 1.5      | .0  | 1.0  | .0      | .0  | .0   |
| 8     | 15.0    | 12.0 | 13.5 | 10.0     | 8.0 | 8.5  | 3.0      | 1.0 | 2.0  | .0      | .0  | .0   |
| 9     | 16.0    | 13.5 | 14.5 | 8.0      | 6.5 | 7.5  | 3.5      | 2.5 | 3.0  | .0      | .0  | .0   |
| 10    | 14.5    | 11.5 | 13.0 | 9.0      | 6.5 | 8.0  | 3.5      | 3.0 | 3.0  | .0      | .0  | .0   |
| 11    | 14.5    | 13.0 | 14.0 | 7.0      | 5.5 | 6.0  | 3.0      | 2.0 | 2.5  | .0      | .0  | .0   |
| 12    | 15.0    | 13.0 | 14.0 | 7.0      | 5.0 | 6.0  | 2.5      | 1.5 | 2.0  | .0      | .0  | .0   |
| 13    | 13.0    | 11.0 | 12.0 | 6.0      | 4.5 | 5.5  | 3.5      | 2.5 | 3.0  | .0      | .0  | .0   |
| 14    | 12.5    | 10.0 | 11.0 | 7.5      | 5.5 | 6.5  | 2.0      | .5  | 1.5  | .0      | .0  | .0   |
| 15    | 12.0    | 10.0 | 11.0 | 7.0      | 6.0 | 6.5  | 1.0      | .0  | .5   | .0      | .0  | .0   |
| 16    | 13.5    | 11.0 | 12.0 | 6.5      | 4.5 | 5.5  | 2.0      | 1.0 | 1.5  | .0      | .0  | .0   |
| 17    | 15.0    | 12.0 | 13.5 | 5.5      | 4.0 | 4.5  | 1.5      | .0  | 1.0  | .0      | .0  | .0   |
| 18    | 15.5    | 13.5 | 14.5 | 5.0      | 4.0 | 4.5  | .5       | .0  | .0   | .0      | .0  | .0   |
| 19    | 15.0    | 13.5 | 14.0 | 4.5      | 3.5 | 4.0  | 1.0      | .0  | .5   | .0      | .0  | .0   |
| 20    | 14.0    | 12.0 | 13.0 | 4.5      | 3.0 | 3.5  | .0       | .0  | .0   | .0      | .0  | .0   |
| 21    | 12.5    | 11.5 | 12.0 | 4.5      | 2.5 | 3.5  | .0       | .0  | .0   | .0      | .0  | .0   |
| 22    | 12.0    | 10.5 | 11.0 | 4.5      | 3.0 | 3.5  | .0       | .0  | .0   | .0      | .0  | .0   |
| 23    | 11.5    | 9.0  | 10.0 | 4.0      | 2.0 | 3.5  | .0       | .0  | .0   | .0      | .0  | .0   |
| 24    | 11.0    | 8.5  | 9.5  | 5.5      | 4.0 | 4.5  | .0       | .0  | .0   | .0      | .0  | .0   |
| 25    | 11.0    | 9.0  | 10.0 | 6.0      | 5.0 | 5.5  | .0       | .0  | .0   | .0      | .0  | .0   |
| 26    | 10.5    | 9.0  | 9.5  | 5.5      | 4.5 | 5.0  | .0       | .0  | .0   | .0      | .0  | .0   |
| 27    | 9.5     | 8.5  | 9.0  | 5.0      | 4.0 | 4.5  | .0       | .0  | .0   | .0      | .0  | .0   |
| 28    | 9.0     | 8.5  | 9.0  | 6.0      | 4.5 | 5.0  | .0       | .0  | .0   | .0      | .0  | .0   |
| 29    | 9.0     | 7.5  | 8.5  | 5.5      | 4.5 | 5.0  | .0       | .0  | .0   | .0      | .0  | .0   |
| 30    | 8.5     | 7.0  | 7.5  | 5.0      | 4.0 | 4.5  | .0       | .0  | .0   | .0      | .0  | .0   |
| 31    | 8.5     | 6.5  | 7.5  | ---      | --- | ---  | .0       | .0  | .0   | .0      | .0  | .0   |
| MONTH | 18.5    | 6.5  | 12.5 | 10.0     | 2.0 | 5.5  | 5.5      | .0  | 1.5  | .0      | .0  | .0   |

## PAWCATUCK RIVER BASIN

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY   | MAX      | MIN  | MEAN | MAX   | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
|-------|----------|------|------|-------|------|------|--------|------|------|-----------|------|------|
|       | FEBRUARY |      |      | MARCH |      |      | APRIL  |      |      | MAY       |      |      |
| 1     | ---      | ---  | ---  | 5.5   | 4.5  | 5.0  | 12.5   | 10.5 | 11.5 | 15.5      | 13.0 | 14.0 |
| 2     | ---      | ---  | ---  | 5.0   | 4.0  | 4.5  | 13.0   | 11.0 | 12.0 | 14.5      | 13.5 | 14.0 |
| 3     | ---      | ---  | ---  | 5.0   | 3.5  | 4.0  | 13.0   | 10.5 | 11.5 | 15.0      | 12.5 | 13.5 |
| 4     | ---      | ---  | ---  | 4.0   | 3.0  | 3.5  | 12.0   | 11.5 | 11.5 | 14.0      | 12.5 | 13.0 |
| 5     | ---      | ---  | ---  | 3.0   | 2.5  | 3.0  | 11.5   | 11.0 | 11.5 | 15.5      | 12.5 | 14.0 |
| 6     | ---      | ---  | ---  | 3.0   | 2.0  | 2.5  | 11.0   | 9.5  | 10.5 | 17.0      | 13.5 | 15.5 |
| 7     | ---      | ---  | ---  | 3.0   | 2.0  | 2.5  | 10.5   | 8.5  | 9.5  | 17.5      | 14.0 | 15.5 |
| 8     | ---      | ---  | ---  | 3.0   | 2.5  | 2.5  | 11.0   | 8.5  | 10.0 | 18.0      | 14.5 | 16.0 |
| 9     | ---      | ---  | ---  | 3.5   | 2.5  | 3.0  | 12.5   | 10.0 | 11.0 | 17.5      | 14.0 | 15.5 |
| 10    | ---      | ---  | ---  | 4.0   | 3.0  | 3.5  | 13.5   | 10.5 | 12.0 | 17.0      | 14.5 | 15.5 |
| 11    | .0       | .0   | .0   | 5.0   | 3.5  | 4.0  | 13.0   | 11.5 | 12.0 | 18.0      | 15.0 | 16.5 |
| 12    | .5       | .0   | .0   | 5.0   | 3.5  | 4.0  | 13.5   | 12.0 | 12.5 | 16.5      | 15.5 | 16.0 |
| 13    | .5       | .0   | .0   | 6.0   | 3.5  | 4.5  | 14.0   | 11.5 | 12.5 | 17.0      | 15.0 | 16.0 |
| 14    | .5       | .0   | .0   | 6.0   | 3.5  | 5.0  | 11.5   | 10.5 | 11.0 | 17.5      | 15.5 | 16.5 |
| 15    | 1.0      | .0   | .5   | 6.0   | 3.5  | 4.5  | 10.5   | 9.0  | 10.0 | 17.0      | 16.0 | 16.5 |
| 16    | 2.0      | .0   | 1.0  | 5.0   | 3.5  | 4.5  | 10.5   | 8.5  | 9.5  | 17.0      | 16.0 | 16.5 |
| 17    | 3.5      | .5   | 2.0  | 5.0   | 2.5  | 3.5  | 10.0   | 9.0  | 9.5  | 18.0      | 15.5 | 16.5 |
| 18    | 4.5      | 1.5  | 3.0  | 4.5   | 2.0  | 3.0  | 12.5   | 9.5  | 11.0 | 18.0      | 15.5 | 16.5 |
| 19    | 4.5      | 3.0  | 4.0  | 4.5   | 2.0  | 3.0  | 13.5   | 11.0 | 12.0 | 17.5      | 15.0 | 16.0 |
| 20    | 5.5      | 4.5  | 5.0  | 5.0   | 2.0  | 3.5  | 13.0   | 11.0 | 12.0 | 18.0      | 15.0 | 16.5 |
| 21    | 6.0      | 5.0  | 5.5  | 4.5   | 2.5  | 3.5  | 12.5   | 10.0 | 11.0 | 17.5      | 15.0 | 16.0 |
| 22    | 7.0      | 6.0  | 6.5  | 6.0   | 3.0  | 4.5  | 12.0   | 9.5  | 10.5 | 18.0      | 15.0 | 16.0 |
| 23    | 6.0      | 5.5  | 6.0  | 6.0   | 3.5  | 4.5  | 10.5   | 9.5  | 10.0 | 18.5      | 15.0 | 16.5 |
| 24    | 6.0      | 5.5  | 5.5  | 6.0   | 3.5  | 5.0  | 10.5   | 9.5  | 10.0 | 19.5      | 15.0 | 17.5 |
| 25    | 5.5      | 5.0  | 5.5  | 6.0   | 4.0  | 5.0  | 10.0   | 9.5  | 10.0 | 20.5      | 16.5 | 18.5 |
| 26    | 5.0      | 4.5  | 4.5  | 7.5   | 4.5  | 5.5  | 11.5   | 9.0  | 10.5 | 21.0      | 18.0 | 19.5 |
| 27    | 5.5      | 4.0  | 4.5  | 7.0   | 5.0  | 6.0  | 12.5   | 10.0 | 11.5 | 22.0      | 18.5 | 20.5 |
| 28    | 5.0      | 4.0  | 4.5  | 8.5   | 5.5  | 6.5  | 12.5   | 11.5 | 12.0 | 22.5      | 19.5 | 21.0 |
| 29    | ---      | ---  | ---  | 9.5   | 6.5  | 8.0  | 12.5   | 12.0 | 12.5 | 21.0      | 20.0 | 20.5 |
| 30    | ---      | ---  | ---  | 10.0  | 8.0  | 9.0  | 14.0   | 12.0 | 13.0 | 22.5      | 19.5 | 20.5 |
| 31    | ---      | ---  | ---  | 13.0  | 9.0  | 11.0 | ---    | ---  | ---  | 21.5      | 20.0 | 20.5 |
| MONTH | 7.0      | .0   | 3.0  | 13.0  | 2.0  | 4.5  | 14.0   | 8.5  | 11.0 | 22.5      | 12.5 | 16.5 |
| DAY   | MAX      | MIN  | MEAN | MAX   | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
|       | JUNE     |      |      | JULY  |      |      | AUGUST |      |      | SEPTEMBER |      |      |
| 1     | 22.5     | 19.0 | 20.5 | 24.5  | 21.0 | 22.5 | 26.5   | 22.5 | 24.0 | 22.5      | 20.5 | 21.5 |
| 2     | 20.0     | 19.0 | 19.5 | 25.5  | 22.0 | 23.5 | 26.5   | 22.5 | 24.5 | 22.0      | 20.0 | 21.0 |
| 3     | 19.0     | 18.0 | 18.5 | 25.0  | 23.0 | 24.0 | 26.5   | 23.0 | 24.5 | 22.0      | 20.0 | 21.0 |
| 4     | 21.0     | 18.0 | 19.5 | 24.5  | 23.5 | 24.0 | 27.5   | 24.0 | 25.5 | 22.5      | 20.0 | 21.0 |
| 5     | 22.5     | 18.5 | 20.5 | 24.0  | 23.0 | 23.5 | 25.5   | 23.5 | 24.5 | 22.0      | 19.0 | 20.5 |
| 6     | 23.0     | 19.5 | 21.0 | 26.0  | 23.0 | 24.5 | 26.5   | 22.5 | 24.5 | 23.0      | 19.0 | 21.0 |
| 7     | 23.0     | 20.0 | 21.5 | 27.0  | 23.5 | 25.0 | 27.0   | 22.5 | 24.5 | 21.5      | 19.0 | 20.5 |
| 8     | 23.0     | 20.0 | 21.5 | 28.0  | 24.5 | 26.0 | 24.0   | 23.0 | 23.5 | 22.5      | 19.5 | 21.0 |
| 9     | 22.5     | 20.5 | 21.5 | 28.5  | 25.5 | 27.0 | 26.5   | 23.0 | 24.5 | 22.5      | 20.0 | 21.0 |
| 10    | 22.5     | 20.0 | 21.0 | 29.0  | 26.0 | 27.5 | 27.5   | 24.0 | 25.5 | 22.0      | 18.0 | 20.0 |
| 11    | 23.5     | 19.5 | 21.5 | 29.0  | 25.5 | 27.0 | 26.5   | 24.0 | 25.0 | 23.0      | 19.5 | 21.0 |
| 12    | 23.5     | 19.5 | 21.5 | 28.5  | 25.5 | 27.0 | 25.0   | 24.0 | 24.5 | 24.0      | 20.0 | 22.0 |
| 13    | 23.5     | 20.5 | 22.0 | 27.5  | 26.0 | 26.5 | 26.5   | 23.0 | 24.5 | 24.0      | 20.0 | 22.0 |
| 14    | 21.5     | 20.5 | 21.0 | 27.5  | 24.5 | 26.0 | 26.5   | 23.0 | 24.5 | 24.0      | 20.0 | 22.0 |
| 15    | 22.0     | 20.0 | 21.0 | 27.5  | 23.5 | 25.0 | 25.0   | 23.5 | 24.0 | 22.5      | 21.0 | 21.5 |
| 16    | 22.5     | 20.5 | 21.0 | 27.5  | 23.5 | 25.0 | 26.0   | 23.0 | 24.0 | 21.0      | 19.5 | 20.0 |
| 17    | 23.5     | 20.5 | 22.0 | 27.0  | 23.5 | 25.0 | 25.0   | 21.5 | 23.0 | 20.5      | 18.5 | 19.5 |
| 18    | 24.0     | 20.0 | 22.0 | 28.0  | 24.0 | 25.5 | 25.0   | 21.0 | 22.5 | 19.5      | 19.0 | 19.0 |
| 19    | 24.5     | 21.0 | 22.5 | 28.0  | 24.0 | 26.0 | 24.5   | 20.5 | 22.5 | 19.0      | 17.5 | 18.5 |
| 20    | 22.5     | 21.0 | 21.5 | 25.5  | 24.0 | 25.0 | 24.5   | 20.5 | 22.0 | 19.5      | 17.0 | 18.0 |
| 21    | 23.0     | 21.0 | 22.0 | 26.5  | 23.5 | 25.0 | 24.5   | 20.0 | 22.0 | 19.0      | 16.0 | 17.5 |
| 22    | 21.5     | 21.0 | 21.5 | 27.0  | 24.5 | 25.5 | 22.5   | 20.5 | 21.5 | 19.5      | 16.5 | 18.0 |
| 23    | 23.0     | 20.5 | 21.5 | 26.5  | 23.5 | 25.0 | 23.5   | 20.5 | 21.5 | 18.5      | 16.0 | 17.5 |
| 24    | 23.5     | 20.0 | 21.5 | 25.5  | 23.0 | 24.0 | 23.0   | 20.0 | 21.5 | 16.5      | 15.0 | 15.5 |
| 25    | 21.5     | 20.5 | 21.0 | 26.0  | 23.0 | 24.0 | 22.0   | 19.5 | 20.5 | 18.5      | 14.5 | 16.5 |
| 26    | 22.0     | 20.5 | 21.0 | 25.0  | 22.5 | 24.0 | 22.0   | 17.5 | 20.0 | 18.0      | 15.5 | 17.0 |
| 27    | 22.0     | 20.0 | 21.0 | 27.0  | 23.5 | 25.0 | 23.0   | 19.0 | 21.0 | 19.5      | 16.5 | 18.0 |
| 28    | 23.0     | 20.0 | 21.5 | 26.0  | 22.5 | 24.0 | 24.5   | 20.5 | 22.0 | 18.5      | 16.0 | 17.5 |
| 29    | 24.0     | 20.0 | 22.0 | 26.5  | 23.5 | 24.5 | 24.0   | 19.5 | 21.5 | 17.0      | 14.5 | 15.5 |
| 30    | 23.5     | 20.5 | 22.0 | 25.5  | 22.5 | 24.0 | 22.5   | 20.5 | 21.5 | 15.5      | 13.0 | 14.5 |
| 31    | ---      | ---  | ---  | 26.5  | 22.0 | 24.0 | 22.5   | 20.0 | 21.0 | ---       | ---  | ---  |
| MONTH | 24.5     | 18.0 | 21.0 | 29.0  | 21.0 | 25.0 | 27.5   | 17.5 | 23.0 | 24.0      | 13.0 | 19.5 |
| YEAR  | 29.0     | .0   | 12.5 |       |      |      |        |      |      |           |      |      |

## 01123360 QUINEBAUG RIVER BELOW EAST BRIMFIELD DAM, AT FISKDALE, MA

LOCATION.--Lat 42°06'31", long 72°07'27", Worcester County, Hydrologic Unit 01100001, on right bank at Fiskdale, 750 ft (230 m) downstream from East Brimfield Dam, and 2.4 mi (3.9 km) upstream from Cedar Pond outlet.

DRAINAGE AREA.--67.5 mi<sup>2</sup> (174.8 km<sup>2</sup>).

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 613.51 ft (186.998 m) Corps of Engineers datum.

REMARKS.--Records good. Flow regulated by East Brimfield Lake (Reservoirs in Thames River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--9 years, 130 ft<sup>3</sup>/s (3.682 m<sup>3</sup>/s), 26.15 in/yr (664 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft<sup>3</sup>/s (29.5 m<sup>3</sup>/s) Jan. 30, 1976, gage height, 6.42 ft (1.957 m); maximum gage height, 6.52 ft (1.987 m) Mar. 17, 1977; minimum daily discharge, 5.0 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Aug. 17, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1886, 15,400 ft<sup>3</sup>/s (436 m<sup>3</sup>/s) Aug. 19, 1955, by slope-area measurement. Flood of Mar. 18, 1936, reached a discharge of 2,390 ft<sup>3</sup>/s (67.7 m<sup>3</sup>/s) and flood in September 1938, 7,000 ft<sup>3</sup>/s (198 m<sup>3</sup>/s), both by computation of flow over dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 778 ft<sup>3</sup>/s (22.0 m<sup>3</sup>/s) Mar. 3, gage height, 5.93 ft (1.807 m); minimum daily, 5.2 ft<sup>3</sup>/s (0.15 m<sup>3</sup>/s) Aug. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY               | OCT     | NOV  | DEC  | JAN       | FEB     | MAR     | APR        | MAY        | JUN       | JUL  | AUG   | SEP   |
|-------------------|---------|------|------|-----------|---------|---------|------------|------------|-----------|------|-------|-------|
| 1                 | 7.1     | 48   | 167  | 31        | 20      | 641     | 102        | 166        | 113       | 22   | 23    | 6.4   |
| 2                 | 6.8     | 41   | 145  | 31        | 38      | 651     | 147        | 162        | 105       | 22   | 20    | 6.8   |
| 3                 | 6.9     | 35   | 129  | 29        | 103     | 709     | 179        | 150        | 87        | 22   | 18    | 6.8   |
| 4                 | 13      | 32   | 104  | 28        | 117     | 717     | 191        | 138        | 81        | 24   | 17    | 6.8   |
| 5                 | 14      | 33   | 93   | 26        | 121     | 579     | 174        | 122        | 72        | 53   | 16    | 6.8   |
| 6                 | 14      | 32   | 77   | 24        | 96      | 354     | 179        | 114        | 64        | 98   | 17    | 6.4   |
| 7                 | 14      | 31   | 75   | 25        | 85      | 254     | 179        | 103        | 58        | 112  | 15    | 6.2   |
| 8                 | 12      | 31   | 75   | 25        | 76      | 193     | 174        | 93         | 53        | 99   | 13    | 6.1   |
| 9                 | 11      | 32   | 77   | 24        | 72      | 167     | 161        | 89         | 53        | 77   | 14    | 18    |
| 10                | 11      | 35   | 78   | 24        | 67      | 162     | 147        | 87         | 56        | 60   | 14    | 19    |
| 11                | 18      | 35   | 76   | 23        | 78      | 161     | 133        | 87         | 58        | 47   | 12    | 19    |
| 12                | 25      | 32   | 69   | 22        | 170     | 156     | 123        | 129        | 53        | 40   | 14    | 17    |
| 13                | 25      | 31   | 67   | 20        | 204     | 148     | 112        | 176        | 50        | 36   | 14    | 16    |
| 14                | 23      | 30   | 62   | 20        | 186     | 142     | 115        | 177        | 45        | 33   | 13    | 15    |
| 15                | 23      | 28   | 52   | 19        | 146     | 129     | 138        | 162        | 43        | 29   | 12    | 21    |
| 16                | 23      | 27   | 49   | 19        | 118     | 125     | 148        | 174        | 42        | 26   | 14    | 31    |
| 17                | 23      | 25   | 49   | 19        | 108     | 118     | 148        | 206        | 39        | 24   | 13    | 41    |
| 18                | 24      | 31   | 46   | 19        | 108     | 110     | 141        | 213        | 34        | 23   | 11    | 45    |
| 19                | 27      | 30   | 45   | 19        | 109     | 101     | 123        | 193        | 31        | 26   | 10    | 44    |
| 20                | 25      | 30   | 43   | 19        | 161     | 98      | 114        | 167        | 30        | 32   | 8.7   | 39    |
| 21                | 22      | 30   | 38   | 19        | 238     | 97      | 103        | 145        | 31        | 49   | 8.0   | 34    |
| 22                | 21      | 31   | 35   | 19        | 317     | 97      | 96         | 129        | 35        | 59   | 7.7   | 30    |
| 23                | 19      | 31   | 34   | 20        | 357     | 97      | 92         | 116        | 45        | 57   | 7.3   | 46    |
| 24                | 18      | 32   | 33   | 20        | 258     | 97      | 112        | 102        | 44        | 48   | 6.8   | 58    |
| 25                | 27      | 57   | 33   | 20        | 423     | 96      | 154        | 93         | 42        | 40   | 6.2   | 60    |
| 26                | 62      | 78   | 32   | 20        | 532     | 93      | 176        | 86         | 40        | 33   | 6.1   | 56    |
| 27                | 71      | 91   | 30   | 20        | 593     | 96      | 169        | 77         | 35        | 31   | 6.2   | 48    |
| 28                | 74      | 104  | 29   | 20        | 605     | 99      | 150        | 73         | 31        | 26   | 6.4   | 41    |
| 29                | 73      | 151  | 29   | 20        | ---     | 101     | 147        | 84         | 28        | 28   | 5.9   | 33    |
| 30                | 65      | 170  | 30   | 20        | ---     | 99      | 159        | 110        | 24        | 30   | 5.3   | 26    |
| 31                | 56      | ---  | 31   | 20        | ---     | 106     | ---        | 126        | ---       | 27   | 5.2   | ---   |
| TOTAL             | 853.8   | 1424 | 1932 | 684       | 5506    | 6793    | 4286       | 4049       | 1522      | 1333 | 359.8 | 809.3 |
| MEAN              | 27.5    | 47.5 | 62.3 | 22.1      | 197     | 219     | 143        | 131        | 50.7      | 43.0 | 11.6  | 27.0  |
| MAX               | 74      | 170  | 167  | 31        | 605     | 717     | 191        | 213        | 113       | 112  | 23    | 60    |
| MIN               | 6.8     | 25   | 29   | 19        | 20      | 93      | 92         | 73         | 24        | 22   | 5.2   | 6.1   |
| MEAN†             | 29.4    | 50.7 | 58.0 | 22.1      | 272     | 155     | 144        | 130        | 47.6      | 43.0 | 10.4  | 28.2  |
| CFSM†             | .44     | .75  | .86  | .33       | 4.03    | 2.30    | 2.13       | 1.93       | .71       | .64  | .15   | .42   |
| IN.†              | .50     | .84  | .99  | .38       | 4.19    | 2.64    | 2.37       | 2.22       | .79       | .73  | .18   | .47   |
| CAL YR 1980 TOTAL | 33318.0 |      |      | MEAN 91.0 | MAX 774 | MIN 6.8 |            |            |           |      |       |       |
| WTR YR 1981 TOTAL | 29551.9 |      |      | MEAN 81.0 | MAX 717 | MIN 5.2 | MEAN† 90.8 | CFSM† 1.35 | IN† 18.31 |      |       |       |
|                   |         |      |      |           |         |         | MEAN† 81.0 | CFSM† 1.20 | IN† 16.30 |      |       |       |

† Adjusted for change in contents in East Brimfield Lake.

## THAMES RIVER BASIN

01123600 QUINEBAUG RIVER BELOW WESTVILLE DAM, NEAR SOUTHBRIDGE, MA

LOCATION.--Lat 42°04'58", long 72°03'27", Worcester County, Hydrologic Unit 01100001, on right bank 200 ft (60 m) downstream from Westville Dam, 1.0 mi (1.6 km) upstream from McKinstry Brook, and 1.3 mi (2.1 km) west of Southbridge.

DRAINAGE AREA.--99.1 mi<sup>2</sup> (256.7 km<sup>2</sup>).

PERIOD OF RECORD.--October 1962 to current year.

REVISED RECORDS.--WDR MA-RI-75-1: 1963-64 (monthly runoff).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 511.33 ft (155.853 m) Corps of Engineers datum.

REMARKS.--Records good. Flow regulated by mills, by East Brimfield and Westville Lakes (Reservoirs in Thames River basin), and by other reservoirs upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--19 years, 166 ft<sup>3</sup>/s (4.701 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft<sup>3</sup>/s (52.4 m<sup>3</sup>/s) Mar. 23, 1980, gage height, 6.83 ft (2.082 m); minimum daily, 7.3 ft<sup>3</sup>/s (0.21 m<sup>3</sup>/s) Nov. 21, 28, 1964, July 30, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,520 ft<sup>3</sup>/s (43.0 m<sup>3</sup>/s) Mar. 1, gage height, 6.56 ft (1.999 m); minimum daily, 8.7 ft<sup>3</sup>/s (0.25 m<sup>3</sup>/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC      | JAN      | FEB     | MAR   | APR  | MAY  | JUN  | JUL  | AUG   | SEP    |
|-------------|-------|---------|----------|----------|---------|-------|------|------|------|------|-------|--------|
| 1           | 53    | 77      | 289      | 46       | 29      | 1270  | 139  | 214  | 166  | 34   | 32    | 9.0    |
| 2           | 45    | 67      | 244      | 45       | 111     | 997   | 256  | 212  | 161  | 35   | 29    | 9.3    |
| 3           | 41    | 56      | 198      | 41       | 180     | 1040  | 289  | 196  | 119  | 35   | 26    | 9.8    |
| 4           | 52    | 51      | 159      | 39       | 152     | 682   | 296  | 173  | 113  | 41   | 25    | 9.3    |
| 5           | 39    | 56      | 119      | 34       | 150     | 440   | 265  | 157  | 103  | 112  | 23    | 8.7    |
| 6           | 26    | 53      | 115      | 35       | 127     | 855   | 286  | 148  | 92   | 154  | 22    | 8.9    |
| 7           | 24    | 48      | 108      | 36       | 113     | 726   | 280  | 139  | 85   | 152  | 23    | 9.2    |
| 8           | 24    | 48      | 108      | 35       | 113     | 343   | 259  | 121  | 76   | 131  | 21    | 9.2    |
| 9           | 22    | 51      | 113      | 34       | 113     | 230   | 222  | 113  | 80   | 103  | 20    | 15     |
| 10          | 20    | 56      | 113      | 33       | 113     | 225   | 206  | 110  | 83   | 83   | 20    | 20     |
| 11          | 27    | 56      | 110      | 31       | 115     | 217   | 183  | 108  | 83   | 68   | 19    | 20     |
| 12          | 40    | 50      | 99       | 30       | 233     | 212   | 171  | 173  | 83   | 55   | 19    | 19     |
| 13          | 37    | 47      | 96       | 29       | 319     | 201   | 157  | 233  | 83   | 48   | 20    | 18     |
| 14          | 35    | 45      | 92       | 27       | 299     | 193   | 166  | 225  | 67   | 45   | 19    | 17     |
| 15          | 33    | 43      | 77       | 25       | 196     | 173   | 206  | 209  | 54   | 41   | 17    | 27     |
| 16          | 33    | 41      | 75       | 25       | 152     | 168   | 198  | 259  | 50   | 38   | 17    | 39     |
| 17          | 34    | 39      | 75       | 26       | 139     | 159   | 196  | 274  | 49   | 34   | 17    | 47     |
| 18          | 34    | 46      | 69       | 27       | 139     | 150   | 188  | 274  | 44   | 33   | 14    | 47     |
| 19          | 38    | 45      | 69       | 27       | 139     | 139   | 171  | 253  | 40   | 36   | 15    | 46     |
| 20          | 37    | 44      | 62       | 27       | 178     | 133   | 154  | 209  | 44   | 39   | 14    | 42     |
| 21          | 35    | 44      | 55       | 28       | 236     | 131   | 141  | 185  | 59   | 67   | 13    | 36     |
| 22          | 31    | 46      | 51       | 27       | 401     | 131   | 131  | 166  | 52   | 71   | 12    | 33     |
| 23          | 30    | 47      | 51       | 27       | 525     | 131   | 127  | 154  | 64   | 69   | 12    | 66     |
| 24          | 28    | 48      | 51       | 27       | 432     | 131   | 163  | 139  | 59   | 60   | 11    | 73     |
| 25          | 58    | 106     | 48       | 27       | 617     | 127   | 220  | 125  | 55   | 50   | 11    | 76     |
| 26          | 137   | 123     | 43       | 27       | 804     | 127   | 247  | 113  | 56   | 43   | 10    | 69     |
| 27          | 115   | 129     | 46       | 28       | 1070    | 129   | 220  | 108  | 49   | 39   | 10    | 60     |
| 28          | 117   | 159     | 43       | 29       | 1190    | 135   | 196  | 99   | 45   | 39   | 9.6   | 58     |
| 29          | 113   | 230     | 44       | 30       | ---     | 135   | 193  | 123  | 40   | 38   | 9.2   | 74     |
| 30          | 101   | 250     | 47       | 30       | ---     | 135   | 217  | 152  | 37   | 40   | 9.1   | 62     |
| 31          | 88    | ---     | 48       | 30       | ---     | 145   | ---  | 161  | ---  | 36   | 8.8   | ---    |
| TOTAL       | 1547  | 2201    | 2917     | 962      | 8385    | 10010 | 6143 | 5325 | 2191 | 1869 | 527.7 | 1037.4 |
| MEAN        | 49.9  | 73.4    | 94.1     | 31.0     | 299     | 323   | 205  | 172  | 73.0 | 60.3 | 17.0  | 34.6   |
| MAX         | 137   | 250     | 289      | 46       | 1190    | 1270  | 296  | 274  | 166  | 154  | 32    | 76     |
| MIN         | 20    | 39      | 43       | 25       | 29      | 127   | 127  | 99   | 37   | 33   | 8.8   | 8.7    |
| CAL YR 1980 | TOTAL | 50639.0 | MEAN 138 | MAX 1190 | MIN 17  |       |      |      |      |      |       |        |
| WTR YR 1981 | TOTAL | 43115.1 | MEAN 118 | MAX 1270 | MIN 8.7 |       |      |      |      |      |       |        |



01123990 QUINEBAUG RIVER NEAR DUDLEY, MA

LOCATION.--Lat 42°01'40", long 71°57'22", Worcester County, Hydrologic Unit 01100001, on right bank, 50 ft (15 m) upstream from bridge on State Highway 131, 0.2 mi (0.3 km) upstream from Massachusetts-Connecticut State line, 0.4 mi (0.6 km) upstream from gaging station at Quinebaug, CT, and 2.0 mi (3.2 km) southwest of Dudley, MA.

DRAINAGE AREA.--156 mi<sup>2</sup> (404 km<sup>2</sup>), at gage at Quinebaug, CT.

PERIOD OF RECORD.--October 1968 to December 1980 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Water years 1969 to December 1980 (discontinued).

pH: October 1968 to December 1980 (discontinued).

WATER TEMPERATURES: October 1968 to December 1980 (discontinued).

DISSOLVED OXYGEN: October 1968 to December 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor October 1968 to December 1980.

REMARKS.--Prior to October 1971, published as "at Quinebaug, Conn." No winter records in water years 1973-80. Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 393 micromhos Sept. 24, 1970; minimum recorded, 52 micromhos Mar. 7, 1979.

pH: Maximum recorded, 9.0 units July 13, 16, 1971; minimum recorded, 4.4 units Oct. 26, 1978.

WATER TEMPERATURES: Maximum recorded, 34.0°C Aug. 2, 1975; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum recorded, 19.6 mg/L Feb. 12, 1972; minimum recorded, 0.4 mg/L Aug. 28, 1970, Aug. 3, 1974.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 182 micromhos Oct. 12; minimum recorded, 89 micromhos Dec. 3.

pH: Maximum recorded, 7.0 units Nov. 23; minimum recorded, 6.0 units Oct. 4, 5.

WATER TEMPERATURES: Maximum recorded, 20.0°C Oct. 2; minimum recorded, 0.0°C Dec. 4, 5, 6, 7.

DISSOLVED OXYGEN: Maximum recorded, 13.4 mg/L Nov. 19, 23; minimum recorded, 6.7 mg/L Oct. 19.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 150     | 142 | 146  | 124      | 120 | 122  | 97       | 94  | 96   |         |     |      |
| 2     | 148     | 142 | 145  | 124      | 119 | 121  | 96       | 93  | 94   |         |     |      |
| 3     | 151     | 140 | 147  | 123      | 120 | 121  | 94       | 89  | 92   |         |     |      |
| 4     | 147     | 117 | 133  | 129      | 121 | 126  | 96       | 91  | 93   |         |     |      |
| 5     | 136     | 116 | 123  | 129      | 109 | 126  | ---      | --- | ---  |         |     |      |
| 6     | 146     | 137 | 141  | 131      | 126 | 128  | 104      | 97  | 101  |         |     |      |
| 7     | 151     | 143 | 146  | 133      | 127 | 130  | 105      | 102 | 103  |         |     |      |
| 8     | 155     | 149 | 151  | 132      | 128 | 130  | 106      | 102 | 104  |         |     |      |
| 9     | 158     | 153 | 155  | 132      | 126 | 129  | 107      | 102 | 104  |         |     |      |
| 10    | 159     | 153 | 156  | 127      | 122 | 125  | 107      | 101 | 104  |         |     |      |
| 11    | 165     | 147 | 156  | 128      | 125 | 127  | 105      | 103 | 104  |         |     |      |
| 12    | 182     | 165 | 175  | 128      | 126 | 127  | ---      | --- | ---  |         |     |      |
| 13    | 167     | 156 | 161  | 129      | 125 | 127  | ---      | --- | ---  |         |     |      |
| 14    | 160     | 156 | 158  | 126      | 123 | 124  | ---      | --- | ---  |         |     |      |
| 15    | 160     | 157 | 158  | 126      | 122 | 124  | ---      | --- | ---  |         |     |      |
| 16    | 160     | 153 | 156  | 125      | 120 | 122  | ---      | --- | ---  |         |     |      |
| 17    | 157     | 148 | 153  | 129      | 123 | 126  | ---      | --- | ---  |         |     |      |
| 18    | 157     | 149 | 153  | 131      | 122 | 126  | ---      | --- | ---  |         |     |      |
| 19    | 157     | 149 | 152  | 136      | 125 | 131  | ---      | --- | ---  |         |     |      |
| 20    | 148     | 139 | 144  | 138      | 136 | 137  | ---      | --- | ---  |         |     |      |
| 21    | 152     | 144 | 147  | 138      | 134 | 136  | ---      | --- | ---  |         |     |      |
| 22    | 155     | 151 | 152  | 138      | 133 | 135  | ---      | --- | ---  |         |     |      |
| 23    | 156     | 151 | 154  | 138      | 134 | 136  | ---      | --- | ---  |         |     |      |
| 24    | 156     | 151 | 154  | 138      | 132 | 136  | ---      | --- | ---  |         |     |      |
| 25    | 157     | 115 | 150  | 133      | 116 | 127  | ---      | --- | ---  |         |     |      |
| 26    | 129     | 104 | 120  | 132      | 117 | 123  | ---      | --- | ---  |         |     |      |
| 27    | 131     | 127 | 129  | 117      | 110 | 113  | ---      | --- | ---  |         |     |      |
| 28    | 131     | 126 | 128  | 112      | 91  | 103  | ---      | --- | ---  |         |     |      |
| 29    | 124     | 120 | 122  | 101      | 93  | 98   | ---      | --- | ---  |         |     |      |
| 30    | 122     | 119 | 120  | 98       | 95  | 96   | ---      | --- | ---  |         |     |      |
| 31    | 123     | 119 | 121  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 182     | 104 | 145  | 138      | 91  | 124  | 107      | 89  | 100  |         |     |      |

## THAMES RIVER BASIN

01123990 QUINEBAUG RIVER NEAR DUDLEY, MA--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 6.5     | 6.3 | 6.4  | 6.4      | 6.3 | 6.3  | 6.3      | 6.1 | 6.2  |         |     |      |
| 2     | 6.7     | 6.2 | 6.5  | 6.5      | 6.3 | 6.4  | 6.2      | 6.1 | 6.2  |         |     |      |
| 3     | 6.6     | 6.1 | 6.3  | 6.5      | 6.3 | 6.4  | 6.2      | 6.1 | 6.2  |         |     |      |
| 4     | 6.3     | 6.0 | 6.2  | 6.5      | 6.3 | 6.3  | 6.2      | 6.2 | 6.2  |         |     |      |
| 5     | 6.4     | 6.0 | 6.2  | 6.5      | 6.3 | 6.4  | 6.5      | 6.2 | 6.4  |         |     |      |
| 6     | 6.6     | 6.1 | 6.2  | 6.5      | 6.2 | 6.3  | 6.4      | 6.1 | 6.3  |         |     |      |
| 7     | 6.6     | 6.1 | 6.3  | 6.5      | 6.2 | 6.3  | 6.3      | 6.2 | 6.2  |         |     |      |
| 8     | 6.7     | 6.2 | 6.3  | 6.6      | 6.2 | 6.3  | 6.3      | 6.2 | 6.2  |         |     |      |
| 9     | 6.7     | 6.1 | 6.3  | 6.5      | 6.2 | 6.3  | 6.3      | 6.2 | 6.3  |         |     |      |
| 10    | 6.7     | 6.2 | 6.4  | 6.5      | 6.2 | 6.3  | 6.4      | 6.2 | 6.2  |         |     |      |
| 11    | 6.3     | 6.1 | 6.2  | 6.6      | 6.3 | 6.4  | 6.4      | 6.2 | 6.3  |         |     |      |
| 12    | 6.5     | 6.1 | 6.3  | 6.6      | 6.3 | 6.5  | ---      | --- | ---  |         |     |      |
| 13    | 6.4     | 6.1 | 6.2  | 6.7      | 6.3 | 6.5  | ---      | --- | ---  |         |     |      |
| 14    | 6.6     | 6.2 | 6.3  | 6.7      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 15    | 6.7     | 6.2 | 6.4  | 6.8      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 16    | 6.8     | 6.2 | 6.4  | 6.8      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 17    | 6.8     | 6.1 | 6.4  | 6.9      | 6.3 | 6.5  | ---      | --- | ---  |         |     |      |
| 18    | 6.3     | 6.1 | 6.2  | 6.7      | 6.4 | 6.5  | ---      | --- | ---  |         |     |      |
| 19    | 6.6     | 6.1 | 6.3  | 6.7      | 6.4 | 6.5  | ---      | --- | ---  |         |     |      |
| 20    | 6.6     | 6.1 | 6.2  | 6.8      | 6.3 | 6.5  | ---      | --- | ---  |         |     |      |
| 21    | 6.5     | 6.1 | 6.2  | 6.9      | 6.3 | 6.5  | ---      | --- | ---  |         |     |      |
| 22    | 6.6     | 6.1 | 6.3  | 6.9      | 6.3 | 6.5  | ---      | --- | ---  |         |     |      |
| 23    | 6.6     | 6.1 | 6.3  | 7.0      | 6.3 | 6.5  | ---      | --- | ---  |         |     |      |
| 24    | 6.6     | 6.2 | 6.3  | 6.8      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 25    | 6.4     | 6.1 | 6.2  | 6.5      | 6.3 | 6.3  | ---      | --- | ---  |         |     |      |
| 26    | 6.3     | 6.1 | 6.2  | 6.4      | 6.3 | 6.3  | ---      | --- | ---  |         |     |      |
| 27    | 6.3     | 6.1 | 6.2  | 6.4      | 6.3 | 6.3  | ---      | --- | ---  |         |     |      |
| 28    | 6.2     | 6.1 | 6.1  | 6.3      | 6.1 | 6.3  | ---      | --- | ---  |         |     |      |
| 29    | 6.2     | 6.1 | 6.2  | 6.2      | 6.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 30    | 6.3     | 6.2 | 6.2  | 6.2      | 6.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 31    | 6.6     | 6.2 | 6.3  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 6.8     | 6.0 | 6.3  | 7.0      | 6.1 | 6.4  | 6.5      | 6.1 | 6.3  |         |     |      |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 19.0    | 15.0 | 16.5 | 8.0      | 6.0 | 7.0  | 4.5      | 2.5 | 3.5  |         |     |      |
| 2     | 20.0    | 16.5 | 18.5 | 7.5      | 5.0 | 6.0  | 5.0      | 3.0 | 4.0  |         |     |      |
| 3     | 18.5    | 17.0 | 18.0 | 6.5      | 4.0 | 5.0  | 5.0      | 1.5 | 3.5  |         |     |      |
| 4     | 18.5    | 16.0 | 17.5 | 8.5      | 5.0 | 7.0  | 1.5      | .0  | .5   |         |     |      |
| 5     | 17.5    | 14.5 | 16.0 | 10.0     | 7.0 | 8.5  | 2.5      | .0  | 1.0  |         |     |      |
| 6     | 16.5    | 13.5 | 15.0 | 9.0      | 6.5 | 7.5  | 2.5      | .0  | 1.0  |         |     |      |
| 7     | 15.5    | 13.0 | 14.0 | 9.5      | 7.0 | 8.0  | 1.5      | .0  | .5   |         |     |      |
| 8     | 16.0    | 12.0 | 14.0 | 11.0     | 7.5 | 9.0  | 4.0      | 1.5 | 2.0  |         |     |      |
| 9     | 16.5    | 12.5 | 14.0 | 8.5      | 7.0 | 7.5  | 4.0      | 3.0 | 3.5  |         |     |      |
| 10    | 15.0    | 10.5 | 12.5 | 8.0      | 5.0 | 6.5  | 3.5      | 3.5 | 3.5  |         |     |      |
| 11    | 14.0    | 12.5 | 13.5 | 5.5      | 4.0 | 4.5  | 3.5      | 1.5 | 2.0  |         |     |      |
| 12    | 16.0    | 13.0 | 14.5 | 5.5      | 3.5 | 4.0  | ---      | --- | ---  |         |     |      |
| 13    | 14.0    | 10.5 | 12.5 | 5.0      | 3.5 | 4.0  | ---      | --- | ---  |         |     |      |
| 14    | 12.5    | 9.5  | 10.5 | 7.0      | 4.0 | 5.5  | ---      | --- | ---  |         |     |      |
| 15    | 12.5    | 9.0  | 10.5 | 7.5      | 5.5 | 6.5  | ---      | --- | ---  |         |     |      |
| 16    | 15.0    | 10.5 | 12.5 | 6.5      | 3.5 | 5.0  | ---      | --- | ---  |         |     |      |
| 17    | 17.0    | 13.0 | 14.5 | 5.0      | 2.5 | 3.5  | ---      | --- | ---  |         |     |      |
| 18    | 16.5    | 14.5 | 16.0 | 4.5      | 2.0 | 3.0  | ---      | --- | ---  |         |     |      |
| 19    | 17.5    | 15.0 | 16.0 | 3.5      | 1.5 | 2.0  | ---      | --- | ---  |         |     |      |
| 20    | 15.5    | 12.5 | 14.0 | 4.0      | 1.5 | 2.0  | ---      | --- | ---  |         |     |      |
| 21    | 13.5    | 11.5 | 12.0 | 5.0      | 1.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 22    | 13.0    | 9.5  | 11.0 | 5.0      | 2.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 23    | 11.5    | 8.0  | 9.5  | 4.0      | 2.0 | 3.0  | ---      | --- | ---  |         |     |      |
| 24    | 11.0    | 7.0  | 9.0  | 4.5      | 3.0 | 3.5  | ---      | --- | ---  |         |     |      |
| 25    | 10.5    | 7.5  | 9.0  | 5.5      | 4.5 | 5.0  | ---      | --- | ---  |         |     |      |
| 26    | 9.5     | 8.5  | 9.0  | 4.0      | 3.0 | 3.5  | ---      | --- | ---  |         |     |      |
| 27    | 8.5     | 7.5  | 8.0  | 2.5      | 1.5 | 2.0  | ---      | --- | ---  |         |     |      |
| 28    | 8.5     | 7.5  | 8.0  | 4.5      | 2.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 29    | 7.5     | 6.5  | 7.0  | 4.5      | 3.0 | 4.0  | ---      | --- | ---  |         |     |      |
| 30    | 7.0     | 6.0  | 6.5  | 3.5      | 2.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 31    | 8.0     | 5.5  | 6.5  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 20.0    | 5.5  | 12.5 | 11.0     | 1.5 | 5.0  | 5.0      | .0  | 2.5  |         |     |      |

## THAMES RIVER BASIN

139

01123990 QUINEBAUG RIVER NEAR DUDLEY, MA--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN  | MEAN | MAX      | MIN  | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|------|------|----------|------|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |      |      | DECEMBER |      |      | JANUARY |     |      |
| 1     | 9.6     | 8.3  | 8.8  | 10.9     | 10.2 | 10.5 | 12.3     | 11.7 | 12.0 |         |     |      |
| 2     | 9.5     | 7.7  | 8.7  | 11.2     | 10.4 | 10.8 | 12.3     | 11.5 | 11.9 |         |     |      |
| 3     | 9.1     | 7.5  | 8.2  | 11.6     | 10.7 | 11.1 | 12.2     | 11.1 | 11.6 |         |     |      |
| 4     | 8.9     | 7.6  | 8.3  | 11.2     | 10.0 | 10.6 | 12.8     | 12.2 | 12.5 |         |     |      |
| 5     | 9.8     | 8.1  | 8.8  | 10.6     | 9.8  | 10.1 | ---      | ---  | ---  |         |     |      |
| 6     | 10.2    | 8.4  | 9.1  | 11.2     | 10.1 | 10.5 | 13.1     | 12.0 | 12.6 |         |     |      |
| 7     | 10.5    | 8.6  | 9.3  | 11.3     | 10.0 | 10.5 | 13.0     | 12.4 | 12.7 |         |     |      |
| 8     | 10.7    | 8.2  | 9.4  | 11.0     | 9.8  | 10.2 | 12.7     | 11.7 | 12.3 |         |     |      |
| 9     | 10.7    | 8.1  | 9.1  | 11.4     | 10.0 | 10.6 | 12.1     | 9.7  | 11.6 |         |     |      |
| 10    | 11.3    | 8.3  | 9.5  | 11.5     | 10.4 | 10.8 | 12.2     | 11.5 | 11.7 |         |     |      |
| 11    | 9.4     | 8.1  | 8.6  | 12.1     | 10.8 | 11.4 | 12.6     | 11.4 | 11.9 |         |     |      |
| 12    | 10.2    | 8.3  | 9.0  | 12.4     | 11.3 | 11.7 | ---      | ---  | ---  |         |     |      |
| 13    | 10.8    | 8.5  | 9.4  | 12.6     | 11.4 | 11.8 | ---      | ---  | ---  |         |     |      |
| 14    | 11.2    | 9.2  | 10.1 | 12.3     | 10.8 | 11.5 | ---      | ---  | ---  |         |     |      |
| 15    | 11.6    | 8.0  | 10.2 | 12.3     | 10.6 | 11.3 | ---      | ---  | ---  |         |     |      |
| 16    | 11.6    | 8.5  | 9.9  | 12.6     | 10.8 | 11.5 | ---      | ---  | ---  |         |     |      |
| 17    | 11.1    | 7.9  | 9.2  | 13.2     | 11.4 | 12.1 | ---      | ---  | ---  |         |     |      |
| 18    | 9.3     | 7.3  | 8.0  | 12.8     | 11.5 | 12.0 | ---      | ---  | ---  |         |     |      |
| 19    | 10.1    | 6.7  | 8.3  | 13.4     | 11.8 | 12.4 | ---      | ---  | ---  |         |     |      |
| 20    | 10.2    | 7.7  | 8.8  | 13.0     | 11.5 | 12.3 | ---      | ---  | ---  |         |     |      |
| 21    | 10.6    | 8.3  | 9.2  | 13.1     | 11.4 | 12.0 | ---      | ---  | ---  |         |     |      |
| 22    | 11.1    | 8.8  | 9.7  | 13.1     | 11.4 | 12.1 | ---      | ---  | ---  |         |     |      |
| 23    | 11.7    | 9.0  | 10.2 | 13.4     | 11.6 | 12.2 | ---      | ---  | ---  |         |     |      |
| 24    | 11.9    | 9.4  | 10.4 | 13.1     | 11.3 | 11.8 | ---      | ---  | ---  |         |     |      |
| 25    | 10.7    | 9.2  | 9.8  | 11.6     | 8.4  | 11.1 | ---      | ---  | ---  |         |     |      |
| 26    | 10.9    | 9.2  | 10.5 | 12.4     | 11.3 | 11.9 | ---      | ---  | ---  |         |     |      |
| 27    | 11.5    | 10.2 | 11.0 | 12.7     | 11.6 | 12.2 | ---      | ---  | ---  |         |     |      |
| 28    | 11.2    | 10.6 | 10.9 | 12.2     | 10.4 | 11.7 | ---      | ---  | ---  |         |     |      |
| 29    | 11.6    | 10.9 | 11.2 | 11.9     | 10.3 | 11.6 | ---      | ---  | ---  |         |     |      |
| 30    | 11.7    | 11.0 | 11.4 | 12.3     | 11.8 | 12.0 | ---      | ---  | ---  |         |     |      |
| 31    | 11.1    | 10.3 | 11.0 | ---      | ---  | ---  | ---      | ---  | ---  |         |     |      |
| MONTH | 11.9    | 6.7  | 9.6  | 13.4     | 8.4  | 11.4 | 13.1     | 9.7  | 12.1 |         |     |      |

## THAMES RIVER BASIN

## 01124000 QUINEBAUG RIVER AT QUINEBAUG, CT

LOCATION.--Lat 42°01'20", long 71°57'22", Windham County, Hydrologic Unit 01100001, on right bank at Quinebaug, 500 ft (152 m) upstream from bridge on State Highway 197, 0.2 mi (0.3 km) downstream from Massachusetts-Connecticut State line, 7.8 mi (12.6 km) upstream from French River, and at mile 46 (74 km).

DRAINAGE AREA.--156 mi<sup>2</sup> (404 km<sup>2</sup>).

PERIOD OF RECORD.--September 1931 to current year.

REVISED RECORDS.--WSP 851: 1936(M). WSP 1201: 1939-43, 1949. WSP 1381: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 341.52 ft (104.095 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by East Brimfield and Westville Lakes (Reservoirs in Thames River basin), and by smaller reservoirs upstream.

AVERAGE DISCHARGE.--50 years, 268 ft<sup>3</sup>/s (7.590 m<sup>3</sup>/s), 23.34 in/yr (593 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,300 ft<sup>3</sup>/s (1,400 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 18.96 ft (5.779 m), from floodmarks, from rating curve extended above 5,100 ft<sup>3</sup>/s (144 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; minimum, about 1 ft<sup>3</sup>/s (about 0.03 m<sup>3</sup>/s) Sept. 9, 1943, July 12, 1949, Sept. 17, 18, 1950, July 9, 1951, Sept. 4 and Oct. 29, 1956; minimum gage height, 1.74 ft (0.530 m) Aug. 20, 1940; minimum daily discharge, about 1 ft<sup>3</sup>/s (about 0.03 m<sup>3</sup>/s) Sept. 4, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,740 ft<sup>3</sup>/s (49.3 m<sup>3</sup>/s) Feb. 26, 27, gage height, 5.13 ft (1.564 m); minimum, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Aug. 31, Sept. 1, gage height, 1.95 ft (0.594 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR       | APR        | MAY       | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|-----------|------------|-----------|------|------|------|------|
| 1           | 59    | 103   | 425      | 66       | 45     | 1530      | 213        | 357       | 209  | 46   | 41   | 14   |
| 2           | 49    | 92    | 380      | 65       | 244    | 1230      | 474        | 366       | 189  | 51   | 36   | 15   |
| 3           | 57    | 80    | 339      | 63       | 357    | 1150      | 441        | 325       | 170  | 65   | 33   | 15   |
| 4           | 106   | 74    | 273      | 62       | 282    | 933       | 400        | 286       | 158  | 49   | 30   | 15   |
| 5           | 54    | 78    | 224      | 62       | 240    | 611       | 371        | 256       | 143  | 244  | 36   | 14   |
| 6           | 36    | 74    | 202      | 63       | 220    | 940       | 441        | 236       | 126  | 325  | 33   | 13   |
| 7           | 33    | 67    | 176      | 67       | 179    | 905       | 410        | 217       | 111  | 256  | 30   | 13   |
| 8           | 31    | 71    | 176      | 70       | 158    | 543       | 371        | 196       | 95   | 199  | 27   | 14   |
| 9           | 29    | 78    | 186      | 72       | 155    | 400       | 339        | 182       | 111  | 154  | 27   | 29   |
| 10          | 26    | 90    | 196      | 70       | 133    | 380       | 315        | 176       | 108  | 117  | 27   | 26   |
| 11          | 49    | 92    | 182      | 67       | 196    | 361       | 282        | 179       | 103  | 90   | 26   | 26   |
| 12          | 58    | 85    | 158      | 66       | 425    | 339       | 264        | 315       | 92   | 71   | 27   | 25   |
| 13          | 51    | 76    | 154      | 64       | 415    | 325       | 240        | 395       | 87   | 63   | 25   | 23   |
| 14          | 47    | 69    | 147      | 62       | 385    | 305       | 273        | 357       | 78   | 58   | 24   | 26   |
| 15          | 44    | 65    | 140      | 60       | 277    | 277       | 352        | 339       | 78   | 51   | 23   | 60   |
| 16          | 44    | 58    | 117      | 58       | 224    | 269       | 320        | 474       | 69   | 46   | 24   | 69   |
| 17          | 44    | 54    | 125      | 57       | 217    | 252       | 305        | 485       | 65   | 41   | 22   | 74   |
| 18          | 49    | 71    | 115      | 56       | 224    | 228       | 286        | 447       | 60   | 42   | 20   | 67   |
| 19          | 54    | 76    | 110      | 55       | 228    | 217       | 256        | 400       | 52   | 46   | 19   | 67   |
| 20          | 51    | 71    | 105      | 54       | 526    | 209       | 236        | 339       | 83   | 62   | 17   | 62   |
| 21          | 46    | 69    | 100      | 53       | 891    | 206       | 220        | 286       | 111  | 98   | 17   | 52   |
| 22          | 42    | 71    | 95       | 51       | 800    | 202       | 199        | 256       | 100  | 95   | 15   | 60   |
| 23          | 41    | 74    | 90       | 50       | 800    | 199       | 196        | 228       | 114  | 83   | 15   | 176  |
| 24          | 37    | 78    | 85       | 49       | 1180   | 196       | 300        | 206       | 92   | 69   | 15   | 147  |
| 25          | 117   | 264   | 82       | 47       | 1520   | 192       | 395        | 182       | 87   | 60   | 19   | 136  |
| 26          | 248   | 248   | 80       | 46       | 1640   | 189       | 395        | 166       | 87   | 51   | 16   | 111  |
| 27          | 189   | 224   | 77       | 45       | 1650   | 199       | 357        | 151       | 74   | 49   | 15   | 92   |
| 28          | 182   | 357   | 73       | 45       | 1590   | 206       | 315        | 136       | 63   | 42   | 15   | 83   |
| 29          | 170   | 543   | 71       | 45       | ---    | 199       | 330        | 224       | 56   | 56   | 14   | 106  |
| 30          | 143   | 452   | 70       | 45       | ---    | 202       | 371        | 260       | 49   | 54   | 13   | 90   |
| 31          | 120   | ---   | 68       | 45       | ---    | 228       | ---        | 240       | ---  | 47   | 13   | ---  |
| TOTAL       | 2306  | 3904  | 4821     | 1780     | 15201  | 13622     | 9667       | 8662      | 3020 | 2780 | 714  | 1720 |
| MEAN        | 74.4  | 130   | 156      | 57.4     | 543    | 439       | 322        | 279       | 101  | 89.7 | 23.0 | 57.3 |
| MAX         | 248   | 543   | 425      | 72       | 1650   | 1530      | 474        | 485       | 209  | 325  | 41   | 176  |
| MIN         | 26    | 54    | 68       | 45       | 45     | 189       | 196        | 136       | 49   | 41   | 13   | 13   |
| MEAN†       | 76.3  | 133   | 152      | 57.4     | 652    | 344       | 323        | 278       | 97.4 | 89.7 | 21.7 | 58.8 |
| CFSM†       | .49   | .85   | .97      | .37      | 4.18   | 2.21      | 2.07       | 1.78      | .62  | .58  | .14  | .38  |
| IN.†        | .56   | .95   | 1.12     | .43      | 4.35   | 2.55      | 2.31       | 2.05      | .69  | .67  | .16  | .42  |
| CAL YR 1980 | TOTAL | 75661 | MEAN 207 | MAX 1740 | MIN 15 | MEAN† 207 | CFSM† 1.33 | IN† 18.02 |      |      |      |      |
| WTR YR 1981 | TOTAL | 68197 | MEAN 187 | MAX 1650 | MIN 13 | MEAN† 187 | CFSM† 1.20 | IN† 16.26 |      |      |      |      |

† Adjusted for change in contents in East Brimfield and Westville Lakes.

## 01124350 FRENCH RIVER BELOW HODGES VILLAGE DAM, AT HODGES VILLAGE, MA

LOCATION.--Lat 42°07'06", long 71°52'54", Worcester County, Hydrologic Unit 01100001, on right bank at Hodges Village, 240 ft (73 m) downstream from Hodges Village Dam, 0.8 mi (1.3 km) west of Oxford, and 1.2 mi (1.9 km) upstream from Little River.

DRAINAGE AREA.--31.0 mi<sup>2</sup> (80.3 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: March 1962 to current year.  
Water-quality records: Water year 1962.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 466.98 ft (142.336 m) Corps of Engineers datum.

REMARKS.--Records good. Flow regulated by Hodges Village Reservoir (Reservoirs in Thames River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--19 years, 53.8 ft<sup>3</sup>/s (1.524 m<sup>3</sup>/s), 23.57 in/yr (599 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 628 ft<sup>3</sup>/s (17.8 m<sup>3</sup>/s) Jan. 28, 1978, gage height, 3.47 ft (1.058 m); no flow for part of July 17, 1968 (caused by unusual regulation); minimum daily discharge, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Sept. 14, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 490 ft<sup>3</sup>/s (13.9 m<sup>3</sup>/s) Mar. 1, gage height, 3.19 ft (0.972 m); minimum, 2.0 ft<sup>3</sup>/s (0.057 m<sup>3</sup>/s) Oct. 1; minimum daily, 3.8 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY               | OCT     | NOV  | DEC  | JAN       | FEB     | MAR     | APR        | MAY        | JUN       | JUL    | AUG   | SEP    |
|-------------------|---------|------|------|-----------|---------|---------|------------|------------|-----------|--------|-------|--------|
| 1                 | 4.0     | 39   | 133  | 24        | 6.2     | 438     | 37         | 68         | 41        | 11     | 43    | 4.0    |
| 2                 | 11      | 33   | 105  | 22        | 25      | 383     | 64         | 81         | 33        | 9.8    | 32    | 4.3    |
| 3                 | 14      | 31   | 70   | 18        | 78      | 238     | 98         | 96         | 28        | 9.8    | 25    | 4.6    |
| 4                 | 35      | 29   | 53   | 15        | 69      | 124     | 93         | 82         | 26        | 12     | 21    | 4.6    |
| 5                 | 30      | 30   | 40   | 11        | 37      | 89      | 77         | 66         | 26        | 42     | 18    | 4.6    |
| 6                 | 20      | 30   | 33   | 9.5       | 21      | 69      | 75         | 55         | 24        | 110    | 22    | 4.6    |
| 7                 | 16      | 28   | 26   | 9.1       | 18      | 68      | 85         | 48         | 22        | 115    | 19    | 4.1    |
| 8                 | 15      | 28   | 24   | 8.7       | 20      | 68      | 78         | 43         | 19        | 84     | 15    | 3.8    |
| 9                 | 14      | 29   | 25   | 8.3       | 23      | 65      | 66         | 37         | 17        | 61     | 15    | 5.4    |
| 10                | 13      | 33   | 30   | 8.1       | 18      | 61      | 60         | 33         | 20        | 45     | 16    | 18     |
| 11                | 16      | 32   | 38   | 6.8       | 22      | 57      | 55         | 32         | 20        | 33     | 16    | 24     |
| 12                | 31      | 28   | 48   | 6.4       | 74      | 54      | 49         | 48         | 16        | 24     | 15    | 24     |
| 13                | 24      | 28   | 48   | 5.5       | 91      | 51      | 43         | 101        | 15        | 19     | 14    | 32     |
| 14                | 18      | 26   | 48   | 5.6       | 68      | 48      | 38         | 113        | 16        | 19     | 13    | 31     |
| 15                | 15      | 25   | 43   | 5.6       | 44      | 45      | 56         | 93         | 16        | 23     | 12    | 38     |
| 16                | 15      | 24   | 44   | 5.8       | 33      | 43      | 61         | 93         | 13        | 21     | 12    | 59     |
| 17                | 14      | 23   | 43   | 5.8       | 32      | 39      | 52         | 114        | 12        | 17     | 11    | 80     |
| 18                | 14      | 24   | 37   | 6.1       | 35      | 37      | 46         | 119        | 12        | 14     | 11    | 79     |
| 19                | 20      | 18   | 41   | 6.1       | 37      | 32      | 42         | 102        | 11        | 28     | 10    | 71     |
| 20                | 22      | 12   | 33   | 6.1       | 50      | 31      | 37         | 81         | 13        | 50     | 9.2   | 66     |
| 21                | 19      | 10   | 33   | 6.1       | 106     | 31      | 34         | 64         | 19        | 63     | 8.4   | 61     |
| 22                | 16      | 10   | 31   | 6.1       | 198     | 31      | 32         | 53         | 22        | 85     | 7.6   | 59     |
| 23                | 15      | 10   | 33   | 6.1       | 205     | 31      | 28         | 46         | 24        | 82     | 7.0   | 78     |
| 24                | 15      | 11   | 33   | 6.1       | 138     | 30      | 37         | 40         | 25        | 62     | 6.5   | 90     |
| 25                | 22      | 44   | 29   | 5.9       | 271     | 30      | 60         | 34         | 23        | 44     | 7.0   | 84     |
| 26                | 68      | 62   | 25   | 5.8       | 251     | 30      | 72         | 29         | 19        | 33     | 6.0   | 74     |
| 27                | 71      | 51   | 28   | 6.0       | 260     | 31      | 71         | 26         | 17        | 27     | 5.3   | 65     |
| 28                | 44      | 52   | 28   | 6.4       | 367     | 35      | 60         | 23         | 15        | 25     | 4.6   | 58     |
| 29                | 41      | 76   | 27   | 6.4       | ---     | 35      | 56         | 27         | 13        | 25     | 4.1   | 56     |
| 30                | 42      | 91   | 28   | 6.4       | ---     | 32      | 64         | 51         | 12        | 42     | 3.9   | 47     |
| 31                | 53      | ---  | 26   | 6.3       | ---     | 35      | ---        | 51         | ---       | 48     | 3.9   | ---    |
| TOTAL             | 767.0   | 967  | 1283 | 261.1     | 2597.2  | 2391    | 1726       | 1949       | 589       | 1283.6 | 413.5 | 1234.0 |
| MEAN              | 24.7    | 32.2 | 41.4 | 8.42      | 92.8    | 77.1    | 57.5       | 62.9       | 19.6      | 41.4   | 13.3  | 41.1   |
| MAX               | 71      | 91   | 133  | 24        | 367     | 438     | 98         | 119        | 41        | 115    | 43    | 90     |
| MIN               | 4.0     | 10   | 24   | 5.5       | 6.2     | 30      | 28         | 23         | 11        | 9.8    | 3.9   | 3.8    |
| MEAN†             | 25.5    | 35.1 | 38.0 | 8.35      | 113     | 58.8    | 57.9       | 64.3       | 17.5      | 41.8   | 13.0  | 41.5   |
| CFSM†             | .82     | 1.13 | 1.23 | .27       | 3.65    | 1.90    | 1.87       | 2.07       | .56       | 1.35   | .42   | 1.34   |
| IN†               | .95     | 1.26 | 1.41 | .31       | 3.81    | 2.19    | 2.09       | 2.39       | .63       | 1.55   | .48   | 1.49   |
| CAL YR 1980 TOTAL | 15398.9 |      |      | MEAN 42.1 | MAX 361 | MIN 1.4 |            |            |           |        |       |        |
| WTR YR 1981 TOTAL | 15461.4 |      |      | MEAN 42.4 | MAX 438 | MIN 3.8 |            |            |           |        |       |        |
|                   |         |      |      |           |         |         | MEAN† 42.1 | CFSM† 1.36 | IN† 18.47 |        |       |        |
|                   |         |      |      |           |         |         | MEAN† 42.4 | CFSM† 1.37 | IN† 18.57 |        |       |        |

† Adjusted for change in contents in Hodges Village Reservoir.



## THAMES RIVER BASIN

01124500 LITTLE RIVER NEAR OXFORD, MA

LOCATION.--Lat 42°06'57", long 71°53'26", Worcester County, Hydrologic Unit 01100001, on left bank 0.6 mi (1.0 km) upstream from mouth, 1.1 mi (1.8 km) downstream from Buffumville Dam, and 1.5 mi (2.4 km) west of Oxford.

DRAINAGE AREA.--27.7 mi<sup>2</sup> (71.7 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1939 to current year. Prior to October 1977, published as "at Buffumville." Water-quality records: Water year 1973.

REVISED RECORDS.--WSP 1201: 1940, 1948.

GAGE.--Water-stage recorder. Datum of gage is 457.00 ft (139.294 m) National Geodetic Vertical Datum of 1929, (levels by Corps of Engineers).

REMARKS.--Records good except those for period of no gage-height record, Sept. 6-30, which are poor. Flow regulated by Buffumville Lake since 1958 (Reservoirs in Thames River basin) and by other reservoirs upstream. Prior to 1958, flow regulated by mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 47.7 ft<sup>3</sup>/s (1.351 m<sup>3</sup>/s), 23.38 in/yr (594 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,340 ft<sup>3</sup>/s (236 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 15.53 ft (4.734 m), from rating curve extended above 1,200 ft<sup>3</sup>/s (34 m<sup>3</sup>/s) on basis of computation of peak flow over dam; minimum, 0.1 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Sept. 25, 26, 1957. Maximum discharge since construction of Buffumville Dam in 1958, 429 ft<sup>3</sup>/s (12.1 m<sup>3</sup>/s) Apr. 7, 1959, gage height, 5.04 ft (1.536 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 311 ft<sup>3</sup>/s (8.81 m<sup>3</sup>/s) Mar. 1, gage height, 4.58 ft (1.396 m); minimum, 2.9 ft<sup>3</sup>/s (0.082 m<sup>3</sup>/s) Aug. 29-31, Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY               | OCT      | NOV  | DEC    | JAN       | FEB     | MAR     | APR        | MAY        | JUN       | JUL   | AUG   | SEP   |
|-------------------|----------|------|--------|-----------|---------|---------|------------|------------|-----------|-------|-------|-------|
| 1                 | 3.2      | 19   | 89     | 14        | 8.0     | 299     | 35         | 59         | 41        | 14    | 12    | 3.1   |
| 2                 | 3.1      | 17   | 122    | 14        | 20      | 296     | 56         | 65         | 35        | 12    | 11    | 3.2   |
| 3                 | 3.2      | 15   | 112    | 14        | 50      | 273     | 84         | 71         | 31        | 9.9   | 10    | 3.3   |
| 4                 | 4.1      | 14   | 76     | 13        | 45      | 215     | 87         | 66         | 29        | 11    | 9.3   | 3.2   |
| 5                 | 3.3      | 14   | 53     | 12        | 30      | 139     | 76         | 57         | 29        | 26    | 9.3   | 3.1   |
| 6                 | 3.6      | 13   | 39     | 12        | 20      | 103     | 75         | 50         | 28        | 74    | 10    | 3.1   |
| 7                 | 3.8      | 12   | 34     | 12        | 17      | 86      | 76         | 45         | 25        | 114   | 9.5   | 3.0   |
| 8                 | 4.1      | 13   | 33     | 12        | 18      | 79      | 70         | 40         | 22        | 93    | 8.6   | 3.0   |
| 9                 | 4.5      | 16   | 32     | 12        | 20      | 74      | 61         | 36         | 20        | 62    | 8.4   | 4.3   |
| 10                | 4.8      | 18   | 34     | 11        | 18      | 68      | 54         | 34         | 20        | 42    | 7.8   | 5.5   |
| 11                | 6.7      | 18   | 34     | 11        | 21      | 63      | 49         | 32         | 19        | 31    | 7.1   | 5.2   |
| 12                | 8.2      | 18   | 31     | 10        | 45      | 59      | 44         | 48         | 17        | 24    | 7.0   | 4.8   |
| 13                | 8.6      | 16   | 30     | 9.9       | 60      | 55      | 40         | 88         | 17        | 20    | 6.8   | 4.5   |
| 14                | 8.3      | 14   | 28     | 9.5       | 50      | 52      | 40         | 101        | 17        | 17    | 6.1   | 5.0   |
| 15                | 8.3      | 12   | 26     | 9.0       | 42      | 48      | 49         | 89         | 13        | 14    | 5.6   | 10    |
| 16                | 8.1      | 11   | 25     | 8.9       | 37      | 44      | 53         | 91         | 8.3       | 12    | 5.8   | 20    |
| 17                | 7.9      | 10   | 24     | 9.0       | 35      | 42      | 51         | 97         | 13        | 10    | 5.1   | 29    |
| 18                | 8.6      | 13   | 22     | 9.0       | 36      | 39      | 48         | 93         | 13        | 9.2   | 4.8   | 37    |
| 19                | 9.4      | 14   | 22     | 9.0       | 36      | 36      | 44         | 80         | 12        | 9.3   | 4.6   | 40    |
| 20                | 9.0      | 14   | 21     | 8.8       | 53      | 34      | 40         | 65         | 13        | 9.9   | 4.3   | 43    |
| 21                | 8.7      | 13   | 19     | 8.8       | 117     | 33      | 37         | 53         | 15        | 14    | 4.0   | 43    |
| 22                | 8.4      | 13   | 18     | 8.6       | 154     | 33      | 33         | 45         | 17        | 18    | 3.9   | 42    |
| 23                | 7.9      | 13   | 17     | 8.4       | 185     | 33      | 32         | 39         | 19        | 20    | 3.7   | 55    |
| 24                | 7.4      | 14   | 17     | 8.4       | 149     | 32      | 39         | 35         | 21        | 20    | 3.7   | 62    |
| 25                | 11       | 30   | 16     | 8.4       | 201     | 32      | 54         | 32         | 21        | 17    | 4.0   | 60    |
| 26                | 18       | 47   | 16     | 8.4       | 222     | 32      | 66         | 29         | 22        | 15    | 3.6   | 55    |
| 27                | 22       | 45   | 16     | 8.4       | 189     | 32      | 65         | 26         | 21        | 13    | 3.4   | 50    |
| 28                | 25       | 50   | 16     | 8.3       | 254     | 34      | 56         | 24         | 19        | 12    | 3.0   | 46    |
| 29                | 26       | 53   | 16     | 8.2       | ---     | 34      | 52         | 27         | 17        | 13    | 2.9   | 43    |
| 30                | 25       | 53   | 9.8    | 8.2       | ---     | 36      | 56         | 37         | 15        | 13    | 2.9   | 40    |
| 31                | 22       | ---  | 11     | 8.0       | ---     | 35      | ---        | 43         | ---       | 13    | 3.0   | ---   |
| TOTAL             | 302.2    | 622  | 1058.8 | 312.2     | 2132.0  | 2470    | 1622       | 1697       | 609.3     | 782.3 | 191.2 | 729.3 |
| MEAN              | 9.75     | 20.7 | 34.2   | 10.1      | 76.1    | 79.7    | 54.1       | 54.7       | 20.3      | 25.2  | 6.17  | 24.3  |
| MAX               | 26       | 53   | 122    | 14        | 254     | 299     | 87         | 101        | 41        | 114   | 12    | 62    |
| MIN               | 3.1      | 10   | 9.8    | 8.0       | 8.0     | 32      | 32         | 24         | 8.3       | 9.2   | 2.9   | 3.0   |
| MEAN†             | 12.3     | 27.2 | 27.6   | 9.40      | 104     | 56.2    | 54.7       | 54.5       | 18.3      | 25.2  | 4.56  | 27.0  |
| CFSM†             | .44      | .98  | 1.00   | .34       | 3.75    | 2.03    | 1.97       | 1.97       | .66       | .91   | .16   | .97   |
| IN†               | .51      | 1.09 | 1.15   | .39       | 3.91    | 2.34    | 2.21       | 2.27       | .74       | 1.05  | .19   | 1.09  |
| CAL YR 1980 TOTAL | 13851.10 |      |        | MEAN 37.8 | MAX 276 | MIN .40 |            |            |           |       |       |       |
| WTR YR 1981 TOTAL | 12528.30 |      |        | MEAN 34.3 | MAX 299 | MIN 2.9 |            |            |           |       |       |       |
|                   |          |      |        |           |         |         | MEAN† 37.7 | CFSM† 1.36 | IN† 18.55 |       |       |       |
|                   |          |      |        |           |         |         | MEAN† 34.5 | CFSM† 1.25 | IN† 16.93 |       |       |       |

† Adjusted for change in contents in Buffumville Lake.

## 01125000 FRENCH RIVER AT WEBSTER, MA

LOCATION.--Lat 42°03'03", long 71°53'08", Worcester County, Hydrologic Unit 01100001, on right bank in Dudley, 50 ft (15 m) upstream from Pleasant Street Bridge at Webster, and 1.1 mi (1.8 km) upstream from Potash Brook.

DRAINAGE AREA.--85.3 mi<sup>2</sup> (220.9 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: December 1948 to September 1981 (discontinued).  
Water-quality records: Water years 1955, 1962.

REVISED RECORDS.--WSP 1721: 1959 (adjusted monthly and yearly figures only). WSP 2101: 1960.

GAGE.--Water-stage recorder. Datum of gage is 406.74 ft (123.974 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by mills, by Lake Chaubunagungamaug, estimated usable capacity, 207,000,000 ft<sup>3</sup> (5,860,000 m<sup>3</sup>), by Buffumville Lake and Hodges Village Reservoir (Reservoirs in Thames River basin), and by smaller reservoirs upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--32 years (water years 1950-81), 157 ft<sup>3</sup>/s (4.446 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,400 ft<sup>3</sup>/s (408 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 26.05 ft (7.940 m), from floodmarks, from rating curve extended above 2,400 ft<sup>3</sup>/s (68 m<sup>3</sup>/s) on basis of computation of peak flow over dam; minimum daily, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Aug. 15, 1965. Maximum discharge since construction of Buffumville Dam in 1958, 1,020 ft<sup>3</sup>/s (28.9 m<sup>3</sup>/s) Apr. 2, 1960, gage height, 7.56 ft (2.304 m); maximum gage height, 8.54 ft (2.603 m) Jan. 25, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 19, 1936, reached a discharge of 4,700 ft<sup>3</sup>/s (133 m<sup>3</sup>/s), by computation of flow over dam about 0.5 mi (0.8 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 800 ft<sup>3</sup>/s (22.7 m<sup>3</sup>/s) Mar. 1, gage height, 7.81 ft (2.380 m); minimum daily, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) Aug. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 1           | 17    | 93    | 212  | 62   | 25   | 775  | 103  | 178  | 130  | 37   | 61   | 16   |
| 2           | 17    | 71    | 291  | 60   | 58   | 773  | 166  | 182  | 113  | 33   | 53   | 17   |
| 3           | 22    | 60    | 261  | 54   | 138  | 675  | 204  | 186  | 98   | 35   | 46   | 18   |
| 4           | 32    | 59    | 198  | 53   | 156  | 510  | 223  | 191  | 93   | 49   | 41   | 19   |
| 5           | 35    | 62    | 146  | 46   | 117  | 390  | 211  | 172  | 85   | 96   | 45   | 19   |
| 6           | 37    | 59    | 109  | 37   | 107  | 336  | 206  | 149  | 85   | 145  | 50   | 17   |
| 7           | 36    | 55    | 85   | 37   | 56   | 320  | 192  | 130  | 74   | 260  | 44   | 16   |
| 8           | 36    | 57    | 81   | 36   | 66   | 300  | 189  | 116  | 65   | 239  | 39   | 16   |
| 9           | 36    | 68    | 99   | 35   | 66   | 275  | 198  | 102  | 73   | 194  | 37   | 26   |
| 10          | 35    | 73    | 110  | 34   | 54   | 255  | 173  | 91   | 68   | 132  | 35   | 24   |
| 11          | 41    | 71    | 116  | 34   | 80   | 227  | 151  | 85   | 62   | 96   | 36   | 34   |
| 12          | 38    | 66    | 121  | 33   | 161  | 205  | 140  | 148  | 51   | 64   | 36   | 42   |
| 13          | 41    | 63    | 124  | 324  | 196  | 201  | 127  | 217  | 46   | 50   | 34   | 46   |
| 14          | 42    | 58    | 121  | 31   | 178  | 195  | 122  | 258  | 43   | 46   | 32   | 58   |
| 15          | 41    | 54    | 116  | 30   | 129  | 184  | 132  | 264  | 46   | 43   | 30   | 68   |
| 16          | 40    | 52    | 117  | 30   | 114  | 181  | 141  | 282  | 35   | 42   | 31   | 84   |
| 17          | 39    | 49    | 116  | 29   | 116  | 174  | 141  | 276  | 36   | 38   | 29   | 110  |
| 18          | 41    | 57    | 105  | 29   | 110  | 165  | 134  | 274  | 34   | 35   | 27   | 129  |
| 19          | 41    | 52    | 110  | 28   | 105  | 155  | 125  | 260  | 32   | 36   | 25   | 137  |
| 20          | 45    | 44    | 96   | 28   | 123  | 147  | 114  | 214  | 45   | 62   | 23   | 136  |
| 21          | 46    | 41    | 92   | 28   | 283  | 143  | 105  | 183  | 53   | 93   | 22   | 131  |
| 22          | 44    | 40    | 87   | 27   | 371  | 140  | 94   | 158  | 58   | 104  | 21   | 131  |
| 23          | 41    | 39    | 87   | 26   | 467  | 138  | 89   | 141  | 62   | 118  | 20   | 178  |
| 24          | 40    | 43    | 81   | 26   | 474  | 127  | 95   | 126  | 63   | 107  | 19   | 191  |
| 25          | 61    | 113   | 85   | 25   | 551  | 90   | 129  | 112  | 59   | 82   | 21   | 189  |
| 26          | 118   | 171   | 73   | 25   | 738  | 85   | 172  | 99   | 55   | 60   | 20   | 169  |
| 27          | 131   | 156   | 69   | 25   | 582  | 93   | 164  | 87   | 49   | 52   | 19   | 146  |
| 28          | 119   | 179   | 70   | 25   | 667  | 97   | 168  | 79   | 44   | 45   | 19   | 133  |
| 29          | 91    | 207   | 74   | 25   | ---  | 97   | 157  | 96   | 43   | 55   | 18   | 120  |
| 30          | 89    | 205   | 74   | 25   | ---  | 98   | 166  | 127  | 41   | 53   | 16   | 106  |
| 31          | 89    | ---   | 60   | 25   | ---  | 105  | ---  | 140  | ---  | 63   | 15   | ---  |
| TOTAL       | 1581  | 2417  | 3586 | 1040 | 6288 | 7656 | 4531 | 5123 | 1841 | 2564 | 964  | 2526 |
| MEAN        | 51.0  | 80.6  | 116  | 33.5 | 225  | 247  | 151  | 165  | 61.4 | 82.7 | 31.1 | 84.2 |
| MAX         | 131   | 207   | 291  | 62   | 738  | 775  | 223  | 282  | 130  | 260  | 61   | 191  |
| MIN         | 17    | 39    | 60   | 25   | 25   | 85   | 89   | 79   | 32   | 33   | 15   | 16   |
| CAL YR 1980 | TOTAL | 43347 | MEAN | 118  | MAX  | 770  | MIN  | 16   |      |      |      |      |
| WTR YR 1981 | TOTAL | 40117 | MEAN | 110  | MAX  | 775  | MIN  | 15   |      |      |      |      |

## THAMES RIVER BASIN

## RESERVOIRS IN THAMES RIVER BASIN

- 01123350 EAST BRIMFIELD LAKE.--Lat 42°06'32", long 72°07'35", Worcester County, Hydrologic Unit 01100001, on Quinebaug River, 0.7 mi (1.1 km) southwest of Fiskdale, MA, 1.2 mi (1.9 km) east of East Brimfield. DRAINAGE AREA, 67.5 mi<sup>2</sup> (174.8 km<sup>2</sup>). PERIOD OF RECORD, July 1960 to current year. Completed in 1960 by Corps of Engineers for storage of water for recreation, conservation, and flood control. Usable capacity, 1,400,000,000 ft<sup>3</sup> (39,600,000 m<sup>3</sup>), including 83,000,000 ft<sup>3</sup> (2,350,000 m<sup>3</sup>) storage in recreation and conservation pool. Records furnished by Corps of Engineers.
- 01123550 WESTVILLE LAKE.--Lat 42°04'55", long 72°03'28", Worcester County, Hydrologic Unit 01100001, on Quinebaug River, 1.3 mi (2.1 km) west of Southbridge, MA. DRAINAGE AREA, 99.1 mi<sup>2</sup> (256.7 km<sup>2</sup>). PERIOD OF RECORD, February 1962 to current year. Completed in 1962 by Corps of Engineers for storage of water for recreation and flood control. Usable capacity, 484,000,000 ft<sup>3</sup> (13,700,000 m<sup>3</sup>), including 4,400,000 ft<sup>3</sup> (125,000 m<sup>3</sup>) storage in recreation pool. Records furnished by Corps of Engineers.
- 01124300 HODGES VILLAGE RESERVOIR.--Lat 42°07'09", long 71°52'51", Worcester County, Hydrologic Unit 01100001, on French River at Hodges Village, MA. DRAINAGE AREA, 31.0 mi<sup>2</sup> (80.3 km<sup>2</sup>). PERIOD OF RECORD, February 1960 to current year. Completed in 1960 by Corps of Engineers for storage of water for flood control. Usable capacity, 577,000,000 ft<sup>3</sup> (16,300,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
- 01124400 BUFFUMVILLE LAKE.--Lat 42°06'58", long 71°54'29", Worcester County, Hydrologic Unit 01100001, on Little River at Charlton, MA, 2.2 mi (3.5 km) west of Oxford. DRAINAGE AREA, 26.5 mi<sup>2</sup> (68.6 km<sup>2</sup>). PERIOD OF RECORD, September 1958 to current year. Completed in 1958 by Corps of Engineers for storage of water for recreation and flood control. Usable capacity, 555,000,000 ft<sup>3</sup> (15,700,000 m<sup>3</sup>), including 61,000,000 ft<sup>3</sup> (1,730,000 m<sup>3</sup>) storage in recreation pool. Records furnished by Corps of Engineers.

## MONTHEND USABLE CONTENTS, IN MILLIONS OF CUBIC FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

|                     | East Brimfield<br>Lake | Westville<br>Lake | Hodges Village<br>Reservoir | Buffumville<br>Lake |
|---------------------|------------------------|-------------------|-----------------------------|---------------------|
| Sept. 30, 1980..... | 102.7                  | 5.0               | 0.4                         | 58.4                |
| Oct. 31.....        | 107.7                  | 5.2               | 2.4                         | 65.3                |
| Nov. 30.....        | 116.0                  | 4.1               | 9.8                         | 82.0                |
| Dec. 31.....        | 104.4                  | 4.8               | .7                          | 64.5                |
| Jan. 31, 1981.....  | 104.4                  | 4.7               | .5                          | 62.7                |
| Feb. 29.....        | 285.5                  | 86.9              | 50.4                        | 129.9               |
| Mar. 31.....        | 112.6                  | 5.6               | 1.1                         | 67.1                |
| Apr. 30.....        | 114.3                  | 6.2               | 2.1                         | 68.8                |
| May 31.....         | 112.6                  | 5.7               | 6.0                         | 68.0                |
| June 30.....        | 104.4                  | 4.6               | .5                          | 62.7                |
| July 31.....        | 104.4                  | 4.7               | 1.5                         | 62.7                |
| Aug. 31.....        | 101.1                  | 4.4               | .5                          | 58.4                |
| Sept. 30.....       | 104.4                  | 5.1               | 1.4                         | 65.3                |

## 01161500 TARBELL BROOK NEAR WINCHENDON, MA

LOCATION.--Lat 42°42'45", long 72°05'09", Worcester County, Hydrologic Unit 01080202, on left bank 0.1 mi (0.2 km) downstream from Spud Brook, 0.3 mi (0.5 km) downstream from Massachusetts-New Hampshire State line, and 2.8 mi (4.5 km) northwest of Winchendon.

DRAINAGE AREA.--18.2 mi<sup>2</sup> (47.1 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: May 1916 to current year. Prior to October 1950, published as Sip Pond Brook near Winchendon.

Water-quality records: Water years 1965-66.

REVISED RECORDS.--WSP 781: 1934. WSP 871: Drainage area. WSP 1051: 1928(M), 1933-34. WSP 1301: 1917(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 24, 1965. Datum of gage is 872.82 ft (266.036 m) National Geodetic Vertical Datum of 1929. May 29 to June 29, 1916, nonrecording gage; June 30 to Dec. 12, 1916, water-stage recorder; and Dec. 13, 1916, to June 26, 1917, nonrecording gage, all at site 450 ft (150 m) downstream at same datum.

REMARKS.--Records good except those for period of no gage-height record, July 13 to Aug. 19, which are poor. Some regulation by Pearly and Sip Ponds and Damon Reservoirs 1 mi (1.6 km) upstream. Prior to 1967, greater regulation by these reservoirs and by small mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--65 years, 29.3 ft<sup>3</sup>/s (0.830 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft<sup>3</sup>/s (74.5 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 13.72 ft (4.182 m), from rating curve extended above 1,200 ft<sup>3</sup>/s (34 m<sup>3</sup>/s) on basis of critical-depth study at control section; minimum, 0.1 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Aug. 25, 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 169 ft<sup>3</sup>/s (4.79 m<sup>3</sup>/s) Feb. 27, gage height, 8.36 ft (2.548 m); minimum, 1.2 ft<sup>3</sup>/s (0.034 m<sup>3</sup>/s) Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------|------|-------|-------|-------|-------|------|------|------|-------|-------|-------|-------|
| 1     | 1.7  | 3.2   | 12    | 5.9   | 2.4   | 129  | 20   | 63   | 17    | 6.1   | 8.0   | 9.6   |
| 2     | 2.1  | 3.1   | 15    | 5.5   | 9.5   | 108  | 32   | 57   | 16    | 5.7   | 6.2   | 8.4   |
| 3     | 2.2  | 3.0   | 19    | 5.0   | 8.0   | 89   | 46   | 50   | 15    | 9.0   | 5.4   | 6.9   |
| 4     | 3.0  | 3.3   | 17    | 5.0   | 8.6   | 73   | 53   | 44   | 14    | 16    | 4.9   | 5.3   |
| 5     | 2.3  | 3.4   | 16    | 5.1   | 8.4   | 62   | 52   | 39   | 13    | 25    | 4.5   | 3.4   |
| 6     | 2.2  | 3.4   | 15    | 4.5   | 8.4   | 53   | 59   | 35   | 13    | 25    | 6.0   | 1.8   |
| 7     | 2.1  | 3.2   | 14    | 4.3   | 8.4   | 47   | 64   | 32   | 13    | 22    | 5.0   | 2.6   |
| 8     | 2.1  | 3.3   | 14    | 4.2   | 8.6   | 44   | 59   | 29   | 11    | 20    | 4.2   | 3.1   |
| 9     | 1.9  | 3.4   | 14    | 4.2   | 8.6   | 40   | 52   | 26   | 11    | 18    | 4.5   | 4.8   |
| 10    | 1.8  | 3.8   | 13    | 4.1   | 8.3   | 37   | 49   | 25   | 10    | 16    | 4.0   | 3.8   |
| 11    | 2.2  | 3.8   | 13    | 3.8   | 13    | 35   | 45   | 24   | 9.4   | 13    | 3.5   | 3.2   |
| 12    | 2.9  | 3.6   | 12    | 3.4   | 22    | 32   | 41   | 31   | 8.5   | 11    | 5.0   | 4.4   |
| 13    | 2.0  | 3.3   | 12    | 3.3   | 20    | 29   | 37   | 41   | 6.6   | 9.5   | 4.5   | 4.0   |
| 14    | 2.1  | 4.2   | 11    | 3.3   | 20    | 27   | 36   | 50   | 6.8   | 12    | 3.9   | 3.7   |
| 15    | 2.0  | 2.7   | 10    | 3.3   | 20    | 25   | 42   | 46   | 6.4   | 10    | 4.0   | 2.6   |
| 16    | 2.1  | 2.5   | 10    | 3.3   | 19    | 22   | 44   | 72   | 4.2   | 9.0   | 3.6   | 2.7   |
| 17    | 2.0  | 2.5   | 9.9   | 3.0   | 17    | 19   | 42   | 106  | 2.9   | 8.0   | 3.4   | 3.5   |
| 18    | 2.3  | 3.0   | 9.5   | 2.8   | 17    | 17   | 38   | 94   | 2.7   | 7.5   | 3.3   | 2.8   |
| 19    | 2.8  | 3.1   | 9.1   | 2.7   | 17    | 16   | 33   | 75   | 2.5   | 13    | 3.2   | 2.9   |
| 20    | 2.4  | 3.1   | 9.0   | 2.6   | 22    | 15   | 32   | 61   | 3.0   | 12    | 3.2   | 2.7   |
| 21    | 2.4  | 3.1   | 8.7   | 2.6   | 33    | 14   | 29   | 51   | 4.0   | 20    | 3.4   | 2.3   |
| 22    | 2.4  | 3.1   | 8.5   | 2.6   | 35    | 14   | 26   | 44   | 5.2   | 19    | 3.3   | 2.7   |
| 23    | 2.1  | 3.0   | 7.8   | 2.6   | 39    | 14   | 25   | 39   | 5.7   | 15    | 3.2   | 11    |
| 24    | 2.4  | 3.6   | 7.3   | 2.6   | 52    | 14   | 32   | 34   | 4.9   | 11    | 3.1   | 15    |
| 25    | 3.8  | 8.0   | 7.1   | 2.7   | 101   | 14   | 54   | 29   | 5.7   | 9.5   | 3.1   | 14    |
| 26    | 5.2  | 6.8   | 7.1   | 2.6   | 138   | 14   | 78   | 25   | 12    | 9.0   | 2.9   | 11    |
| 27    | 5.9  | 5.7   | 7.0   | 2.3   | 166   | 14   | 72   | 23   | 9.8   | 11    | 2.7   | 8.5   |
| 28    | 3.7  | 8.5   | 6.7   | 2.4   | 156   | 15   | 60   | 20   | 8.5   | 10    | 2.4   | 10    |
| 29    | 3.6  | 13    | 5.9   | 2.4   | ---   | 15   | 54   | 18   | 7.6   | 15    | 5.4   | 9.0   |
| 30    | 3.6  | 12    | 5.9   | 2.4   | ---   | 18   | 61   | 17   | 6.6   | 13    | 14    | 7.5   |
| 31    | 3.4  | ---   | 5.9   | 2.8   | ---   | 20   | ---  | 19   | ---   | 10    | 11    | ---   |
| TOTAL | 80.7 | 131.7 | 332.4 | 107.3 | 986.2 | 1085 | 1367 | 1319 | 256.0 | 410.3 | 144.8 | 173.2 |
| MEAN  | 2.60 | 4.39  | 10.7  | 3.46  | 35.2  | 35.0 | 45.6 | 42.5 | 8.53  | 13.2  | 4.67  | 5.77  |
| MAX   | 5.2  | 13    | 19    | 5.9   | 166   | 129  | 78   | 106  | 17    | 25    | 14    | 15    |
| MIN   | 1.7  | 2.5   | 5.9   | 2.3   | 2.4   | 14   | 20   | 17   | 2.5   | 5.7   | 2.4   | 1.8   |

CAL YR 1980 TOTAL 7461.4 MEAN 20.4 MAX 250 MIN 1.3  
WTR YR 1981 TOTAL 6393.6 MEAN 17.5 MAX 166 MIN 1.7

## CONNECTICUT RIVER BASIN

01162000 MILLERS RIVER NEAR WINCHENDON, MA

LOCATION.--Lat 42°41'03", long 72°05'02", Worcester County, Hydrologic Unit 01080202, on right bank 10 ft (3 m) downstream from Nolan Bridge, 0.3 mi (0.5 km) downstream from Tarbell Brook, 2 mi (3 km) west of Winchendon, and at mile 32.8 (52.8 km).

DRAINAGE AREA.--83.0 mi<sup>2</sup> (215.0 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1916 to current year. March to May 1917, monthly discharge only, published in WSP 1301.

Water-quality records: Water years 1957, 1965-66.

REVISED RECORDS.--WSP 451: 1916. WSP 871: Drainage area. WSP 1051: 1919, 1920-21(M), 1922-24, 1928(M), 1933-34.

GAGE.--Water-stage recorder. Concrete control since Oct. 6, 1933. Datum of gage is 826.66 ft (251.966 m) National Geodetic Vertical Datum of 1929. Prior to July 27, 1916, nonrecording gage at bridge at same datum.

REMARKS.--Records good. Flow regulated by Lake Monomonic 6 mi (10 km) upstream and other reservoirs and, prior to 1957, by powerplant. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--65 years, 142 ft<sup>3</sup>/s (4.021 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,500 ft<sup>3</sup>/s (241 m<sup>3</sup>/s) Sept. 22, 1938, gage height, 21.55 ft (6.568 m), from floodmarks, from rating curve extended above 2,000 ft<sup>3</sup>/s (57 m<sup>3</sup>/s) on basis of computation of peak flow over dam; practically no flow because of regulation Sept. 20, 1918, Jan. 14, 1925.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 711 ft<sup>3</sup>/s (20.1 m<sup>3</sup>/s) Feb. 26, gage height, 8.08 ft (2.463 m); minimum daily, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) Jan. 16, Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN     | FEB    | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|---------|--------|------|------|------|------|------|------|------|
| 1           | 122   | 17    | 67       | 19      | 13     | 571  | 163  | 326  | 127  | 33   | 42   | 17   |
| 2           | 110   | 16    | 61       | 18      | 127    | 496  | 293  | 291  | 109  | 28   | 33   | 16   |
| 3           | 96    | 15    | 64       | 17      | 117    | 426  | 323  | 251  | 101  | 32   | 28   | 31   |
| 4           | 114   | 15    | 47       | 16      | 61     | 356  | 311  | 214  | 93   | 45   | 25   | 37   |
| 5           | 116   | 17    | 43       | 15      | 51     | 304  | 301  | 184  | 70   | 174  | 32   | 35   |
| 6           | 130   | 16    | 38       | 14      | 43     | 264  | 349  | 165  | 59   | 253  | 37   | 19   |
| 7           | 130   | 15    | 35       | 15      | 41     | 241  | 342  | 150  | 52   | 186  | 25   | 15   |
| 8           | 107   | 14    | 35       | 15      | 39     | 225  | 306  | 133  | 44   | 121  | 21   | 14   |
| 9           | 92    | 15    | 73       | 15      | 37     | 201  | 273  | 119  | 42   | 91   | 19   | 30   |
| 10          | 79    | 42    | 94       | 14      | 33     | 186  | 259  | 114  | 41   | 73   | 18   | 27   |
| 11          | 74    | 57    | 82       | 14      | 89     | 172  | 229  | 113  | 44   | 69   | 17   | 23   |
| 12          | 71    | 47    | 79       | 13      | 237    | 159  | 204  | 237  | 42   | 80   | 20   | 24   |
| 13          | 61    | 44    | 77       | 12      | 101    | 152  | 178  | 276  | 36   | 82   | 17   | 25   |
| 14          | 61    | 42    | 76       | 12      | 109    | 148  | 184  | 250  | 29   | 82   | 17   | 24   |
| 15          | 57    | 40    | 76       | 12      | 123    | 140  | 262  | 253  | 25   | 72   | 16   | 20   |
| 16          | 43    | 36    | 78       | 11      | 111    | 138  | 239  | 439  | 21   | 60   | 25   | 21   |
| 17          | 33    | 21    | 73       | 12      | 113    | 127  | 214  | 447  | 30   | 42   | 24   | 24   |
| 18          | 28    | 19    | 72       | 12      | 111    | 119  | 191  | 401  | 28   | 36   | 28   | 22   |
| 19          | 27    | 14    | 73       | 12      | 89     | 113  | 159  | 330  | 20   | 44   | 25   | 23   |
| 20          | 21    | 14    | 68       | 12      | 148    | 107  | 140  | 268  | 26   | 41   | 19   | 25   |
| 21          | 18    | 14    | 75       | 12      | 367    | 91   | 125  | 197  | 26   | 72   | 16   | 36   |
| 22          | 17    | 13    | 82       | 12      | 402    | 82   | 114  | 182  | 51   | 119  | 16   | 52   |
| 23          | 15    | 13    | 86       | 12      | 381    | 79   | 119  | 159  | 89   | 114  | 15   | 86   |
| 24          | 14    | 27    | 83       | 12      | 477    | 79   | 241  | 135  | 95   | 97   | 14   | 119  |
| 25          | 19    | 72    | 69       | 12      | 589    | 77   | 430  | 116  | 144  | 84   | 15   | 109  |
| 26          | 53    | 57    | 83       | 12      | 671    | 77   | 420  | 109  | 170  | 56   | 13   | 84   |
| 27          | 45    | 43    | 82       | 12      | 703    | 82   | 372  | 101  | 121  | 42   | 12   | 79   |
| 28          | 34    | 84    | 69       | 12      | 652    | 93   | 308  | 95   | 80   | 35   | 11   | 105  |
| 29          | 27    | 121   | 59       | 12      | ---    | 97   | 278  | 93   | 62   | 56   | 12   | 97   |
| 30          | 23    | 84    | 39       | 12      | ---    | 109  | 345  | 95   | 45   | 70   | 21   | 82   |
| 31          | 20    | ---   | 22       | 13      | ---    | 129  | ---  | 123  | ---  | 56   | 19   | ---  |
| TOTAL       | 1857  | 1044  | 2060     | 413     | 6035   | 5640 | 7672 | 6366 | 1922 | 2445 | 652  | 1321 |
| MEAN        | 59.9  | 34.8  | 66.5     | 13.3    | 216    | 182  | 256  | 205  | 64.1 | 78.9 | 21.0 | 44.0 |
| MAX         | 130   | 121   | 94       | 19      | 703    | 571  | 430  | 447  | 170  | 253  | 42   | 119  |
| MIN         | 14    | 13    | 22       | 11      | 13     | 77   | 114  | 93   | 20   | 28   | 11   | 14   |
| CAL YR 1980 | TOTAL | 36668 | MEAN 100 | MAX 910 | MIN 13 |      |      |      |      |      |      |      |
| WTR YR 1981 | TOTAL | 37427 | MEAN 103 | MAX 703 | MIN 11 |      |      |      |      |      |      |      |



## 01162500 PRIEST BROOK NEAR WINCHENDON, MA

LOCATION.--Lat 42°40'57", long 72°06'56", Worcester County, Hydrologic Unit 01080202, on right bank 100 ft (30 m) downstream from highway bridge, 3 mi (4.8 km) upstream from mouth, and 3.5 mi (5.6 km) west of Winchendon.

DRAINAGE AREA.--19.4 mi<sup>2</sup> (50.2 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: May 1916 to current year. Monthly discharge only October 1917 to July 1918 (published in WSP 1301) and September 1935 to September 1936.

Water-quality records: Water years 1965-66.

REVISED RECORDS.--WSP 451: 1916. WSP 871: Drainage area. WSP 1051: 1919, 1922-24. WSP 1301: 1917(M), 1919-24(M), 1926-27(M), 1929(M), 1931-35(M).

GAGE.--Water-stage recorder. Concrete control since September 1936. Datum of gage is 849.67 ft (258.979 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 11, 1936, nonrecording gage on left bank at same datum.

REMARKS.--Records good except those for periods of no gage-height record, Dec. 9 to Jan. 20, Sept. 1-30, which are poor. Prior to 1962, occasional diurnal fluctuation at low flow by mill upstream; prior to 1953, regulation at low flow by mill and ponds. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--65 years, 32.5 ft<sup>3</sup>/s (0.920 m<sup>3</sup>/s), 22.75 in/yr (578 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,000 ft<sup>3</sup>/s (85.0 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 9.90 ft (3.018 m), from rating curve extended above 620 ft<sup>3</sup>/s (18 m<sup>3</sup>/s) on basis of contracted-opening measurements at gage heights 8.4 ft (2.56 m) and 9.90 ft (3.018 m); minimum, 0.08 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) several times in September 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 190 ft<sup>3</sup>/s (5.4 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 26 | 1930 | *263 7.45                                             | 4.53 1.381              |      |      |                                                       |                         |

Minimum discharge, 0.98 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) Oct. 1-3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN  | FEB    | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|-------|------|--------|------|------|------|-------|-------|-------|-------|
| 1           | .98   | 2.7     | 33    | 5.0  | 2.5    | 133  | 38   | 72   | 28    | 4.7   | 6.0   | 1.5   |
| 2           | .98   | 2.5     | 39    | 4.8  | 12     | 83   | 56   | 58   | 22    | 3.9   | 4.3   | 1.5   |
| 3           | 1.1   | 2.3     | 40    | 4.6  | 35     | 55   | 75   | 47   | 15    | 3.8   | 3.6   | 1.5   |
| 4           | 2.2   | 2.4     | 28    | 4.4  | 29     | 49   | 70   | 39   | 14    | 5.8   | 3.1   | 1.5   |
| 5           | 2.2   | 2.9     | 23    | 4.0  | 23     | 41   | 65   | 31   | 12    | 23    | 2.7   | 1.5   |
| 6           | 1.7   | 2.7     | 17    | 3.5  | 16     | 36   | 75   | 27   | 11    | 40    | 2.9   | 1.5   |
| 7           | 1.5   | 2.6     | 15    | 3.8  | 15     | 34   | 75   | 22   | 12    | 31    | 3.3   | 1.4   |
| 8           | 1.3   | 2.6     | 13    | 3.6  | 12     | 33   | 55   | 17   | 10    | 19    | 3.0   | 1.5   |
| 9           | 1.2   | 2.5     | 13    | 3.4  | 11     | 30   | 45   | 14   | 9.5   | 12    | 2.9   | 7.0   |
| 10          | 1.1   | 3.2     | 15    | 3.3  | 10     | 29   | 40   | 13   | 9.1   | 8.5   | 3.5   | 10    |
| 11          | 1.3   | 3.1     | 13    | 3.1  | 15     | 28   | 37   | 13   | 7.4   | 6.1   | 2.7   | 8.5   |
| 12          | 1.9   | 7.7     | 11    | 2.9  | 53     | 26   | 34   | 30   | 6.5   | 4.5   | 9.7   | 6.5   |
| 13          | 1.7   | 5.1     | 10    | 2.8  | 54     | 25   | 32   | 66   | 5.6   | 3.8   | 12    | 4.5   |
| 14          | 1.5   | 3.7     | 9.5   | 2.6  | 42     | 25   | 36   | 84   | 4.7   | 4.7   | 8.0   | 3.3   |
| 15          | 1.4   | 2.6     | 9.0   | 2.4  | 30     | 25   | 59   | 71   | 4.3   | 4.7   | 5.8   | 3.3   |
| 16          | 1.3   | 2.2     | 8.8   | 2.3  | 23     | 23   | 53   | 71   | 4.1   | 4.0   | 9.0   | 3.8   |
| 17          | 1.3   | 2.0     | 8.7   | 2.3  | 23     | 22   | 41   | 87   | 3.6   | 3.3   | 9.1   | 6.6   |
| 18          | 1.4   | 2.6     | 8.2   | 2.4  | 23     | 21   | 36   | 90   | 3.1   | 3.9   | 6.2   | 5.8   |
| 19          | 2.5   | 2.6     | 7.6   | 2.4  | 24     | 19   | 32   | 84   | 2.7   | 14    | 4.5   | 5.6   |
| 20          | 2.4   | 2.4     | 7.0   | 2.4  | 38     | 16   | 28   | 55   | 2.8   | 12    | 3.5   | 6.8   |
| 21          | 1.9   | 2.5     | 6.6   | 2.3  | 74     | 15   | 24   | 26   | 4.0   | 28    | 2.9   | 5.9   |
| 22          | 1.8   | 2.6     | 6.4   | 2.3  | 84     | 15   | 19   | 23   | 4.9   | 29    | 2.5   | 5.5   |
| 23          | 1.7   | 2.6     | 6.0   | 2.3  | 71     | 15   | 19   | 21   | 12    | 14    | 2.2   | 15    |
| 24          | 1.6   | 3.2     | 6.2   | 2.3  | 75     | 15   | 38   | 19   | 10    | 8.2   | 2.0   | 25    |
| 25          | 2.4   | 13      | 6.4   | 2.4  | 176    | 15   | 77   | 16   | 10    | 5.8   | 2.1   | 28    |
| 26          | 9.0   | 14      | 5.8   | 2.4  | 230    | 15   | 96   | 14   | 27    | 4.6   | 2.2   | 20    |
| 27          | 5.5   | 13      | 5.2   | 2.4  | 242    | 18   | 79   | 13   | 20    | 5.0   | 2.1   | 15    |
| 28          | 3.7   | 16      | 5.0   | 2.4  | 182    | 22   | 75   | 11   | 12    | 5.0   | 1.9   | 10    |
| 29          | 3.3   | 41      | 5.2   | 2.5  | ---    | 24   | 58   | 10   | 8.4   | 8.5   | 1.7   | 8.0   |
| 30          | 2.9   | 37      | 5.4   | 2.5  | ---    | 33   | 70   | 11   | 6.2   | 17    | 1.6   | 6.0   |
| 31          | 2.7   | ---     | 5.4   | 2.6  | ---    | 37   | ---  | 19   | ---   | 9.7   | 1.6   | ---   |
| TOTAL       | 67.46 | 205.3   | 392.4 | 92.4 | 1624.5 | 977  | 1537 | 1174 | 301.9 | 347.5 | 128.6 | 222.0 |
| MEAN        | 2.18  | 6.84    | 12.7  | 2.98 | 58.0   | 31.5 | 51.2 | 37.9 | 10.1  | 11.2  | 4.15  | 7.40  |
| MAX         | 9.0   | 41      | 40    | 5.0  | 242    | 133  | 96   | 90   | 28    | 40    | 12    | 28    |
| MIN         | .98   | 2.0     | 5.0   | 2.3  | 2.5    | 15   | 19   | 10   | 2.7   | 3.5   | 1.6   | 1.4   |
| CFSM        | .11   | .35     | .66   | .15  | 2.99   | 1.62 | 2.64 | 1.95 | .52   | .58   | .21   | .38   |
| IN.         | .13   | .39     | .75   | .18  | 3.11   | 1.87 | 2.95 | 2.25 | .58   | .67   | .25   | .43   |
| CAL YR 1980 | TOTAL | 7880.85 | MEAN  | 21.5 | MAX    | 405  | MIN  | .59  | CFSM  | 1.11  | IN    | 15.11 |
| WTR YR 1981 | TOTAL | 7070.06 | MEAN  | 19.4 | MAX    | 242  | MIN  | .98  | CFSM  | 1.00  | IN    | 13.56 |

## CONNECTICUT RIVER BASIN

01163200 OTTER RIVER AT OTTER RIVER, MA

LOCATION.--Lat 42°35'18", long 72°02'29", Worcester County, Hydrologic Unit 01080202, on right bank at upstream side of Turner Street Bridge, 0.2 mi (0.3 km) upstream from Bailey Brook, 0.8 mi (1.3 km) southeast of Otter River, and 2 mi (3 km) northwest of Gardner.

DRAINAGE AREA.--34.2 mi<sup>2</sup> (88.6 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: December 1964 to current year.

Water-quality records: Water years 1965-66.

GAGE.--Water-stage recorder. Altitude of gage is 900 ft (274 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--16 years (water years 1966-81), 60.0 ft<sup>3</sup>/s (1.699 m<sup>3</sup>/s), 23.82 in/yr (605 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 948 ft<sup>3</sup>/s (26.8 m<sup>3</sup>/s) Mar. 7, 1979, gage height, 5.02 ft (1.530 m); minimum, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Aug. 13, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 317 ft<sup>3</sup>/s (8.98 m<sup>3</sup>/s) Feb. 25, gage height, 3.00 ft (0.914 m); minimum, 7.5 ft<sup>3</sup>/s (0.21 m<sup>3</sup>/s) Sept. 1, 2, 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN   | FEB    | MAR  | APR  | MAY  | JUN   | JUL  | AUG   | SEP   |
|-------------|-------|---------|------|-------|--------|------|------|------|-------|------|-------|-------|
| 1           | 11    | 23      | 79   | 15    | 9.5    | 232  | 68   | 90   | 30    | 33   | 37    | 8.3   |
| 2           | 10    | 21      | 58   | 14    | 43     | 189  | 99   | 81   | 26    | 21   | 28    | 8.1   |
| 3           | 12    | 20      | 55   | 13    | 120    | 155  | 121  | 69   | 23    | 19   | 21    | 8.1   |
| 4           | 19    | 18      | 42   | 12    | 90     | 123  | 105  | 58   | 21    | 21   | 17    | 8.3   |
| 5           | 20    | 20      | 45   | 12    | 63     | 97   | 85   | 51   | 20    | 70   | 17    | 8.3   |
| 6           | 15    | 18      | 31   | 11    | 39     | 83   | 109  | 48   | 19    | 145  | 21    | 8.3   |
| 7           | 13    | 17      | 27   | 11    | 27     | 78   | 118  | 41   | 24    | 148  | 20    | 8.1   |
| 8           | 12    | 16      | 27   | 11    | 23     | 77   | 97   | 34   | 23    | 102  | 18    | 8.1   |
| 9           | 11    | 17      | 28   | 11    | 24     | 70   | 79   | 31   | 21    | 63   | 17    | 26    |
| 10          | 11    | 21      | 29   | 10    | 22     | 65   | 72   | 29   | 19    | 42   | 14    | 33    |
| 11          | 12    | 20      | 27   | 10    | 37     | 62   | 65   | 28   | 16    | 30   | 13    | 30    |
| 12          | 17    | 16      | 23   | 9.7   | 136    | 60   | 60   | 64   | 15    | 23   | 19    | 22    |
| 13          | 15    | 17      | 22   | 9.4   | 105    | 55   | 53   | 112  | 15    | 20   | 26    | 15    |
| 14          | 14    | 16      | 21   | 9.1   | 63     | 55   | 53   | 106  | 13    | 23   | 27    | 13    |
| 15          | 13    | 15      | 19   | 8.8   | 40     | 47   | 74   | 79   | 12    | 22   | 20    | 13    |
| 16          | 12    | 14      | 19   | 8.5   | 33     | 56   | 74   | 111  | 12    | 22   | 32    | 17    |
| 17          | 12    | 13      | 19   | 8.3   | 38     | 47   | 65   | 127  | 11    | 19   | 44    | 24    |
| 18          | 13    | 15      | 18   | 8.2   | 42     | 47   | 60   | 100  | 11    | 17   | 39    | 22    |
| 19          | 22    | 16      | 18   | 8.1   | 44     | 42   | 55   | 83   | 9.8   | 20   | 35    | 21    |
| 20          | 19    | 16      | 18   | 8.0   | 76     | 39   | 50   | 66   | 17    | 31   | 32    | 25    |
| 21          | 17    | 16      | 18   | 8.0   | 199    | 37   | 47   | 54   | 57    | 59   | 30    | 22    |
| 22          | 16    | 16      | 18   | 8.0   | 256    | 37   | 47   | 48   | 54    | 72   | 29    | 20    |
| 23          | 15    | 18      | 17   | 8.0   | 220    | 37   | 40   | 42   | 68    | 58   | 23    | 46    |
| 24          | 12    | 21      | 17   | 8.0   | 199    | 36   | 58   | 39   | 59    | 39   | 18    | 73    |
| 25          | 16    | 60      | 19   | 8.0   | 297    | 36   | 124  | 34   | 51    | 30   | 16    | 74    |
| 26          | 67    | 75      | 23   | 8.0   | 308    | 36   | 149  | 30   | 94    | 27   | 14    | 60    |
| 27          | 63    | 59      | 23   | 8.0   | 314    | 41   | 118  | 29   | 93    | 24   | 13    | 43    |
| 28          | 44    | 60      | 20   | 8.2   | 292    | 51   | 88   | 26   | 63    | 24   | 12    | 34    |
| 29          | 33    | 107     | 20   | 8.6   | ---    | 50   | 72   | 25   | 40    | 34   | 11    | 26    |
| 30          | 28    | 106     | 19   | 9.0   | ---    | 52   | 84   | 25   | 36    | 45   | 9.7   | 22    |
| 31          | 25    | ---     | 17   | 9.0   | ---    | 65   | ---  | 26   | ---   | 40   | 8.5   | ---   |
| TOTAL       | 619   | 887     | 836  | 298.9 | 3159.5 | 2157 | 2389 | 1786 | 972.8 | 1343 | 681.2 | 746.6 |
| MEAN        | 20.0  | 29.6    | 27.0 | 9.64  | 113    | 69.6 | 79.6 | 57.6 | 32.4  | 43.3 | 22.0  | 24.9  |
| MAX         | 67    | 107     | 79   | 15    | 314    | 232  | 149  | 127  | 94    | 148  | 44    | 74    |
| MIN         | 10    | 13      | 17   | 8.0   | 9.5    | 36   | 40   | 25   | 9.8   | 17   | 8.5   | 8.1   |
| CFSM        | .59   | .87     | .79  | .28   | 3.30   | 2.04 | 2.33 | 1.68 | .95   | 1.27 | .64   | .73   |
| IN.         | .67   | .96     | .91  | .33   | 3.44   | 2.35 | 2.60 | 1.94 | 1.06  | 1.46 | .74   | .81   |
| CAL YR 1980 | TOTAL | 16417.4 | MEAN | 44.9  | MAX    | 402  | MIN  | 5.8  | CFSM  | 1.31 | IN    | 17.86 |
| WTR YR 1981 | TOTAL | 15876.0 | MEAN | 43.5  | MAX    | 314  | MIN  | 8.0  | CFSM  | 1.27 | IN    | 17.27 |

## 01164000 MILLERS RIVER AT SOUTH ROYALSTON, MA

LOCATION.--Lat 42°37'47", long 72°09'03", Worcester County, Hydrologic Unit 01080202, on right bank 500 ft (150 m) downstream from bridge in South Royalston, 0.4 mi (0.6 km) downstream from Beaver Brook, 1.7 mi (2.7 km) downstream from Birch Hill Dam, and at mile 25.5 (41.0 km).

DRAINAGE AREA.--187 mi<sup>2</sup> (484 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1939 to current year.  
Water-quality records: Water years 1957, 1965-66.

GAGE.--Water-stage recorder. Datum of gage is 792.00 ft (241.402 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Lake Monomac and other reservoirs, by mills and powerplants prior to 1955, and at high flow by Birch Hill Reservoir since 1941 (Reservoirs in Connecticut River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 320 ft<sup>3</sup>/s (9.062 m<sup>3</sup>/s), 23.24 in/yr (590 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft<sup>3</sup>/s (125 m<sup>3</sup>/s) Apr. 13, 1940, gage height, 8.40 ft (2.560 m); maximum gage height, 9.42 ft (2.871 m) Jan. 24, 1959 (ice jam); minimum daily discharge, 9.3 ft<sup>3</sup>/s (0.26 m<sup>3</sup>/s) Aug. 4, 1956. Maximum discharge since construction of Birch Hill Reservoir in 1941, 2,830 ft<sup>3</sup>/s (80.1 m<sup>3</sup>/s) June 25, 26, 1944, gage height, 7.57 ft (2.307 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 21 or 22, 1938, reached a stage of 15.9 ft (4.85 m), from floodmarks, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,780 ft<sup>3</sup>/s (50.4 m<sup>3</sup>/s) Mar. 1, gage height, 7.01 ft (2.137 m); maximum gage height, 7.44 ft (2.268 m) Feb. 12, ice jam; minimum daily discharge, 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR       | APR        | MAY       | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|-----------|------------|-----------|------|------|------|------|
| 1           | 136   | 68    | 297      | 61       | 35     | 1730      | 93         | 696       | 306  | 120  | 144  | 44   |
| 2           | 133   | 63    | 244      | 55       | 150    | 1610      | 305        | 640       | 262  | 94   | 114  | 42   |
| 3           | 121   | 58    | 232      | 59       | 350    | 1420      | 902        | 552       | 220  | 85   | 91   | 45   |
| 4           | 131   | 56    | 180      | 58       | 250    | 1030      | 1380       | 465       | 204  | 117  | 78   | 56   |
| 5           | 153   | 59    | 140      | 49       | 200    | 723       | 1010       | 401       | 175  | 308  | 73   | 63   |
| 6           | 152   | 59    | 135      | 48       | 160    | 578       | 965        | 359       | 148  | 641  | 90   | 51   |
| 7           | 155   | 56    | 115      | 50       | 130    | 506       | 844        | 322       | 155  | 685  | 80   | 41   |
| 8           | 140   | 54    | 110      | 47       | 120    | 473       | 711        | 287       | 136  | 530  | 70   | 40   |
| 9           | 118   | 53    | 126      | 47       | 115    | 434       | 596        | 262       | 130  | 341  | 66   | 88   |
| 10          | 106   | 77    | 170      | 45       | 110    | 406       | 534        | 245       | 122  | 227  | 61   | 111  |
| 11          | 99    | 103   | 149      | 43       | 120    | 383       | 480        | 243       | 111  | 168  | 57   | 99   |
| 12          | 104   | 90    | 145      | 42       | 500    | 365       | 433        | 362       | 103  | 150  | 62   | 83   |
| 13          | 97    | 86    | 140      | 40       | 400    | 347       | 387        | 645       | 94   | 150  | 76   | 77   |
| 14          | 86    | 82    | 140      | 38       | 320    | 339       | 371        | 676       | 85   | 174  | 75   | 67   |
| 15          | 88    | 78    | 140      | 38       | 270    | 314       | 517        | 605       | 76   | 157  | 66   | 62   |
| 16          | 75    | 73    | 145      | 40       | 250    | 322       | 529        | 754       | 71   | 131  | 102  | 65   |
| 17          | 64    | 67    | 140      | 37       | 260    | 298       | 465        | 970       | 65   | 106  | 130  | 80   |
| 18          | 58    | 58    | 140      | 36       | 270    | 281       | 416        | 961       | 71   | 87   | 117  | 80   |
| 19          | 63    | 59    | 140      | 37       | 261    | 263       | 374        | 800       | 63   | 119  | 97   | 75   |
| 20          | 60    | 53    | 130      | 36       | 338    | 237       | 335        | 634       | 62   | 140  | 85   | 83   |
| 21          | 53    | 52    | 130      | 36       | 631    | 228       | 300        | 473       | 125  | 259  | 75   | 81   |
| 22          | 47    | 51    | 140      | 36       | 889    | 210       | 276        | 379       | 151  | 351  | 72   | 93   |
| 23          | 46    | 50    | 145      | 36       | 908    | 164       | 264        | 340       | 227  | 311  | 67   | 179  |
| 24          | 46    | 57    | 140      | 36       | 732    | 115       | 373        | 299       | 250  | 233  | 59   | 314  |
| 25          | 47    | 162   | 130      | 36       | 889    | 75        | 716        | 265       | 228  | 184  | 57   | 310  |
| 26          | 148   | 246   | 150      | 36       | 1260   | 62        | 865        | 236       | 371  | 144  | 53   | 295  |
| 27          | 175   | 195   | 145      | 36       | 1580   | 70        | 856        | 215       | 379  | 118  | 49   | 254  |
| 28          | 128   | 184   | 135      | 36       | 1730   | 76        | 772        | 199       | 284  | 106  | 47   | 229  |
| 29          | 102   | 371   | 120      | 37       | ---    | 77        | 661        | 190       | 191  | 150  | 44   | 209  |
| 30          | 87    | 376   | 94       | 37       | ---    | 85        | 675        | 197       | 141  | 224  | 45   | 172  |
| 31          | 79    | ---   | 72       | 36       | ---    | 94        | ---        | 246       | ---  | 186  | 49   | ---  |
| TOTAL       | 3097  | 3096  | 4559     | 1304     | 13228  | 13315     | 17405      | 13918     | 5006 | 6796 | 2351 | 3488 |
| MEAN        | 99.9  | 103   | 147      | 42.1     | 472    | 430       | 580        | 449       | 167  | 219  | 75.8 | 116  |
| MAX         | 175   | 376   | 297      | 61       | 1730   | 1730      | 1380       | 970       | 379  | 685  | 144  | 314  |
| MIN         | 46    | 50    | 72       | 36       | 35     | 62        | 93         | 190       | 62   | 85   | 44   | 40   |
| MEAN†       | 99.8  | 104   | 146      | 42.0     | 538    | 406       | 548        | 446       | 167  | 219  | 75.3 | 117  |
| CFSM†       | .53   | .56   | .78      | .22      | 2.88   | 2.17      | 2.93       | 2.39      | .89  | 1.17 | .40  | .63  |
| IN.†        | .62   | .62   | .90      | .26      | 2.99   | 2.50      | 3.27       | 2.75      | .99  | 1.35 | .46  | .70  |
| CAL YR 1980 | TOTAL | 89863 | MEAN 246 | MAX 1820 | MIN 34 | MEAN† 245 | CFSM† 1.31 | IN† 17.86 |      |      |      |      |
| WTR YR 1981 | TOTAL | 87563 | MEAN 240 | MAX 1730 | MIN 35 | MEAN† 240 | CFSM† 1.28 | IN† 17.42 |      |      |      |      |

† Adjusted for change in contents in Birch Hill Reservoir.

## CONNECTICUT RIVER BASIN

## 01165000 EAST BRANCH TULLY RIVER NEAR ATHOL, MA

LOCATION.--Lat 42°38'32", long 72°13'34", Worcester County, Hydrologic Unit 01080202, on right bank 300 ft (90 m) downstream from Tully Dam, 1.3 mi (2.1 km) downstream from Lawrence Brook, 3.5 mi (5.6 km) north of Athol, and 4.9 mi (7.9 km) upstream from mouth.

DRAINAGE AREA.--50.4 mi<sup>2</sup> (130.5 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1915 to current year. October 1915 to May 1916 monthly discharge only, published in WSP 1301.  
Water-quality records: Water years 1965-66.

REVISED RECORDS.--WSP 451: 1916. WSP 891: Drainage area. WSP 1051: 1916(M), 1928. WSP 1301: 1917-35(M), 1937(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 613.71 ft (187.059 m) Corps of Engineers datum. Prior to Oct. 26, 1948, nonrecording gage at site 0.2 mi (0.3 km) upstream at datum 14.40 ft (4.389 m) higher.

REMARKS.--Records good. Flow regulated by Tully Reservoir since 1948 (Reservoirs in Connecticut River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--66 years, 80.8 ft<sup>3</sup>/s (2.288 m<sup>3</sup>/s), 21.77 in/yr (553 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,140 ft<sup>3</sup>/s (146 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 8.60 ft (2.621 m), from floodmarks, site and datum then in use, from rating curve extended above 1,500 ft<sup>3</sup>/s (42 m<sup>3</sup>/s) on basis of contracted-opening measurement and computation of peak flow over dam; minimum, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Nov. 6-11, 1961; minimum daily, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Nov. 7-10, 1961. Maximum discharge since construction of Tully Reservoir in 1948, 828 ft<sup>3</sup>/s (23.4 m<sup>3</sup>/s) Apr. 21, 1960, gage height, 5.38 ft (1.640 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 715 ft<sup>3</sup>/s (20.2 m<sup>3</sup>/s) Mar. 2, gage height, 4.91 ft (1.497 m); minimum, 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s) Sept. 23; minimum daily, 4.2 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Oct. 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN   | FEB    | MAR  | APR    | MAY  | JUN   | JUL   | AUG   | SEP   |     |       |
|-------------|-------|---------|------|-------|--------|------|--------|------|-------|-------|-------|-------|-----|-------|
| 1           | 5.9   | 4.4     | 74   | 11    | 7.2    | 347  | 9.0    | 229  | 89    | 34    | 21    | 10    |     |       |
| 2           | 5.9   | 4.4     | 73   | 11    | 7.2    | 478  | 121    | 224  | 82    | 36    | 9.2   | 10    |     |       |
| 3           | 5.6   | 54      | 72   | 11    | 7.2    | 484  | 357    | 198  | 57    | 24    | 9.0   | 9.9   |     |       |
| 4           | 5.5   | 80      | 53   | 11    | 7.4    | 464  | 350    | 136  | 47    | 24    | 8.4   | 8.3   |     |       |
| 5           | 5.4   | 78      | 19   | 11    | 7.7    | 276  | 205    | 95   | 48    | 24    | 8.4   | 8.6   |     |       |
| 6           | 4.4   | 76      | 19   | 10    | 24     | 125  | 252    | 95   | 33    | 67    | 40    | 8.7   |     |       |
| 7           | 4.4   | 75      | 19   | 8.2   | 32     | 97   | 267    | 96   | 26    | 36    | 46    | 8.7   |     |       |
| 8           | 4.4   | 73      | 19   | 8.2   | 32     | 97   | 259    | 68   | 26    | 15    | 18    | 9.1   |     |       |
| 9           | 4.4   | 71      | 41   | 8.2   | 49     | 97   | 214    | 47   | 26    | 20    | 10    | 9.2   |     |       |
| 10          | 4.4   | 47      | 40   | 8.2   | 56     | 97   | 118    | 47   | 25    | 20    | 10    | 9.2   |     |       |
| 11          | 4.4   | 28      | 25   | 8.2   | 56     | 97   | 95     | 47   | 25    | 20    | 12    | 9.4   |     |       |
| 12          | 4.4   | 13      | 19   | 7.7   | 71     | 97   | 97     | 70   | 17    | 20    | 22    | 10    |     |       |
| 13          | 4.4   | 7.2     | 19   | 7.2   | 102    | 66   | 96     | 139  | 12    | 20    | 25    | 10    |     |       |
| 14          | 4.4   | 7.2     | 19   | 7.2   | 116    | 50   | 95     | 209  | 11    | 20    | 26    | 10    |     |       |
| 15          | 4.4   | 7.2     | 19   | 7.2   | 114    | 50   | 127    | 237  | 11    | 20    | 26    | 10    |     |       |
| 16          | 4.4   | 7.2     | 19   | 7.2   | 111    | 50   | 148    | 242  | 11    | 20    | 25    | 8.7   |     |       |
| 17          | 4.4   | 7.2     | 19   | 7.2   | 107    | 50   | 172    | 252  | 10    | 16    | 24    | 8.7   |     |       |
| 18          | 4.4   | 7.2     | 19   | 7.2   | 104    | 50   | 188    | 311  | 10    | 10    | 17    | 9.2   |     |       |
| 19          | 4.4   | 7.2     | 18   | 7.2   | 101    | 50   | 137    | 289  | 10    | 9.9   | 14    | 9.2   |     |       |
| 20          | 4.4   | 7.2     | 18   | 7.2   | 81     | 33   | 97     | 177  | 10    | 10    | 13    | 9.2   |     |       |
| 21          | 4.4   | 7.2     | 18   | 7.2   | 74     | 24   | 97     | 125  | 10    | 10    | 12    | 9.2   |     |       |
| 22          | 4.4   | 7.2     | 14   | 7.2   | 104    | 24   | 67     | 95   | 10    | 10    | 12    | 8.7   |     |       |
| 23          | 4.4   | 7.2     | 12   | 7.2   | 130    | 24   | 48     | 95   | 31    | 8.3   | 12    | 6.3   |     |       |
| 24          | 4.6   | 7.2     | 11   | 7.2   | 117    | 16   | 56     | 95   | 41    | 6.2   | 11    | 33    |     |       |
| 25          | 4.8   | 7.2     | 11   | 7.2   | 168    | 11   | 69     | 95   | 23    | 5.2   | 11    | 50    |     |       |
| 26          | 4.8   | 7.2     | 11   | 7.2   | 259    | 11   | 146    | 47   | 31    | 5.2   | 10    | 70    |     |       |
| 27          | 4.2   | 7.2     | 11   | 7.2   | 260    | 11   | 206    | 24   | 70    | 33    | 7.4   | 80    |     |       |
| 28          | 4.2   | 24      | 11   | 7.2   | 267    | 11   | 213    | 24   | 58    | 48    | 7.7   | 48    |     |       |
| 29          | 4.6   | 33      | 11   | 7.2   | ---    | 11   | 213    | 24   | 22    | 48    | 7.9   | 32    |     |       |
| 30          | 4.4   | 58      | 11   | 7.2   | ---    | 11   | 213    | 23   | 11    | 48    | 9.0   | 27    |     |       |
| 31          | 4.4   | ---     | 11   | 7.2   | ---    | 11   | ---    | 67   | ---   | 48    | 9.6   | ---   |     |       |
| TOTAL       | 143.5 | 826.8   | 755  | 250.5 | 2571.7 | 3320 | 4732.0 | 3922 | 893   | 735.8 | 493.6 | 550.3 |     |       |
| MEAN        | 4.63  | 27.6    | 24.4 | 8.08  | 91.8   | 107  | 158    | 127  | 29.8  | 23.7  | 15.9  | 18.3  |     |       |
| MAX         | 5.9   | 80      | 74   | 11    | 267    | 484  | 357    | 311  | 89    | 67    | 46    | 80    |     |       |
| MIN         | 4.2   | 4.4     | 11   | 7.2   | 7.2    | 11   | 9.0    | 23   | 10    | 5.2   | 7.4   | 6.3   |     |       |
| MEAN†       | 6.27  | 15.9    | 20.6 | 7.22  | 136    | 99.9 | 146    | 123  | 29.8  | 41.0  | 14.7  | 19.6  |     |       |
| CFSM†       | .12   | .32     | .41  | .14   | 2.7    | 1.98 | 2.90   | 2.44 | .59   | .81   | .29   | .39   |     |       |
| IN†         | .14   | .35     | .47  | .17   | 2.82   | 2.29 | 3.22   | 2.81 | .66   | .92   | .34   | .43   |     |       |
| CAL YR 1980 | TOTAL | 19130.2 | MEAN | 52.3  | MAX    | 510  | MIN    | 4.2  | MEAN† | 52.1  | CFSM† | 1.03  | IN† | 14.04 |
| WTR YR 1981 | TOTAL | 19194.2 | MEAN | 52.6  | MAX    | 484  | MIN    | 4.2  | MEAN† | 54.3  | CFSM† | 1.08  | IN† | 14.62 |

† Adjusted for change in contents in Tully Reservoir.

## 01165300 LAKE ROHUNTA OUTLET NEAR ATHOL, MA

LOCATION.--Lat 42°34'13", long 72°16'22", Worcester County, Hydrologic Unit 01080202, on right bank 300 ft (90 m) downstream from bridge on Daniel Shays Highway, 600 ft (200 m) downstream from Lake Rohunta, and 2.8 mi (4.5 km) southwest of Athol.

DRAINAGE AREA.--20.3 mi<sup>2</sup> (52.6 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: December 1964 to current year.  
Water-quality records: Water years 1965-66.

GAGE.--Water-stage recorder. Datum of gage is 502.32 ft (153.107 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for period of doubtful or no gage-height record, Nov. 14 to Dec. 8, which are poor. Flow regulated by Lake Rohunta. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--16 years (water years 1966-81), 35.2 ft<sup>3</sup>/s (0.997 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 685 ft<sup>3</sup>/s (19.4 m<sup>3</sup>/s) Mar. 7, 1979, gage height, 7.04 ft (2.146 m), from rating curve extended above 220 ft<sup>3</sup>/s (6.2 m<sup>3</sup>/s); minimum daily, 0.16 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) June 19, 25, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 307 ft<sup>3</sup>/s (8.69 m<sup>3</sup>/s) Nov. 14, gage height, 5.03 ft (1.533 m); minimum daily, 0.16 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) June 19, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB    | MAR    | APR  | MAY    | JUN    | JUL   | AUG   | SEP   |
|-------------|-------|---------|-------|-------|--------|--------|------|--------|--------|-------|-------|-------|
| 1           | 1.3   | 6.7     | 21    | 5.8   | 2.9    | 144    | 45   | 55     | 22     | 6.4   | 16    | 3.8   |
| 2           | 2.0   | 6.0     | 17    | 5.4   | 23     | 119    | 51   | 51     | 21     | 6.1   | 14    | 3.8   |
| 3           | 2.1   | 6.2     | 20    | 5.2   | 35     | 97     | 66   | 49     | 19     | 5.9   | 12    | 3.4   |
| 4           | 4.2   | 7.0     | 25    | 4.7   | 38     | 83     | 66   | 45     | 19     | 6.2   | 10    | 3.1   |
| 5           | 3.3   | 5.7     | 21    | 4.1   | 31     | 72     | 59   | 43     | 20     | 12    | 10    | 2.6   |
| 6           | 2.8   | 5.9     | 17    | 3.6   | 23     | 63     | 64   | 38     | 24     | 26    | 9.9   | 2.3   |
| 7           | 2.7   | 5.9     | 14    | 4.5   | 18     | 59     | 71   | 34     | 26     | 39    | 8.9   | 2.1   |
| 8           | 7.4   | 5.3     | 13    | 4.4   | 17     | 56     | 71   | 34     | 25     | 43    | 8.8   | 2.1   |
| 9           | 10    | 5.2     | 13    | 4.1   | 17     | 53     | 61   | 30     | 18     | 40    | 8.4   | 2.7   |
| 10          | 13    | 6.2     | 14    | 3.6   | 15     | 50     | 53   | 27     | 13     | 35    | 7.8   | 2.8   |
| 11          | 16    | 4.4     | 13    | 3.5   | 23     | 48     | 50   | 28     | 9.6    | 32    | 7.2   | 2.4   |
| 12          | 15    | 5.0     | 12    | 3.3   | 44     | 46     | 45   | 36     | 7.9    | 30    | 7.9   | 2.7   |
| 13          | 12    | 6.4     | 12    | 2.9   | 48     | 43     | 43   | 48     | 7.8    | 29    | 7.3   | 3.9   |
| 14          | 9.4   | 99      | 11    | 2.7   | 43     | 38     | 44   | 53     | 6.8    | 30    | 6.6   | 4.3   |
| 15          | 7.9   | 82      | 9.6   | 2.5   | 36     | 42     | 44   | 50     | 5.8    | 26    | 6.0   | 5.1   |
| 16          | 7.7   | 18      | 9.6   | 2.5   | 31     | 36     | 49   | 59     | 5.2    | 23    | 8.3   | 5.9   |
| 17          | 13    | 6.0     | 9.6   | 2.7   | 28     | 37     | 47   | 63     | 1.8    | 19    | 9.6   | 6.2   |
| 18          | 15    | 7.5     | 9.2   | 2.8   | 28     | 38     | 43   | 57     | .22    | 16    | 11    | 6.2   |
| 19          | 13    | 7.0     | 8.3   | 2.8   | 29     | 23     | 39   | 45     | .16    | 16    | 11    | 6.2   |
| 20          | 10    | 6.4     | 7.7   | 2.8   | 40     | 1.1    | 36   | 36     | .19    | 16    | 11    | 6.3   |
| 21          | 8.2   | 5.8     | 7.1   | 2.7   | 71     | 3.5    | 32   | 29     | .20    | 20    | 9.8   | 5.7   |
| 22          | 6.5   | 5.4     | 6.4   | 2.6   | 91     | 13     | 32   | 22     | .28    | 21    | 9.2   | 5.6   |
| 23          | 5.2   | 5.0     | 6.2   | 2.7   | 86     | 21     | 31   | 17     | .22    | 25    | 8.7   | 8.4   |
| 24          | 5.0   | 5.0     | 6.2   | 2.8   | 93     | 23     | 40   | 14     | .23    | 26    | 8.1   | 11    |
| 25          | 6.7   | 9.0     | 5.8   | 2.7   | 144    | 25     | 54   | 14     | .16    | 24    | 8.8   | 14    |
| 26          | 13    | 30      | 4.9   | 2.6   | 185    | 27     | 62   | 10     | .77    | 22    | 8.3   | 15    |
| 27          | 10    | 25      | 5.7   | 2.6   | 187    | 29     | 58   | 11     | 2.8    | 18    | 7.0   | 17    |
| 28          | 10    | 30      | 5.6   | 2.6   | 177    | 34     | 52   | 9.5    | 4.8    | 16    | 6.1   | 17    |
| 29          | 9.3   | 35      | 6.1   | 2.9   | ---    | 36     | 51   | 9.2    | 6.1    | 18    | 5.2   | 16    |
| 30          | 8.4   | 35      | 6.3   | 3.1   | ---    | 39     | 55   | 11     | 6.6    | 17    | 4.6   | 14    |
| 31          | 7.9   | ---     | 6.0   | 2.9   | ---    | 40     | ---  | 16     | ---    | 18    | 4.3   | ---   |
| TOTAL       | 258.0 | 487.0   | 343.3 | 104.1 | 1603.9 | 1438.6 | 1514 | 1043.7 | 274.63 | 681.6 | 271.8 | 201.6 |
| MEAN        | 8.32  | 16.2    | 11.1  | 3.36  | 57.3   | 46.4   | 50.5 | 33.7   | 9.15   | 22.0  | 8.77  | 6.72  |
| MAX         | 16    | 99      | 25    | 5.8   | 187    | 144    | 71   | 63     | 26     | 43    | 16    | 17    |
| MIN         | 1.3   | 4.4     | 4.9   | 2.5   | 2.9    | 1.1    | 31   | 9.2    | .16    | 5.9   | 4.3   | 2.1   |
| CAL YR 1980 | TOTAL | 8738.18 | MEAN  | 23.9  | MAX    | 216    | MIN  | .35    |        |       |       |       |
| WTR YR 1981 | TOTAL | 8222.23 | MEAN  | 22.5  | MAX    | 187    | MIN  | .16    |        |       |       |       |



## CONNECTICUT RIVER BASIN

01165500 MOSS BROOK AT WENDELL DEPOT, MA

LOCATION.--Lat 42°36'10", long 72°21'36", Franklin County, Hydrologic Unit 01080202, on left bank 0.2 mi (0.3 km) upstream from mouth, 0.2 mi (0.3 km) north of Wendell Depot, and 2.5 mi (4.0 km) west of Orange.

DRAINAGE AREA.--12.3 mi<sup>2</sup> (31.9 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June to October 1909, April to August 1910, June 1916 to current year. Published as "at Wendell" 1909-10.

Water-quality records: Water year 1966.

REVISED RECORDS.--WSP 821: 1936(M). WSP 891: Drainage area. WSP 1051: 1917, 1919-24, 1929(M). WSP 1231: 1917-21(M), 1922, 1923(M), 1924-26, 1927-28(M), 1929, 1930-35(M), 1939(M), 1941(M), 1944(M), 1949(M).

GAGE.--Water-stage recorder. Crest-stage gage since July 11, 1958. Datum of gage is 508.9 ft (155.11 m)

National Geodetic Vertical Datum of 1929. Prior to April 1910, nonrecording gage at site 1,200 ft (350 m)

downstream at different datum. April to August 1910, nonrecording gage and sharp-crested weir at site 300 ft (90 m) downstream at different datum. June 1916 to Dec. 8, 1965, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--65 years (water years 1917-81), 20.0 ft<sup>3</sup>/s (0.566 m<sup>3</sup>/s), 22.08 in/yr (561 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,540 ft<sup>3</sup>/s (43.6 m<sup>3</sup>/s) Mar. 19, 1936, gage height, 6.30 ft (1.920 m), from floodmarks, from rating curve extended above 400 ft<sup>3</sup>/s (11 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 5.62 ft (1.713 m) and 6.30 ft (1.920 m); minimum, 0.2 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Sept. 4, 5, 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 160 ft<sup>3</sup>/s (4.5 m<sup>3</sup>/s) and maximums (\*):

| Date          | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| About Feb. 11 | --   | ice jam                                               | a*4.01 1.222            | Feb. 26 | 2015 | *175 4.96                                             | 3.27 0.997              |

a From crest-stage gage.

Minimum discharge, 0.89 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Aug. 29-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN  | FEB    | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|-------|------|--------|------|------|-------|-------|-------|-------|-------|
| 1           | 1.2   | 2.3     | 17    | 2.1  | 1.3    | 61   | 22   | 36    | 17    | 2.3   | 3.4   | .97   |
| 2           | 1.1   | 1.9     | 17    | 2.1  | 30     | 49   | 36   | 27    | 12    | 2.0   | 2.3   | .97   |
| 3           | 1.1   | 1.7     | 12    | 2.4  | 27     | 40   | 47   | 24    | 10    | 1.9   | 1.9   | .97   |
| 4           | 2.4   | 1.7     | 8.8   | 2.3  | 22     | 34   | 36   | 22    | 9.4   | 2.4   | 2.0   | .97   |
| 5           | 2.5   | 2.1     | 8.0   | 2.3  | 18     | 31   | 31   | 18    | 7.4   | 12    | 6.7   | .97   |
| 6           | 1.7   | 2.1     | 7.4   | 2.2  | 13     | 28   | 36   | 17    | 7.2   | 15    | 14    | .93   |
| 7           | 1.5   | 2.1     | 7.2   | 2.1  | 10     | 26   | 37   | 15    | 11    | 10    | 6.5   | .93   |
| 8           | 1.4   | 2.1     | 6.9   | 1.9  | 9.2    | 25   | 29   | 13    | 8.0   | 6.0   | 3.8   | .93   |
| 9           | 1.3   | 1.9     | 7.2   | 1.8  | 8.5    | 24   | 25   | 12    | 7.2   | 3.7   | 3.7   | 2.6   |
| 10          | 1.1   | 2.8     | 7.2   | 1.7  | 8.0    | 24   | 25   | 11    | 6.7   | 2.5   | 3.8   | 2.1   |
| 11          | 1.2   | 3.1     | 6.8   | 1.6  | 20     | 23   | 24   | 11    | 5.0   | 1.8   | 2.8   | 1.6   |
| 12          | 1.4   | 2.5     | 6.5   | 1.4  | 40     | 23   | 22   | 20    | 3.8   | 1.5   | 3.1   | 1.2   |
| 13          | 1.4   | 2.3     | 6.2   | 1.3  | 33     | 22   | 20   | 53    | 4.0   | 2.8   | 2.9   | 1.2   |
| 14          | 1.3   | 2.3     | 6.5   | 1.2  | 26     | 19   | 20   | 45    | 3.1   | 8.8   | 2.3   | 1.2   |
| 15          | 1.1   | 2.0     | 5.4   | 1.2  | 22     | 20   | 36   | 31    | 2.7   | 5.2   | 2.1   | 1.3   |
| 16          | 1.1   | 1.8     | 5.2   | 1.1  | 20     | 20   | 32   | 50    | 2.9   | 3.1   | 3.1   | 1.3   |
| 17          | 1.1   | 1.8     | 5.0   | 1.1  | 20     | 19   | 25   | 84    | 2.5   | 2.4   | 2.7   | 1.4   |
| 18          | 1.3   | 2.3     | 5.0   | 1.1  | 20     | 17   | 23   | 54    | 2.0   | 1.9   | 2.1   | 1.5   |
| 19          | 2.4   | 2.4     | 4.8   | 1.0  | 21     | 17   | 19   | 35    | 1.7   | 1.9   | 1.6   | 1.5   |
| 20          | 2.0   | 2.4     | 4.0   | 1.0  | 26     | 15   | 17   | 26    | 1.8   | 3.5   | 1.3   | 1.9   |
| 21          | 1.6   | 3.1     | 4.4   | 1.0  | 45     | 15   | 15   | 21    | 2.8   | 11    | 1.2   | 1.4   |
| 22          | 1.6   | 2.5     | 3.2   | 1.0  | 52     | 14   | 14   | 18    | 5.6   | 14    | 1.2   | 1.4   |
| 23          | 1.4   | 2.9     | 3.4   | 1.1  | 45     | 13   | 14   | 17    | 13    | 8.5   | 1.1   | 5.0   |
| 24          | 1.3   | 3.2     | 3.4   | 1.1  | 50     | 13   | 23   | 14    | 6.5   | 5.2   | .97   | 8.2   |
| 25          | 2.1   | 11      | 3.4   | 1.2  | 130    | 13   | 34   | 12    | 6.2   | 3.2   | 1.2   | 11    |
| 26          | 8.8   | 13      | 3.4   | 1.4  | 158    | 13   | 39   | 10    | 12    | 2.7   | 1.3   | 6.9   |
| 27          | 5.4   | 9.4     | 3.8   | 1.5  | 128    | 14   | 30   | 9.1   | 11    | 3.1   | 1.2   | 5.0   |
| 28          | 3.8   | 15      | 4.2   | 1.5  | 78     | 17   | 23   | 7.7   | 6.2   | 2.6   | .97   | 3.2   |
| 29          | 3.1   | 33      | 4.2   | 1.5  | ---    | 17   | 22   | 7.4   | 4.0   | 6.5   | .93   | 2.8   |
| 30          | 2.3   | 26      | 4.0   | 1.5  | ---    | 18   | 39   | 8.5   | 2.8   | 9.4   | .89   | 2.3   |
| 31          | 2.3   | ---     | 2.8   | 1.4  | ---    | 22   | ---  | 15    | ---   | 5.4   | .93   | ---   |
| TOTAL       | 63.3  | 162.7   | 194.3 | 47.1 | 1081.0 | 706  | 815  | 743.7 | 195.5 | 162.3 | 83.99 | 73.64 |
| MEAN        | 2.04  | 5.42    | 6.27  | 1.52 | 38.6   | 22.8 | 27.2 | 24.0  | 6.52  | 5.24  | 2.71  | 2.45  |
| MAX         | 8.8   | 33      | 17    | 2.4  | 158    | 61   | 47   | 84    | 17    | 15    | 14    | 11    |
| MIN         | 1.1   | 1.7     | 2.8   | 1.0  | 1.3    | 13   | 14   | 7.4   | 1.7   | 1.5   | .89   | .93   |
| CFSM        | .17   | .44     | .51   | .12  | 3.14   | 1.85 | 2.21 | 1.95  | .53   | .43   | .22   | .20   |
| IN.         | .19   | .49     | .59   | .14  | 3.27   | 2.14 | 2.46 | 2.25  | .59   | .49   | .25   | .22   |
| CAL YR 1980 | TOTAL | 4781.28 | MEAN  | 13.1 | MAX    | 209  | MIN  | .78   | CFSM  | 1.07  | IN    | 14.46 |
| WTR YR 1981 | TOTAL | 4328.53 | MEAN  | 11.9 | MAX    | 158  | MIN  | .89   | CFSM  | .97   | IN    | 13.09 |

## CONNECTICUT RIVER BASIN

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## 01166500 MILLERS RIVER AT ERVING, MA

LOCATION.--Lat 42°35'51", long 72°26'19", Franklin County, Hydrologic Unit 01080202, on right bank 5 ft (23 m) downstream from bridge at Farley, 0.6 mi (1.0 km) upstream from Mormon Hollow Brook, 2.4 mi (3.9 km) downstream from Erving, and 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--375 mi<sup>2</sup> (971 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: August 1914 to June 1915 (twice-daily gage heights and corresponding discharge), July 1915 to current year.  
Water-quality records: Water years 1953, 1965-66.

REVISED RECORDS.--WSP 641: 1920(M). WSP 756: Drainage area. WSP 781: 1928(M), 1933(M). WSP 1301: 1915(M).

GAGE.--Water-stage recorder. Altitude of gage is 380 ft (116 m), from topographic map. Prior to June 30, 1915, nonrecording gage, June 30, 1915, to Sept. 20, 1938, water-stage recorder, and Sept. 21 to Dec. 31, 1938, nonrecording gage, at site 2.2 mi (3.5 km) upstream at different datum. Jan. 1 to Mar. 29, 1939, nonrecording gage, and Mar. 30, 1939, to Sept. 12, 1941, water-stage recorder, at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by powerplants and by Lake Monomac and other reservoirs; high flow regulated by Birch Hill Reservoir 22 mi (35 km) upstream and Tully Reservoir (Reservoirs in Connecticut River basin); greater regulation by powerplants prior to 1966. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--67 years, 625 ft<sup>3</sup>/s (17.70 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 (821 m<sup>3</sup>/s) Sept. 22, 1938, gage height, 13.37 ft (4.075 m), from floodmarks, site and datum then in use, mean of two slope-area measurements; practically no flow at times during 1915 and 1916 because of regulation; minimum daily, 8 ft<sup>3</sup>/s (0.23 m<sup>3</sup>/s) Sept. 6, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,100 ft<sup>3</sup>/s (87.8 m<sup>3</sup>/s) Feb. 27, gage height, 5.59 ft (1.704 m); maximum gage height, 6.35 ft (1.935 m) Feb. 21, ice jam; minimum daily discharge, 58 ft<sup>3</sup>/s (1.64 m<sup>3</sup>/s) Jan. 19-22, Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR   | APR   | MAY   | JUN  | JUL   | AUG  | SEP  |
|-------------|-------|--------|----------|----------|--------|-------|-------|-------|------|-------|------|------|
| 1           | 122   | 97     | 540      | 108      | 60     | 2710  | 336   | 1280  | 571  | 196   | 281  | 97   |
| 2           | 153   | 93     | 461      | 96       | 400    | 2640  | 540   | 1200  | 522  | 185   | 213  | 91   |
| 3           | 148   | 146    | 442      | 100      | 580    | 2390  | 1070  | 1030  | 413  | 153   | 188  | 79   |
| 4           | 158   | 116    | 362      | 89       | 540    | 1990  | 2130  | 891   | 387  | 174   | 152  | 85   |
| 5           | 166   | 139    | 327      | 85       | 400    | 1510  | 1610  | 739   | 347  | 422   | 151  | 58   |
| 6           | 169   | 140    | 280      | 82       | 340    | 1090  | 1570  | 676   | 323  | 812   | 198  | 68   |
| 7           | 170   | 145    | 250      | 84       | 300    | 893   | 1530  | 620   | 342  | 916   | 174  | 75   |
| 8           | 168   | 125    | 220      | 80       | 260    | 849   | 1280  | 566   | 290  | 740   | 157  | 103  |
| 9           | 153   | 146    | 211      | 76       | 270    | 797   | 1140  | 491   | 266  | 540   | 148  | 110  |
| 10          | 143   | 185    | 261      | 73       | 260    | 752   | 950   | 452   | 248  | 386   | 157  | 108  |
| 11          | 143   | 161    | 248      | 70       | 370    | 726   | 819   | 452   | 216  | 289   | 132  | 133  |
| 12          | 140   | 157    | 239      | 67       | 900    | 700   | 754   | 592   | 196  | 238   | 124  | 108  |
| 13          | 138   | 131    | 219      | 64       | 830    | 668   | 703   | 1180  | 154  | 259   | 122  | 112  |
| 14          | 124   | 133    | 219      | 62       | 720    | 619   | 708   | 1230  | 153  | 339   | 134  | 131  |
| 15          | 117   | 207    | 220      | 60       | 650    | 584   | 907   | 1140  | 157  | 289   | 119  | 111  |
| 16          | 115   | 151    | 230      | 61       | 600    | 585   | 942   | 1440  | 137  | 242   | 151  | 108  |
| 17          | 131   | 146    | 220      | 60       | 580    | 557   | 865   | 1690  | 127  | 196   | 209  | 111  |
| 18          | 82    | 144    | 210      | 59       | 600    | 540   | 829   | 1660  | 113  | 154   | 194  | 118  |
| 19          | 107   | 110    | 210      | 58       | 600    | 498   | 757   | 1470  | 113  | 166   | 170  | 109  |
| 20          | 133   | 117    | 200      | 58       | 900    | 439   | 644   | 1110  | 94   | 228   | 148  | 112  |
| 21          | 114   | 105    | 200      | 58       | 1500   | 393   | 591   | 830   | 148  | 388   | 134  | 143  |
| 22          | 106   | 91     | 200      | 58       | 1500   | 380   | 548   | 682   | 246  | 516   | 99   | 127  |
| 23          | 70    | 66     | 200      | 60       | 1460   | 376   | 501   | 617   | 376  | 487   | 109  | 198  |
| 24          | 76    | 133    | 190      | 60       | 1960   | 316   | 642   | 562   | 362  | 398   | 135  | 419  |
| 25          | 69    | 194    | 180      | 60       | 2520   | 257   | 1080  | 513   | 368  | 295   | 122  | 527  |
| 26          | 113   | 352    | 190      | 60       | 2920   | 216   | 1350  | 466   | 510  | 250   | 116  | 464  |
| 27          | 240   | 312    | 190      | 60       | 2970   | 241   | 1370  | 372   | 556  | 229   | 103  | 423  |
| 28          | 209   | 341    | 180      | 61       | 2910   | 256   | 1290  | 336   | 498  | 197   | 68   | 388  |
| 29          | 156   | 591    | 170      | 62       | ---    | 265   | 1200  | 312   | 356  | 263   | 71   | 327  |
| 30          | 143   | 617    | 150      | 62       | ---    | 296   | 1320  | 318   | 249  | 387   | 72   | 280  |
| 31          | 125   | ---    | 120      | 60       | ---    | 333   | ---   | 436   | ---  | 361   | 105  | ---  |
| TOTAL       | 4201  | 5591   | 7539     | 2153     | 27900  | 24866 | 29976 | 25353 | 8838 | 10695 | 4456 | 5323 |
| MEAN        | 136   | 186    | 243      | 69.5     | 996    | 802   | 999   | 818   | 295  | 345   | 144  | 177  |
| MAX         | 240   | 617    | 540      | 108      | 2970   | 2710  | 2130  | 1690  | 571  | 916   | 281  | 527  |
| MIN         | 69    | 66     | 120      | 58       | 60     | 216   | 336   | 312   | 94   | 153   | 68   | 58   |
| CAL YR 1980 | TOTAL | 162925 | MEAN 445 | MAX 2910 | MIN 47 |       |       |       |      |       |      |      |
| WTR YR 1981 | TOTAL | 156891 | MEAN 430 | MAX 2970 | MIN 58 |       |       |       |      |       |      |      |

## CONNECTICUT RIVER BASIN

01167000 CONNECTICUT RIVER AT TURNERS FALLS, MA

LOCATION.--Lat 42°36'40", long 72°33'20", Franklin County, Hydrologic Unit 01080201, at dam of Western Massachusetts Electric Co. at Turners Falls, 0.2 mi (0.3 km) upstream from Fall River, and at mile 122.2 (196.6 km).

DRAINAGE AREA.--7,163 mi<sup>2</sup> (18,552 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: January 1915 to current year.  
Water-quality records: Water years 1973-74.

REVISED RECORDS.--WSP 741: 1932. WSP 891: Drainage area.

REMARKS.--Discharge computed by adding flow over and through dam, flow for factories through canal that diverts around dam, and flow through power stations 1 and 2 of Western Massachusetts Electric Co. Flow regulated by powerplants and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs (Reservoirs in Connecticut River basin), and other reservoirs, combined usable capacity, about 35,500,000,000 ft<sup>3</sup> (1,010,000,000 m<sup>3</sup>).

COOPERATION.--Records furnished by Western Massachusetts Electric Co.

AVERAGE DISCHARGE.--66 years, 11,810 ft<sup>3</sup>/s (334.5 m<sup>3</sup>/s).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT    | NOV     | DEC    | JAN   | FEB    | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    |
|-------------|--------|---------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1           | 6980   | 4210    | 14800  | 1850  | 2640   | 38800  | 34200  | 15600  | 9530   | 5880   | 1950   | 5250   |
| 2           | 5090   | 1480    | 12600  | 5460  | 7750   | 36900  | 30100  | 12700  | 10500  | 5560   | 977    | 5150   |
| 3           | 6840   | 6450    | 12100  | 1840  | 12500  | 31000  | 31700  | 11100  | 10400  | 2310   | 5860   | 4920   |
| 4           | 6800   | 7200    | 16500  | 1520  | 14800  | 22000  | 26300  | 12700  | 10600  | 1680   | 6080   | 3900   |
| 5           | 5640   | 5400    | 15100  | 7030  | 13200  | 15900  | 25300  | 15200  | 9640   | 2490   | 4420   | 2980   |
| 6           | 7740   | 4350    | 12000  | 4750  | 9430   | 15300  | 25700  | 10600  | 10900  | 7130   | 4800   | 2220   |
| 7           | 9340   | 6390    | 9310   | 2910  | 7360   | 13600  | 27300  | 10700  | 6560   | 9140   | 8320   | 2380   |
| 8           | 8180   | 6870    | 7900   | 4350  | 4900   | 13000  | 20700  | 10600  | 8800   | 7490   | 7910   | 2950   |
| 9           | 5620   | 6530    | 9150   | 2950  | 7950   | 12000  | 18200  | 9160   | 10500  | 5750   | 5980   | 5760   |
| 10          | 7120   | 7860    | 11200  | 2120  | 8520   | 13700  | 19400  | 5770   | 10700  | 4420   | 6690   | 5460   |
| 11          | 6950   | 6730    | 11500  | 1590  | 13700  | 13800  | 18100  | 10400  | 10500  | 2520   | 7760   | 3780   |
| 12          | 2380   | 7850    | 10700  | 4600  | 33800  | 10900  | 19100  | 13800  | 10600  | 1380   | 8290   | 3840   |
| 13          | 2640   | 7530    | 7160   | 3620  | 38000  | 11400  | 16000  | 20800  | 10600  | 6380   | 6400   | 1470   |
| 14          | 4660   | 5640    | 4750   | 3520  | 30300  | 11600  | 17100  | 23900  | 10500  | 4490   | 6660   | 7760   |
| 15          | 4220   | 3440    | 7540   | 3630  | 22500  | 11300  | 17200  | 18200  | 10200  | 3200   | 5530   | 6560   |
| 16          | 5200   | 2780    | 6760   | 3160  | 18500  | 10800  | 16900  | 22700  | 9300   | 3100   | 8270   | 6660   |
| 17          | 5880   | 7900    | 6480   | 1500  | 15800  | 10500  | 15800  | 23100  | 7110   | 2470   | 15100  | 3030   |
| 18          | 5600   | 7980    | 8180   | 1510  | 15900  | 10700  | 14000  | 22000  | 6680   | 1480   | 18000  | 1520   |
| 19          | 2170   | 5300    | 8390   | 3180  | 20800  | 10500  | 13400  | 19500  | 4830   | 1470   | 17900  | 2050   |
| 20          | 6660   | 6200    | 4820   | 3560  | 30400  | 10500  | 15800  | 18500  | 2940   | 6430   | 14300  | 1480   |
| 21          | 6760   | 6840    | 2260   | 2880  | 44500  | 7720   | 13000  | 15700  | 5130   | 6590   | 13200  | 5400   |
| 22          | 7580   | 2490    | 6920   | 2780  | 44000  | 5970   | 13700  | 12700  | 6580   | 3760   | 9600   | 8190   |
| 23          | 7470   | 1450    | 5660   | 2890  | 56000  | 6940   | 16000  | 10900  | 9110   | 3960   | 1620   | 22200  |
| 24          | 8180   | 6280    | 5480   | 2750  | 55200  | 8490   | 13800  | 8270   | 6630   | 2930   | 6980   | 27900  |
| 25          | 8010   | 10500   | 6420   | 1460  | 68800  | 9150   | 17700  | 5300   | 7150   | 2370   | 6950   | 26500  |
| 26          | 8600   | 12300   | 6010   | 4880  | 70100  | 8960   | 19500  | 7560   | 4370   | 1480   | 8730   | 20100  |
| 27          | 8060   | 11900   | 2860   | 3900  | 59600  | 10200  | 19000  | 10800  | 8920   | 7060   | 3720   | 16600  |
| 28          | 10400  | 13100   | 3760   | 2450  | 45700  | 10300  | 15600  | 10700  | 5880   | 5350   | 7940   | 14800  |
| 29          | 10400  | 12300   | 5610   | 2140  | ---    | 12700  | 16100  | 8140   | 7450   | 7310   | 2490   | 17600  |
| 30          | 10400  | 13700   | 5340   | 2200  | ---    | 16700  | 16200  | 3200   | 6110   | 8060   | 1960   | 15400  |
| 31          | 10400  | ---     | 3580   | 1550  | ---    | 31100  | ---    | 6200   | ---    | 9530   | 2480   | ---    |
| TOTAL       | 211970 | 208950  | 250840 | 94530 | 772650 | 452430 | 582900 | 406500 | 248720 | 143170 | 226867 | 253810 |
| MEAN        | 6838   | 6965    | 8092   | 3049  | 27590  | 14590  | 19430  | 13110  | 8291   | 4618   | 7318   | 8460   |
| MAX         | 10400  | 13700   | 16500  | 7030  | 70100  | 38800  | 34200  | 23900  | 10900  | 9530   | 18000  | 27900  |
| MIN         | 2170   | 1450    | 2260   | 1460  | 2640   | 5970   | 13000  | 3200   | 2940   | 1380   | 977    | 1470   |
| CAL YR 1980 | TOTAL  | 2867831 | MEAN   | 7836  | MAX    | 57600  | MIN    | 545    |        |        |        |        |
| WTR YR 1981 | TOTAL  | 3853337 | MEAN   | 10560 | MAX    | 70100  | MIN    | 977    |        |        |        |        |

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| DAY         | OCT   | NOV    | DEC   | JAN   | FEB   | MAR   | APR   | MAY  | JUN  | JUL   | AUG   | SEP  |
|-------------|-------|--------|-------|-------|-------|-------|-------|------|------|-------|-------|------|
| 1           | 390   | 83     | 559   | 131   | 205   | 1870  | 1490  | 148  | 539  | 116   | 231   | 408  |
| 2           | 451   | 142    | 630   | 366   | 686   | 2040  | 1520  | 98   | 130  | 108   | 134   | 407  |
| 3           | 366   | 468    | 649   | 124   | 1180  | 1900  | 1380  | 81   | 554  | 130   | 177   | 401  |
| 4           | 143   | 356    | 856   | 443   | 1030  | 1900  | 1270  | 79   | 569  | 145   | 129   | 193  |
| 5           | 73    | 493    | 867   | 703   | 992   | 1880  | 1260  | 103  | 332  | 367   | 264   | 84   |
| 6           | 190   | 148    | 632   | 637   | 979   | 1840  | 1340  | 96   | 82   | 534   | 489   | 112  |
| 7           | 271   | 275    | 76    | 597   | 977   | 1720  | 1240  | 138  | 90   | 925   | 218   | 112  |
| 8           | 158   | 83     | 614   | 588   | 998   | 1820  | 1210  | 78   | 175  | 717   | 213   | 110  |
| 9           | 103   | 82     | 938   | 498   | 995   | 1810  | 1290  | 91   | 317  | 286   | 275   | 513  |
| 10          | 137   | 405    | 930   | 650   | 1010  | 1830  | 1140  | 78   | 452  | 208   | 322   | 485  |
| 11          | 83    | 142    | 921   | 652   | 1090  | 1850  | 535   | 664  | 406  | 166   | 558   | 356  |
| 12          | 132   | 187    | 955   | 882   | 1580  | 1800  | 177   | 1100 | 356  | 234   | 656   | 167  |
| 13          | 82    | 189    | 852   | 908   | 1350  | 1780  | 377   | 615  | 88   | 255   | 583   | 91   |
| 14          | 165   | 77     | 255   | 840   | 1310  | 1770  | 761   | 315  | 104  | 195   | 608   | 415  |
| 15          | 201   | 110    | 672   | 782   | 1160  | 1740  | 763   | 113  | 107  | 156   | 404   | 451  |
| 16          | 232   | 107    | 908   | 777   | 1180  | 1750  | 642   | 265  | 107  | 135   | 581   | 470  |
| 17          | 125   | 111    | 963   | 665   | 1190  | 1370  | 768   | 115  | 73   | 186   | 475   | 142  |
| 18          | 80    | 176    | 902   | 676   | 1280  | 496   | 358   | 77   | 109  | 136   | 176   | 320  |
| 19          | 104   | 202    | 979   | 661   | 1370  | 418   | 357   | 123  | 156  | 100   | 151   | 178  |
| 20          | 281   | 92     | 910   | 392   | 3710  | 464   | 237   | 121  | 219  | 384   | 124   | 164  |
| 21          | 225   | 110    | 921   | 586   | 4750  | 341   | 261   | 212  | 83   | 734   | 197   | 245  |
| 22          | 360   | 76     | 963   | 568   | 3070  | 393   | 176   | 240  | 75   | 911   | 241   | 263  |
| 23          | 509   | 76     | 899   | 662   | 2510  | 295   | 651   | 202  | 188  | 753   | 164   | 137  |
| 24          | 331   | 80     | 926   | 342   | 3330  | 461   | 338   | 80   | 150  | 155   | 326   | 184  |
| 25          | 426   | 489    | 407   | 228   | 2910  | 195   | 85    | 150  | 230  | 111   | 387   | 217  |
| 26          | 418   | 309    | 604   | 591   | 2390  | 129   | 297   | 519  | 327  | 106   | 358   | 234  |
| 27          | 613   | 212    | 796   | 658   | 2140  | 148   | 511   | 599  | 81   | 316   | 390   | 191  |
| 28          | 904   | 453    | 275   | 201   | 2050  | 78    | 192   | 505  | 81   | 725   | 406   | 286  |
| 29          | 862   | 458    | 592   | 223   | ---   | 411   | 100   | 557  | 584  | 1040  | 373   | 338  |
| 30          | 897   | 257    | 611   | 116   | ---   | 847   | 91    | 83   | 156  | 987   | 257   | 290  |
| 31          | 805   | ---    | 530   | 118   | ---   | 1280  | ---   | 81   | ---  | 730   | 551   | ---  |
| TOTAL       | 10117 | 6448   | 22592 | 16265 | 47422 | 36626 | 20817 | 7726 | 6920 | 12051 | 10418 | 7964 |
| MEAN        | 326   | 215    | 729   | 525   | 1694  | 1181  | 694   | 249  | 231  | 389   | 336   | 265  |
| MAX         | 904   | 493    | 979   | 908   | 4750  | 2040  | 1520  | 1100 | 584  | 1040  | 656   | 513  |
| MIN         | 73    | 76     | 76    | 116   | 205   | 78    | 85    | 77   | 73   | 100   | 124   | 84   |
| CAL YR 1980 | TOTAL | 188655 | MEAN  | 515   | MAX   | 6230  | MIN   | 73   |      |       |       |      |
| WTR YR 1981 | TOTAL | 205366 | MEAN  | 563   | MAX   | 4750  | MIN   | 73   |      |       |       |      |



## CONNECTICUT RIVER BASIN

## 01168500 DEERFIELD RIVER AT CHARLEMONT, MA

LOCATION.--Lat 42°37'33", long 72°51'20", Franklin County, Hydrologic Unit 01080203, on left bank 0.8 mi (1.3 km) east of Charlemont, 2.5 mi (4.0 km) downstream from Chickley River, and at mile 24.5 (39.4 km).

DRAINAGE AREA.--362 mi<sup>2</sup> (938 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1913 to current year.  
Water-quality records: Water years 1954-55, 1958, 1967-69.

REVISED RECORDS.--WSP 781: 1915(M). WSP 1301: 1918(M).

GAGE.--Water-stage recorder. Datum of gage is 517.36 ft (157.691 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except those for period of no gage-height record, Oct. 1-16, which are fair. Flow regulated by Somerset Reservoir, since 1924 by Harriman Reservoir (Reservoirs in Connecticut River basin), and by several powerplants upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--68 years, 897 ft<sup>3</sup>/s (25.40 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,300 ft<sup>3</sup>/s (1,590 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 20.17 ft (6.148 m), from floodmarks, from rating curve extended above 31,000 ft<sup>3</sup>/s (880 m<sup>3</sup>/s) on basis of slope-area and contracted-opening measurements at gage heights 17.75 ft (5.410 m) and 20.17 ft (6.148 m); minimum daily, 5 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) June 17, 1921.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,700 ft<sup>3</sup>/s (530 m<sup>3</sup>/s) Feb. 20, gage height, 11.42 ft (3.481 m); minimum daily, 90 ft<sup>3</sup>/s (2.55 m<sup>3</sup>/s) Oct. 11, Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN       | FEB    | MAR   | APR   | MAY   | JUN  | JUL   | AUG   | SEP  |
|-------------|-------|--------|----------|-----------|--------|-------|-------|-------|------|-------|-------|------|
| 1           | 340   | 240    | 703      | 201       | 236    | 2240  | 1720  | 374   | 591  | 176   | 231   | 469  |
| 2           | 380   | 119    | 635      | 426       | 1010   | 2360  | 1770  | 301   | 231  | 131   | 174   | 348  |
| 3           | 340   | 482    | 901      | 240       | 1480   | 2100  | 1540  | 244   | 570  | 183   | 225   | 443  |
| 4           | 190   | 329    | 928      | 384       | 1140   | 2090  | 1430  | 218   | 635  | 155   | 180   | 251  |
| 5           | 110   | 613    | 964      | 833       | 1060   | 2060  | 1430  | 255   | 522  | 444   | 281   | 97   |
| 6           | 180   | 209    | 824      | 875       | 1030   | 2010  | 1590  | 209   | 154  | 586   | 479   | 90   |
| 7           | 220   | 303    | 209      | 665       | 1030   | 1870  | 1410  | 269   | 161  | 940   | 314   | 119  |
| 8           | 250   | 146    | 597      | 628       | 1050   | 1960  | 1340  | 184   | 264  | 794   | 236   | 159  |
| 9           | 92    | 113    | 1070     | 577       | 1040   | 1940  | 1410  | 201   | 373  | 401   | 206   | 547  |
| 10          | 110   | 432    | 1060     | 672       | 1040   | 1950  | 1370  | 173   | 476  | 233   | 433   | 533  |
| 11          | 90    | 201    | 986      | 833       | 2030   | 1950  | 836   | 620   | 432  | 195   | 494   | 409  |
| 12          | 120   | 250    | 1010     | 1000      | 2690   | 1900  | 391   | 1420  | 457  | 168   | 635   | 195  |
| 13          | 120   | 227    | 999      | 937       | 1680   | 1850  | 523   | 982   | 150  | 351   | 620   | 120  |
| 14          | 180   | 107    | 348      | 841       | 1510   | 1840  | 993   | 650   | 154  | 223   | 605   | 398  |
| 15          | 110   | 107    | 677      | 824       | 1330   | 1790  | 1120  | 335   | 157  | 174   | 394   | 494  |
| 16          | 190   | 143    | 986      | 791       | 1290   | 1820  | 872   | 496   | 150  | 151   | 640   | 502  |
| 17          | 136   | 129    | 988      | 719       | 1390   | 1540  | 945   | 319   | 110  | 187   | 581   | 230  |
| 18          | 98    | 218    | 982      | 703       | 1630   | 719   | 644   | 288   | 139  | 163   | 236   | 334  |
| 19          | 104   | 250    | 1010     | 695       | 1860   | 534   | 507   | 273   | 193  | 139   | 172   | 168  |
| 20          | 335   | 143    | 977      | 489       | 7540   | 584   | 526   | 240   | 259  | 321   | 184   | 165  |
| 21          | 254   | 132    | 953      | 628       | 8450   | 476   | 419   | 351   | 113  | 792   | 210   | 334  |
| 22          | 345   | 139    | 1000     | 584       | 4620   | 496   | 303   | 368   | 143  | 912   | 191   | 287  |
| 23          | 502   | 104    | 954      | 650       | 3200   | 379   | 657   | 303   | 303  | 887   | 207   | 179  |
| 24          | 414   | 125    | 974      | 457       | 6050   | 665   | 814   | 169   | 205  | 190   | 355   | 254  |
| 25          | 502   | 680    | 605      | 201       | 4430   | 368   | 321   | 150   | 314  | 128   | 393   | 272  |
| 26          | 742   | 577    | 664      | 584       | 3440   | 254   | 373   | 628   | 463  | 121   | 357   | 226  |
| 27          | 549   | 351    | 868      | 735       | 2820   | 303   | 786   | 577   | 143  | 344   | 395   | 239  |
| 28          | 928   | 599    | 438      | 345       | 2520   | 222   | 367   | 680   | 122  | 574   | 402   | 381  |
| 29          | 875   | 982    | 542      | 259       | ---    | 523   | 272   | 584   | 489  | 1060  | 389   | 252  |
| 30          | 893   | 457    | 695      | 180       | ---    | 1200  | 377   | 222   | 324  | 987   | 249   | 453  |
| 31          | 867   | ---    | 665      | 184       | ---    | 1690  | ---   | 259   | ---  | 864   | 526   | ---  |
| TOTAL       | 10566 | 8907   | 25212    | 18140     | 68596  | 41683 | 27056 | 12342 | 8797 | 12974 | 10994 | 8948 |
| MEAN        | 341   | 297    | 813      | 585       | 2450   | 1345  | 902   | 398   | 293  | 419   | 355   | 298  |
| MAX         | 928   | 982    | 1070     | 1000      | 8450   | 2360  | 1770  | 1420  | 635  | 1060  | 640   | 547  |
| MIN         | 90    | 104    | 209      | 180       | 236    | 222   | 272   | 150   | 110  | 121   | 172   | 90   |
| CAL YR 1980 | TOTAL | 250619 | MEAN 685 | MAX 11700 | MIN 90 |       |       |       |      |       |       |      |
| WTR YR 1981 | TOTAL | 254215 | MEAN 696 | MAX 8450  | MIN 90 |       |       |       |      |       |       |      |



## 01169000 NORTH RIVER AT SHATTUCKVILLE, MA

LOCATION.--Lat 42°38'18", long 72°43'32", Franklin County, Hydrologic Unit 01080203, on right bank in Shattuckville, 1.2 mi (1.9 km) south of Griswoldville, and 1.3 mi (2.1 km) upstream from mouth.

DRAINAGE AREA.--88.4 mi<sup>2</sup> (229.0 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1939 to current year. October and November 1939 monthly discharge only, published in WSP 1301.  
Water-quality records: Water years 1957, 1967-69.

REVISED RECORDS.--WSP 1111: 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 458.36 ft (139.708 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Diurnal fluctuation at times caused by mill upstream; because storage capacity is small, daily flows are not affected appreciably. Prior to 1950, greater regulation by mill. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 182 ft<sup>3</sup>/s (5.154 m<sup>3</sup>/s), 27.96 in/yr (710 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft<sup>3</sup>/s (374 m<sup>3</sup>/s) Oct. 15, 1955, gage height, 10.37 ft (3.161 m), from rating curve extended above 5,700 ft<sup>3</sup>/s (160 m<sup>3</sup>/s) on basis of computation of flow over dam at gage height 9.62 ft (2.932 m); minimum daily, 5.1 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Oct. 3, 1948.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft<sup>3</sup>/s (62 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 11 | 2200 | 4690 133                                              | 7.46 2.274              | Feb. 20 | 2030 | *10600 300                                            | 9.83 2.996              |
| Feb. 20 | 1830 | ice jam                                               | *9.99 3.045             | Feb. 24 | 0930 | 3760 106                                              | 6.94 2.115              |

Minimum discharge, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) July 14; minimum daily, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Oct. 1, Aug. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN  | FEB   | MAR    | APR       | MAY      | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|------|-------|--------|-----------|----------|------|------|------|------|
| 1           | 13    | 37    | 126      | 38   | 17    | 455    | 211       | 138      | 132  | 26   | 35   | 16   |
| 2           | 14    | 34    | 128      | 31   | 360   | 372    | 253       | 122      | 85   | 26   | 29   | 16   |
| 3           | 15    | 33    | 199      | 28   | 290   | 299    | 196       | 115      | 75   | 46   | 25   | 18   |
| 4           | 55    | 32    | 105      | 26   | 190   | 247    | 168       | 101      | 76   | 49   | 25   | 17   |
| 5           | 41    | 33    | 76       | 24   | 125   | 234    | 208       | 94       | 66   | 111  | 28   | 15   |
| 6           | 26    | 30    | 70       | 23   | 72    | 213    | 308       | 114      | 61   | 119  | 36   | 15   |
| 7           | 21    | 29    | 72       | 25   | 94    | 201    | 201       | 91       | 65   | 64   | 27   | 16   |
| 8           | 18    | 29    | 83       | 27   | 84    | 194    | 166       | 81       | 53   | 44   | 22   | 21   |
| 9           | 16    | 31    | 127      | 28   | 70    | 182    | 156       | 75       | 51   | 34   | 24   | 129  |
| 10          | 15    | 56    | 99       | 27   | 58    | 175    | 177       | 71       | 48   | 28   | 26   | 52   |
| 11          | 16    | 48    | 56       | 25   | 1080  | 168    | 150       | 91       | 43   | 23   | 26   | 33   |
| 12          | 19    | 38    | 47       | 22   | 1390  | 162    | 141       | 216      | 41   | 21   | 29   | 28   |
| 13          | 21    | 34    | 68       | 20   | 373   | 156    | 124       | 221      | 38   | 21   | 25   | 28   |
| 14          | 18    | 33    | 62       | 20   | 275   | 150    | 188       | 145      | 36   | 19   | 22   | 26   |
| 15          | 16    | 31    | 51       | 21   | 215   | 140    | 261       | 250      | 37   | 16   | 21   | 32   |
| 16          | 15    | 30    | 51       | 23   | 165   | 147    | 173       | 451      | 37   | 18   | 64   | 31   |
| 17          | 15    | 24    | 58       | 24   | 202   | 126    | 154       | 245      | 34   | 17   | 46   | 26   |
| 18          | 16    | 28    | 54       | 24   | 321   | 111    | 149       | 170      | 30   | 18   | 30   | 24   |
| 19          | 21    | 34    | 55       | 24   | 378   | 105    | 132       | 154      | 27   | 27   | 24   | 25   |
| 20          | 20    | 33    | 54       | 24   | 4070  | 104    | 119       | 126      | 26   | 53   | 22   | 35   |
| 21          | 17    | 30    | 51       | 23   | 3900  | 100    | 109       | 104      | 31   | 211  | 19   | 29   |
| 22          | 16    | 32    | 49       | 23   | 1200  | 98     | 103       | 94       | 55   | 84   | 16   | 28   |
| 23          | 15    | 30    | 47       | 23   | 600   | 98     | 106       | 85       | 124  | 49   | 17   | 42   |
| 24          | 15    | 44    | 56       | 23   | 2600  | 103    | 234       | 77       | 58   | 49   | 19   | 79   |
| 25          | 147   | 289   | 48       | 23   | 1570  | 104    | 199       | 70       | 53   | 38   | 18   | 60   |
| 26          | 377   | 155   | 43       | 22   | 1350  | 101    | 147       | 64       | 107  | 30   | 18   | 41   |
| 27          | 111   | 94    | 48       | 23   | 827   | 126    | 124       | 58       | 57   | 62   | 17   | 35   |
| 28          | 71    | 232   | 49       | 24   | 557   | 132    | 111       | 55       | 42   | 49   | 17   | 47   |
| 29          | 59    | 472   | 52       | 23   | ---   | 154    | 131       | 58       | 34   | 115  | 14   | 46   |
| 30          | 48    | 184   | 55       | 21   | ---   | 216    | 182       | 98       | 29   | 72   | 13   | 38   |
| 31          | 41    | ---   | 43       | 19   | ---   | 314    | ---       | 190      | ---  | 46   | 17   | ---  |
| TOTAL       | 1328  | 2239  | 2182     | 751  | 22433 | 5487   | 5081      | 4024     | 1651 | 1585 | 771  | 1048 |
| MEAN        | 42.8  | 74.6  | 70.4     | 24.2 | 801   | 177    | 169       | 130      | 55.0 | 51.1 | 24.9 | 34.9 |
| MAX         | 377   | 472   | 199      | 38   | 4070  | 455    | 308       | 451      | 132  | 211  | 64   | 129  |
| MIN         | 13    | 24    | 43       | 19   | 17    | 98     | 103       | 55       | 26   | 16   | 13   | 15   |
| CFSM        | .48   | .84   | .80      | .27  | 9.06  | 2.00   | 1.91      | 1.47     | .62  | .58  | .28  | .40  |
| IN.         | .56   | .94   | .92      | .32  | 9.44  | 2.31   | 2.14      | 1.69     | .69  | .67  | .32  | .44  |
| CAL YR 1980 | TOTAL | 49057 | MEAN 134 | MAX  | 4300  | MIN 10 | CFSM 1.52 | IN 20.64 |      |      |      |      |
| WTR YR 1981 | TOTAL | 48580 | MEAN 133 | MAX  | 4070  | MIN 13 | CFSM 1.51 | IN 20.44 |      |      |      |      |

## CONNECTICUT RIVER BASIN

01169900 SOUTH RIVER NEAR CONWAY, MA

LOCATION.--Lat 42°32'31", long 72°41'39", Franklin County, Hydrologic Unit 01080203, on left bank at upstream side of Reeds Bridge just off Bardwell Road, 2.2 mi (3.5 km) north of Conway, and 2.6 mi (4.2 km) upstream from mouth.

DRAINAGE AREA.--24.0 mi<sup>2</sup> (62.2 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1966 to current year.  
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: 1968-70(P), 1971(M), 1972(P).

GAGE.--Water-stage recorder. Altitude of gage is 460 ft (140 m), from topographic map. Prior to Oct. 7, 1970, at downstream side of bridge at same site and datum.

REMARKS.--Records good except those for winter period and periods of no gage-height record, Feb. 20 to Mar. 3, Sept. 16-30, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--15 years, 52.7 ft<sup>3</sup>/s (1.492 m<sup>3</sup>/s), 29.82 in/yr (757 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,510 ft<sup>3</sup>/s (71.1 m<sup>3</sup>/s) Jan. 9, 1978, gage height, 7.80 ft (2.377 m), from rating curve extended above 750 ft<sup>3</sup>/s (21 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 7.77 ft (2.368 m); maximum gage height, 8.86 ft (2.701 m) Feb. 11, 1981 (ice jam); minimum discharge, 2.5 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s) Sept. 12-14, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 660 ft<sup>3</sup>/s (19 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 11 | --   | 1100 31                                               | a*8.86 2.701            | Feb. 24 | --   | 750 21                                                | -- --                   |
| Feb. 20 | --   | *2400 68                                              | -- --                   |         |      |                                                       |                         |

a Ice jam.

Minimum discharge, 3.1 ft<sup>3</sup>/s (0.088 m<sup>3</sup>/s) Oct. 11, Aug. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB    | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|-------|-------|--------|------|------|------|-------|-------|-------|-------|
| 1           | 3.6   | 8.6     | 26    | 9.4   | 6.6    | 110  | 33   | 42   | 22    | 9.1   | 6.6   | 3.5   |
| 2           | 3.6   | 7.7     | 23    | 9.0   | 92     | 96   | 53   | 48   | 18    | 9.5   | 6.2   | 3.9   |
| 3           | 3.6   | 7.1     | 32    | 8.8   | 75     | 80   | 38   | 39   | 17    | 15    | 5.6   | 3.9   |
| 4           | 13    | 6.7     | 30    | 7.2   | 42     | 70   | 36   | 33   | 18    | 15    | 4.7   | 3.9   |
| 5           | 7.1   | 6.7     | 27    | 7.1   | 28     | 61   | 38   | 30   | 16    | 32    | 6.6   | 3.9   |
| 6           | 4.9   | 6.4     | 21    | 7.2   | 24     | 54   | 44   | 30   | 16    | 26    | 8.0   | 3.5   |
| 7           | 4.1   | 6.3     | 18    | 7.4   | 20     | 50   | 33   | 28   | 18    | 16    | 5.9   | 3.3   |
| 8           | 3.8   | 6.3     | 19    | 7.5   | 22     | 50   | 31   | 27   | 15    | 13    | 5.2   | 3.3   |
| 9           | 3.8   | 6.8     | 21    | 7.5   | 23     | 48   | 34   | 25   | 17    | 11    | 6.2   | 16    |
| 10          | 3.4   | 11      | 18    | 7.5   | 21     | 48   | 41   | 24   | 16    | 9.5   | 5.9   | 7.3   |
| 11          | 3.6   | 8.8     | 16    | 7.6   | 300    | 45   | 35   | 30   | 14    | 8.4   | 5.2   | 4.9   |
| 12          | 3.8   | 7.9     | 15    | 7.6   | 272    | 43   | 33   | 80   | 13    | 7.3   | 7.3   | 4.4   |
| 13          | 3.8   | 7.1     | 13    | 7.0   | 100    | 42   | 30   | 50   | 13    | 6.9   | 5.2   | 4.4   |
| 14          | 3.6   | 6.7     | 12    | 6.6   | 80     | 40   | 46   | 34   | 12    | 7.3   | 4.4   | 4.1   |
| 15          | 3.6   | 6.7     | 12    | 6.6   | 56     | 40   | 50   | 31   | 13    | 6.9   | 4.1   | 4.1   |
| 16          | 3.2   | 6.3     | 12    | 6.6   | 50     | 39   | 37   | 73   | 13    | 6.6   | 7.3   | 4.8   |
| 17          | 3.2   | 6.3     | 12    | 6.6   | 60     | 35   | 33   | 50   | 11    | 6.2   | 5.6   | 4.2   |
| 18          | 3.8   | 7.4     | 12    | 7.0   | 70     | 31   | 33   | 35   | 11    | 5.9   | 4.1   | 3.9   |
| 19          | 4.3   | 8.5     | 11    | 7.0   | 70     | 33   | 30   | 31   | 9.9   | 5.9   | 3.9   | 4.8   |
| 20          | 4.1   | 7.5     | 11    | 7.0   | 700    | 30   | 28   | 28   | 11    | 7.6   | 3.7   | 5.8   |
| 21          | 3.6   | 7.5     | 11    | 7.0   | 600    | 29   | 28   | 25   | 14    | 15    | 3.3   | 4.8   |
| 22          | 3.2   | 7.5     | 11    | 7.0   | 200    | 28   | 27   | 24   | 24    | 9.9   | 3.3   | 4.8   |
| 23          | 3.2   | 8.0     | 11    | 7.0   | 110    | 28   | 27   | 23   | 23    | 8.0   | 4.1   | 12    |
| 24          | 3.2   | 13      | 10    | 7.0   | 450    | 28   | 51   | 22   | 14    | 6.9   | 3.3   | 11    |
| 25          | 53    | 62      | 10    | 7.0   | 310    | 28   | 37   | 20   | 16    | 6.2   | 3.9   | 8.8   |
| 26          | 69    | 30      | 10    | 7.0   | 420    | 27   | 32   | 19   | 20    | 5.6   | 4.1   | 6.6   |
| 27          | 21    | 20      | 10    | 7.1   | 210    | 30   | 29   | 18   | 14    | 9.5   | 3.7   | 5.4   |
| 28          | 14    | 57      | 9.7   | 7.1   | 140    | 31   | 27   | 17   | 12    | 8.0   | 3.5   | 6.4   |
| 29          | 12    | 85      | 11    | 7.1   | ---    | 30   | 34   | 19   | 9.9   | 14    | 3.3   | 7.5   |
| 30          | 10    | 35      | 11    | 7.1   | ---    | 33   | 59   | 20   | 9.9   | 10    | 3.3   | 7.0   |
| 31          | 8.9   | ---     | 10    | 6.9   | ---    | 42   | ---  | 25   | ---   | 8.0   | 3.3   | ---   |
| TOTAL       | 289.0 | 471.8   | 475.7 | 225.5 | 4551.6 | 1379 | 1087 | 1000 | 450.7 | 326.2 | 150.8 | 172.2 |
| MEAN        | 9.32  | 15.7    | 15.3  | 7.27  | 163    | 44.5 | 36.2 | 32.3 | 15.0  | 10.5  | 4.86  | 5.74  |
| MAX         | 69    | 85      | 32    | 9.4   | 700    | 110  | 59   | 80   | 24    | 32    | 8.0   | 16    |
| MIN         | 3.2   | 6.3     | 9.7   | 6.6   | 6.6    | 27   | 27   | 17   | 9.9   | 5.6   | 3.3   | 3.3   |
| CFSM        | .39   | .65     | .64   | .30   | 6.79   | 1.85 | 1.51 | 1.35 | .63   | .44   | .20   | .24   |
| IN.         | .45   | .73     | .74   | .35   | 7.05   | 2.14 | 1.68 | 1.55 | .70   | .51   | .23   | .27   |
| CAL YR 1980 | TOTAL | 12286.7 | MEAN  | 33.6  | MAX    | 770  | MIN  | 2.5  | CFSM  | 1.40  | IN    | 19.04 |
| WTR YR 1981 | TOTAL | 10579.5 | MEAN  | 29.0  | MAX    | 700  | MIN  | 3.2  | CFSM  | 1.21  | IN    | 16.40 |

## CONNECTICUT RIVER BASIN

159

01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MA

LOCATION.--Lat 42°32'09", long 72°39'14", Franklin County, Hydrologic Unit 01080203, on right bank 0.4 mi (0.6 km) downstream from South River, 1.2 mi (1.9 km) west of West Deerfield, 2.5 mi (4.0 km) west of Deerfield, and 9.2 mi (14.8 km) upstream from mouth.

DRAINAGE AREA.--558 mi<sup>2</sup> (1,445 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: March to November 1904, January 1905, March to December 1905, October 1940 to current year, published as "at Deerfield" 1904-5.

Water-quality records: Water years 1953, 1967-69.

Chemical analyses: October 1968 to April 1970.

Water temperatures: October 1968 to April 1970.

GAGE.--Water-stage recorder. Altitude of gage is 155 ft (47 m), from topographic map. Prior to Dec. 16, 1905, nonrecording gage at site 1.5 mi (2.4 km) downstream at different datum.

REMARKS.--Records good except those for winter period, which are fair. No gage-height record Dec. 7 to Jan. 14. Flow regulated since 1913 by Somerset Reservoir, since 1924 by Harriman Reservoir (Reservoirs in Connecticut River basin), and by several powerplants upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--41 years (water years 1941-81), 1,283 ft<sup>3</sup>/s (36.33 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,500 ft<sup>3</sup>/s (1,370 m<sup>3</sup>/s) Dec. 31, 1948, gage height, 15.3 ft (4.703 m); minimum daily, 28 ft<sup>3</sup>/s (0.79 m<sup>3</sup>/s) July 29, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32,700 ft<sup>3</sup>/s (926 m<sup>3</sup>/s) Feb. 20, gage height, 12.35 ft (3.764 m); minimum daily, 173 ft<sup>3</sup>/s (4.90 m<sup>3</sup>/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN       | FEB     | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|--------|----------|-----------|---------|-------|-------|-------|-------|-------|-------|-------|
| 1           | 347   | 443    | 814      | 400       | 210     | 3210  | 2270  | 554   | 744   | 239   | 289   | 634   |
| 2           | 538   | 207    | 929      | 480       | 2160    | 3240  | 2290  | 593   | 509   | 294   | 270   | 406   |
| 3           | 473   | 433    | 1270     | 320       | 2440    | 2790  | 2060  | 505   | 616   | 220   | 275   | 446   |
| 4           | 358   | 431    | 1020     | 380       | 1420    | 2640  | 1860  | 543   | 844   | 249   | 282   | 277   |
| 5           | 214   | 618    | 1210     | 1000      | 1260    | 2600  | 1750  | 429   | 600   | 877   | 282   | 214   |
| 6           | 288   | 351    | 798      | 900       | 1220    | 2490  | 2180  | 325   | 321   | 753   | 646   | 209   |
| 7           | 293   | 296    | 400      | 860       | 1150    | 2350  | 1910  | 516   | 311   | 957   | 426   | 195   |
| 8           | 296   | 321    | 800      | 780       | 1230    | 2420  | 1740  | 360   | 312   | 1140  | 222   | 208   |
| 9           | 213   | 183    | 1300     | 780       | 1260    | 2380  | 1720  | 359   | 481   | 505   | 290   | 528   |
| 10          | 182   | 453    | 1400     | 900       | 1310    | 2360  | 1780  | 330   | 618   | 246   | 477   | 687   |
| 11          | 173   | 347    | 1250     | 980       | 4320    | 2330  | 1450  | 762   | 438   | 217   | 565   | 479   |
| 12          | 183   | 305    | 1200     | 1000      | 5400    | 2340  | 694   | 1860  | 602   | 257   | 663   | 266   |
| 13          | 190   | 255    | 1300     | 1200      | 2340    | 2230  | 498   | 1720  | 319   | 449   | 713   | 236   |
| 14          | 178   | 218    | 600      | 1150      | 2010    | 2260  | 1270  | 819   | 227   | 321   | 690   | 422   |
| 15          | 217   | 192    | 800      | 1150      | 1780    | 2150  | 1800  | 864   | 238   | 185   | 508   | 523   |
| 16          | 228   | 189    | 1200     | 1100      | 1640    | 2190  | 1180  | 1460  | 340   | 177   | 659   | 544   |
| 17          | 216   | 188    | 1400     | 1000      | 1740    | 2040  | 1280  | 674   | 186   | 182   | 733   | 352   |
| 18          | 191   | 277    | 1300     | 960       | 2090    | 1130  | 1130  | 657   | 190   | 186   | 391   | 353   |
| 19          | 182   | 340    | 1300     | 960       | 2610    | 639   | 650   | 601   | 215   | 197   | 242   | 296   |
| 20          | 386   | 220    | 1300     | 740       | 11800   | 712   | 748   | 453   | 242   | 460   | 189   | 292   |
| 21          | 280   | 195    | 1200     | 660       | 14500   | 803   | 776   | 490   | 212   | 1100  | 262   | 304   |
| 22          | 359   | 193    | 1250     | 780       | 7150    | 755   | 519   | 564   | 282   | 1060  | 202   | 408   |
| 23          | 426   | 175    | 1300     | 900       | 4600    | 531   | 796   | 580   | 524   | 945   | 306   | 424   |
| 24          | 604   | 235    | 1300     | 620       | 10600   | 766   | 1370  | 329   | 298   | 400   | 335   | 353   |
| 25          | 664   | 1170   | 740      | 310       | 7890    | 697   | 753   | 336   | 491   | 209   | 449   | 335   |
| 26          | 1920  | 801    | 680      | 650       | 6370    | 473   | 600   | 668   | 664   | 198   | 474   | 299   |
| 27          | 525   | 479    | 1200     | 980       | 4680    | 566   | 1020  | 704   | 241   | 419   | 369   | 334   |
| 28          | 1000  | 846    | 720      | 540       | 3750    | 512   | 684   | 830   | 211   | 710   | 461   | 447   |
| 29          | 938   | 2100   | 720      | 350       | ---     | 791   | 588   | 693   | 594   | 1210  | 448   | 413   |
| 30          | 945   | 797    | 880      | 240       | ---     | 1380  | 862   | 477   | 385   | 1060  | 347   | 418   |
| 31          | 1040  | ---    | 920      | 190       | ---     | 2290  | ---   | 637   | ---   | 1100  | 474   | ---   |
| TOTAL       | 14047 | 13258  | 32501    | 23260     | 108930  | 54065 | 38228 | 20692 | 12255 | 16522 | 12939 | 11302 |
| MEAN        | 453   | 442    | 1048     | 750       | 3890    | 1744  | 1274  | 667   | 409   | 533   | 417   | 377   |
| MAX         | 1920  | 2100   | 1400     | 1200      | 14500   | 3240  | 2290  | 1860  | 844   | 1210  | 733   | 687   |
| MIN         | 173   | 175    | 400      | 190       | 210     | 473   | 498   | 325   | 186   | 177   | 189   | 195   |
| CAL YR 1980 | TOTAL | 356282 | MEAN 973 | MAX 18400 | MIN 169 |       |       |       |       |       |       |       |
| WTR YR 1981 | TOTAL | 357999 | MEAN 981 | MAX 14500 | MIN 173 |       |       |       |       |       |       |       |

## CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA

LOCATION.--Lat 42°42'12", long 72°40'16", Franklin County, Hydrologic Unit 01080203, on right bank 0.5 mi (0.8 km) upstream from bridge on West Leyden Road and 2.5 mi (4.0 km) northeast of Colrain.

DRAINAGE AREA.--41.4 mi<sup>2</sup> (107.2 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1967 to current year.  
Water-quality records: Water years 1968-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-71-1: 1968(M), 1969.

GAGE.--Water-stage recorder. Altitude of gage is 435 ft (133 m), from topographic map.

REMARKS.--Records good except those for winter period and period of no gage-height record, Mar. 31 to May 17, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--14 years, 93.5 ft<sup>3</sup>/s (2.648 m<sup>3</sup>/s), 30.67 in/yr (779 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,560 ft<sup>3</sup>/s (129 m<sup>3</sup>/s) Dec. 21, 1973, gage height, 8.2 ft (2.50 m), from floodmarks, from rating curve extended above 890 ft<sup>3</sup>/s (25 m<sup>3</sup>/s) on basis of slope area measurement of peak flow and conveyance-slope study; maximum gage height, 8.87 ft (2.704 m) Jan. 27, 1976, ice jam; minimum discharge, 1.9 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s) Aug. 1, 1968, caused by unusual regulation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft<sup>3</sup>/s (23 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 11 | --   | 1700 48                                               | ice jam                 | Feb. 20 | 2230 | a*2880 81.6                                           | 6.93 2.112              |
| Feb. 20 | 0915 | ice jam                                               | *7.03 2.143             | Feb. 24 | 0845 | 1350 38.2                                             | 5.35 1.631              |

a From rating curve extended as explained above.

Minimum discharge, 5.9 ft<sup>3</sup>/s (0.17 m<sup>3</sup>/s) Oct. 2, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN   | FEB    | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------|-------|------|------|-------|--------|------|------|------|------|-------|-------|-------|
| 1     | 6.2   | 15   | 60   | 19    | 8.0    | 214  | 100  | 66   | 72   | 15    | 18    | 6.9   |
| 2     | 5.9   | 14   | 57   | 16    | 170    | 182  | 120  | 60   | 47   | 14    | 15    | 7.9   |
| 3     | 7.0   | 12   | 100  | 14    | 140    | 148  | 90   | 56   | 41   | 14    | 13    | 7.9   |
| 4     | 25    | 13   | 61   | 12    | 70     | 124  | 78   | 50   | 39   | 20    | 12    | 7.9   |
| 5     | 20    | 14   | 35   | 11    | 50     | 118  | 98   | 47   | 34   | 44    | 14    | 7.4   |
| 6     | 12    | 13   | 33   | 11    | 38     | 109  | 140  | 66   | 33   | 62    | 18    | 6.9   |
| 7     | 10    | 12   | 34   | 12    | 42     | 104  | 94   | 45   | 36   | 32    | 13    | 6.4   |
| 8     | 8.6   | 12   | 38   | 13    | 40     | 101  | 78   | 41   | 29   | 22    | 11    | 6.5   |
| 9     | 5.9   | 13   | 57   | 13    | 35     | 93   | 74   | 38   | 28   | 17    | 11    | 47    |
| 10    | 6.7   | 21   | 45   | 13    | 29     | 90   | 84   | 36   | 26   | 14    | 15    | 22    |
| 11    | 7.0   | 18   | 26   | 12    | 470    | 84   | 72   | 45   | 22   | 12    | 13    | 14    |
| 12    | 8.3   | 14   | 22   | 11    | 540    | 78   | 66   | 100  | 21   | 11    | 16    | 11    |
| 13    | 8.6   | 13   | 32   | 9.6   | 150    | 74   | 60   | 110  | 20   | 11    | 12    | 16    |
| 14    | 7.9   | 13   | 29   | 9.6   | 120    | 71   | 90   | 70   | 19   | 16    | 10    | 12    |
| 15    | 7.3   | 13   | 24   | 10    | 100    | 69   | 120  | 120  | 20   | 13    | 9.5   | 15    |
| 16    | 7.0   | 11   | 24   | 11    | 78     | 69   | 80   | 210  | 19   | 10    | 31    | 13    |
| 17    | 7.3   | 11   | 26   | 11    | 96     | 61   | 74   | 120  | 18   | 9.3   | 21    | 11    |
| 18    | 7.6   | 13   | 25   | 11    | 120    | 56   | 70   | 82   | 16   | 9.2   | 14    | 10    |
| 19    | 8.9   | 16   | 25   | 11    | 150    | 52   | 64   | 67   | 14   | 10    | 11    | 11    |
| 20    | 9.6   | 15   | 23   | 11    | 1410   | 50   | 58   | 59   | 14   | 30    | 9.3   | 17    |
| 21    | 8.3   | 14   | 22   | 11    | 853    | 50   | 54   | 52   | 18   | 91    | 8.5   | 13    |
| 22    | 7.6   | 15   | 21   | 11    | 350    | 48   | 52   | 48   | 36   | 36    | 7.9   | 13    |
| 23    | 7.1   | 15   | 23   | 11    | 246    | 48   | 52   | 43   | 50   | 22    | 8.7   | 26    |
| 24    | 6.7   | 18   | 25   | 11    | 820    | 49   | 110  | 39   | 27   | 17    | 7.8   | 53    |
| 25    | 72    | 123  | 23   | 11    | 580    | 49   | 90   | 35   | 29   | 14    | 8.7   | 32    |
| 26    | 158   | 66   | 19   | 10    | 480    | 48   | 70   | 33   | 57   | 12    | 8.4   | 20    |
| 27    | 44    | 45   | 22   | 11    | 330    | 59   | 60   | 30   | 33   | 40    | 7.6   | 17    |
| 28    | 28    | 98   | 22   | 11    | 254    | 61   | 56   | 27   | 24   | 28    | 7.0   | 27    |
| 29    | 24    | 210  | 25   | 11    | ---    | 81   | 64   | 31   | 22   | 57    | 6.5   | 23    |
| 30    | 20    | 87   | 27   | 10    | ---    | 146  | 86   | 56   | 16   | 36    | 6.4   | 17    |
| 31    | 17    | ---  | 19   | 9.0   | ---    | 220  | ---  | 116  | ---  | 23    | 6.6   | ---   |
| TOTAL | 579.5 | 967  | 1024 | 358.2 | 7769.0 | 2806 | 2404 | 1998 | 880  | 761.5 | 370.9 | 497.8 |
| MEAN  | 18.7  | 32.2 | 33.0 | 11.6  | 277    | 90.5 | 80.1 | 64.5 | 29.3 | 24.6  | 12.0  | 16.6  |
| MAX   | 158   | 210  | 100  | 19    | 1410   | 220  | 140  | 210  | 72   | 91    | 31    | 53    |
| MIN   | 5.9   | 11   | 19   | 9.0   | 8.0    | 48   | 52   | 27   | 14   | 9.2   | 6.4   | 6.4   |
| CFM   | .45   | .78  | .80  | .28   | 6.69   | 2.19 | 1.94 | 1.56 | .71  | .59   | .29   | .40   |
| IN.   | .52   | .87  | .92  | .32   | 6.98   | 2.52 | 2.16 | 1.80 | .79  | .68   | .33   | .45   |

| CAL YR 1980 | TOTAL | 21211.3 | MEAN 58.0 | MAX 1360 | MIN 5.0 | CFM 1.40 | IN 19.06 |
|-------------|-------|---------|-----------|----------|---------|----------|----------|
| WTR YR 1981 | TOTAL | 20415.9 | MEAN 55.9 | MAX 1410 | MIN 5.9 | CFM 1.35 | IN 18.34 |



## CONNECTICUT RIVER BASIN

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## 01170500 CONNECTICUT RIVER AT MONTAGUE CITY, MA

LOCATION.--Lat 42°34'48", long 72°34'30", Franklin County, Hydrologic Unit 01080201, on left bank 75 ft (23 m) downstream from railroad bridge at Montague City, 1,000 ft (300 m) downstream from Deerfield River, and at mile 119.0 (191.5 km).

DRAINAGE AREA.--7,865 mi<sup>2</sup> (20,370 km<sup>2</sup>).

PERIOD OF RECORD.--March 1904 to current year. Prior to October 1929, published as "at Sunderland." Records published for both sites October 1929 to September 1932.

REVISED RECORDS.--WSP 471: 1904-17. WSP 741: 1930-32. WSP 781: 1928(M). WSP 891: Drainage area. WSP 1051: 1905, 1909-10, 1912-14, 1920, 1922-23, 1925-26, 1928, drainage area at Sunderland. WSP 1301: 1905(M), 1914-19(M), 1930-31(M).

GAGE.--Water-stage recorder. Datum of gage is 99.87 ft (30.440 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1917, nonrecording gage; Oct. 1, 1917, to Oct. 8, 1921, water-stage recorder used for low stages, nonrecording gage otherwise; and Oct. 9, 1921, to Sept. 30, 1932, water-stage recorder; all at site 9 mi (14 km) downstream at datum 1.00 ft (0.305 m) lower. Since Oct. 1, 1929, water-stage recorder at present site and datum.

REMARKS.--Records excellent. Flow regulated by powerplants and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs (Reservoirs in Connecticut River basin), and other reservoirs, combined usable capacity, about 43,400,000,000 ft<sup>3</sup> (1,230,000,000 m<sup>3</sup>). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--77 years, 13,720 ft<sup>3</sup>/s (388.6 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 236,000 ft<sup>3</sup>/s (6,680 m<sup>3</sup>/s) Mar. 19, 1936, gage height, 49.2 ft (15.00 m), from floodmarks; minimum daily, 215 ft<sup>3</sup>/s (6.09 m<sup>3</sup>/s) Aug. 31, Sept. 1, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 87,500 ft<sup>3</sup>/s (2,478 m<sup>3</sup>/s) Feb. 25, gage height, 29.64 ft (9.034 m); minimum daily, 1,600 ft<sup>3</sup>/s (45.3 m<sup>3</sup>/s) Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT    | NOV     | DEC    | JAN    | FEB    | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    |
|-------------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1           | 8000   | 6000    | 17600  | 2500   | 3000   | 47600  | 40600  | 18500  | 11500  | 6600   | 3810   | 6200   |
| 2           | 6480   | 1690    | 15500  | 6400   | 10300  | 44400  | 37100  | 14500  | 12400  | 6400   | 2450   | 6330   |
| 3           | 7450   | 7070    | 14700  | 2400   | 18500  | 37800  | 37800  | 12600  | 12300  | 2800   | 6400   | 6160   |
| 4           | 8340   | 8310    | 19000  | 2100   | 18200  | 28400  | 33700  | 14100  | 12700  | 2100   | 7360   | 4890   |
| 5           | 6430   | 6840    | 17900  | 8800   | 17500  | 21500  | 30100  | 16600  | 11300  | 3800   | 5410   | 3530   |
| 6           | 8640   | 5360    | 14700  | 6200   | 12700  | 18900  | 31600  | 12400  | 12100  | 8800   | 5670   | 2600   |
| 7           | 10700  | 6990    | 10900  | 4200   | 9410   | 17500  | 33700  | 11900  | 8270   | 11500  | 9770   | 2750   |
| 8           | 9980   | 7510    | 9130   | 5700   | 7360   | 16900  | 25800  | 11700  | 9810   | 9500   | 9000   | 3780   |
| 9           | 6940   | 7280    | 11100  | 4300   | 9860   | 15700  | 22500  | 10400  | 12100  | 6900   | 7840   | 6570   |
| 10          | 7600   | 8200    | 12900  | 3200   | 11000  | 17400  | 23600  | 6670   | 12300  | 5000   | 7830   | 7070   |
| 11          | 7870   | 8000    | 14000  | 3000   | 18100  | 17700  | 21500  | 11000  | 12200  | 3000   | 9250   | 5110   |
| 12          | 2950   | 8410    | 12400  | 6300   | 42600  | 14600  | 21800  | 17600  | 12400  | 1900   | 10300  | 4670   |
| 13          | 3200   | 8750    | 9110   | 5600   | 40400  | 14400  | 18100  | 23800  | 12100  | 7600   | 8660   | 1980   |
| 14          | 5360   | 6880    | 6220   | 5000   | 33200  | 15100  | 19500  | 28400  | 12100  | 5200   | 8580   | 8070   |
| 15          | 5450   | 3700    | 8710   | 5400   | 24900  | 14400  | 21300  | 21800  | 12000  | 3700   | 6780   | 8620   |
| 16          | 5920   | 3040    | 9720   | 4800   | 22000  | 13800  | 19400  | 26800  | 10900  | 3510   | 8820   | 8320   |
| 17          | 6610   | 7930    | 8450   | 2900   | 19100  | 13400  | 18900  | 27100  | 8850   | 2730   | 17900  | 4190   |
| 18          | 6350   | 8890    | 10400  | 2700   | 18300  | 12900  | 16700  | 25900  | 8200   | 1780   | 21000  | 2080   |
| 19          | 2610   | 6580    | 10700  | 4400   | 23500  | 12000  | 15400  | 22500  | 6070   | 1800   | 20400  | 2640   |
| 20          | 7650   | 6610    | 7920   | 4900   | 37300  | 12100  | 18100  | 21400  | 3940   | 7380   | 17100  | 2090   |
| 21          | 7770   | 7410    | 4800   | 3800   | 61300  | 9270   | 16100  | 19400  | 5710   | 8850   | 15000  | 6220   |
| 22          | 8240   | 3120    | 9100   | 4100   | 53900  | 7370   | 14500  | 15700  | 7970   | 5880   | 12000  | 8590   |
| 23          | 8830   | 1600    | 8000   | 4200   | 62400  | 8060   | 18400  | 12800  | 10900  | 5460   | 2270   | 23900  |
| 24          | 8830   | 6490    | 7400   | 3800   | 68100  | 9900   | 18000  | 10300  | 7980   | 3990   | 7820   | 31700  |
| 25          | 9230   | 11600   | 7900   | 2000   | 82900  | 10900  | 19000  | 6710   | 8470   | 2800   | 8550   | 31900  |
| 26          | 11900  | 15000   | 7400   | 6200   | 85500  | 10300  | 22300  | 8760   | 5600   | 1880   | 10300  | 24500  |
| 27          | 9250   | 13000   | 4700   | 5400   | 73800  | 11600  | 22700  | 12700  | 10000  | 7800   | 5190   | 19600  |
| 28          | 12200  | 15700   | 4800   | 3400   | 57200  | 11600  | 18300  | 12700  | 6700   | 7230   | 8390   | 17100  |
| 29          | 12300  | 16500   | 7000   | 2680   | ---    | 13900  | 18300  | 9980   | 9000   | 9320   | 4020   | 19800  |
| 30          | 12100  | 16200   | 6800   | 2480   | ---    | 19100  | 18500  | 4990   | 7100   | 10700  | 2560   | 18300  |
| 31          | 12100  | ---     | 5000   | 1760   | ---    | 35100  | ---    | 7170   | ---    | 12600  | 3250   | ---    |
| TOTAL       | 247280 | 240660  | 313960 | 130620 | 942330 | 553600 | 693300 | 476880 | 292970 | 178510 | 273680 | 299260 |
| MEAN        | 7977   | 8022    | 10130  | 4214   | 33650  | 17860  | 23110  | 15380  | 9766   | 5758   | 8828   | 9975   |
| MAX         | 12300  | 16500   | 19000  | 8800   | 85500  | 47600  | 40600  | 28400  | 12700  | 12600  | 21000  | 31900  |
| MIN         | 2610   | 1600    | 4700   | 1760   | 3000   | 7370   | 14500  | 4990   | 3940   | 1780   | 2270   | 1980   |
| CAL YR 1980 | TOTAL  | 3585510 | MEAN   | 9796   | MAX    | 67300  | MIN    | 1400   |        |        |        |        |
| WTR YR 1981 | TOTAL  | 4643050 | MEAN   | 12720  | MAX    | 85500  | MIN    | 1600   |        |        |        |        |



## CONNECTICUT RIVER BASIN

01171300 FORT RIVER NEAR AMHERST, MA

LOCATION.--Lat 42°21'30", long 72°30'23", Hampshire County, Hydrologic Unit 01080201, on left bank 400 ft (120 m) downstream from Southeast Street Bridge, 600 ft (180 m) downstream from Hop Brook, and 1.3 mi (2.1 km) south-east of Amherst.

DRAINAGE AREA.--36.4 mi<sup>2</sup> (94.3 km<sup>2</sup>), excludes 5.15 mi<sup>2</sup> (13.34 km<sup>2</sup>) drained by Nurse and Dean Brooks, flow of which is diverted from basin.

PERIOD OF RECORD.--Discharge: June 1966 to current year.

Water-quality records: Water years 1971, 1973.

REVISED RECORDS.--WDR MA-RI-75-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 147 ft (45 m), from topographic map. Prior to May 10, 1974, at site 400 ft (120 m) upstream at same datum.

REMARKS.--Records good except those for periods of no gage-height record, Nov. 30 to Feb. 24, July 24 to Sept. 3, which are poor. Diversions upstream for municipal supply of Amherst. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--15 years, 62.3 ft<sup>3</sup>/s (1.764 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,820 ft<sup>3</sup>/s (79.9 m<sup>3</sup>/s) Dec. 21, 1973, gage height, 9.88 ft (3.011 m), former site, from rating curve extended above 690 ft<sup>3</sup>/s (19.5 m<sup>3</sup>/s); maximum gage height, 9.94 ft (3.030 m) Mar. 6, 1979; minimum discharge, 1.9 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s) Sept. 3, 1966, Sept. 6, 7, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in March 1936 and September 1938 reached discharges of 2,360 ft<sup>3</sup>/s (66.8 m<sup>3</sup>/s) and 1,640 ft<sup>3</sup>/s (46.4 m<sup>3</sup>/s), respectively, by computation of flow over dam 1.2 mi (1.9 km) downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14 m<sup>3</sup>/s) and maximums (\*):

| Date            | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|-----------------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| About<br>Feb. 2 | --   | ice jam                                               | a*5.57 1.698            | Feb. 24 | 2045 | *537 15.2                                             | 4.59 1.399              |

a From peak-stage indicator.

Minimum discharge, 1.9 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s) Sept. 6, 7; minimum daily, 2.6 ft<sup>3</sup>/s (0.074 m<sup>3</sup>/s) Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB    | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|--------|------|------|------|-------|-------|-------|-------|
| 1     | 4.6   | 7.6   | 25    | 8.0   | 5.2    | 154  | 29   | 91   | 24    | 15    | 7.5   | 8.0   |
| 2     | 5.1   | 7.0   | 20    | 7.4   | 130    | 121  | 85   | 53   | 15    | 11    | 6.2   | 6.5   |
| 3     | 5.1   | 6.8   | 25    | 7.0   | 80     | 97   | 71   | 53   | 17    | 11    | 5.5   | 5.7   |
| 4     | 7.4   | 8.6   | 20    | 6.4   | 42     | 74   | 55   | 40   | 23    | 22    | 6.0   | 7.7   |
| 5     | 6.0   | 8.1   | 16    | 6.0   | 25     | 66   | 46   | 35   | 15    | 98    | 12    | 5.3   |
| 6     | 5.4   | 6.2   | 15    | 5.8   | 20     | 57   | 123  | 29   | 15    | 85    | 10    | 2.9   |
| 7     | 4.8   | 7.2   | 15    | 5.8   | 17     | 55   | 82   | 26   | 13    | 46    | 7.5   | 2.6   |
| 8     | 4.8   | 7.5   | 16    | 5.8   | 20     | 62   | 57   | 24   | 11    | 29    | 6.5   | 4.2   |
| 9     | 4.0   | 6.2   | 18    | 5.8   | 26     | 60   | 44   | 23   | 12    | 24    | 8.4   | 13    |
| 10    | 3.8   | 12    | 17    | 5.8   | 21     | 54   | 46   | 19   | 11    | 17    | 7.5   | 6.6   |
| 11    | 7.4   | 9.3   | 15    | 5.8   | 140    | 49   | 41   | 23   | 9.3   | 13    | 7.0   | 3.6   |
| 12    | 9.0   | 7.7   | 14    | 5.6   | 140    | 45   | 32   | 45   | 8.4   | 13    | 8.6   | 3.9   |
| 13    | 5.7   | 7.0   | 12    | 5.2   | 65     | 42   | 27   | 81   | 8.1   | 11    | 7.2   | 4.2   |
| 14    | 5.1   | 7.6   | 11    | 5.3   | 50     | 34   | 33   | 54   | 7.0   | 11    | 6.2   | 4.5   |
| 15    | 4.8   | 6.4   | 11    | 5.3   | 40     | 34   | 69   | 46   | 7.9   | 11    | 5.7   | 5.3   |
| 16    | 5.1   | 5.5   | 11    | 5.3   | 38     | 30   | 46   | 160  | 9.3   | 8.9   | 25    | 9.5   |
| 17    | 4.6   | 5.2   | 11    | 5.4   | 43     | 30   | 33   | 164  | 6.5   | 8.3   | 11    | 11    |
| 18    | 4.3   | 7.5   | 11    | 5.5   | 45     | 33   | 34   | 95   | 6.5   | 8.3   | 8.4   | 5.7   |
| 19    | 10    | 8.5   | 11    | 5.5   | 50     | 29   | 33   | 58   | 6.4   | 9.5   | 7.0   | 7.7   |
| 20    | 8.0   | 6.8   | 10    | 5.5   | 260    | 27   | 28   | 43   | 24    | 9.5   | 6.0   | 11    |
| 21    | 6.2   | 7.5   | 10    | 5.5   | 250    | 28   | 22   | 32   | 24    | 22    | 5.0   | 7.1   |
| 22    | 5.7   | 8.8   | 10    | 5.5   | 130    | 24   | 22   | 26   | 60    | 17    | 4.3   | 7.7   |
| 23    | 5.7   | 10    | 10    | 5.5   | 100    | 26   | 23   | 23   | 40    | 10    | 3.8   | 13    |
| 24    | 6.0   | 20    | 10    | 5.5   | 370    | 26   | 55   | 19   | 21    | 7.1   | 3.5   | 12    |
| 25    | 10    | 55    | 10    | 5.5   | 415    | 28   | 70   | 16   | 108   | 5.7   | 4.5   | 14    |
| 26    | 23    | 31    | 10    | 5.6   | 382    | 26   | 55   | 14   | 81    | 4.5   | 4.3   | 8.3   |
| 27    | 12    | 19    | 9.8   | 5.8   | 292    | 26   | 42   | 14   | 47    | 7.7   | 3.9   | 8.9   |
| 28    | 8.5   | 65    | 9.4   | 6.0   | 196    | 36   | 33   | 11   | 28    | 5.7   | 3.6   | 5.7   |
| 29    | 8.7   | 75    | 9.8   | 5.8   | ---    | 30   | 46   | 20   | 22    | 15    | 3.4   | 4.5   |
| 30    | 6.9   | 45    | 10    | 5.6   | ---    | 27   | 144  | 30   | 17    | 12    | 3.2   | 3.9   |
| 31    | 7.3   | ---   | 8.8   | 5.2   | ---    | 31   | ---  | 19   | ---   | 9.5   | 3.0   | ---   |
| TOTAL | 215.0 | 485.0 | 411.8 | 179.7 | 3392.2 | 1461 | 1526 | 1386 | 697.4 | 577.7 | 211.7 | 214.0 |
| MEAN  | 6.94  | 16.2  | 13.3  | 5.80  | 121    | 47.1 | 50.9 | 44.7 | 23.2  | 18.6  | 6.83  | 7.13  |
| MAX   | 23    | 75    | 25    | 8.0   | 415    | 154  | 144  | 164  | 108   | 98    | 25    | 14    |
| MIN   | 3.8   | 5.2   | 8.8   | 5.2   | 5.2    | 24   | 22   | 11   | 6.4   | 4.5   | 3.0   | 2.6   |

CAL YR 1980 TOTAL 14698.2 MEAN 40.2 MAX 950 MIN 3.8  
WTR YR 1981 TOTAL 10757.5 MEAN 29.5 MAX 415 MIN 2.6

## CONNECTICUT RIVER BASIN

163

01171500 MILL RIVER AT NORTHAMPTON, MA

LOCATION.--Lat 42°19'05", long 72°39'21", Hampshire County, Hydrologic Unit 01080201, on right bank at Northampton 3.5 mi (5.6 km) upstream from mouth.

DRAINAGE AREA.--54.0 mi<sup>2</sup> (139.9 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1938 to current year. October 1938 monthly discharge only, published in WSP 1301.

Water-quality records: Water years 1957-59, 1971, 1973.

REVISED RECORDS.--WSP 921: 1940. WSP 1231: 1940-42(M), 1944-45(M), 1948(M), 1949.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 140 ft (43 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. No gage-height record Jan. 22 to Feb. 20. Prior to 1956, flow regulated by mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--43 years, 96.1 ft<sup>3</sup>/s (2.722 m<sup>3</sup>/s), 24.17 in/yr (614 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,300 ft<sup>3</sup>/s (178 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 11.78 ft (3.591 m), from rating curve extended above 3,700 ft<sup>3</sup>/s (100 m<sup>3</sup>/s) on basis of computation of peak flow over dam; minimum, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Oct. 1, 1950; minimum daily, 4.2 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Aug. 21, 23, 24, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft<sup>3</sup>/s (37 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 20 | --   | *3500 99                                              | -- --                   | Feb. 24 | 1345 | 1430 40.5                                             | 5.22 1.591              |

Minimum discharge, 7.0 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Sept. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------|-------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 1     | 8.0   | 16   | 56   | 20   | 14   | 249  | 70   | 92   | 58   | 18    | 15    | 9.1   |
| 2     | 8.0   | 15   | 47   | 19   | 200  | 211  | 122  | 92   | 44   | 17    | 13    | 9.5   |
| 3     | 8.4   | 15   | 54   | 19   | 150  | 177  | 95   | 80   | 40   | 18    | 13    | 9.6   |
| 4     | 19    | 16   | 37   | 15   | 80   | 148  | 79   | 68   | 47   | 23    | 13    | 9.3   |
| 5     | 16    | 16   | 38   | 15   | 58   | 139  | 80   | 62   | 40   | 74    | 22    | 8.4   |
| 6     | 12    | 15   | 31   | 15   | 50   | 130  | 137  | 61   | 37   | 106   | 27    | 7.8   |
| 7     | 10    | 14   | 30   | 16   | 45   | 122  | 97   | 55   | 38   | 49    | 20    | 7.0   |
| 8     | 9.5   | 13   | 32   | 16   | 48   | 120  | 78   | 50   | 33   | 32    | 15    | 8.4   |
| 9     | 9.1   | 16   | 36   | 16   | 50   | 113  | 71   | 47   | 35   | 26    | 16    | 39    |
| 10    | 8.8   | 24   | 36   | 16   | 45   | 108  | 77   | 46   | 34   | 20    | 17    | 22    |
| 11    | 10    | 21   | 30   | 16   | 540  | 102  | 67   | 65   | 29   | 17    | 16    | 15    |
| 12    | 10    | 17   | 27   | 16   | 630  | 97   | 65   | 244  | 26   | 15    | 17    | 13    |
| 13    | 11    | 16   | 28   | 15   | 200  | 93   | 59   | 176  | 25   | 14    | 17    | 13    |
| 14    | 9.5   | 15   | 25   | 14   | 150  | 88   | 76   | 104  | 23   | 14    | 14    | 14    |
| 15    | 9.1   | 14   | 25   | 14   | 125  | 80   | 105  | 87   | 28   | 13    | 12    | 15    |
| 16    | 9.1   | 13   | 25   | 14   | 110  | 84   | 74   | 192  | 28   | 12    | 15    | 18    |
| 17    | 9.1   | 15   | 24   | 14   | 130  | 76   | 68   | 160  | 24   | 12    | 15    | 17    |
| 18    | 10    | 18   | 24   | 15   | 160  | 69   | 67   | 106  | 21   | 11    | 11    | 15    |
| 19    | 12    | 18   | 24   | 15   | 160  | 71   | 59   | 87   | 20   | 11    | 9.5   | 16    |
| 20    | 13    | 18   | 23   | 15   | 1800 | 67   | 56   | 76   | 22   | 16    | 9.1   | 17    |
| 21    | 11    | 17   | 23   | 15   | 804  | 65   | 54   | 68   | 26   | 27    | 8.4   | 14    |
| 22    | 9.9   | 18   | 23   | 15   | 401  | 63   | 51   | 62   | 36   | 17    | 8.0   | 14    |
| 23    | 9.5   | 19   | 23   | 15   | 240  | 63   | 54   | 56   | 56   | 11    | 8.4   | 30    |
| 24    | 9.6   | 24   | 22   | 15   | 900  | 63   | 101  | 50   | 31   | 9.5   | 9.1   | 28    |
| 25    | 40    | 100  | 22   | 15   | 699  | 62   | 80   | 45   | 49   | 8.8   | 10    | 24    |
| 26    | 147   | 65   | 22   | 15   | 908  | 60   | 66   | 43   | 46   | 8.0   | 11    | 18    |
| 27    | 48    | 40   | 21   | 15   | 460  | 67   | 59   | 39   | 30   | 9.5   | 9.9   | 15    |
| 28    | 31    | 91   | 21   | 15   | 301  | 70   | 55   | 37   | 23   | 9.5   | 9.1   | 14    |
| 29    | 25    | 194  | 22   | 15   | ---  | 63   | 78   | 48   | 20   | 21    | 8.2   | 20    |
| 30    | 21    | 81   | 24   | 15   | ---  | 65   | 153  | 49   | 18   | 17    | 7.7   | 22    |
| 31    | 17    | ---  | 21   | 15   | ---  | 77   | ---  | 61   | ---  | 17    | 8.2   | ---   |
| TOTAL | 580.6 | 974  | 896  | 480  | 9458 | 3062 | 2353 | 2508 | 987  | 673.3 | 404.6 | 482.1 |
| MEAN  | 18.7  | 32.5 | 28.9 | 15.5 | 338  | 98.8 | 78.4 | 80.9 | 32.9 | 21.7  | 13.1  | 16.1  |
| MAX   | 147   | 194  | 56   | 20   | 1800 | 249  | 153  | 244  | 58   | 106   | 27    | 39    |
| MIN   | 8.0   | 13   | 21   | 14   | 14   | 60   | 51   | 37   | 18   | 8.0   | 7.7   | 7.0   |
| CFSM  | .35   | .60  | .54  | .29  | 6.26 | 1.83 | 1.45 | 1.50 | .61  | .40   | .24   | .30   |
| IN.   | .40   | .67  | .62  | .33  | 6.52 | 2.11 | 1.62 | 1.73 | .68  | .46   | .28   | .33   |

| CAL YR 1980 | TOTAL | 25628.3 | MEAN 70.0 | MAX 1680 | MIN 6.1 | CFSM 1.30 | IN 17.65 |
|-------------|-------|---------|-----------|----------|---------|-----------|----------|
| WTR YR 1981 | TOTAL | 22858.6 | MEAN 62.6 | MAX 1800 | MIN 7.0 | CFSM 1.16 | IN 15.75 |

## CONNECTICUT RIVER BASIN

01172500 WARE RIVER NEAR BARRE, MA

LOCATION.--Lat 42°25'35", long 72°01'30", Worcester County, Hydrologic Unit 01080204, on left bank 700 ft (200 m) downstream from Barre Falls Reservoir, 1.6 mi (2.6 km) upstream from Burnshirt River, 4 mi (6 km) east of Barre, and at mile 33.3 (53.6 km).

DRAINAGE AREA.--55.0 mi<sup>2</sup> (142.4 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1946 to current year.  
Water-quality records: Water year 1957.

GAGE.--Water-stage recorder. Altitude of gage is 745 ft (227 m), from topographic map.

REMARKS.--Records fair. Prior to August 1955, slight regulation at low flow at times by Long Pond. Flow regulated by Barre Falls Reservoir (Reservoirs in Connecticut River basin) since 1958. Diversion at times since 1955 from 6.5 mi<sup>2</sup> (16.8 km<sup>2</sup>) upstream of station for municipal supply of Fitchburg. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--35 years, 91.4 ft<sup>3</sup>/s (2.588 m<sup>3</sup>/s), 22.57 in/yr (573 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft<sup>3</sup>/s (53.5 m<sup>3</sup>/s) Oct. 16, 1955, gage height, 6.31 ft (1.923 m); minimum, 0.21 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Aug. 18, 1980; minimum daily, 0.5 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s) Sept. 11, 1963. Maximum discharge since construction of Barre Falls Reservoir in 1958, 1,230 ft<sup>3</sup>/s (34.8 m<sup>3</sup>/s) Mar. 14, 1979, gage height, 5.62 ft (1.713 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 747 ft<sup>3</sup>/s (21.2 m<sup>3</sup>/s) Feb. 27, gage height, 4.98 ft (1.518 m); minimum, 3.8 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Oct. 2, 3; minimum daily, 3.9 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY               | OCT     | NOV       | DEC     | JAN     | FEB        | MAR        | APR       | MAY  | JUN  | JUL  | AUG   | SEP   |
|-------------------|---------|-----------|---------|---------|------------|------------|-----------|------|------|------|-------|-------|
| 1                 | 4.2     | 22        | 229     | 10      | 7.9        | 690        | 111       | 167  | 50   | 37   | 44    | 6.8   |
| 2                 | 3.9     | 19        | 110     | 10      | 8.2        | 537        | 168       | 143  | 42   | 33   | 31    | 7.8   |
| 3                 | 4.0     | 16        | 80      | 10      | 8.3        | 368        | 230       | 122  | 37   | 32   | 25    | 7.6   |
| 4                 | 9.9     | 16        | 54      | 10      | 30         | 263        | 196       | 106  | 40   | 31   | 22    | 7.3   |
| 5                 | 11      | 19        | 54      | 8.5     | 40         | 230        | 163       | 96   | 41   | 84   | 24    | 6.6   |
| 6                 | 9.7     | 18        | 42      | 7.6     | 40         | 190        | 183       | 89   | 46   | 186  | 35    | 6.1   |
| 7                 | 8.3     | 17        | 36      | 7.6     | 40         | 174        | 197       | 81   | 84   | 189  | 34    | 5.8   |
| 8                 | 7.1     | 16        | 35      | 7.6     | 40         | 158        | 171       | 72   | 69   | 127  | 28    | 5.6   |
| 9                 | 6.3     | 17        | 38      | 7.6     | 40         | 124        | 147       | 65   | 59   | 85   | 24    | 21    |
| 10                | 5.6     | 21        | 37      | 7.6     | 39         | 112        | 139       | 61   | 53   | 62   | 21    | 25    |
| 11                | 5.8     | 21        | 34      | 7.8     | 39         | 112        | 125       | 60   | 41   | 45   | 18    | 21    |
| 12                | 8.7     | 21        | 26      | 7.9     | 93         | 112        | 115       | 105  | 32   | 36   | 17    | 17    |
| 13                | 8.6     | 17        | 26      | 7.9     | 153        | 112        | 103       | 176  | 28   | 31   | 16    | 16    |
| 14                | 8.0     | 15        | 26      | 7.9     | 168        | 111        | 100       | 158  | 25   | 31   | 14    | 15    |
| 15                | 7.3     | 15        | 14      | 7.9     | 163        | 110        | 137       | 130  | 24   | 31   | 13    | 18    |
| 16                | 6.7     | 15        | 9.7     | 7.9     | 97         | 108        | 132       | 184  | 22   | 31   | 20    | 32    |
| 17                | 6.3     | 12        | 10      | 7.9     | 58         | 107        | 114       | 208  | 22   | 34   | 25    | 45    |
| 18                | 6.2     | 12        | 10      | 7.9     | 59         | 82         | 105       | 198  | 18   | 35   | 22    | 39    |
| 19                | 9.5     | 17        | 10      | 7.9     | 60         | 72         | 97        | 147  | 15   | 35   | 16    | 33    |
| 20                | 10      | 19        | 10      | 7.9     | 62         | 72         | 92        | 119  | 15   | 36   | 13    | 31    |
| 21                | 9.9     | 17        | 11      | 7.9     | 66         | 72         | 85        | 101  | 30   | 65   | 11    | 28    |
| 22                | 8.6     | 14        | 11      | 7.9     | 148        | 72         | 77        | 88   | 40   | 100  | 9.2   | 25    |
| 23                | 7.8     | 15        | 11      | 7.9     | 231        | 70         | 73        | 76   | 61   | 76   | 8.5   | 67    |
| 24                | 7.0     | 16        | 10      | 7.9     | 144        | 70         | 95        | 66   | 50   | 51   | 7.7   | 103   |
| 25                | 6.3     | 28        | 11      | 7.9     | 300        | 69         | 123       | 57   | 56   | 39   | 8.2   | 94    |
| 26                | 53      | 31        | 12      | 7.9     | 462        | 67         | 133       | 50   | 138  | 31   | 8.0   | 71    |
| 27                | 85      | 31        | 11      | 7.9     | 605        | 66         | 117       | 45   | 135  | 30   | 7.5   | 52    |
| 28                | 52      | 61        | 10      | 7.9     | 716        | 68         | 100       | 40   | 92   | 29   | 7.1   | 44    |
| 29                | 41      | 104       | 10      | 7.9     | ---        | 70         | 100       | 40   | 63   | 50   | 6.5   | 40    |
| 30                | 32      | 173       | 10      | 7.9     | ---        | 115        | 155       | 45   | 46   | 72   | 6.0   | 37    |
| 31                | 26      | ---       | 10      | 7.9     | ---        | 109        | ---       | 46   | ---  | 61   | 6.2   | ---   |
| TOTAL             | 475.7   | 835       | 1007.7  | 252.3   | 3917.4     | 4692       | 3883      | 3141 | 1474 | 1815 | 547.9 | 927.6 |
| MEAN              | 15.3    | 27.8      | 32.5    | 8.14    | 140        | 151        | 129       | 101  | 49.1 | 58.5 | 17.7  | 30.9  |
| MAX               | 85      | 173       | 229     | 10      | 716        | 690        | 230       | 208  | 138  | 189  | 44    | 103   |
| MIN               | 3.9     | 12        | 9.7     | 7.6     | 7.9        | 66         | 73        | 40   | 15   | 29   | 6.0   | 5.6   |
| MEAN†             | 15.8    | 41.1      | 30.8    | 9.18    | 181        | 102        | 130       | 101  | 49.1 | 58.8 | 17.1  | 31.2  |
| CFSM†             | .29     | .75       | .56     | .17     | 3.29       | 1.85       | 2.36      | 1.84 | .89  | 1.07 | .31   | .57   |
| IN.†              | .33     | .83       | .65     | .19     | 3.43       | 2.14       | 2.64      | 2.11 | 1.00 | 1.23 | .36   | .63   |
| CAL YR 1980 TOTAL | 25040.2 | MEAN 68.4 | MAX 650 | MIN 1.8 | MEAN† 68.4 | CFSM† 1.24 | IN† 16.94 |      |      |      |       |       |
| WTR YR 1981 TOTAL | 22968.6 | MEAN 62.9 | MAX 716 | MIN 3.9 | MEAN† 63.0 | CFSM† 1.15 | IN† 15.55 |      |      |      |       |       |

† Adjusted for change in contents in Barre Falls Reservoir.

## 01173000 WARE RIVER AT INTAKE WORKS, NEAR BARRE, MA

LOCATION.--Lat 42°23'26", long 72°03'39", Worcester County, Hydrologic Unit 01080204, on right bank above diversion dam at Ware River intake works, 2.7 mi (4.3 km) downstream from Burnshirt River, 3 mi (5 km) southeast of Barre, and at mile 29.1 (46.8 km).

DRAINAGE AREA.--96.8 mi<sup>2</sup> (250.7 km<sup>2</sup>).

PERIOD OF RECORD.--January 1928 to current year. Prior to October 1977, published as Ware River at Coldbrook.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1031: 1944.

GAGE.--Venturi meters and water-stage recorder. Datum of gage is 5.65 ft (1.722 m) below National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1936, water-stage recorder at site 0.2 mi (0.3 km) downstream at datum 631.91 ft (192.606 m) NGVD.

REMARKS.--Records good. Figures of discharge include diversion as needed for Boston metropolitan district during period Oct. 15 to June 14 of each year and at other times for emergency flood-control purposes as authorized by Corps of Engineers, U.S. Army; diversion began in March 1931. Flow regulated by Barre Falls Reservoir 4.3 mi (6.9 km) upstream (Reservoirs in Connecticut River basin) since 1958. Diversion at times since 1955 from 6.5 mi<sup>2</sup> (16.8 km<sup>2</sup>) upstream for municipal supply of Fitchburg. One observation of water temperature was made during the year.

COOPERATION.--Computations of daily discharge made in cooperation with Water Division, Metropolitan District Commission, which collected gage-height and venturi-meter records.

AVERAGE DISCHARGE.--53 years, 165 ft<sup>3</sup>/s (4.673 m<sup>3</sup>/s), 23.15 in/yr (588 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft<sup>3</sup>/s (396 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 664.28 ft (202.473 m), by computation of flow over dam; minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Sept. 19, 1965, caused by unusual regulation. Maximum daily discharge since construction of Barre Falls Reservoir in 1958, 1,570 ft<sup>3</sup>/s (44.5 m<sup>3</sup>/s) Mar. 6, 14, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,230 ft<sup>3</sup>/s (34.8 m<sup>3</sup>/s) Feb. 28; minimum daily, 3.6 ft<sup>3</sup>/s (0.10 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY               | OCT     | NOV  | DEC  | JAN      | FEB      | MAR     | APR  | MAY       | JUN        | JUL       | AUG  | SEP  |
|-------------------|---------|------|------|----------|----------|---------|------|-----------|------------|-----------|------|------|
| 1                 | 3.6     | 37   | 318  | 23       | 18       | 1070    | 204  | 278       | 89         | 66        | 86   | 24   |
| 2                 | 3.6     | 33   | 141  | 23       | 64       | 775     | 371  | 227       | 97         | 64        | 67   | 25   |
| 3                 | 21      | 30   | 132  | 21       | 81       | 532     | 406  | 204       | 79         | 67        | 61   | 25   |
| 4                 | 22      | 30   | 99   | 22       | 76       | 399     | 304  | 167       | 85         | 93        | 54   | 25   |
| 5                 | 22      | 19   | 91   | 17       | 76       | 340     | 288  | 160       | 84         | 324       | 68   | 24   |
| 6                 | 20      | 23   | 78   | 15       | 72       | 302     | 352  | 154       | 97         | 439       | 84   | 22   |
| 7                 | 17      | 48   | 71   | 17       | 71       | 282     | 325  | 136       | 136        | 357       | 69   | 21   |
| 8                 | 15      | 31   | 73   | 18       | 68       | 252     | 274  | 135       | 127        | 232       | 56   | 24   |
| 9                 | 15      | 33   | 76   | 17       | 68       | 202     | 250  | 128       | 111        | 160       | 52   | 38   |
| 10                | 13      | 39   | 73   | 17       | 66       | 192     | 219  | 119       | 99         | 121       | 52   | 24   |
| 11                | 15      | 37   | 54   | 17       | 100      | 201     | 222  | 119       | 79         | 97        | 67   | 31   |
| 12                | 18      | 33   | 53   | 15       | 196      | 190     | 188  | 249       | 67         | 82        | 61   | 39   |
| 13                | 19      | 30   | 53   | 14       | 214      | 186     | 167  | 328       | 59         | 88        | 58   | 39   |
| 14                | 17      | 28   | 47   | 13       | 227      | 183     | 202  | 254       | 54         | 150       | 52   | 29   |
| 15                | 16      | 26   | 34   | 13       | 203      | 179     | 255  | 242       | 52         | 126       | 44   | 50   |
| 16                | 15      | 24   | 30   | 15       | 141      | 174     | 239  | 394       | 50         | 96        | 53   | 95   |
| 17                | 15      | 23   | 29   | 15       | 112      | 161     | 177  | 379       | 46         | 77        | 84   | 95   |
| 18                | 16      | 25   | 28   | 16       | 114      | 138     | 170  | 327       | 40         | 66        | 84   | 76   |
| 19                | 21      | 33   | 28   | 16       | 121      | 135     | 157  | 243       | 34         | 71        | 49   | 64   |
| 20                | 21      | 31   | 26   | 17       | 228      | 135     | 142  | 201       | 42         | 95        | 37   | 60   |
| 21                | 19      | 28   | 26   | 17       | 356      | 135     | 151  | 160       | 78         | 174       | 32   | 52   |
| 22                | 17      | 29   | 23   | 17       | 381      | 137     | 134  | 160       | 96         | 173       | 30   | 59   |
| 23                | 15      | 29   | 26   | 17       | 384      | 133     | 137  | 130       | 134        | 137       | 28   | 145  |
| 24                | 15      | 37   | 27   | 17       | 524      | 133     | 201  | 129       | 108        | 104       | 27   | 165  |
| 25                | 35      | 93   | 25   | 17       | 704      | 132     | 241  | 116       | 144        | 83        | 27   | 159  |
| 26                | 106     | 83   | 22   | 17       | 953      | 131     | 267  | 105       | 315        | 71        | 26   | 116  |
| 27                | 96      | 68   | 23   | 18       | 1110     | 132     | 204  | 93        | 259        | 70        | 25   | 86   |
| 28                | 92      | 112  | 24   | 18       | 1230     | 134     | 180  | 85        | 201        | 72        | 23   | 76   |
| 29                | 60      | 232  | 26   | 18       | ---      | 164     | 203  | 89        | 102        | 122       | 21   | 69   |
| 30                | 49      | 241  | 27   | 18       | ---      | 229     | 306  | 94        | 78         | 132       | 21   | 63   |
| 31                | 42      | ---  | 24   | 18       | ---      | 198     | ---  | 99        | ---        | 109       | 21   | ---  |
| TOTAL             | 871.2   | 1565 | 1807 | 533      | 7958     | 7686    | 6936 | 5704      | 3042       | 4118      | 1519 | 1820 |
| MEAN              | 28.1    | 52.2 | 58.3 | 17.2     | 284      | 248     | 231  | 184       | 101        | 133       | 49.0 | 60.7 |
| MAX               | 106     | 241  | 318  | 23       | 1230     | 1070    | 406  | 394       | 315        | 439       | 86   | 165  |
| MIN               | 3.6     | 19   | 22   | 13       | 18       | 131     | 134  | 85        | 34         | 64        | 21   | 21   |
| MEAN†             | 28.6    | 65.5 | 56.6 | 18.2     | 326      | 199     | 232  | 183       | 101        | 133       | 48.5 | 60.9 |
| CFSM†             | .30     | .68  | .58  | .19      | 3.37     | 2.06    | 2.40 | 1.89      | 1.04       | 1.37      | .50  | .63  |
| IN†               | .34     | .75  | .67  | .22      | 3.50     | 2.37    | 2.67 | 2.18      | 1.17       | 1.59      | .58  | .70  |
| CAL YR 1980 TOTAL | 44834.8 |      |      | MEAN 122 | MAX 918  | MIN 3.6 |      | MEAN† 123 | CFSM† 1.27 | IN† 17.23 |      |      |
| WTR YR 1981 TOTAL | 43559.2 |      |      | MEAN 119 | MAX 1230 | MIN 3.6 |      | MEAN† 119 | CFSM† 1.23 | IN† 16.75 |      |      |

† Adjusted for change in contents in Barre Falls Reservoir.



## CONNECTICUT RIVER BASIN

01173500 WARE RIVER AT GIBBS CROSSING, MA

LOCATION.--Lat 42°14'10", long 72°16'23", Hampshire County, Hydrologic Unit 01080204, on right bank 0.5 mi (0.8 km) upstream from Gibbs Crossing, 1.8 mi (2.9 km) upstream from Beaver Brook, 2.5 mi (4.0 km) southwest of Ware, and 8.8 mi (14.2 km) upstream from mouth.

DRAINAGE AREA.--199 mi<sup>2</sup> (515 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: August 1912 to current year.  
Water-quality records: Water years 1953-54.

REVISED RECORDS.--WSP 661: Drainage area. WSP 1031: 1944. WSP 1301: 1914(M).

GAGE.--Water-stage recorder. Datum of gage is 379.79 ft (115.760 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 1, 1930, at site 0.5 mi (0.8 km) downstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. No gage-height record Dec. 14 to Feb. 17. Diversion at times: Since March 1931 from 97 mi<sup>2</sup> (251 km<sup>2</sup>) for supply of Boston metropolitan district and since 1955 from 6.5 mi<sup>2</sup> (16.8 km<sup>2</sup>) for municipal supply of Fitchburg. Regulation by Barre Falls Reservoir (Reservoirs in Connecticut River basin) since 1958. Flow regulated by mills upstream prior to 1967. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--69 years, 288 ft<sup>3</sup>/s (8.156 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,700 ft<sup>3</sup>/s (643 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 18.2 ft (5.55 m), from floodmarks, from rating curve extended above 4,600 ft<sup>3</sup>/s (130 m<sup>3</sup>/s) on basis of contracted-opening measurement at gage height 12.83 ft (3.911 m) and slope-area measurement at gage height 18.2 ft (5.55 m); minimum, 5.0 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Oct. 26, 1914; minimum daily, 6.0 ft<sup>3</sup>/s (0.17 m<sup>3</sup>/s) Oct. 4, 1914. Maximum discharge since construction of Barre Falls Reservoir in 1958, 5,050 ft<sup>3</sup>/s (143 m<sup>3</sup>/s) Mar. 6, 1979, gage height, 7.94 ft (2.420 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,260 ft<sup>3</sup>/s (35.7 m<sup>3</sup>/s) Feb. 25, gage height, 4.06 ft (1.237 m); minimum, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) Oct. 10; minimum daily, 24 ft<sup>3</sup>/s (0.68 m<sup>3</sup>/s) Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR  | APR   | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|------|-------|------|------|------|------|------|
| 1           | 27    | 69    | 260      | 45       | 28     | 612  | 340   | 412  | 154  | 127  | 157  | 48   |
| 2           | 25    | 62    | 224      | 45       | 52     | 522  | 515   | 349  | 143  | 107  | 123  | 41   |
| 3           | 27    | 56    | 236      | 40       | 270    | 453  | 545   | 311  | 133  | 90   | 99   | 44   |
| 4           | 37    | 58    | 199      | 36       | 230    | 383  | 440   | 284  | 136  | 130  | 83   | 46   |
| 5           | 32    | 60    | 175      | 33       | 195    | 360  | 425   | 264  | 136  | 652  | 85   | 48   |
| 6           | 29    | 53    | 150      | 33       | 180    | 338  | 490   | 260  | 133  | 1120 | 107  | 48   |
| 7           | 28    | 46    | 135      | 34       | 160    | 327  | 460   | 231  | 157  | 886  | 113  | 46   |
| 8           | 26    | 71    | 131      | 35       | 150    | 332  | 410   | 214  | 180  | 612  | 93   | 36   |
| 9           | 24    | 62    | 132      | 33       | 145    | 311  | 385   | 205  | 196  | 400  | 85   | 99   |
| 10          | 26    | 75    | 136      | 32       | 140    | 311  | 327   | 192  | 161  | 274  | 80   | 93   |
| 11          | 32    | 73    | 115      | 28       | 185    | 311  | 297   | 188  | 140  | 201  | 75   | 64   |
| 12          | 30    | 69    | 86       | 26       | 550    | 300  | 281   | 311  | 110  | 150  | 88   | 62   |
| 13          | 29    | 60    | 91       | 25       | 365    | 289  | 256   | 435  | 90   | 123  | 80   | 110  |
| 14          | 37    | 58    | 84       | 25       | 315    | 289  | 284   | 343  | 83   | 161  | 78   | 140  |
| 15          | 37    | 55    | 75       | 25       | 290    | 274  | 412   | 305  | 88   | 218  | 73   | 104  |
| 16          | 37    | 51    | 70       | 26       | 260    | 289  | 332   | 661  | 71   | 172  | 90   | 140  |
| 17          | 36    | 48    | 64       | 26       | 235    | 274  | 295   | 596  | 73   | 136  | 93   | 209  |
| 18          | 41    | 60    | 58       | 26       | 227    | 264  | 279   | 418  | 66   | 123  | 117  | 170  |
| 19          | 51    | 58    | 53       | 26       | 236    | 255  | 264   | 338  | 56   | 110  | 107  | 145  |
| 20          | 49    | 58    | 50       | 26       | 435    | 255  | 255   | 289  | 69   | 120  | 69   | 120  |
| 21          | 46    | 58    | 47       | 26       | 991    | 255  | 245   | 260  | 99   | 218  | 60   | 105  |
| 22          | 44    | 56    | 45       | 26       | 652    | 250  | 231   | 241  | 127  | 289  | 55   | 95   |
| 23          | 41    | 56    | 47       | 26       | 459    | 250  | 231   | 222  | 231  | 241  | 44   | 200  |
| 24          | 37    | 62    | 50       | 26       | 726    | 245  | 311   | 209  | 201  | 180  | 48   | 260  |
| 25          | 55    | 222   | 50       | 26       | 1210   | 245  | 343   | 196  | 188  | 140  | 56   | 230  |
| 26          | 168   | 264   | 47       | 27       | 1090   | 241  | 343   | 168  | 453  | 117  | 60   | 160  |
| 27          | 184   | 176   | 45       | 27       | 1070   | 260  | 295   | 140  | 471  | 110  | 44   | 130  |
| 28          | 147   | 196   | 44       | 27       | 766    | 295  | 264   | 140  | 332  | 104  | 43   | 110  |
| 29          | 133   | 418   | 47       | 27       | ---    | 300  | 305   | 140  | 222  | 184  | 46   | 105  |
| 30          | 90    | 321   | 50       | 27       | ---    | 365  | 502   | 161  | 161  | 250  | 37   | 100  |
| 31          | 78    | ---   | 47       | 28       | ---    | 335  | ---   | 164  | ---  | 205  | 40   | ---  |
| TOTAL       | 1683  | 3031  | 3043     | 918      | 11612  | 9790 | 10362 | 8647 | 4860 | 7950 | 2428 | 3308 |
| MEAN        | 54.3  | 101   | 98.2     | 29.6     | 415    | 316  | 345   | 279  | 162  | 256  | 78.3 | 110  |
| MAX         | 184   | 418   | 260      | 45       | 1210   | 612  | 545   | 661  | 471  | 1120 | 157  | 260  |
| MIN         | 24    | 46    | 44       | 25       | 28     | 241  | 231   | 140  | 56   | 90   | 37   | 36   |
| CAL YR 1980 | TOTAL | 71852 | MEAN 196 | MAX 2150 | MIN 24 |      |       |      |      |      |      |      |
| WTR YR 1981 | TOTAL | 67632 | MEAN 185 | MAX 1210 | MIN 24 |      |       |      |      |      |      |      |



## CONNECTICUT RIVER BASIN

167

01174000 HOP BROOK NEAR NEW SALEM, MA

LOCATION.--Lat 42°28'42", long 72°20'05", Franklin County, Hydrologic Unit 01080204, on right bank 1.5 mi (2.4 km) upstream from mouth and 1.5 mi (2.4 km) south of New Salem.

DRAINAGE AREA.--3.39 mi<sup>2</sup> (8.78 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1947 to current year. Monthly discharge only October 1947, published in WSP 1301.

Water-quality records: Water year 1961.

Chemical analyses: December 1971 to September 1973.

Water temperatures: December 1971 to September 1973.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 725 ft (221 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--34 years, 6.10 ft<sup>3</sup>/s (0.173 m<sup>3</sup>/s), 24.44 in/yr (621 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 289 ft<sup>3</sup>/s (8.18 m<sup>3</sup>/s) Oct. 24, 1959, gage height, 3.17 ft (0.966 m), from rating curve extended above 130 ft<sup>3</sup>/s (3.7 m<sup>3</sup>/s); maximum gage height, 3.21 ft (0.978 m) Feb. 2, 1973 (ice jam); minimum discharge, 0.004 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Aug. 3, 9, 10, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.8 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m)       |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------------|
| Feb. 11 | 1915 | -- --                                                 | *a2.72 0.829            |      |      |                                                       |                               |
| Feb. 24 | 0815 | *83 2.35                                              | 2.16 0.658              |      |      |                                                       | No peak discharge above base. |

a Ice jam.

Minimum discharge, 0.11 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Oct. 1, 2, but may have been lower during period of ice effect.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB    | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| 1           | .12   | .71     | 2.5   | .53   | .72    | 19    | 5.4   | 8.5   | 4.5   | .86   | .56   | .18   |
| 2           | .12   | .68     | 2.2   | .63   | 13     | 15    | 14    | 7.7   | 3.2   | .83   | .39   | .21   |
| 3           | .18   | .67     | 3.2   | .53   | 8.4    | 13    | 7.6   | 7.5   | 3.2   | .88   | .35   | .23   |
| 4           | 1.3   | .80     | 2.0   | .35   | 5.6    | 11    | 6.2   | 6.4   | 3.8   | 1.2   | .30   | .22   |
| 5           | .54   | 1.1     | 1.7   | .18   | 2.9    | 9.6   | 6.7   | 6.1   | 2.8   | 9.7   | 1.4   | .19   |
| 6           | .34   | .69     | 1.5   | .17   | 1.7    | 8.9   | 15    | 5.9   | 4.4   | 5.0   | 1.4   | .18   |
| 7           | .28   | .67     | 1.5   | .45   | 1.5    | 9.1   | 8.2   | 5.3   | 4.0   | 2.2   | .65   | .17   |
| 8           | .40   | .62     | 1.8   | .70   | 1.9    | 8.8   | 7.1   | 4.9   | 2.5   | 1.7   | .43   | .18   |
| 9           | .40   | .57     | 2.0   | .75   | 2.3    | 8.1   | 7.0   | 4.6   | 3.1   | .98   | .57   | 1.6   |
| 10          | .43   | 1.5     | 1.9   | .73   | 1.8    | 8.0   | 7.1   | 4.7   | 2.3   | .86   | .45   | .57   |
| 11          | .79   | 1.1     | 1.4   | .52   | 16     | 7.5   | 6.4   | 4.7   | 2.0   | .65   | .35   | .44   |
| 12          | .75   | .90     | 1.3   | .25   | 16     | 7.1   | 5.9   | 15    | 1.7   | .47   | 1.4   | .89   |
| 13          | .54   | .78     | 1.5   | .24   | 7.7    | 6.9   | 5.3   | 13    | 1.6   | .43   | .62   | 1.1   |
| 14          | .50   | .73     | 1.4   | .24   | 4.7    | 6.5   | 10    | 7.3   | 1.4   | .56   | .38   | .70   |
| 15          | .43   | .68     | 1.2   | .34   | 3.8    | 6.2   | 10    | 8.1   | 2.0   | .56   | .29   | 1.4   |
| 16          | .43   | .64     | 1.4   | .31   | 3.7    | 6.1   | 7.1   | 29    | 1.7   | .42   | 3.1   | 2.0   |
| 17          | .47   | .55     | 1.4   | .47   | 4.5    | 5.8   | 6.6   | 15    | 1.2   | .33   | .92   | 1.4   |
| 18          | 1.1   | .80     | 1.3   | .66   | 4.5    | 5.2   | 6.2   | 9.7   | .93   | .27   | .56   | .83   |
| 19          | 1.3   | .85     | 1.4   | .80   | 4.6    | 4.8   | 5.4   | 8.0   | .87   | .27   | .37   | .96   |
| 20          | .75   | .80     | 1.2   | .82   | 37     | 4.7   | 5.3   | 7.0   | 2.6   | .56   | .28   | 1.1   |
| 21          | .58   | .83     | 1.1   | .80   | 27     | 4.6   | 5.1   | 6.1   | 3.4   | 2.8   | .23   | .71   |
| 22          | .50   | .90     | 1.1   | .88   | 14     | 4.5   | 4.8   | 5.3   | 3.5   | 1.3   | .21   | .64   |
| 23          | .50   | 1.0     | 1.2   | .82   | 11     | 4.4   | 5.3   | 4.8   | 3.5   | .76   | .21   | 2.8   |
| 24          | .59   | 2.0     | 1.3   | .80   | 56     | 4.3   | 12    | 4.2   | 1.8   | .53   | .21   | 2.6   |
| 25          | 1.8   | 13      | 1.1   | .63   | 42     | 4.3   | 15    | 3.6   | 3.4   | .43   | .25   | 1.8   |
| 26          | 3.2   | 4.5     | .73   | .71   | 45     | 4.2   | 9.6   | 3.2   | 3.9   | .38   | .26   | 1.1   |
| 27          | 1.4   | 2.5     | .83   | .77   | 33     | 6.4   | 7.3   | 2.9   | 2.1   | .67   | .24   | .96   |
| 28          | 1.1   | 7.0     | .87   | .79   | 22     | 5.6   | 6.7   | 2.8   | 1.5   | .46   | .22   | 1.1   |
| 29          | .92   | 7.5     | 1.0   | .77   | ---    | 5.0   | 9.8   | 4.1   | 1.1   | 2.3   | .17   | .81   |
| 30          | .76   | 3.8     | 1.3   | .71   | ---    | 5.2   | 14    | 3.6   | .88   | 1.5   | .17   | .66   |
| 31          | .72   | ---     | .77   | .66   | ---    | 6.9   | ---   | 7.1   | ---   | .77   | .16   | ---   |
| TOTAL       | 23.04 | 58.87   | 45.10 | 18.01 | 392.32 | 226.7 | 242.1 | 226.1 | 74.88 | 40.63 | 17.10 | 27.73 |
| MEAN        | .74   | 1.96    | 1.45  | .58   | 14.0   | 7.31  | 8.07  | 7.29  | 2.50  | 1.31  | .55   | .92   |
| MAX         | 3.2   | 13      | 3.2   | .88   | 56     | 19    | 15    | 29    | 4.5   | 9.7   | 3.1   | 2.8   |
| MIN         | .12   | .55     | .73   | .17   | .72    | 4.2   | 4.8   | 2.8   | .87   | .27   | .16   | .17   |
| CFSM        | .22   | .58     | .43   | .17   | 4.13   | 2.16  | 2.38  | 2.15  | .74   | .39   | .16   | .27   |
| IN.         | .25   | .65     | .49   | .20   | 4.30   | 2.49  | 2.66  | 2.48  | .82   | .45   | .19   | .30   |
| CAL YR 1980 | TOTAL | 1569.89 | MEAN  | 4.29  | MAX    | 92    | MIN   | .04   | CFSM  | 1.27  | IN    | 17.22 |
| WTR YR 1981 | TOTAL | 1392.58 | MEAN  | 3.82  | MAX    | 56    | MIN   | .12   | CFSM  | 1.13  | IN    | 15.28 |

## CONNECTICUT RIVER BASIN

01174500 EAST BRANCH SWIFT RIVER NEAR HARDWICK, MA

LOCATION.--Lat 42°23'36", long 72°14'21", Worcester County, Hydrologic Unit 01080204, on left bank 100 ft (30 m) above spillway of regulating dam and 4.6 mi (7.4 km) northwest of Hardwick.

DRAINAGE AREA.--43.7 mi<sup>2</sup> (113.2 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: January 1937 to current year. Published as "near Dana" January 1937 to September 1939.

Water-quality records: Water year 1957.

GAGE.--Water-stage recorder. Concrete spillway since Mar. 12, 1940. Datum of gage is 504.70 ft (153.833 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--44 years, 68.6 ft<sup>3</sup>/s (1.943 m<sup>3</sup>/s), 21.32 in/yr (542 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,780 ft<sup>3</sup>/s (192 m<sup>3</sup>/s) Sept. 21, 1938, average of slope-area and contracted-opening measurements; maximum gage height since construction of concrete spillway in 1940, 22.49 ft (6.855 m) June 25, 1944; no flow at times during several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft<sup>3</sup>/s (9.9 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date   | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Feb. 25 | 1600 | 476 13.5                                              | 20.41 6.221             | July 6 | 0500 | *559 15.8                                             | 20.53 6.258             |

Minimum discharge, 4.3 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Jan. 14-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB    | MAR  | APR  | MAY  | JUN    | JUL  | AUG  | SEP   |
|-------|-------|-------|-------|-------|--------|------|------|------|--------|------|------|-------|
| 1     | 5.2   | 14    | 70    | 8.4   | 4.9    | 238  | 77   | 115  | 30     | 27   | 32   | 12    |
| 2     | 5.4   | 15    | 51    | 8.4   | 27     | 192  | 120  | 94   | 26     | 21   | 27   | 12    |
| 3     | 6.5   | 15    | 48    | 7.9   | 103    | 155  | 153  | 78   | 24     | 21   | 23   | 11    |
| 4     | 9.5   | 14    | 39    | 7.5   | 78     | 124  | 122  | 65   | 26     | 42   | 21   | 11    |
| 5     | 9.2   | 14    | 30    | 6.7   | 45     | 103  | 98   | 52   | 27     | 245  | 20   | 10    |
| 6     | 9.2   | 12    | 26    | 5.9   | 28     | 87   | 130  | 48   | 28     | 510  | 21   | 9.4   |
| 7     | 8.4   | 11    | 23    | 6.7   | 20     | 80   | 141  | 46   | 33     | 295  | 20   | 9.2   |
| 8     | 7.8   | 12    | 21    | 6.3   | 20     | 78   | 116  | 42   | 30     | 165  | 19   | 8.8   |
| 9     | 7.4   | 12    | 21    | 5.9   | 20     | 73   | 94   | 37   | 28     | 104  | 18   | 23    |
| 10    | 6.9   | 13    | 23    | 5.6   | 18     | 70   | 89   | 35   | 27     | 69   | 17   | 29    |
| 11    | 10    | 13    | 21    | 5.6   | 25     | 69   | 81   | 33   | 24     | 47   | 16   | 27    |
| 12    | 11    | 12    | 18    | 5.2   | 124    | 65   | 73   | 55   | 20     | 36   | 17   | 29    |
| 13    | 9.9   | 11    | 18    | 4.9   | 106    | 61   | 61   | 110  | 18     | 29   | 17   | 34    |
| 14    | 8.5   | 10    | 17    | 4.6   | 64     | 60   | 58   | 107  | 16     | 32   | 16   | 27    |
| 15    | 8.0   | 10    | 15    | 4.3   | 42     | 56   | 89   | 84   | 14     | 36   | 14   | 27    |
| 16    | 7.4   | 9.4   | 15    | 4.3   | 31     | 57   | 88   | 193  | 14     | 31   | 30   | 38    |
| 17    | 7.3   | 8.8   | 15    | 4.3   | 30     | 54   | 79   | 236  | 13     | 25   | 38   | 46    |
| 18    | 8.0   | 16    | 14    | 4.3   | 34     | 50   | 70   | 157  | 10     | 22   | 33   | 41    |
| 19    | 11    | 15    | 13    | 4.3   | 35     | 47   | 60   | 105  | 7.6    | 20   | 26   | 34    |
| 20    | 11    | 13    | 12    | 4.3   | 77     | 44   | 53   | 78   | 9.8    | 26   | 21   | 30    |
| 21    | 11    | 12    | 11    | 4.3   | 280    | 41   | 49   | 62   | 24     | 54   | 17   | 27    |
| 22    | 10    | 12    | 11    | 4.3   | 259    | 39   | 43   | 51   | 32     | 73   | 15   | 25    |
| 23    | 10    | 11    | 10    | 4.3   | 168    | 38   | 41   | 42   | 64     | 60   | 14   | 44    |
| 24    | 9.4   | 12    | 10    | 4.3   | 203    | 37   | 55   | 36   | 58     | 45   | 14   | 69    |
| 25    | 13    | 35    | 11    | 4.3   | 441    | 36   | 90   | 30   | 97     | 35   | 17   | 73    |
| 26    | 24    | 59    | 9.6   | 4.3   | 425    | 36   | 108  | 27   | 260    | 30   | 16   | 60    |
| 27    | 27    | 53    | 8.8   | 4.3   | 404    | 42   | 91   | 24   | 166    | 29   | 15   | 46    |
| 28    | 24    | 56    | 8.4   | 4.3   | 309    | 55   | 75   | 22   | 96     | 26   | 14   | 41    |
| 29    | 21    | 98    | 8.4   | 4.7   | ---    | 58   | 75   | 24   | 58     | 36   | 13   | 32    |
| 30    | 18    | 95    | 9.1   | 4.9   | ---    | 60   | 113  | 26   | 37     | 48   | 12   | 27    |
| 31    | 16    | ---   | 9.2   | 4.9   | ---    | 75   | ---  | 29   | ---    | 40   | 12   | ---   |
| TOTAL | 351.0 | 693.2 | 616.5 | 164.3 | 3420.9 | 2280 | 2592 | 2143 | 1317.4 | 2279 | 605  | 912.4 |
| MEAN  | 11.3  | 23.1  | 19.9  | 5.30  | 122    | 73.5 | 86.4 | 69.1 | 43.9   | 73.5 | 19.5 | 30.4  |
| MAX   | 27    | 98    | 70    | 8.4   | 441    | 238  | 153  | 236  | 260    | 510  | 38   | 73    |
| MIN   | 5.2   | 8.8   | 8.4   | 4.3   | 4.9    | 36   | 41   | 22   | 7.6    | 20   | 12   | 8.8   |
| CFSM  | .26   | .53   | .46   | .12   | 2.79   | 1.68 | 1.98 | 1.58 | 1.01   | 1.68 | .45  | .70   |
| IN.   | .30   | .59   | .52   | .14   | 2.91   | 1.94 | 2.21 | 1.82 | 1.12   | 1.94 | .51  | .78   |

|             |       |          |      |      |     |     |     |     |      |      |    |       |
|-------------|-------|----------|------|------|-----|-----|-----|-----|------|------|----|-------|
| CAL YR 1980 | TOTAL | 17760.15 | MEAN | 48.5 | MAX | 627 | MIN | .42 | CFSM | 1.11 | IN | 15.12 |
| WTR YR 1981 | TOTAL | 17374.70 | MEAN | 47.6 | MAX | 510 | MIN | 4.3 | CFSM | 1.09 | IN | 14.79 |

01174600 CADWELL CREEK NEAR PELHAM, MA

LOCATION.--Lat 42°21'16", long 72°23'18", Hampshire County, Hydrologic Unit 01080204, on left bank 0.8 mi (1.3 km) east of Knights Corner, 2 mi (3 km) upstream from mouth, 2.7 mi (4.3 km) south of Pelham, and 5 mi (8 km) north of Belchertown.

DRAINAGE AREA.--0.63 mi<sup>2</sup> (1.63 km<sup>2</sup>).

PERIOD OF RECORD.--July 1961 to current year.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir. Altitude of gage is 860 ft (262 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--20 years, 1.12 ft<sup>3</sup>/s (0.032 m<sup>3</sup>/s), 24.14 in/yr (613 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46 ft<sup>3</sup>/s (1.30 m<sup>3</sup>/s) Mar. 6, 1979, gage height, 5.26 ft (1.603 m), from rating curve extended above 21 ft<sup>3</sup>/s (0.59 m<sup>3</sup>/s); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 18 ft<sup>3</sup>/s (0.51 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 24 | 1445 | *22 0.62                                              | 4.67 1.423              |      |      |                                                       |                         |

No flow Aug. 28-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV   | DEC  | JAN  | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG  | SEP  |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|-------|------|------|
| 1     | .03  | .11   | .58  | .15  | .10   | 2.6   | .75   | 1.5   | .58   | .28   | .08  | .08  |
| 2     | .03  | .09   | .47  | .15  | 3.0   | 2.0   | 2.0   | 1.1   | .45   | .26   | .06  | .15  |
| 3     | .04  | .08   | .70  | .13  | 1.7   | 1.6   | 1.2   | .92   | .47   | .33   | .04  | .07  |
| 4     | .18  | .12   | .43  | .11  | .86   | 1.4   | .95   | .78   | .65   | .45   | .05  | .04  |
| 5     | .06  | .13   | .36  | .09  | .49   | 1.3   | 1.0   | .70   | .39   | 3.8   | .08  | .03  |
| 6     | .04  | .09   | .31  | .08  | .33   | 1.1   | 3.0   | .65   | .39   | 2.1   | .10  | .02  |
| 7     | .04  | .09   | .29  | .07  | .28   | 1.2   | 1.4   | .58   | .36   | .95   | .04  | .02  |
| 8     | .03  | .11   | .36  | .09  | .47   | 1.3   | 1.0   | .51   | .26   | .53   | .03  | .02  |
| 9     | .03  | .15   | .39  | .08  | .47   | 1.1   | .95   | .49   | .41   | .36   | .04  | .31  |
| 10    | .02  | .25   | .38  | .08  | .36   | 1.1   | .95   | .49   | .29   | .25   | .03  | .08  |
| 11    | .17  | .16   | .29  | .07  | 3.4   | .99   | .86   | .51   | .29   | .20   | .03  | .06  |
| 12    | .12  | .13   | .28  | .06  | 3.4   | .95   | .78   | 1.8   | .21   | .16   | .03  | .06  |
| 13    | .07  | .12   | .26  | .04  | 1.2   | .92   | .67   | 2.1   | .20   | .14   | .03  | .06  |
| 14    | .05  | .12   | .25  | .04  | .86   | .83   | 1.5   | 1.1   | .17   | .14   | .02  | .04  |
| 15    | .04  | .11   | .23  | .03  | .67   | .81   | 1.5   | 1.3   | .23   | .11   | .02  | .11  |
| 16    | .04  | .10   | .22  | .05  | .65   | .78   | .99   | 6.8   | .20   | .07   | .60  | .45  |
| 17    | .04  | .08   | .22  | .06  | .83   | .70   | .86   | 3.2   | .14   | .06   | .14  | .22  |
| 18    | .21  | .13   | .21  | .08  | .83   | .65   | .78   | 1.6   | .10   | .06   | .07  | .12  |
| 19    | .25  | .13   | .21  | .08  | .95   | .60   | .67   | 1.1   | .09   | .05   | .03  | .13  |
| 20    | .12  | .14   | .20  | .08  | 7.2   | .58   | .63   | .92   | .34   | .13   | .02  | .15  |
| 21    | .08  | .15   | .18  | .08  | 6.0   | .60   | .58   | .75   | .39   | .47   | .01  | .08  |
| 22    | .08  | .18   | .18  | .08  | 2.9   | .60   | .56   | .65   | .73   | .20   | .01  | .10  |
| 23    | .07  | .18   | .18  | .08  | 2.0   | .58   | .65   | .56   | .65   | .11   | .01  | .56  |
| 24    | .06  | .63   | .18  | .08  | 15    | .58   | 1.3   | .47   | .33   | .08   | .02  | .43  |
| 25    | .38  | 2.6   | .17  | .09  | 8.6   | .56   | 1.2   | .41   | 5.0   | .06   | .02  | .29  |
| 26    | .47  | .81   | .16  | .08  | 10    | .56   | .92   | .36   | 2.8   | .06   | .02  | .17  |
| 27    | .20  | .51   | .15  | .09  | 5.8   | .92   | .75   | .31   | 1.2   | .14   | .01  | .14  |
| 28    | .18  | 1.9   | .16  | .12  | 3.5   | .81   | .65   | .29   | .67   | .08   | .00  | .16  |
| 29    | .16  | 1.7   | .18  | .12  | ---   | .73   | 1.6   | .83   | .45   | .53   | .00  | .11  |
| 30    | .13  | .81   | .20  | .12  | ---   | .70   | 3.3   | .60   | .33   | .29   | .00  | .10  |
| 31    | .11  | ---   | .17  | .11  | ---   | .83   | ---   | .83   | ---   | .14   | .00  | ---  |
| TOTAL | 3.53 | 11.91 | 8.55 | 2.67 | 81.85 | 29.98 | 33.95 | 34.21 | 18.77 | 12.59 | 1.64 | 4.36 |
| MEAN  | .11  | .40   | .28  | .086 | 2.92  | .97   | 1.13  | 1.10  | .63   | .41   | .053 | .15  |
| MAX   | .47  | 2.6   | .70  | .15  | 15    | 2.6   | 3.3   | 6.8   | 5.0   | 3.8   | .60  | .56  |
| MIN   | .02  | .08   | .15  | .03  | .10   | .56   | .56   | .29   | .09   | .05   | .00  | .02  |
| CFSM  | .18  | .64   | .44  | .14  | 4.64  | 1.54  | 1.79  | 1.75  | 1.00  | .65   | .08  | .24  |
| IN.   | .21  | .70   | .50  | .16  | 4.83  | 1.77  | 2.00  | 2.02  | 1.11  | .74   | .10  | .26  |

CAL YR 1980 TOTAL 244.04 MEAN .67 MAX 20 MIN .00 CFSM 1.06 IN 14.39  
WTR YR 1981 TOTAL 244.01 MEAN .67 MAX 15 MIN .00 CFSM 1.06 IN 14.39

## CONNECTICUT RIVER BASIN

01174900 CADWELL CREEK NEAR BELCHERTOWN, MA

LOCATION.--Lat 42°20'08", long 72°22'12", Hampshire County, Hydrologic Unit 01080204, on left bank 200 ft (60 m) upstream from mouth, 2 mi (3 km) southeast of Knights Corner, and 4.5 mi (7.2 km) north of Belchertown.

DRAINAGE AREA.--2.81 mi<sup>2</sup> (7.28 km<sup>2</sup>).

PERIOD OF RECORD.--July 1961 to current year.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir. Altitude of gage is 540 ft (165 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--20 years, 4.73 ft<sup>3</sup>/s (0.134 m<sup>3</sup>/s), 22.86 in/yr (581 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 271 ft<sup>3</sup>/s (7.67 m<sup>3</sup>/s) Mar. 6, 1979, gage height, 7.42 ft (2.262 m), from rating curve extended above 92 ft<sup>3</sup>/s (2.6 m<sup>3</sup>/s); minimum, 0.07 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) several times in water years 1964, 1965, and 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 75 ft<sup>3</sup>/s (2.1 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 24 | 1530 | *76 2.15                                              | 6.42 1.957              |      |      |                                                       |                         |

Minimum discharge, 0.21 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Oct. 2, 3, Aug. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB    | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| 1     | .23   | .63   | 2.5   | .65   | .45    | 13    | 3.0   | 7.0   | 3.5   | 1.7   | .79   | 1.1   |
| 2     | .21   | .57   | 2.1   | .78   | 13     | 9.7   | 8.4   | 5.5   | 2.7   | 1.6   | .60   | 1.3   |
| 3     | .26   | .53   | 2.9   | .68   | 6.6    | 7.9   | 5.2   | 4.7   | 2.7   | 1.7   | .51   | .70   |
| 4     | 1.0   | .59   | 1.8   | .60   | 4.0    | 6.9   | 4.1   | 4.0   | 3.6   | 2.3   | .61   | .56   |
| 5     | .52   | .80   | 1.6   | .54   | 2.6    | 6.0   | 4.3   | 3.7   | 2.4   | 16    | 1.2   | .41   |
| 6     | .35   | .61   | 1.4   | .50   | 2.0    | 5.5   | 11    | 3.5   | 2.2   | 9.4   | 1.0   | .35   |
| 7     | .31   | .58   | 1.4   | .47   | 1.7    | 5.5   | 6.2   | 3.2   | 2.0   | 4.9   | .63   | .33   |
| 8     | .29   | .62   | 1.6   | .44   | 2.1    | 5.7   | 4.9   | 2.9   | 1.7   | 3.2   | .53   | .38   |
| 9     | .28   | .69   | 1.9   | .42   | 2.8    | 5.2   | 4.5   | 2.8   | 2.6   | 2.3   | .63   | 2.5   |
| 10    | .23   | 1.4   | 1.7   | .40   | 1.9    | 4.9   | 4.5   | 2.8   | 2.0   | 1.8   | .53   | .85   |
| 11    | .78   | .92   | 1.3   | .37   | 13     | 4.5   | 4.0   | 2.9   | 2.0   | 1.5   | .39   | .74   |
| 12    | .81   | .74   | 1.2   | .35   | 13     | 4.4   | 3.6   | 7.9   | 1.4   | 1.3   | .51   | .62   |
| 13    | .52   | .65   | 1.3   | .33   | 5.5    | 4.2   | 3.2   | 9.4   | 1.3   | 1.3   | .40   | .73   |
| 14    | .37   | .63   | 1.1   | .32   | 4.2    | 3.7   | 6.0   | 5.3   | 1.2   | 1.2   | .31   | .56   |
| 15    | .33   | .59   | .98   | .31   | 3.4    | 3.6   | 6.8   | 5.0   | 1.4   | .99   | .30   | 1.3   |
| 16    | .33   | .54   | 1.1   | .30   | 3.3    | 3.4   | 4.7   | 31    | 1.3   | .84   | 4.3   | 3.1   |
| 17    | .29   | .48   | 1.2   | .30   | 4.0    | 3.2   | 4.2   | 16    | 1.0   | .70   | 1.3   | 1.8   |
| 18    | .81   | .69   | 1.1   | .30   | 4.0    | 3.0   | 3.9   | 8.2   | .85   | .65   | .80   | 1.2   |
| 19    | 1.5   | .74   | 1.1   | .32   | 4.3    | 2.9   | 3.5   | 6.1   | .77   | .66   | .58   | 1.1   |
| 20    | .71   | .69   | .96   | .35   | 27     | 2.8   | 3.3   | 5.0   | 1.3   | .98   | .43   | 1.1   |
| 21    | .52   | .72   | .92   | .35   | 27     | 2.7   | 3.0   | 4.3   | 2.1   | 2.7   | .35   | .75   |
| 22    | .51   | .82   | .92   | .35   | 14     | 2.7   | 2.8   | 3.6   | 3.1   | 1.4   | .32   | .82   |
| 23    | .46   | .92   | 1.0   | .35   | 9.1    | 2.6   | 3.2   | 3.2   | 3.4   | .95   | .31   | 3.7   |
| 24    | .43   | 1.8   | .99   | .36   | 49     | 2.6   | 5.9   | 2.7   | 2.0   | .74   | .34   | 2.5   |
| 25    | 1.2   | 11    | .85   | .38   | 39     | 2.5   | 5.2   | 2.3   | 13    | .67   | .54   | 1.8   |
| 26    | 2.5   | 4.1   | .80   | .40   | 43     | 2.5   | 4.4   | 2.0   | 9.8   | .63   | .37   | 1.2   |
| 27    | 1.2   | 2.3   | .75   | .43   | 28     | 4.1   | 3.6   | 1.8   | 4.6   | .91   | .32   | 1.0   |
| 28    | .98   | 6.3   | .80   | .46   | 17     | 3.7   | 3.2   | 1.7   | 3.0   | .63   | .27   | 1.1   |
| 29    | .91   | 6.8   | .90   | .50   | ---    | 3.3   | 6.7   | 4.1   | 2.3   | 2.7   | .23   | .86   |
| 30    | .75   | 3.4   | 1.1   | .50   | ---    | 3.3   | 15    | 3.3   | 1.8   | 1.9   | .23   | .73   |
| 31    | .67   | ---   | .85   | .48   | ---    | 3.2   | ---   | 4.9   | ---   | 1.1   | .28   | ---   |
| TOTAL | 20.26 | 51.85 | 40.12 | 13.29 | 344.95 | 139.2 | 152.3 | 170.8 | 83.02 | 69.35 | 19.91 | 35.19 |
| MEAN  | .65   | 1.73  | 1.29  | .43   | 12.3   | 4.49  | 5.08  | 5.51  | 2.77  | 2.24  | .64   | 1.17  |
| MAX   | 2.5   | 11    | 2.9   | .78   | 49     | 13    | 15    | 31    | 13    | 16    | 4.3   | 3.7   |
| MIN   | .21   | .48   | .75   | .30   | .45    | 2.5   | 2.8   | 1.7   | .77   | .63   | .23   | .33   |
| CFSM  | .23   | .62   | .46   | .15   | 4.38   | 1.60  | 1.81  | 1.96  | .99   | .80   | .23   | .42   |
| IN.   | .27   | .69   | .53   | .18   | 4.56   | 1.84  | 2.02  | 2.26  | 1.10  | .92   | .26   | .47   |

|             |       |         |           |        |         |           |          |
|-------------|-------|---------|-----------|--------|---------|-----------|----------|
| CAL YR 1980 | TOTAL | 1175.09 | MEAN 3.21 | MAX 84 | MIN .11 | CFSM 1.14 | IN 15.55 |
| WTR YR 1981 | TOTAL | 1140.24 | MEAN 3.12 | MAX 49 | MIN .21 | CFSM 1.11 | IN 15.09 |

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LOCATION.--Lat 42°16'04", long 72°19'59", Hampshire County, Hydrologic Unit 01080204, on left bank at West Ware, 1.4 mi (2.3 km) downstream from Quabbin Reservoir, 3.5 mi (5.6 km) east of Belchertown, and 8.0 mi (12.9 km) upstream from mouth.

Water-quality records: Water years 1952-54.

REMARKS.--Records good. Flow regulated since August 1939 by Quabbin Reservoir (Reservoirs in Connecticut River basin). Diversion from Ware River to Quabbin Reservoir since 1940, from Quabbin Reservoir to Wachusett Reservoir since 1941, from Quabbin Reservoir to Chicopee Valley aqueduct since 1950, and at times since 1966 from Quabbin Reservoir to city of Worcester. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 147 ft<sup>3</sup>/s (4.16 m<sup>3</sup>/s) Aug. 14, gage height, 2.83 ft (0.863 m); maximum gage height, 3.23 ft (0.985 m) Jan. 5 (ice jam); minimum daily discharge, 38 ft<sup>3</sup>/s (1.08 m<sup>3</sup>/s) on several days during the year.

| DAY         | OCT   | NOV   | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 1           | 124   | 42    | 41   | 40   | 39   | 43   | 40   | 39   | 39   | 40   | 85   | 39   |
| 2           | 124   | 42    | 40   | 40   | 46   | 42   | 43   | 39   | 39   | 40   | 128  | 39   |
| 3           | 124   | 42    | 41   | 40   | 39   | 42   | 41   | 39   | 39   | 41   | 129  | 38   |
| 4           | 124   | 42    | 40   | 40   | 40   | 42   | 40   | 39   | 39   | 41   | 129  | 38   |
| 5           | 124   | 41    | 40   | 40   | 40   | 42   | 40   | 39   | 38   | 46   | 130  | 38   |
| 6           | 123   | 42    | 40   | 40   | 39   | 42   | 42   | 39   | 39   | 42   | 130  | 38   |
| 7           | 123   | 42    | 40   | 40   | 39   | 42   | 41   | 38   | 39   | 41   | 125  | 38   |
| 8           | 124   | 42    | 40   | 40   | 39   | 41   | 40   | 39   | 39   | 41   | 121  | 38   |
| 9           | 124   | 42    | 40   | 40   | 39   | 41   | 38   | 38   | 40   | 41   | 121  | 40   |
| 10          | 125   | 42    | 40   | 40   | 39   | 41   | 40   | 39   | 39   | 41   | 122  | 38   |
| 11          | 126   | 42    | 40   | 40   | 45   | 41   | 40   | 39   | 39   | 41   | 123  | 38   |
| 12          | 126   | 42    | 40   | 40   | 41   | 41   | 40   | 40   | 39   | 40   | 124  | 38   |
| 13          | 126   | 42    | 40   | 40   | 39   | 41   | 40   | 45   | 39   | 41   | 127  | 38   |
| 14          | 126   | 42    | 40   | 40   | 39   | 41   | 42   | 39   | 39   | 41   | 122  | 39   |
| 15          | 125   | 41    | 40   | 40   | 39   | 41   | 41   | 40   | 39   | 41   | 122  | 39   |
| 16          | 124   | 41    | 40   | 40   | 39   | 41   | 41   | 42   | 39   | 41   | 122  | 39   |
| 17          | 124   | 41    | 40   | 39   | 39   | 42   | 40   | 40   | 39   | 39   | 122  | 38   |
| 18          | 126   | 43    | 40   | 39   | 39   | 41   | 40   | 40   | 39   | 44   | 115  | 38   |
| 19          | 126   | 40    | 40   | 39   | 39   | 40   | 40   | 39   | 39   | 43   | 115  | 38   |
| 20          | 126   | 40    | 40   | 39   | 45   | 40   | 40   | 39   | 40   | 44   | 122  | 38   |
| 21          | 126   | 40    | 40   | 39   | 42   | 40   | 40   | 39   | 40   | 44   | 43   | 38   |
| 22          | 126   | 40    | 40   | 39   | 41   | 40   | 40   | 39   | 41   | 44   | 43   | 38   |
| 23          | 126   | 40    | 39   | 39   | 40   | 40   | 40   | 39   | 40   | 44   | 43   | 39   |
| 24          | 127   | 40    | 39   | 39   | 48   | 40   | 41   | 39   | 40   | 44   | 43   | 38   |
| 25          | 126   | 44    | 41   | 39   | 47   | 40   | 41   | 39   | 41   | 43   | 43   | 38   |
| 26          | 126   | 41    | 40   | 39   | 50   | 40   | 40   | 39   | 40   | 43   | 51   | 38   |
| 27          | 126   | 40    | 39   | 38   | 45   | 41   | 40   | 38   | 40   | 44   | 39   | 38   |
| 28          | 126   | 42    | 39   | 38   | 44   | 40   | 39   | 39   | 41   | 44   | 39   | 38   |
| 29          | 126   | 41    | 39   | 38   | ---  | 40   | 41   | 40   | 40   | 45   | 39   | 38   |
| 30          | 81    | 40    | 39   | 38   | ---  | 40   | 41   | 39   | 41   | 44   | 39   | 38   |
| 31          | 42    | ---   | 39   | 38   | ---  | 40   | ---  | 39   | ---  | 44   | 39   | ---  |
| TOTAL       | 3752  | 1241  | 1236 | 1220 | 1160 | 1268 | 1212 | 1220 | 1185 | 1312 | 2895 | 1148 |
| MEAN        | 121   | 41.4  | 39.9 | 39.4 | 41.4 | 40.9 | 40.4 | 39.4 | 39.5 | 42.3 | 93.4 | 38.3 |
| MAX         | 127   | 44    | 41   | 40   | 50   | 43   | 43   | 45   | 41   | 46   | 130  | 40   |
| MIN         | 42    | 40    | 39   | 38   | 39   | 40   | 38   | 38   | 38   | 39   | 39   | 38   |
| CAL YR 1980 | TOTAL | 31434 | MEAN | 85.9 | MAX  | 292  | MIN  | 34   |      |      |      |      |
| WTR YR 1981 | TOTAL | 18849 | MEAN | 51.6 | MAX  | 130  | MIN  | 38   |      |      |      |      |



## CONNECTICUT RIVER BASIN

01175670 SEVENMILE RIVER NEAR SPENCER, MA

LOCATION.--Lat 42°15'54", long 72°00'19", Worcester County, Hydrologic Unit 01080204, on right bank 40 ft (12 m) upstream from bridge on Cooney Road and 1.5 mi (2.4 km) north of Spencer.

DRAINAGE AREA.--8.58 mi<sup>2</sup> (22.22 km<sup>2</sup>).

PERIOD OF RECORD.--Occasional low-flow measurements, water year 1960. October 1960 to current year. October and November 1960 monthly discharge only, published in WSP 1901.

GAGE.--Water-stage recorder. Altitude of gage is 640 ft (195 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. No gage-height record Jan. 13 to Feb. 20. Occasional regulation by ponds upstream since 1971. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--21 years, 14.0 ft<sup>3</sup>/s (0.396 m<sup>3</sup>/s), 22.16 in/yr (563 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 412 ft<sup>3</sup>/s (11.7 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 5.19 ft (1.582 m); maximum gage height, 5.41 ft (1.649 m) Mar. 7, 1963 (ice jam); minimum discharge, 0.04 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 10, 11, Oct. 1, 2, 1980 (regulated); minimum daily, 0.13 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) July 21, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 60 ft<sup>3</sup>/s (1.7 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 21 | 0315 | 93 2.63                                               | 3.58 1.091              | Feb. 26 | 1915 | *138 3.91                                             | 3.85 1.173              |

Minimum discharge, 0.04 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Oct. 1, 2 (regulated); minimum daily, 0.33 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT    | NOV   | DEC   | JAN  | FEB    | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP    |
|-------|--------|-------|-------|------|--------|------|------|-------|-------|-------|-------|--------|
| 1     | .33    | 4.2   | 21    | 3.8  | 3.3    | 69   | 13   | 22    | 7.5   | 3.3   | 2.7   | .74    |
| 2     | .47    | 4.1   | 17    | 3.5  | 30     | 56   | 40   | 21    | 6.8   | 3.0   | 2.5   | .81    |
| 3     | .77    | 3.8   | 15    | 3.3  | 27     | 48   | 30   | 17    | 6.6   | 3.0   | 2.6   | .84    |
| 4     | 3.3    | 4.2   | 11    | 3.1  | 15     | 41   | 22   | 15    | 7.2   | 3.5   | 2.6   | .94    |
| 5     | 2.2    | 4.2   | 9.0   | 3.0  | 8.5    | 34   | 19   | 13    | 6.6   | 11    | 2.8   | .98    |
| 6     | 1.2    | 3.6   | 8.1   | 2.9  | 7.0    | 31   | 33   | 12    | 6.5   | 15    | 2.4   | .93    |
| 7     | 1.0    | 3.4   | 7.9   | 2.8  | 6.0    | 29   | 30   | 11    | 6.3   | 9.2   | 2.4   | 1.1    |
| 8     | 1.3    | 3.8   | 8.8   | 2.7  | 7.0    | 27   | 22   | 9.8   | 5.6   | 7.2   | 2.3   | .78    |
| 9     | 1.4    | 3.9   | 9.6   | 2.7  | 8.5    | 24   | 20   | 8.3   | 6.6   | 5.6   | 2.2   | 3.7    |
| 10    | 1.7    | 4.4   | 9.3   | 2.6  | 8.0    | 22   | 18   | 8.1   | 7.2   | 4.6   | 1.7   | 2.6    |
| 11    | 2.9    | 4.7   | 8.0   | 2.5  | 20     | 20   | 16   | 8.3   | 6.5   | 4.4   | 1.6   | 2.7    |
| 12    | 3.0    | 4.3   | 7.0   | 2.4  | 35     | 22   | 15   | 15    | 5.7   | 4.5   | 1.5   | 3.3    |
| 13    | 2.2    | 4.1   | 7.0   | 2.4  | 23     | 20   | 14   | 19    | 5.3   | 3.9   | 1.9   | 5.7    |
| 14    | 2.6    | 4.0   | 6.8   | 2.3  | 15     | 17   | 20   | 16    | 5.0   | 3.8   | 1.7   | 5.2    |
| 15    | 2.7    | 4.0   | 6.6   | 2.3  | 12     | 15   | 22   | 17    | 4.7   | 3.9   | 1.6   | 6.6    |
| 16    | 3.1    | 3.7   | 5.9   | 2.3  | 11     | 15   | 17   | 38    | 4.5   | 3.6   | 2.4   | 9.4    |
| 17    | 2.9    | 3.3   | 5.8   | 2.3  | 12     | 14   | 15   | 45    | 4.3   | 3.2   | 2.3   | 8.9    |
| 18    | 3.2    | 4.5   | 6.1   | 2.3  | 13     | 13   | 14   | 30    | 4.3   | 5.2   | 1.7   | 6.0    |
| 19    | 4.1    | 4.9   | 5.7   | 2.4  | 14     | 12   | 13   | 22    | 3.9   | 5.3   | 1.2   | 5.0    |
| 20    | 3.2    | 4.8   | 6.1   | 2.5  | 32     | 11   | 12   | 18    | 4.4   | 5.7   | 1.1   | 4.5    |
| 21    | 2.8    | 4.7   | 5.4   | 2.6  | 82     | 11   | 12   | 15    | 4.7   | 6.1   | .93   | 4.0    |
| 22    | 2.8    | 4.7   | 6.0   | 2.6  | 60     | 11   | 11   | 13    | 5.2   | 6.5   | 1.0   | 4.5    |
| 23    | 2.7    | 4.7   | 5.5   | 2.6  | 44     | 11   | 11   | 12    | 6.3   | 5.4   | 1.0   | 11     |
| 24    | 2.7    | 5.1   | 5.2   | 2.6  | 76     | 13   | 16   | 11    | 5.0   | 5.9   | .77   | 10     |
| 25    | 7.3    | 17    | 4.8   | 2.7  | 117    | 11   | 19   | 9.4   | 5.0   | 4.5   | .93   | 8.2    |
| 26    | 14     | 16    | 4.3   | 2.8  | 120    | 10   | 19   | 8.1   | 5.4   | 3.4   | .91   | 7.0    |
| 27    | 8.0    | 12    | 4.1   | 2.9  | 115    | 11   | 16   | 7.7   | 5.2   | 2.9   | .85   | 6.0    |
| 28    | 6.6    | 21    | 4.1   | 3.0  | 87     | 11   | 14   | 7.3   | 4.6   | 2.5   | .77   | 5.0    |
| 29    | 6.2    | 37    | 4.6   | 3.1  | ---    | 11   | 15   | 8.7   | 3.9   | 4.8   | .93   | 4.5    |
| 30    | 5.1    | 26    | 5.0   | 3.1  | ---    | 13   | 23   | 9.6   | 3.8   | 5.6   | .89   | 4.2    |
| 31    | 4.4    | ---   | 4.5   | 3.0  | ---    | 12   | ---  | 8.5   | ---   | 4.7   | .69   | ---    |
| TOTAL | 106.17 | 230.1 | 235.2 | 85.1 | 1008.3 | 665  | 561  | 475.8 | 164.6 | 159.2 | 50.87 | 135.12 |
| MEAN  | 3.42   | 7.67  | 7.59  | 2.75 | 36.0   | 21.5 | 18.7 | 15.3  | 5.49  | 5.14  | 1.64  | 4.50   |
| MAX   | 14     | 37    | 21    | 3.8  | 120    | 69   | 40   | 45    | 7.5   | 15    | 2.8   | 11     |
| MIN   | .33    | 3.3   | 4.1   | 2.3  | 3.3    | 10   | 11   | 7.3   | 3.8   | 2.5   | .69   | .74    |
| CFSM  | .40    | .89   | .89   | .32  | 4.20   | 2.51 | 2.18 | 1.78  | .64   | .60   | .19   | .52    |
| IN.   | .46    | 1.00  | 1.02  | .37  | 4.37   | 2.88 | 2.43 | 2.06  | .71   | .69   | .22   | .59    |

|             |       |         |           |         |         |           |          |
|-------------|-------|---------|-----------|---------|---------|-----------|----------|
| CAL YR 1980 | TOTAL | 4075.99 | MEAN 11.1 | MAX 184 | MIN .15 | CFSM 1.29 | IN 17.67 |
| WTR YR 1981 | TOTAL | 3876.46 | MEAN 10.6 | MAX 120 | MIN .33 | CFSM 1.24 | IN 16.81 |

## CONNECTICUT RIVER BASIN

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## 01176000 QUABOAG RIVER AT WEST BRIMFIELD, MA

LOCATION.--Lat 42°10'56", long 72°15'51", Hampden County, Hydrologic Unit 01080204, on right bank 10 ft (3 m) upstream from abandoned highway bridge site at West Brimfield, 0.9 mi (1.4 km) upstream from Blodgett Mill Brook, 3.5 mi (5.6 km) northeast of Palmer, and 9.9 mi (15.9 km) upstream from mouth.

DRAINAGE AREA.--151 mi<sup>2</sup> (391 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: August 1909 to July 1912 (twice-daily gage heights and corresponding discharges), August 1912 to current year.

Water-quality records: Water years 1953, 1967, 1969-70, 1972-74.

REVISED RECORDS.--WSP 451: 1916. WSP 711: Drainage area. WSP 1301: 1918(M).

GAGE.--Water-stage recorder. Altitude of gage is 390 ft (119 m), from topographic map. Prior to Aug. 19, 1912, nonrecording gage, and Aug. 19, 1912, to Oct. 31, 1955, water-stage recorder, at several sites 0.5 mi (0.8 km) downstream at different datum.

REMARKS.--Records good except those for winter period and period of no gage-height record, Oct. 24 to Dec. 1, which are poor. Slight diurnal fluctuation at low flow caused by mill upstream prior to 1956; regulation much greater prior to 1938. High flow slightly affected by retarding reservoirs since 1965. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--69 years (water years 1913-81), 242 ft<sup>3</sup>/s (6.853 m<sup>3</sup>/s), 21.76 in/yr (553 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft<sup>3</sup>/s (362 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 15.36 ft (4.682 m), from floodmarks, present site and datum, from rating curve extended above 2,700 ft<sup>3</sup>/s (76 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; minimum daily, 6.6 ft<sup>3</sup>/s (0.19 m<sup>3</sup>/s) Sept. 28, 29, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 840 ft<sup>3</sup>/s (24 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 27 | 2200 | *1250 35.4                                            | 5.97 1.820              |      |      |                                                       |                         |

Minimum discharge, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) Sept. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB   | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|-------|-------|------|------|------|------|------|------|
| 1     | 32   | 94   | 320  | 60   | 52    | 1180  | 211  | 309  | 141  | 64   | 96   | 31   |
| 2     | 31   | 87   | 280  | 58   | 100   | 1100  | 311  | 307  | 133  | 61   | 89   | 31   |
| 3     | 32   | 80   | 258  | 45   | 190   | 987   | 354  | 299  | 126  | 58   | 83   | 31   |
| 4     | 41   | 76   | 160  | 56   | 220   | 892   | 366  | 285  | 128  | 58   | 79   | 30   |
| 5     | 41   | 72   | 160  | 52   | 190   | 814   | 364  | 270  | 133  | 156  | 75   | 29   |
| 6     | 41   | 68   | 170  | 50   | 170   | 722   | 404  | 249  | 109  | 226  | 71   | 27   |
| 7     | 41   | 66   | 180  | 48   | 155   | 662   | 402  | 221  | 94   | 199  | 66   | 26   |
| 8     | 40   | 64   | 190  | 46   | 140   | 618   | 393  | 213  | 86   | 184  | 64   | 28   |
| 9     | 38   | 68   | 180  | 45   | 130   | 566   | 375  | 197  | 91   | 164  | 63   | 60   |
| 10    | 37   | 76   | 175  | 44   | 120   | 520   | 346  | 183  | 91   | 149  | 60   | 47   |
| 11    | 50   | 75   | 153  | 43   | 180   | 483   | 332  | 177  | 93   | 134  | 56   | 45   |
| 12    | 54   | 74   | 125  | 42   | 300   | 448   | 312  | 224  | 86   | 121  | 56   | 41   |
| 13    | 53   | 72   | 110  | 41   | 330   | 415   | 290  | 252  | 84   | 109  | 53   | 42   |
| 14    | 51   | 69   | 100  | 41   | 320   | 365   | 283  | 264  | 80   | 93   | 49   | 66   |
| 15    | 50   | 66   | 75   | 40   | 290   | 341   | 270  | 276  | 76   | 81   | 49   | 108  |
| 16    | 50   | 63   | 100  | 40   | 260   | 331   | 290  | 384  | 71   | 76   | 53   | 130  |
| 17    | 50   | 60   | 95   | 40   | 225   | 282   | 286  | 399  | 63   | 70   | 47   | 127  |
| 18    | 55   | 70   | 92   | 40   | 212   | 246   | 264  | 398  | 57   | 68   | 43   | 121  |
| 19    | 65   | 77   | 89   | 42   | 206   | 252   | 254  | 392  | 55   | 71   | 42   | 117  |
| 20    | 64   | 80   | 86   | 43   | 349   | 239   | 241  | 372  | 54   | 73   | 41   | 112  |
| 21    | 62   | 80   | 82   | 44   | 577   | 226   | 217  | 348  | 61   | 95   | 39   | 104  |
| 22    | 57   | 80   | 79   | 45   | 602   | 219   | 211  | 320  | 78   | 95   | 37   | 108  |
| 23    | 53   | 80   | 74   | 45   | 618   | 212   | 207  | 281  | 106  | 94   | 36   | 176  |
| 24    | 52   | 80   | 68   | 45   | 813   | 201   | 238  | 246  | 83   | 90   | 33   | 154  |
| 25    | 80   | 120  | 50   | 45   | 966   | 196   | 271  | 221  | 83   | 87   | 34   | 153  |
| 26    | 110  | 230  | 65   | 45   | 1130  | 188   | 273  | 196  | 82   | 83   | 34   | 152  |
| 27    | 130  | 280  | 64   | 50   | 1220  | 188   | 267  | 176  | 77   | 79   | 33   | 145  |
| 28    | 135  | 300  | 66   | 53   | 1240  | 192   | 262  | 159  | 75   | 72   | 31   | 132  |
| 29    | 130  | 330  | 70   | 54   | ---   | 191   | 275  | 168  | 71   | 101  | 31   | 117  |
| 30    | 120  | 350  | 74   | 48   | ---   | 195   | 313  | 166  | 67   | 112  | 31   | 107  |
| 31    | 105  | ---  | 65   | 56   | ---   | 195   | ---  | 151  | ---  | 101  | 31   | ---  |
| TOTAL | 1950 | 3387 | 3855 | 1446 | 11305 | 13666 | 8882 | 8103 | 2634 | 3224 | 1605 | 2597 |
| MEAN  | 62.9 | 113  | 124  | 46.6 | 404   | 441   | 296  | 261  | 87.8 | 104  | 51.8 | 86.6 |
| MAX   | 135  | 350  | 320  | 60   | 1240  | 1180  | 404  | 399  | 141  | 226  | 96   | 176  |
| MIN   | 31   | 60   | 50   | 40   | 52    | 188   | 207  | 151  | 54   | 58   | 31   | 26   |
| CFSM  | .42  | .75  | .82  | .31  | 2.68  | 2.92  | 1.96 | 1.73 | .58  | .69  | .34  | .57  |
| IN.   | .48  | .83  | .95  | .36  | 2.79  | 3.37  | 2.19 | 2.00 | .65  | .79  | .40  | .64  |

|             |       |       |      |     |     |      |     |    |      |      |    |       |
|-------------|-------|-------|------|-----|-----|------|-----|----|------|------|----|-------|
| CAL YR 1980 | TOTAL | 69617 | MEAN | 190 | MAX | 1440 | MIN | 23 | CFSM | 1.26 | IN | 17.15 |
| WTR YR 1981 | TOTAL | 62654 | MEAN | 172 | MAX | 1240 | MIN | 26 | CFSM | 1.14 | IN | 15.44 |

## CONNECTICUT RIVER BASIN

## 01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MA

LOCATION.--Lat 42°09'38", long 72°30'52", Hampden County, Hydrologic Unit 01080204, on left bank 1,000 ft (300 m) downstream from West Street Bridge at Indian Orchard, 1.1 mi (1.8 km) upstream from Fuller Brook, and 7.2 mi (11.6 km) upstream from mouth.

DRAINAGE AREA.--688 mi<sup>2</sup> (1,782 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: August 1928 to current year. Published as "at Bircham Bend" prior to November 1938.

Water-quality records: Water years 1953, 1957.

REVISED RECORDS.--WSP 711: Drainage area. WSP 1231: 1934.

GAGE.--Water-stage recorder. Altitude of gage is 125 ft (38 m), from topographic map. Prior to Nov. 1, 1938, water-stage recorder at site 1.8 mi (2.9 km) downstream at different datum.

REMARKS.--Records good except those for period of no gage-height record, May 31 to July 2, which are poor. Diversion since 1941 from 186 mi<sup>2</sup> (482 km<sup>2</sup>) in Swift River basin and at times since 1931 from 97 mi<sup>2</sup> (251 km<sup>2</sup>) in Ware River basin for Boston metropolitan district; since 1950, for Chicopee; since 1952, for South Hadley; and, at times during 1966, 1967, and 1977, for Worcester; diversions at times since 1955 from 6.5 mi<sup>2</sup> (16.8 km<sup>2</sup>) in Ware River basin for Fitchburg. Diversion from Ludlow Reservoir for Springfield and, prior to 1952, for Chicopee. Flow regulated by powerplants upstream, by Quabbin Reservoir 21 mi (34 km) upstream on Swift River since 1939, by Barre Falls Reservoir on Ware River since 1958, by Conant Brook Reservoir since 1966 (Reservoirs in Connecticut River basin), and by smaller reservoirs. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--53 years, 897 ft<sup>3</sup>/s (25.40 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,200 ft<sup>3</sup>/s (1,280 m<sup>3</sup>/s) Sept. 21, 1938, by computation of flow over dam; minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) several times in 1929-31.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,170 ft<sup>3</sup>/s (89.8 m<sup>3</sup>/s) Feb. 27, gage height, 7.76 ft (2.365 m); minimum daily, 80 ft<sup>3</sup>/s (2.27 m<sup>3</sup>/s) Feb. 1, Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB     | MAR   | APR   | MAY   | JUN   | JUL   | AUG  | SEP  |
|-------------|-------|--------|----------|----------|---------|-------|-------|-------|-------|-------|------|------|
| 1           | 175   | 290    | 797      | 268      | 80      | 2320  | 555   | 1100  | 520   | 350   | 432  | 171  |
| 2           | 175   | 218    | 660      | 192      | 457     | 2050  | 1010  | 927   | 420   | 300   | 363  | 158  |
| 3           | 194   | 258    | 743      | 168      | 897     | 1850  | 1190  | 890   | 390   | 447   | 442  | 148  |
| 4           | 221   | 279    | 641      | 163      | 763     | 1620  | 1040  | 839   | 580   | 321   | 363  | 175  |
| 5           | 203   | 251    | 544      | 221      | 544     | 1520  | 935   | 763   | 500   | 634   | 385  | 80   |
| 6           | 234   | 283    | 452      | 183      | 403     | 1400  | 1210  | 797   | 540   | 1580  | 350  | 165  |
| 7           | 234   | 192    | 468      | 163      | 413     | 1270  | 1200  | 654   | 430   | 1350  | 367  | 192  |
| 8           | 234   | 234    | 427      | 200      | 432     | 1240  | 1060  | 628   | 380   | 1160  | 354  | 148  |
| 9           | 178   | 286    | 510      | 218      | 413     | 1190  | 927   | 679   | 520   | 736   | 329  | 346  |
| 10          | 175   | 272    | 483      | 153      | 457     | 1130  | 942   | 622   | 480   | 672   | 442  | 286  |
| 11          | 244   | 241    | 437      | 206      | 468     | 1050  | 853   | 489   | 440   | 510   | 337  | 258  |
| 12          | 298   | 268    | 380      | 218      | 1140    | 1010  | 853   | 609   | 500   | 346   | 279  | 153  |
| 13          | 206   | 258    | 367      | 173      | 905     | 922   | 763   | 992   | 390   | 499   | 321  | 194  |
| 14          | 178   | 342    | 350      | 224      | 736     | 912   | 783   | 882   | 430   | 309   | 329  | 279  |
| 15          | 221   | 173    | 279      | 139      | 672     | 848   | 978   | 868   | 350   | 376   | 272  | 437  |
| 16          | 200   | 175    | 237      | 192      | 622     | 855   | 890   | 1330  | 290   | 385   | 313  | 452  |
| 17          | 215   | 203    | 346      | 130      | 634     | 812   | 853   | 1520  | 300   | 380   | 350  | 473  |
| 18          | 251   | 237    | 305      | 160      | 672     | 694   | 811   | 1210  | 300   | 298   | 301  | 423  |
| 19          | 294   | 346    | 275      | 212      | 603     | 694   | 730   | 1020  | 230   | 380   | 337  | 390  |
| 20          | 309   | 279    | 189      | 143      | 726     | 701   | 776   | 949   | 180   | 346   | 279  | 350  |
| 21          | 228   | 231    | 175      | 173      | 2200    | 654   | 597   | 875   | 380   | 442   | 298  | 346  |
| 22          | 283   | 173    | 221      | 215      | 1870    | 660   | 679   | 846   | 290   | 579   | 189  | 325  |
| 23          | 268   | 268    | 298      | 206      | 1500    | 660   | 660   | 660   | 660   | 413   | 163  | 555  |
| 24          | 209   | 313    | 215      | 173      | 1880    | 573   | 634   | 723   | 560   | 423   | 241  | 585  |
| 25          | 254   | 538    | 203      | 137      | 2910    | 654   | 935   | 647   | 900   | 394   | 194  | 579  |
| 26          | 452   | 609    | 192      | 265      | 3010    | 609   | 927   | 527   | 1000  | 385   | 224  | 597  |
| 27          | 561   | 591    | 212      | 189      | 3060    | 634   | 832   | 550   | 700   | 337   | 173  | 510  |
| 28          | 473   | 567    | 165      | 160      | 2630    | 672   | 783   | 452   | 740   | 301   | 186  | 390  |
| 29          | 473   | 912    | 258      | 189      | ---     | 666   | 790   | 555   | 600   | 367   | 132  | 380  |
| 30          | 452   | 935    | 261      | 160      | ---     | 666   | 1140  | 616   | 430   | 489   | 160  | 354  |
| 31          | 337   | ---    | 158      | 313      | ---     | 679   | ---   | 590   | ---   | 442   | 209  | ---  |
| TOTAL       | 8429  | 10222  | 11248    | 5906     | 31097   | 31215 | 26336 | 24809 | 14430 | 15951 | 9114 | 9899 |
| MEAN        | 272   | 341    | 363      | 191      | 1111    | 1007  | 878   | 800   | 481   | 515   | 294  | 330  |
| MAX         | 561   | 935    | 797      | 313      | 3060    | 2320  | 1210  | 1520  | 1000  | 1580  | 442  | 597  |
| MIN         | 175   | 173    | 158      | 130      | 80      | 573   | 555   | 452   | 180   | 298   | 132  | 80   |
| CAL YR 1980 | TOTAL | 233073 | MEAN 637 | MAX 5050 | MIN 131 |       |       |       |       |       |      |      |
| WTR YR 1981 | TOTAL | 198656 | MEAN 544 | MAX 3060 | MIN 80  |       |       |       |       |       |      |      |

## CONNECTICUT RIVER BASIN

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## 01177100 CHICOPEE RIVER AT CHICOPEE FALLS, MA

LOCATION.--Lat 42°09'37", long 72°34'52", Hampden County, multiple-parameter monitor on right bank on stone pier at Chicopee Falls dam, 300 ft (90 m) upstream from bridge on State Highway 33, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--711 mi<sup>2</sup> (1,841 km<sup>2</sup>).

PERIOD OF RECORD.--Water years 1973 to December 1980 (discontinued).

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1973, August 1973 to December 1980 (discontinued).

pH: February 1973, August 1973 to December 1980 (discontinued).

WATER TEMPERATURES: February 1973, August 1973 to December 1980 (discontinued).

DISSOLVED OXYGEN: February 1973, August 1973 to July 1976, May 1978 to December 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor February 1973 to December 1980.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Daily records are considered good except those for February 1973 to November 1977, which are considered fair. No winter records in water years 1975-80.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 533 micromhos May 29, 1975; minimum recorded, 30 micromhos Aug. 2, 1976.

pH: Maximum recorded, 9.1 units Nov. 16, 1973; minimum recorded, 4.1 units May 29, 1976.

WATER TEMPERATURES: Maximum recorded, 33.0°C July 7, 1975, Aug. 12, 13, 1976; minimum recorded, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum recorded, 15.2 mg/L Feb. 3, 1973; minimum recorded, 0.0 mg/L on many days in past years.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 170 micromhos Nov. 23; minimum, 92 micromhos Oct. 13, 27, 30.

pH: Maximum recorded, 8.3 units Nov. 20, 22; minimum recorded, 4.6 units Nov. 15.

WATER TEMPERATURES: Maximum recorded, 17.5°C Oct. 2, 3; minimum recorded, 2.5°C Dec. 7.

DISSOLVED OXYGEN: Maximum recorded, 13.7 mg/L Nov. 21; minimum recorded, 7.5 mg/L Oct. 30.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 126     | 100 | 109  | 126      | 102 | 120  | 141      | 123 | 133  |         |     |      |
| 2     | 120     | 98  | 106  | 132      | 96  | 117  | 137      | 126 | 132  |         |     |      |
| 3     | 120     | 98  | 108  | 137      | 99  | 123  | 140      | 123 | 131  |         |     |      |
| 4     | 119     | 97  | 106  | 129      | 102 | 111  | 134      | 118 | 127  |         |     |      |
| 5     | 112     | 101 | 106  | 130      | 100 | 113  | 141      | 125 | 132  |         |     |      |
| 6     | 109     | 97  | 104  | 141      | 101 | 122  | 148      | 119 | 133  |         |     |      |
| 7     | 113     | 94  | 102  | 127      | 107 | 120  | 141      | 125 | 133  |         |     |      |
| 8     | 112     | 96  | 102  | 121      | 108 | 113  | 139      | 129 | 134  |         |     |      |
| 9     | 116     | 98  | 104  | 143      | 109 | 132  | 138      | 126 | 131  |         |     |      |
| 10    | 109     | 97  | 103  | 143      | 116 | 134  | ---      | --- | ---  |         |     |      |
| 11    | 117     | 97  | 106  | 149      | 113 | 135  | ---      | --- | ---  |         |     |      |
| 12    | 110     | 94  | 102  | 141      | 109 | 131  | ---      | --- | ---  |         |     |      |
| 13    | 106     | 92  | 98   | 146      | 110 | 128  | ---      | --- | ---  |         |     |      |
| 14    | 106     | 94  | 99   | 139      | 114 | 126  | ---      | --- | ---  |         |     |      |
| 15    | 111     | 93  | 101  | 138      | 109 | 127  | ---      | --- | ---  |         |     |      |
| 16    | 105     | 95  | 101  | 152      | 116 | 132  | ---      | --- | ---  |         |     |      |
| 17    | 111     | 96  | 104  | 153      | 137 | 145  | ---      | --- | ---  |         |     |      |
| 18    | 121     | 100 | 110  | 148      | 128 | 141  | ---      | --- | ---  |         |     |      |
| 19    | 113     | 100 | 106  | 154      | 126 | 143  | ---      | --- | ---  |         |     |      |
| 20    | 109     | 95  | 100  | 158      | 121 | 140  | ---      | --- | ---  |         |     |      |
| 21    | 108     | 97  | 102  | 161      | 121 | 147  | ---      | --- | ---  |         |     |      |
| 22    | 107     | 99  | 103  | 158      | 119 | 144  | ---      | --- | ---  |         |     |      |
| 23    | 116     | 94  | 102  | 170      | 120 | 154  | ---      | --- | ---  |         |     |      |
| 24    | 106     | 99  | 102  | 156      | 116 | 145  | ---      | --- | ---  |         |     |      |
| 25    | 120     | 99  | 107  | 154      | 123 | 134  | ---      | --- | ---  |         |     |      |
| 26    | 103     | 93  | 97   | 156      | 113 | 144  | ---      | --- | ---  |         |     |      |
| 27    | 115     | 92  | 100  | 159      | 146 | 153  | ---      | --- | ---  |         |     |      |
| 28    | 118     | 95  | 103  | 155      | 115 | 146  | ---      | --- | ---  |         |     |      |
| 29    | 120     | 94  | 109  | 153      | 137 | 144  | ---      | --- | ---  |         |     |      |
| 30    | 129     | 92  | 115  | 145      | 132 | 138  | ---      | --- | ---  |         |     |      |
| 31    | 132     | 97  | 115  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 132     | 92  | 104  | 170      | 96  | 133  | 148      | 118 | 132  |         |     |      |

## CONNECTICUT RIVER BASIN

01177100 CHICOPEE RIVER AT CHICOPEE FALLS, MA--Continued

PH (UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 7.0     | 6.0 | 6.5  | 7.6      | 5.4 | 5.8  | 8.0      | 7.9 | 8.0  |         |     |      |
| 2     | 7.3     | 6.4 | 6.8  | 7.5      | 5.4 | 6.1  | 7.9      | 6.1 | 7.4  |         |     |      |
| 3     | 7.0     | 6.5 | 6.7  | 7.1      | 5.3 | 6.1  | 8.0      | 6.1 | 7.6  |         |     |      |
| 4     | 7.2     | 6.4 | 6.7  | 5.3      | 5.2 | 5.3  | 7.9      | 7.9 | 7.9  |         |     |      |
| 5     | 6.9     | 5.8 | 6.2  | 7.0      | 5.1 | 5.3  | 7.9      | 7.9 | 7.9  |         |     |      |
| 6     | 6.7     | 5.8 | 6.2  | 7.0      | 5.2 | 6.3  | 7.9      | 7.8 | 7.9  |         |     |      |
| 7     | 6.5     | 5.8 | 5.9  | 6.7      | 5.1 | 5.5  | 7.9      | 7.8 | 7.8  |         |     |      |
| 8     | 6.1     | 5.8 | 5.9  | 6.9      | 5.0 | 5.4  | 7.8      | 7.8 | 7.8  |         |     |      |
| 9     | 6.7     | 5.8 | 6.0  | 6.8      | 6.7 | 6.7  | 7.8      | 6.5 | 7.6  |         |     |      |
| 10    | 6.5     | 5.8 | 6.0  | 6.8      | 5.0 | 6.6  | ---      | --- | ---  |         |     |      |
| 11    | 7.1     | 5.8 | 6.0  | 6.8      | 5.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 12    | 5.9     | 5.7 | 5.8  | 6.7      | 5.2 | 6.0  | ---      | --- | ---  |         |     |      |
| 13    | 5.9     | 5.7 | 5.8  | 6.6      | 5.1 | 6.5  | ---      | --- | ---  |         |     |      |
| 14    | 6.0     | 5.7 | 5.8  | 5.5      | 4.8 | 5.1  | ---      | --- | ---  |         |     |      |
| 15    | 5.9     | 5.7 | 5.8  | 6.5      | 4.6 | 5.3  | ---      | --- | ---  |         |     |      |
| 16    | 6.5     | 5.8 | 6.0  | 6.5      | 5.7 | 6.4  | ---      | --- | ---  |         |     |      |
| 17    | 7.7     | 5.7 | 6.6  | 6.4      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 18    | 7.5     | 6.0 | 6.3  | 6.4      | 6.3 | 6.3  | ---      | --- | ---  |         |     |      |
| 19    | 6.5     | 5.6 | 5.8  | 6.3      | 6.2 | 6.2  | ---      | --- | ---  |         |     |      |
| 20    | 5.9     | 5.6 | 5.8  | 8.3      | 6.1 | 6.7  | ---      | --- | ---  |         |     |      |
| 21    | 5.9     | 5.7 | 5.8  | 8.2      | 6.3 | 8.1  | ---      | --- | ---  |         |     |      |
| 22    | 5.8     | 5.5 | 5.6  | 8.3      | 6.5 | 8.0  | ---      | --- | ---  |         |     |      |
| 23    | 6.9     | 5.6 | 5.8  | 8.2      | 8.1 | 8.1  | ---      | --- | ---  |         |     |      |
| 24    | 7.5     | 5.6 | 6.4  | 8.2      | 8.1 | 8.1  | ---      | --- | ---  |         |     |      |
| 25    | 7.4     | 5.7 | 6.5  | 8.1      | 8.0 | 8.1  | ---      | --- | ---  |         |     |      |
| 26    | 5.8     | 5.7 | 5.8  | 8.1      | 8.1 | 8.1  | ---      | --- | ---  |         |     |      |
| 27    | 5.9     | 5.7 | 5.8  | 8.1      | 8.0 | 8.1  | ---      | --- | ---  |         |     |      |
| 28    | 5.9     | 5.6 | 5.6  | 8.0      | 8.0 | 8.0  | ---      | --- | ---  |         |     |      |
| 29    | 8.2     | 5.9 | 6.7  | 8.0      | 7.9 | 8.0  | ---      | --- | ---  |         |     |      |
| 30    | 8.0     | 5.5 | 6.1  | 8.0      | 8.0 | 8.0  | ---      | --- | ---  |         |     |      |
| 31    | 7.9     | 5.5 | 6.3  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 8.2     | 5.5 | 6.1  | 8.3      | 4.6 | 6.7  | 8.0      | 6.1 | 7.8  |         |     |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX  | MIN  | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 17.0 | 15.5 | 16.5     | 8.5 | 8.0 | 8.0      | 4.0 | 3.5 | 4.0     |     |     |      |
| 2       | 17.5 | 16.5 | 17.0     | 8.0 | 7.5 | 7.5      | 4.5 | 4.0 | 4.0     |     |     |      |
| 3       | 17.5 | 16.5 | 17.0     | 8.0 | 7.0 | 7.5      | 4.5 | 3.5 | 4.0     |     |     |      |
| 4       | 17.0 | 16.5 | 17.0     | 8.5 | 7.5 | 8.0      | 3.5 | 3.0 | 3.5     |     |     |      |
| 5       | 17.0 | 15.5 | 16.0     | 8.0 | 7.5 | 8.0      | 3.0 | 3.0 | 3.0     |     |     |      |
| 6       | 16.5 | 15.5 | 16.0     | 8.0 | 6.5 | 7.0      | 3.0 | 3.0 | 3.0     |     |     |      |
| 7       | 16.0 | 15.0 | 15.5     | 8.0 | 7.0 | 7.5      | 3.0 | 2.5 | 2.5     |     |     |      |
| 8       | 15.5 | 14.5 | 15.0     | 8.0 | 7.5 | 8.0      | 3.0 | 3.0 | 3.0     |     |     |      |
| 9       | 15.5 | 14.5 | 15.0     | 7.5 | 6.5 | 7.0      | 3.0 | 3.0 | 3.0     |     |     |      |
| 10      | 15.0 | 13.5 | 14.0     | 7.0 | 7.0 | 7.0      | --- | --- | ---     |     |     |      |
| 11      | 14.5 | 14.0 | 14.0     | 6.5 | 6.0 | 6.0      | --- | --- | ---     |     |     |      |
| 12      | 14.0 | 13.5 | 14.0     | 6.0 | 5.5 | 6.0      | --- | --- | ---     |     |     |      |
| 13      | 13.5 | 13.0 | 13.0     | 6.0 | 5.0 | 5.5      | --- | --- | ---     |     |     |      |
| 14      | 13.0 | 12.0 | 12.5     | 6.0 | 5.5 | 6.0      | --- | --- | ---     |     |     |      |
| 15      | 13.0 | 12.0 | 12.5     | 6.0 | 5.5 | 5.5      | --- | --- | ---     |     |     |      |
| 16      | 13.0 | 12.0 | 12.5     | 6.0 | 5.0 | 5.5      | --- | --- | ---     |     |     |      |
| 17      | 13.5 | 12.5 | 13.0     | 5.5 | 4.5 | 5.0      | --- | --- | ---     |     |     |      |
| 18      | 14.0 | 13.5 | 14.0     | 4.5 | 3.5 | 4.0      | --- | --- | ---     |     |     |      |
| 19      | 14.5 | 13.5 | 13.5     | 4.5 | 4.0 | 4.0      | --- | --- | ---     |     |     |      |
| 20      | 13.5 | 13.0 | 13.0     | 4.5 | 4.0 | 4.0      | --- | --- | ---     |     |     |      |
| 21      | 13.0 | 12.5 | 12.5     | 4.5 | 3.5 | 4.0      | --- | --- | ---     |     |     |      |
| 22      | 12.5 | 12.0 | 12.5     | 4.5 | 4.0 | 4.0      | --- | --- | ---     |     |     |      |
| 23      | 12.0 | 11.5 | 11.5     | 4.5 | 4.0 | 4.0      | --- | --- | ---     |     |     |      |
| 24      | 11.5 | 10.5 | 11.0     | 4.5 | 4.0 | 4.0      | --- | --- | ---     |     |     |      |
| 25      | 11.5 | 10.5 | 11.0     | 4.5 | 4.0 | 4.0      | --- | --- | ---     |     |     |      |
| 26      | 11.0 | 10.0 | 10.5     | 4.0 | 3.5 | 4.0      | --- | --- | ---     |     |     |      |
| 27      | 10.5 | 9.5  | 10.0     | 4.0 | 3.5 | 3.5      | --- | --- | ---     |     |     |      |
| 28      | 9.5  | 9.5  | 9.5      | 4.5 | 4.0 | 4.0      | --- | --- | ---     |     |     |      |
| 29      | 9.5  | 9.0  | 9.0      | 4.0 | 4.0 | 4.0      | --- | --- | ---     |     |     |      |
| 30      | 9.0  | 8.5  | 8.5      | 4.0 | 3.5 | 4.0      | --- | --- | ---     |     |     |      |
| 31      | 8.5  | 8.0  | 8.5      | --- | --- | ---      | --- | --- | ---     |     |     |      |
| MONTH   | 17.5 | 8.0  | 13.0     | 8.5 | 3.5 | 5.5      | 4.5 | 2.5 | 3.5     |     |     |      |



## CONNECTICUT RIVER BASIN

177

01177100 CHICOPEE RIVER AT CHICOPEE FALLS, MA--Continued

DISSOLVED OXYGEN (DO), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN  | MEAN | MAX      | MIN  | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|------|------|----------|------|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |      |      | DECEMBER |      |      | JANUARY |     |      |
| 1     | 12.1    | 7.9  | 9.8  | 11.0     | 8.7  | 10.2 | 12.8     | 11.8 | 12.3 |         |     |      |
| 2     | 12.6    | 8.4  | 10.6 | 11.5     | 10.1 | 10.6 | 12.5     | 11.7 | 12.0 |         |     |      |
| 3     | 12.1    | 8.4  | 10.8 | 12.0     | 9.1  | 10.9 | 12.4     | 11.3 | 11.8 |         |     |      |
| 4     | 12.6    | 8.8  | 11.0 | 12.1     | 9.9  | 11.0 | 12.6     | 11.6 | 12.0 |         |     |      |
| 5     | 12.7    | 8.4  | 10.5 | 11.8     | 9.3  | 10.6 | 12.4     | 11.7 | 12.0 |         |     |      |
| 6     | 12.4    | 8.8  | 10.7 | 12.1     | 10.4 | 11.0 | 12.2     | 11.0 | 11.5 |         |     |      |
| 7     | 11.7    | 9.1  | 10.3 | 11.3     | 10.0 | 10.6 | 12.2     | 11.3 | 11.7 |         |     |      |
| 8     | 12.4    | 9.2  | 10.7 | 11.3     | 9.0  | 10.4 | 11.8     | 11.2 | 11.5 |         |     |      |
| 9     | 11.8    | 9.0  | 10.5 | 11.7     | 9.9  | 10.8 | 11.5     | 10.9 | 11.2 |         |     |      |
| 10    | 12.5    | 9.3  | 10.7 | 11.7     | 10.0 | 10.5 | ---      | ---  | ---  |         |     |      |
| 11    | 11.7    | 8.6  | 9.8  | 12.2     | 10.4 | 11.2 | ---      | ---  | ---  |         |     |      |
| 12    | 11.1    | 7.7  | 9.2  | 12.5     | 11.2 | 11.7 | ---      | ---  | ---  |         |     |      |
| 13    | 11.5    | 8.6  | 10.0 | 12.6     | 11.0 | 11.5 | ---      | ---  | ---  |         |     |      |
| 14    | 12.3    | 9.8  | 10.9 | 11.9     | 10.6 | 11.2 | ---      | ---  | ---  |         |     |      |
| 15    | 12.1    | 10.1 | 11.1 | 12.3     | 10.7 | 11.1 | ---      | ---  | ---  |         |     |      |
| 16    | 12.1    | 9.5  | 10.8 | 12.1     | 10.9 | 11.5 | ---      | ---  | ---  |         |     |      |
| 17    | 12.1    | 9.2  | 10.7 | 12.6     | 11.2 | 11.6 | ---      | ---  | ---  |         |     |      |
| 18    | 11.1    | 8.5  | 9.5  | 12.5     | 11.2 | 11.6 | ---      | ---  | ---  |         |     |      |
| 19    | 10.4    | 7.7  | 8.7  | 12.2     | 11.1 | 11.6 | ---      | ---  | ---  |         |     |      |
| 20    | 10.5    | 7.7  | 9.1  | 12.9     | 11.2 | 12.1 | ---      | ---  | ---  |         |     |      |
| 21    | 10.1    | 7.9  | 9.0  | 13.7     | 11.4 | 12.2 | ---      | ---  | ---  |         |     |      |
| 22    | 10.2    | 7.6  | 8.8  | 13.1     | 11.7 | 12.2 | ---      | ---  | ---  |         |     |      |
| 23    | 10.5    | 8.0  | 9.2  | 13.1     | 10.3 | 12.0 | ---      | ---  | ---  |         |     |      |
| 24    | 10.5    | 8.4  | 9.4  | 12.8     | 10.4 | 11.9 | ---      | ---  | ---  |         |     |      |
| 25    | 10.2    | 8.4  | 9.0  | 12.4     | 11.1 | 11.8 | ---      | ---  | ---  |         |     |      |
| 26    | 11.2    | 8.4  | 9.9  | 13.0     | 11.5 | 12.2 | ---      | ---  | ---  |         |     |      |
| 27    | 10.9    | 9.8  | 10.4 | 12.7     | 11.7 | 12.2 | ---      | ---  | ---  |         |     |      |
| 28    | 10.1    | 9.2  | 9.5  | 11.8     | 11.1 | 11.5 | ---      | ---  | ---  |         |     |      |
| 29    | 10.8    | 8.5  | 9.8  | 12.3     | 11.0 | 11.7 | ---      | ---  | ---  |         |     |      |
| 30    | 10.9    | 7.5  | 9.4  | 13.0     | 12.0 | 12.4 | ---      | ---  | ---  |         |     |      |
| 31    | 11.9    | 8.7  | 10.4 | ---      | ---  | ---  | ---      | ---  | ---  |         |     |      |
| MONTH | 12.7    | 7.5  | 10.0 | 13.7     | 8.7  | 11.4 | 12.8     | 10.9 | 11.8 |         |     |      |

## CONNECTICUT RIVER BASIN

## 01177200 CONNECTICUT RIVER AT WEST SPRINGFIELD, MA

LOCATION.--Lat 42°05'46", long 72°35'43", Hampden County, on right bank at powerplant intake 800 ft (250 m) downstream from Memorial Bridge, 1.1 mi (3.8 km) upstream from Westfield River, 1.5 mi (2.4 km) southeast of West Springfield, and 4.4 mi (7.1 km) downstream from Chicopee River.

DRAINAGE AREA.--9,623 mi<sup>2</sup> (24,924 km<sup>2</sup>).

PERIOD OF RECORD.--Water years 1972-75, 1977, 1979 to December 1980 (discontinued).

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1972 to May 1975, May to July 1977, June 1979 to December 1980 (discontinued).

pH: August 1972 to May 1975, May to July 1977, June 1979 to December 1980 (discontinued).

WATER TEMPERATURES: August 1972 to May 1975, May to July 1977, June 1979 to December 1980 (discontinued).

DISSOLVED OXYGEN: August 1972 to May 1975, May to July 1977, June 1979 to December 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor August 1972 to December 1980.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. No winter records in water years 1977-80.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 268 micromhos Jan. 19, 1974; minimum recorded, 53 micromhos Apr. 11, Apr. 12, 1980.

pH: Maximum recorded, 8.9 units Feb. 1, 1975; minimum recorded, 5.8 units on several days, Apr. to July 1980.

WATER TEMPERATURES: Maximum recorded, 30.5°C Sept. 3, 1973; minimum recorded, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum recorded, 16.3 mg/L Jan. 6, 1973; minimum recorded, 2.7 mg/L Sept. 5, 1973.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 109 micromhos Nov. 28; minimum recorded, 77 micromhos Dec. 6, 7.

pH: Maximum recorded, 6.9 units Nov. 18, 19, 20, 28; minimum recorded, 6.3 units Nov. 2, 23.

WATER TEMPERATURES: Maximum recorded, 8.5°C Nov. 8; minimum recorded, 1.0°C Dec. 4, 5, 6, 7, 8.

DISSOLVED OXYGEN: Maximum recorded, 13.6 mg/L Dec. 6, 7; minimum recorded, 9.7 mg/L Nov. 3.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | ---     | --- | ---  | 98       | 96  | 97   | 86       | 85  | 85   |         |     |      |
| 2     | ---     | --- | ---  | 104      | 96  | 99   | 87       | 84  | 85   |         |     |      |
| 3     | ---     | --- | ---  | 105      | 98  | 102  | 87       | 85  | 85   |         |     |      |
| 4     | ---     | --- | ---  | 104      | 93  | 102  | 85       | 83  | 84   |         |     |      |
| 5     | ---     | --- | ---  | 102      | 99  | 100  | 82       | 78  | 79   |         |     |      |
| 6     | ---     | --- | ---  | 101      | 98  | 99   | 80       | 77  | 79   |         |     |      |
| 7     | ---     | --- | ---  | 103      | 98  | 100  | 80       | 77  | 79   |         |     |      |
| 8     | ---     | --- | ---  | 100      | 95  | 98   | 86       | 80  | 83   |         |     |      |
| 9     | ---     | --- | ---  | 99       | 94  | 96   | 89       | 86  | 87   |         |     |      |
| 10    | ---     | --- | ---  | 100      | 97  | 98   | 87       | 82  | 84   |         |     |      |
| 11    | ---     | --- | ---  | 96       | 93  | 95   | 82       | 80  | 81   |         |     |      |
| 12    | ---     | --- | ---  | 96       | 93  | 95   | ---      | --- | ---  |         |     |      |
| 13    | ---     | --- | ---  | 96       | 92  | 94   | ---      | --- | ---  |         |     |      |
| 14    | ---     | --- | ---  | 95       | 93  | 94   | ---      | --- | ---  |         |     |      |
| 15    | ---     | --- | ---  | 100      | 95  | 97   | ---      | --- | ---  |         |     |      |
| 16    | ---     | --- | ---  | 104      | 98  | 100  | ---      | --- | ---  |         |     |      |
| 17    | ---     | --- | ---  | 100      | 96  | 97   | ---      | --- | ---  |         |     |      |
| 18    | ---     | --- | ---  | 103      | 92  | 97   | ---      | --- | ---  |         |     |      |
| 19    | ---     | --- | ---  | 98       | 91  | 94   | ---      | --- | ---  |         |     |      |
| 20    | ---     | --- | ---  | 91       | 89  | 90   | ---      | --- | ---  |         |     |      |
| 21    | ---     | --- | ---  | 98       | 95  | 97   | ---      | --- | ---  |         |     |      |
| 22    | ---     | --- | ---  | 103      | 97  | 99   | ---      | --- | ---  |         |     |      |
| 23    | ---     | --- | ---  | 102      | 98  | 99   | ---      | --- | ---  |         |     |      |
| 24    | ---     | --- | ---  | 105      | 99  | 102  | ---      | --- | ---  |         |     |      |
| 25    | ---     | --- | ---  | 104      | 101 | 103  | ---      | --- | ---  |         |     |      |
| 26    | ---     | --- | ---  | 101      | 94  | 97   | ---      | --- | ---  |         |     |      |
| 27    | ---     | --- | ---  | 94       | 89  | 91   | ---      | --- | ---  |         |     |      |
| 28    | ---     | --- | ---  | 109      | 86  | 90   | ---      | --- | ---  |         |     |      |
| 29    | ---     | --- | ---  | 92       | 88  | 89   | ---      | --- | ---  |         |     |      |
| 30    | ---     | --- | ---  | 92       | 86  | 89   | ---      | --- | ---  |         |     |      |
| 31    | 99      | 98  | 99   | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 99      | 98  | 99   | 109      | 86  | 97   | 89       | 77  | 83   |         |     |      |

## CONNECTICUT RIVER BASIN

179

01177200 CONNECTICUT RIVER AT WEST SPRINGFIELD, MA--Continued

PH (UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | ---     | --- | ---  | 6.7      | 6.5 | 6.6  | 6.5      | 6.5 | 6.5  |         |     |      |
| 2     | ---     | --- | ---  | 6.5      | 6.3 | 6.4  | 6.5      | 6.4 | 6.5  |         |     |      |
| 3     | ---     | --- | ---  | 6.6      | 6.5 | 6.6  | 6.5      | 6.4 | 6.4  |         |     |      |
| 4     | ---     | --- | ---  | 6.6      | 6.6 | 6.6  | 6.6      | 6.5 | 6.5  |         |     |      |
| 5     | ---     | --- | ---  | 6.7      | 6.6 | 6.7  | 6.6      | 6.5 | 6.5  |         |     |      |
| 6     | ---     | --- | ---  | 6.6      | 6.6 | 6.6  | 6.5      | 6.5 | 6.5  |         |     |      |
| 7     | ---     | --- | ---  | 6.6      | 6.6 | 6.6  | 6.5      | 6.5 | 6.5  |         |     |      |
| 8     | ---     | --- | ---  | 6.6      | 6.5 | 6.6  | 6.5      | 6.5 | 6.5  |         |     |      |
| 9     | ---     | --- | ---  | 6.7      | 6.5 | 6.6  | 6.5      | 6.5 | 6.5  |         |     |      |
| 10    | ---     | --- | ---  | 6.7      | 6.6 | 6.6  | 6.5      | 6.4 | 6.4  |         |     |      |
| 11    | ---     | --- | ---  | 6.8      | 6.7 | 6.7  | 6.5      | 6.4 | 6.4  |         |     |      |
| 12    | ---     | --- | ---  | 6.8      | 6.8 | 6.8  | ---      | --- | ---  |         |     |      |
| 13    | ---     | --- | ---  | 6.8      | 6.8 | 6.8  | ---      | --- | ---  |         |     |      |
| 14    | ---     | --- | ---  | 6.8      | 6.7 | 6.8  | ---      | --- | ---  |         |     |      |
| 15    | ---     | --- | ---  | 6.7      | 6.6 | 6.7  | ---      | --- | ---  |         |     |      |
| 16    | ---     | --- | ---  | 6.6      | 6.5 | 6.6  | ---      | --- | ---  |         |     |      |
| 17    | ---     | --- | ---  | 6.7      | 6.7 | 6.7  | ---      | --- | ---  |         |     |      |
| 18    | ---     | --- | ---  | 6.9      | 6.8 | 6.8  | ---      | --- | ---  |         |     |      |
| 19    | ---     | --- | ---  | 6.9      | 6.8 | 6.9  | ---      | --- | ---  |         |     |      |
| 20    | ---     | --- | ---  | 6.9      | 6.5 | 6.7  | ---      | --- | ---  |         |     |      |
| 21    | ---     | --- | ---  | 6.5      | 6.5 | 6.5  | ---      | --- | ---  |         |     |      |
| 22    | ---     | --- | ---  | 6.5      | 6.4 | 6.5  | ---      | --- | ---  |         |     |      |
| 23    | ---     | --- | ---  | 6.4      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 24    | ---     | --- | ---  | 6.4      | 6.4 | 6.4  | ---      | --- | ---  |         |     |      |
| 25    | ---     | --- | ---  | 6.5      | 6.4 | 6.5  | ---      | --- | ---  |         |     |      |
| 26    | ---     | --- | ---  | 6.5      | 6.5 | 6.5  | ---      | --- | ---  |         |     |      |
| 27    | ---     | --- | ---  | 6.5      | 6.5 | 6.5  | ---      | --- | ---  |         |     |      |
| 28    | ---     | --- | ---  | 6.9      | 6.5 | 6.6  | ---      | --- | ---  |         |     |      |
| 29    | ---     | --- | ---  | 6.5      | 6.5 | 6.5  | ---      | --- | ---  |         |     |      |
| 30    | ---     | --- | ---  | 6.5      | 6.5 | 6.5  | ---      | --- | ---  |         |     |      |
| 31    | 6.7     | 6.6 | 6.6  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 6.7     | 6.6 | 6.6  | 6.9      | 6.3 | 6.6  | 6.6      | 6.4 | 6.5  |         |     |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | ---     | --- | ---  | 8.0      | 7.5 | 8.0  | 4.0      | 3.0 | 3.5  |         |     |      |
| 2     | ---     | --- | ---  | 7.5      | 7.5 | 7.5  | 4.0      | 3.5 | 3.5  |         |     |      |
| 3     | ---     | --- | ---  | 8.0      | 7.5 | 7.5  | 4.0      | 3.0 | 3.5  |         |     |      |
| 4     | ---     | --- | ---  | 8.0      | 7.0 | 7.5  | 3.0      | 1.0 | 2.0  |         |     |      |
| 5     | ---     | --- | ---  | 8.0      | 7.5 | 7.5  | 1.5      | 1.0 | 1.0  |         |     |      |
| 6     | ---     | --- | ---  | 7.5      | 7.0 | 7.5  | 1.5      | 1.0 | 1.5  |         |     |      |
| 7     | ---     | --- | ---  | 8.0      | 7.5 | 7.5  | 2.0      | 1.0 | 1.5  |         |     |      |
| 8     | ---     | --- | ---  | 8.5      | 8.0 | 8.0  | 2.0      | 1.0 | 1.5  |         |     |      |
| 9     | ---     | --- | ---  | 8.0      | 7.5 | 7.5  | 2.5      | 2.0 | 2.5  |         |     |      |
| 10    | ---     | --- | ---  | 7.5      | 6.0 | 7.0  | 2.5      | 2.0 | 2.0  |         |     |      |
| 11    | ---     | --- | ---  | 6.0      | 5.5 | 6.0  | 2.5      | 1.5 | 2.0  |         |     |      |
| 12    | ---     | --- | ---  | 5.5      | 5.0 | 5.5  | ---      | --- | ---  |         |     |      |
| 13    | ---     | --- | ---  | 5.5      | 5.0 | 5.5  | ---      | --- | ---  |         |     |      |
| 14    | ---     | --- | ---  | 6.0      | 5.5 | 6.0  | ---      | --- | ---  |         |     |      |
| 15    | ---     | --- | ---  | 6.0      | 6.0 | 6.0  | ---      | --- | ---  |         |     |      |
| 16    | ---     | --- | ---  | 6.0      | 5.5 | 6.0  | ---      | --- | ---  |         |     |      |
| 17    | ---     | --- | ---  | 5.5      | 5.0 | 5.0  | ---      | --- | ---  |         |     |      |
| 18    | ---     | --- | ---  | 5.0      | 3.5 | 4.0  | ---      | --- | ---  |         |     |      |
| 19    | ---     | --- | ---  | 3.5      | 3.0 | 3.0  | ---      | --- | ---  |         |     |      |
| 20    | ---     | --- | ---  | 3.5      | 3.0 | 3.0  | ---      | --- | ---  |         |     |      |
| 21    | ---     | --- | ---  | 3.5      | 3.0 | 3.0  | ---      | --- | ---  |         |     |      |
| 22    | ---     | --- | ---  | 4.5      | 3.5 | 4.0  | ---      | --- | ---  |         |     |      |
| 23    | ---     | --- | ---  | 4.0      | 3.5 | 3.5  | ---      | --- | ---  |         |     |      |
| 24    | ---     | --- | ---  | 5.0      | 3.5 | 4.0  | ---      | --- | ---  |         |     |      |
| 25    | ---     | --- | ---  | 5.0      | 4.0 | 4.5  | ---      | --- | ---  |         |     |      |
| 26    | ---     | --- | ---  | 4.0      | 3.0 | 3.5  | ---      | --- | ---  |         |     |      |
| 27    | ---     | --- | ---  | 3.0      | 2.5 | 2.5  | ---      | --- | ---  |         |     |      |
| 28    | ---     | --- | ---  | 3.5      | 2.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 29    | ---     | --- | ---  | 3.5      | 2.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 30    | ---     | --- | ---  | 3.0      | 2.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 31    | 8.0     | 8.0 | 8.0  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 8.0     | 8.0 | 8.0  | 8.5      | 2.5 | 5.5  | 4.0      | 1.0 | 2.0  |         |     |      |

## CONNECTICUT RIVER BASIN

01177200 CONNECTICUT RIVER AT WEST SPRINGFIELD, MA--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN  | MEAN | MAX      | MIN  | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|------|------|----------|------|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |      |      | DECEMBER |      |      | JANUARY |     |      |
| 1     | ---     | --- | ---  | 10.5     | 10.3 | 10.4 | 12.9     | 12.6 | 12.7 |         |     |      |
| 2     | ---     | --- | ---  | 10.4     | 9.8  | 10.2 | 13.0     | 12.8 | 12.9 |         |     |      |
| 3     | ---     | --- | ---  | 10.4     | 9.7  | 10.1 | 12.9     | 12.5 | 12.7 |         |     |      |
| 4     | ---     | --- | ---  | 10.5     | 10.3 | 10.4 | 12.9     | 12.6 | 12.7 |         |     |      |
| 5     | ---     | --- | ---  | 10.7     | 10.5 | 10.6 | 13.4     | 12.9 | 13.1 |         |     |      |
| 6     | ---     | --- | ---  | 10.7     | 10.2 | 10.4 | 13.6     | 13.3 | 13.5 |         |     |      |
| 7     | ---     | --- | ---  | 10.5     | 10.1 | 10.3 | 13.6     | 13.3 | 13.5 |         |     |      |
| 8     | ---     | --- | ---  | 10.4     | 10.0 | 10.2 | 13.4     | 13.1 | 13.2 |         |     |      |
| 9     | ---     | --- | ---  | 10.6     | 10.3 | 10.4 | 13.1     | 12.8 | 13.0 |         |     |      |
| 10    | ---     | --- | ---  | 11.0     | 10.4 | 10.6 | 13.0     | 12.8 | 12.9 |         |     |      |
| 11    | ---     | --- | ---  | 11.3     | 10.9 | 11.1 | 12.9     | 12.8 | 12.8 |         |     |      |
| 12    | ---     | --- | ---  | 11.9     | 10.8 | 11.7 | ---      | ---  | ---  |         |     |      |
| 13    | ---     | --- | ---  | 11.9     | 11.5 | 11.7 | ---      | ---  | ---  |         |     |      |
| 14    | ---     | --- | ---  | 11.8     | 11.4 | 11.6 | ---      | ---  | ---  |         |     |      |
| 15    | ---     | --- | ---  | 11.5     | 11.2 | 11.4 | ---      | ---  | ---  |         |     |      |
| 16    | ---     | --- | ---  | 11.5     | 11.0 | 11.2 | ---      | ---  | ---  |         |     |      |
| 17    | ---     | --- | ---  | 11.6     | 11.1 | 11.3 | ---      | ---  | ---  |         |     |      |
| 18    | ---     | --- | ---  | 12.1     | 11.5 | 11.8 | ---      | ---  | ---  |         |     |      |
| 19    | ---     | --- | ---  | 12.2     | 12.0 | 12.1 | ---      | ---  | ---  |         |     |      |
| 20    | ---     | --- | ---  | 12.3     | 12.1 | 12.2 | ---      | ---  | ---  |         |     |      |
| 21    | ---     | --- | ---  | 12.0     | 11.4 | 11.8 | ---      | ---  | ---  |         |     |      |
| 22    | ---     | --- | ---  | 11.9     | 11.3 | 11.7 | ---      | ---  | ---  |         |     |      |
| 23    | ---     | --- | ---  | 12.0     | 11.5 | 11.8 | ---      | ---  | ---  |         |     |      |
| 24    | ---     | --- | ---  | 11.7     | 11.4 | 11.6 | ---      | ---  | ---  |         |     |      |
| 25    | ---     | --- | ---  | 12.0     | 11.6 | 11.7 | ---      | ---  | ---  |         |     |      |
| 26    | ---     | --- | ---  | 12.5     | 11.9 | 12.2 | ---      | ---  | ---  |         |     |      |
| 27    | ---     | --- | ---  | 13.0     | 12.5 | 12.8 | ---      | ---  | ---  |         |     |      |
| 28    | ---     | --- | ---  | 12.9     | 12.4 | 12.6 | ---      | ---  | ---  |         |     |      |
| 29    | ---     | --- | ---  | 12.8     | 12.5 | 12.7 | ---      | ---  | ---  |         |     |      |
| 30    | ---     | --- | ---  | 12.7     | 12.4 | 12.7 | ---      | ---  | ---  |         |     |      |
| 31    | 10.5    | 9.8 | 10.3 | ---      | ---  | ---  | ---      | ---  | ---  |         |     |      |
| MONTH | 10.5    | 9.8 | 10.3 | 13.0     | 9.7  | 11.4 | 13.6     | 12.5 | 13.0 |         |     |      |

## 01179500 WESTFIELD RIVER AT KNIGHTVILLE, MA

LOCATION.--Lat 42°17'16", long 72°51'53", Hampshire County, Hydrologic Unit 01080206, on left bank at Knightville, 0.2 mi (0.3 km) downstream from Knightville Dam, 0.2 mi (0.3 km) upstream from Sykes Brook, 2.4 mi (3.9 km) upstream from Middle Branch, 3.5 mi (5.6 km) north of Huntington, and at mile 29.7 (47.8 km).

DRAINAGE AREA.--162 mi<sup>2</sup> (420 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: August 1909 to current year.  
Water-quality records: Water year 1953.

REVISED RECORDS.--WSP 415: 1909-12. WSP 1001: 1941-43. WSP 1231: 1910, 1912, 1913(M), 1914-15, 1916-19(M), 1921-23(M), 1925-27(M), 1929-33(M), 1935(M).

GAGE.--Water-stage recorder. Concrete control since Dec. 20, 1940. Datum of gage is 461.25 ft (140.589 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Jan. 11, 1936, nonrecording gage at site 0.5 mi (0.8 km) upstream at different datum. Jan. 11, 1935, to May 20, 1940, water-stage recorder at site 700 ft (200 m) upstream at datum 10.57 ft (3.222 m) higher. May 21 to Dec. 19, 1940, nonrecording gage at site 700 ft (200 m) upstream at datum 18.75 ft (5.715 m) higher.

REMARKS.--Records excellent except those for winter period, which are good. Flow regulated by Knightville Reservoir since 1941 (Reservoirs in Connecticut River basin). Several observations of water temperatures and specific conductance were made during the year.

AVERAGE DISCHARGE.--72 years, 326 ft<sup>3</sup>/s (9.232 m<sup>3</sup>/s), 27.33 in/yr (694 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,900 ft<sup>3</sup>/s (1,070 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 29.58 ft (9.016 m), from floodmarks, site and datum then in use, from rating curve extended above 3,800 ft<sup>3</sup>/s (110 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 24.07 ft (7.337 m) and 29.58 ft (9.016 m); minimum, 0.1 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Apr. 3, 1965; minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Apr. 2, 1965. Maximum discharge since construction of Knightville Reservoir in 1941, 6,660 ft<sup>3</sup>/s (189 m<sup>3</sup>/s) Mar. 21, 1945, gage height, 7.45 ft (2.271 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,590 ft<sup>3</sup>/s (102 m<sup>3</sup>/s) Feb. 27, gage height, 6.15 ft (1.875 m); minimum, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Aug. 29-31, Sept. 1, 8; minimum daily, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Aug. 29-31, Sept. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT         | NOV      | DEC      | JAN    | FEB       | MAR        | APR       | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------------|----------|----------|--------|-----------|------------|-----------|------|------|------|------|------|
| 1           | 17          | 66       | 283      | 64     | 35        | 3270       | 117       | 419  | 239  | 42   | 36   | 14   |
| 2           | 17          | 59       | 153      | 61     | 45        | 3020       | 240       | 300  | 140  | 40   | 29   | 16   |
| 3           | 18          | 50       | 153      | 57     | 75        | 2700       | 455       | 268  | 115  | 47   | 24   | 15   |
| 4           | 33          | 46       | 179      | 56     | 119       | 1570       | 625       | 224  | 122  | 58   | 22   | 15   |
| 5           | 59          | 45       | 119      | 55     | 299       | 615        | 607       | 199  | 108  | 138  | 24   | 14   |
| 6           | 39          | 44       | 96       | 54     | 303       | 401        | 731       | 158  | 96   | 211  | 38   | 14   |
| 7           | 29          | 42       | 97       | 53     | 291       | 282        | 1110      | 126  | 114  | 125  | 56   | 13   |
| 8           | 24          | 40       | 101      | 52     | 274       | 282        | 978       | 133  | 97   | 80   | 35   | 13   |
| 9           | 22          | 42       | 110      | 51     | 261       | 286        | 714       | 136  | 93   | 57   | 28   | 82   |
| 10          | 19          | 59       | 154      | 50     | 246       | 290        | 420       | 136  | 111  | 45   | 25   | 85   |
| 11          | 20          | 68       | 171      | 48     | 217       | 290        | 308       | 138  | 87   | 38   | 23   | 45   |
| 12          | 22          | 51       | 104      | 46     | 559       | 294        | 281       | 110  | 75   | 32   | 27   | 33   |
| 13          | 26          | 47       | 66       | 44     | 1370      | 209        | 237       | 93   | 69   | 28   | 28   | 31   |
| 14          | 23          | 45       | 68       | 41     | 1460      | 163        | 251       | 116  | 65   | 25   | 22   | 27   |
| 15          | 21          | 43       | 68       | 39     | 1300      | 163        | 550       | 252  | 68   | 22   | 19   | 26   |
| 16          | 20          | 42       | 68       | 36     | 855       | 166        | 377       | 726  | 72   | 20   | 24   | 27   |
| 17          | 19          | 30       | 69       | 36     | 386       | 166        | 293       | 618  | 68   | 19   | 56   | 29   |
| 18          | 22          | 34       | 70       | 35     | 243       | 166        | 286       | 590  | 56   | 18   | 34   | 27   |
| 19          | 28          | 45       | 70       | 35     | 268       | 166        | 244       | 544  | 48   | 19   | 25   | 26   |
| 20          | 37          | 54       | 70       | 37     | 369       | 166        | 216       | 480  | 47   | 23   | 20   | 32   |
| 21          | 30          | 51       | 70       | 40     | 183       | 166        | 201       | 362  | 61   | 47   | 16   | 34   |
| 22          | 26          | 51       | 70       | 41     | 544       | 166        | 185       | 210  | 67   | 64   | 15   | 32   |
| 23          | 23          | 49       | 69       | 41     | 1530      | 120        | 184       | 166  | 195  | 40   | 14   | 43   |
| 24          | 22          | 58       | 68       | 41     | 1130      | 90         | 421       | 150  | 101  | 30   | 13   | 70   |
| 25          | 129         | 412      | 68       | 41     | 1910      | 90         | 380       | 132  | 76   | 24   | 14   | 84   |
| 26          | 631         | 287      | 65       | 40     | 2900      | 92         | 275       | 117  | 157  | 22   | 16   | 53   |
| 27          | 230         | 157      | 63       | 38     | 3270      | 92         | 233       | 106  | 116  | 30   | 15   | 43   |
| 28          | 136         | 185      | 62       | 39     | 3480      | 408        | 206       | 96   | 76   | 46   | 14   | 49   |
| 29          | 103         | 521      | 65       | 40     | ---       | 411        | 235       | 95   | 58   | 62   | 13   | 68   |
| 30          | 83          | 496      | 67       | 39     | ---       | 112        | 530       | 106  | 47   | 84   | 13   | 48   |
| 31          | 72          | ---      | 67       | 37     | ---       | 116        | ---       | 163  | ---  | 51   | 13   | ---  |
| TOTAL       | 2000        | 3219     | 3003     | 1387   | 23922     | 16528      | 11890     | 7469 | 2844 | 1587 | 751  | 1108 |
| MEAN        | 64.5        | 107      | 96.9     | 44.7   | 854       | 533        | 396       | 241  | 94.8 | 51.2 | 24.2 | 36.9 |
| MAX         | 631         | 521      | 283      | 64     | 3480      | 3270       | 1110      | 726  | 239  | 211  | 56   | 85   |
| MIN         | 17          | 30       | 62       | 35     | 35        | 90         | 117       | 93   | 47   | 18   | 13   | 13   |
| MEAN†       | 64.7        | 113      | 98.5     | 39.7   | 1185      | 294        | 335       | 239  | 94.7 | 51.2 | 24.1 | 37.0 |
| CFSM†       | .40         | .70      | .61      | .25    | 7.31      | 1.81       | 2.07      | 1.48 | .58  | .32  | .15  | .23  |
| IN.†        | .46         | .78      | .70      | .28    | 7.62      | 2.09       | 2.31      | 1.70 | .65  | .36  | .17  | .25  |
| CAL YR 1980 | TOTAL 87748 | MEAN 240 | MAX 3360 | MIN 11 | MEAN† 240 | CFSM† 1.48 | IN† 20.15 |      |      |      |      |      |
| WTR YR 1981 | TOTAL 75708 | MEAN 207 | MAX 3480 | MIN 13 | MEAN† 207 | CFSM† 1.28 | IN† 17.39 |      |      |      |      |      |

† Adjusted for change in contents in Knightville Reservoir.



## CONNECTICUT RIVER BASIN

## 01180500 MIDDLE BRANCH WESTFIELD RIVER AT GOSS HEIGHTS, MA

LOCATION.--Lat 42°15'31", long 72°52'23", Hampshire County, Hydrologic Unit 01080206, on right bank at upstream side of highway bridge at Goss Heights, 0.3 mi (0.5 km) upstream from mouth, 0.7 mi (1.1 km) downstream from Littleville Dam, and 1.7 mi (2.7 km) north of Huntington.

DRAINAGE AREA.--52.6 mi<sup>2</sup> (136.2 km<sup>2</sup>).

PERIOD OF RECORD.--July 1910 to current year.

REVISED RECORDS.--WSP 415: 1910-13. WSP 781: 1933(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 399.30 ft (121.707 m) National Geodetic Vertical Datum of 1929. Prior to June 25, 1930, datum was 2.00 ft (0.610 m) higher, and June 25, 1930, to Sept. 30, 1964, datum was 1.00 ft (0.305 m) higher. Prior to Sept. 8, 1912, nonrecording gage at same site.

REMARKS.--Records good. Some diurnal fluctuation at low flow prior to 1952 caused by mill upstream. Flow regulated by Littleville Lake (Reservoirs in Connecticut River basin) since 1965. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--71 years, 105 ft<sup>3</sup>/s (2.974 m<sup>3</sup>/s), 27.11 in/yr (689 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft<sup>3</sup>/s (564 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 11.61 ft (3.539 m), present datum, from rating curve extended above 3,200 ft<sup>3</sup>/s (91 m<sup>3</sup>/s) on basis of mean of two contracted-opening measurements of peak flow; maximum gage height, 14.87 ft (4.532 m), present datum, Mar. 12, 1936, (ice jam); practically no flow Sept. 3, 22, Oct. 20, 1910, July 30, 1912, Oct. 26, 27, 1914. Maximum discharge since construction of Littleville Dam in 1965, 1,670 ft<sup>3</sup>/s (47.3 m<sup>3</sup>/s) Mar. 26, 1980, gage height, 5.93 ft (1.807 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,260 ft<sup>3</sup>/s (35.7 m<sup>3</sup>/s) Feb. 25, gage height, 5.41 ft (1.649 m); minimum, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Mar. 20-26; minimum daily, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Mar. 21-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN   | FEB  | MAR    | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |     |       |
|-------------|-------|---------|------|-------|------|--------|------|------|-------|-------|-------|-------|-----|-------|
| 1           | 3.5   | 18      | 109  | 18    | 10   | 1130   | 28   | 144  | 43    | 12    | 13    | 3.9   |     |       |
| 2           | 3.3   | 15      | 80   | 17    | 71   | 1010   | 48   | 114  | 39    | 11    | 11    | 3.9   |     |       |
| 3           | 3.5   | 13      | 71   | 17    | 231  | 830    | 93   | 96   | 34    | 11    | 9.0   | 3.9   |     |       |
| 4           | 5.7   | 13      | 65   | 17    | 132  | 416    | 181  | 82   | 33    | 11    | 7.7   | 3.9   |     |       |
| 5           | 7.2   | 13      | 53   | 14    | 77   | 171    | 196  | 72   | 32    | 21    | 9.7   | 3.7   |     |       |
| 6           | 7.2   | 11      | 38   | 11    | 49   | 119    | 255  | 67   | 28    | 37    | 11    | 3.7   |     |       |
| 7           | 6.6   | 11      | 37   | 11    | 42   | 101    | 257  | 61   | 28    | 38    | 10    | 3.4   |     |       |
| 8           | 5.7   | 11      | 39   | 12    | 44   | 94     | 120  | 56   | 25    | 29    | 8.6   | 3.7   |     |       |
| 9           | 5.2   | 11      | 53   | 13    | 42   | 89     | 86   | 51   | 25    | 17    | 8.0   | 13    |     |       |
| 10          | 4.2   | 12      | 66   | 12    | 37   | 84     | 90   | 47   | 26    | 14    | 7.4   | 17    |     |       |
| 11          | 4.9   | 15      | 55   | 12    | 93   | 82     | 89   | 50   | 24    | 14    | 6.8   | 15    |     |       |
| 12          | 5.2   | 14      | 37   | 12    | 417  | 77     | 82   | 91   | 21    | 13    | 7.7   | 12    |     |       |
| 13          | 4.9   | 11      | 37   | 11    | 692  | 70     | 72   | 148  | 20    | 10    | 7.7   | 10    |     |       |
| 14          | 4.2   | 11      | 35   | 10    | 636  | 68     | 68   | 120  | 19    | 8.6   | 6.8   | 9.7   |     |       |
| 15          | 3.7   | 11      | 29   | 9.9   | 326  | 48     | 100  | 97   | 19    | 6.5   | 6.2   | 11    |     |       |
| 16          | 3.7   | 11      | 29   | 9.5   | 150  | 34     | 94   | 150  | 21    | 5.4   | 6.5   | 11    |     |       |
| 17          | 4.0   | 11      | 29   | 9.5   | 119  | 28     | 82   | 157  | 20    | 4.9   | 6.2   | 11    |     |       |
| 18          | 5.5   | 14      | 27   | 9.5   | 158  | 24     | 79   | 117  | 17    | 4.6   | 5.4   | 10    |     |       |
| 19          | 7.9   | 13      | 27   | 9.9   | 226  | 24     | 72   | 93   | 15    | 4.9   | 4.9   | 9.7   |     |       |
| 20          | 8.7   | 13      | 25   | 10    | 164  | 11     | 63   | 78   | 14    | 5.9   | 4.4   | 9.7   |     |       |
| 21          | 8.3   | 13      | 23   | 11    | 20   | 1.4    | 58   | 67   | 17    | 11    | 4.4   | 8.6   |     |       |
| 22          | 7.6   | 13      | 21   | 11    | 384  | 1.4    | 52   | 57   | 19    | 13    | 4.1   | 8.6   |     |       |
| 23          | 6.6   | 13      | 21   | 10    | 766  | 1.4    | 51   | 50   | 28    | 11    | 3.9   | 10    |     |       |
| 24          | 5.7   | 31      | 21   | 11    | 280  | 1.4    | 87   | 45   | 29    | 9.3   | 3.9   | 11    |     |       |
| 25          | 19    | 95      | 21   | 11    | 830  | 1.4    | 106  | 40   | 30    | 7.7   | 3.9   | 12    |     |       |
| 26          | 116   | 109     | 20   | 11    | 1090 | 20     | 90   | 36   | 30    | 6.5   | 3.9   | 13    |     |       |
| 27          | 87    | 73      | 19   | 11    | 1210 | 32     | 77   | 33   | 25    | 7.7   | 3.9   | 12    |     |       |
| 28          | 53    | 166     | 18   | 11    | 1180 | 181    | 66   | 30   | 20    | 9.0   | 3.9   | 11    |     |       |
| 29          | 37    | 223     | 18   | 11    | ---  | 156    | 68   | 28   | 17    | 13    | 3.9   | 11    |     |       |
| 30          | 27    | 171     | 19   | 11    | ---  | 26     | 146  | 29   | 14    | 17    | 3.9   | 12    |     |       |
| 31          | 21    | ---     | 20   | 11    | ---  | 27     | ---  | 32   | ---   | 15    | 3.9   | ---   |     |       |
| TOTAL       | 493.0 | 1159    | 1162 | 365.3 | 9476 | 4959.0 | 2956 | 2338 | 732   | 399.0 | 201.6 | 278.4 |     |       |
| MEAN        | 15.9  | 38.6    | 37.5 | 11.8  | 338  | 160    | 98.5 | 75.4 | 24.4  | 12.9  | 6.50  | 9.28  |     |       |
| MAX         | 116   | 223     | 109  | 18    | 1210 | 1130   | 257  | 157  | 43    | 38    | 13    | 17    |     |       |
| MIN         | 3.3   | 11      | 18   | 9.5   | 10   | 1.4    | 28   | 28   | 14    | 4.6   | 3.9   | 3.4   |     |       |
| MEAN†       | 17.4  | 43.6    | 32.6 | 11.3  | 455  | 69.8   | 87.5 | 71.1 | 23.9  | 12.9  | 5.53  | 9.78  |     |       |
| CFSM†       | .33   | .83     | .62  | .21   | 8.65 | 1.33   | 1.66 | 1.35 | .45   | .25   | .11   | .19   |     |       |
| IN.†        | .38   | .93     | .72  | .25   | 9.02 | 1.53   | 1.86 | 1.56 | .51   | .28   | .12   | .21   |     |       |
| CAL YR 1980 | TOTAL | 31390.3 | MEAN | 85.8  | MAX  | 1590   | MIN  | 1.9  | MEAN† | 85.6  | CFSM† | 1.63  | IN† | 22.16 |
| WTR YR 1981 | TOTAL | 24519.3 | MEAN | 67.2  | MAX  | 1210   | MIN  | 1.4  | MEAN† | 67.2  | CFSM† | 1.28  | IN† | 17.35 |

† Adjusted for change in contents in Littleville Lake.

## CONNECTICUT RIVER BASIN

183

01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA

LOCATION.--Lat 42°14'14", long 72°53'46", Hampshire County, Hydrologic Unit 01080206, on left bank at Huntington, 0.4 mi (0.6 km) downstream from Roaring Brook, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--93.7 mi<sup>2</sup> (242.7 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: September 1935 to current year.  
Water-quality records: Water years 1957, 1967-74.

GAGE.--Water-stage recorder. Datum of gage is 388.60 ft (118.445 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Prior to 1950, some diurnal fluctuation at low flow caused by small mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--46 years, 189 ft<sup>3</sup>/s (5.352 m<sup>3</sup>/s), 27.39 in/yr (696 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft<sup>3</sup>/s (739 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 15.27 ft (4.654 m), from rating curve extended above 9,500 ft<sup>3</sup>/s (270 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; minimum, 3.3 ft<sup>3</sup>/s (0.093 m<sup>3</sup>/s) Aug. 9, 1955, Nov. 27, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,700 ft<sup>3</sup>/s (76 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 11 | 2130 | 4650 132                                              | 6.64 2.024              | Feb. 24 | 0700 | 4270 121                                              | 6.39 1.948              |
| Feb. 20 | 1945 | *10600 300                                            | 9.73 2.966              |         |      |                                                       |                         |

Minimum discharge, 5.0 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Nov. 17, result of freezeup.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC      | JAN      | FEB     | MAR       | APR      | MAY  | JUN  | JUL  | AUG   | SEP   |
|-------------|-------|---------|----------|----------|---------|-----------|----------|------|------|------|-------|-------|
| 1           | 11    | 28      | 124      | 30       | 20      | 374       | 173      | 250  | 85   | 20   | 16    | 10    |
| 2           | 10    | 27      | 109      | 30       | 429     | 318       | 214      | 202  | 56   | 22   | 15    | 11    |
| 3           | 10    | 26      | 137      | 31       | 280     | 272       | 184      | 176  | 49   | 26   | 14    | 10    |
| 4           | 18    | 24      | 76       | 26       | 141     | 230       | 155      | 151  | 55   | 26   | 13    | 10    |
| 5           | 24    | 25      | 73       | 22       | 98      | 217       | 151      | 135  | 51   | 65   | 16    | 10    |
| 6           | 17    | 23      | 70       | 22       | 82      | 202       | 236      | 129  | 45   | 72   | 26    | 9.7   |
| 7           | 14    | 22      | 70       | 23       | 95      | 187       | 181      | 119  | 46   | 46   | 23    | 9.4   |
| 8           | 13    | 22      | 78       | 28       | 86      | 181       | 148      | 104  | 40   | 32   | 19    | 10    |
| 9           | 12    | 24      | 114      | 29       | 81      | 173       | 135      | 97   | 42   | 25   | 18    | 55    |
| 10          | 11    | 38      | 109      | 28       | 77      | 165       | 187      | 88   | 50   | 21   | 17    | 31    |
| 11          | 12    | 36      | 89       | 26       | 1040    | 158       | 155      | 99   | 39   | 19   | 16    | 19    |
| 12          | 13    | 28      | 70       | 22       | 1290    | 151       | 142      | 275  | 34   | 18   | 32    | 16    |
| 13          | 16    | 25      | 78       | 20       | 378     | 146       | 123      | 250  | 31   | 16   | 24    | 14    |
| 14          | 24    | 23      | 51       | 20       | 280     | 144       | 148      | 173  | 31   | 15   | 17    | 15    |
| 15          | 23    | 23      | 42       | 21       | 237     | 129       | 217      | 168  | 40   | 15   | 15    | 29    |
| 16          | 22    | 22      | 55       | 23       | 208     | 139       | 155      | 264  | 46   | 14   | 17    | 29    |
| 17          | 19    | 19      | 55       | 24       | 255     | 117       | 139      | 205  | 33   | 13   | 18    | 25    |
| 18          | 15    | 23      | 44       | 24       | 324     | 100       | 148      | 155  | 27   | 12   | 15    | 21    |
| 19          | 34    | 26      | 54       | 26       | 350     | 100       | 127      | 131  | 24   | 12   | 13    | 20    |
| 20          | 27    | 27      | 41       | 25       | 3480    | 93        | 113      | 115  | 24   | 15   | 13    | 21    |
| 21          | 20    | 23      | 43       | 23       | 2930    | 87        | 104      | 102  | 42   | 28   | 12    | 20    |
| 22          | 17    | 26      | 44       | 23       | 1590    | 87        | 93       | 91   | 40   | 25   | 12    | 21    |
| 23          | 16    | 25      | 43       | 23       | 631     | 85        | 95       | 81   | 68   | 18   | 10    | 22    |
| 24          | 14    | 35      | 43       | 23       | 2490    | 88        | 236      | 73   | 40   | 16   | 10    | 28    |
| 25          | 89    | 246     | 43       | 23       | 1140    | 95        | 205      | 63   | 59   | 14   | 11    | 35    |
| 26          | 251   | 142     | 41       | 22       | 888     | 90        | 158      | 56   | 64   | 14   | 11    | 26    |
| 27          | 89    | 86      | 38       | 23       | 587     | 109       | 133      | 50   | 39   | 16   | 11    | 23    |
| 28          | 54    | 166     | 35       | 24       | 452     | 117       | 119      | 47   | 29   | 21   | 10    | 25    |
| 29          | 43    | 359     | 38       | 24       | ---     | 123       | 135      | 48   | 25   | 29   | 9.8   | 27    |
| 30          | 35    | 174     | 41       | 23       | ---     | 160       | 370      | 55   | 22   | 34   | 9.8   | 21    |
| 31          | 31    | ---     | 37       | 22       | ---     | 199       | ---      | 67   | ---  | 21   | 9.8   | ---   |
| TOTAL       | 1004  | 1793    | 1985     | 753      | 19939   | 4836      | 4879     | 4019 | 1276 | 740  | 473.4 | 623.1 |
| MEAN        | 32.4  | 59.8    | 64.0     | 24.3     | 712     | 156       | 163      | 130  | 42.5 | 23.9 | 15.3  | 20.8  |
| MAX         | 251   | 359     | 137      | 31       | 3480    | 374       | 370      | 275  | 85   | 72   | 32    | 55    |
| MIN         | 10    | 19      | 35       | 20       | 20      | 85        | 93       | 47   | 22   | 12   | 9.8   | 9.4   |
| CFSM        | .35   | .64     | .68      | .26      | 7.60    | 1.67      | 1.74     | 1.39 | .45  | .26  | .16   | .22   |
| IN.         | .40   | .71     | .79      | .30      | 7.92    | 1.92      | 1.94     | 1.60 | .51  | .29  | .19   | .25   |
| CAL YR 1980 | TOTAL | 53417.7 | MEAN 146 | MAX 5830 | MIN 7.5 | CFSM 1.56 | IN 21.21 |      |      |      |       |       |
| WTR YR 1981 | TOTAL | 42320.5 | MEAN 116 | MAX 3480 | MIN 9.4 | CFSM 1.24 | IN 16.80 |      |      |      |       |       |

## CONNECTICUT RIVER BASIN

## 01183000 LITTLE RIVER AT OUTLET OF COBBLE MOUNTAIN RESERVOIR, NEAR WESTFIELD, MA

LOCATION.--Lat 42°07'34", long 72°53'37", Hampden County, Hydrologic Unit 01080206, at Cobble Mountain Dam, 7.5 mi (12.1 km) west of Westfield, and at mile 13.0 (20.9 km).

DRAINAGE AREA.--45.8 mi<sup>2</sup> (118.6 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1905 to current year. Published as Westfield Little River near Blandford 1905-11, as Westfield Little River near Westfield 1912-35, and as Westfield Little River at outlet of Cobble Mountain Reservoir, near Westfield 1936-76.  
Water-quality records: Water year 1957.

REVISED RECORDS.--WSP 501: Drainage area. WDR MA-RI-80-1: 1979.

GAGE.--Venturi meters at outlet tunnel at powerhouse 2.4 mi (3.9 km) downstream. Prior to Mar. 1, 1910, non-recording gage at site 0.2 mi (0.3 km) upstream, and Mar. 1, 1910, to Sept. 30, 1935, water-stage recorder at diversion dam 2.8 mi (4.5 km) downstream.

REMARKS.--Discharge computed on basis of flow through venturi meters and flow over reservoir spillway or through bypass tunnel. Flow regulated by Borden Brook Reservoir since 1910 and Cobble Mountain Reservoir since August 1931 (Reservoirs in Connecticut River basin).

COOPERATION.--Records furnished by Springfield Board of Water Commissioners.

AVERAGE DISCHARGE.--71 years (water years 1911-81), 89.6 ft<sup>3</sup>/s (2.537 m<sup>3</sup>/s), 26.57 in/yr (675 mm/yr), adjusted for storage.

## MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| Month                        | Meant† | Per square<br>mile† | Runoff in<br>inches† |
|------------------------------|--------|---------------------|----------------------|
| October . . . . .            | 17.8   | 0.39                | 0.45                 |
| November . . . . .           | 33.4   | .73                 | .81                  |
| December . . . . .           | 18.6   | .41                 | .47                  |
| Calendar year 1980 . . . . . | 69.9   | 1.53                | 20.71                |
| January . . . . .            | -11.1  | -.24                | -.28                 |
| February . . . . .           | 40.2   | 8.78                | 9.13                 |
| March . . . . .              | 44.7   | .98                 | 1.13                 |
| April . . . . .              | 55     | 1.20                | 1.34                 |
| May . . . . .                | 57.1   | 1.25                | 1.44                 |
| June . . . . .               | 10.8   | .24                 | .26                  |
| July . . . . .               | 7.14   | .16                 | .18                  |
| August . . . . .             | -3.14  | -.07                | -.08                 |
| September . . . . .          | 3.25   | .07                 | .08                  |
| Water year 1981 . . . . .    | 50.4   | 1.10                | 14.93                |

† Adjusted for change in contents in Borden Brook and Cobble Mountain Reservoirs.

NOTE.--Negative figures indicate that evaporation and seepage from reservoir exceeded inflow.

## 01183450 GREAT BROOK NEAR WESTFIELD, MA

LOCATION.--Lat 42°05'18", long 72°43'24", Hampden County, Hydrologic Unit 01080206, on left bank 50 ft (15 m) downstream from bridge on Shaker Rd., 0.4 mi (0.6 km) downstream from Kellog Brook, 1.4 mi (2.3 km) upstream from mouth, and 2.5 mi (4.0 km) southeast of center of Westfield.

DRAINAGE AREA.--29.2 mi<sup>2</sup> (75.6 km<sup>2</sup>).

PERIOD OF RECORD.--November 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 135 ft (41.1 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Flow affected by diversion upstream for municipal supply of West Springfield. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--8 years (water years 1974-81), 35.1 ft<sup>3</sup>/s (0.994 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 941 ft<sup>3</sup>/s (26.6 m<sup>3</sup>/s) Mar. 6, 1979, gage height, 6.13 ft (1.868 m), from rating curve extended above 270 ft<sup>3</sup>/s (7.6 m<sup>3</sup>/s); maximum gage height, 6.82 ft (2.079 m) Jan. 25, 1979, ice jam; minimum discharge, 1.7 ft<sup>3</sup>/s (0.048 m<sup>3</sup>/s) Sept. 11-13, 1980. Maximum discharge during high water Mar. 22 and/or Apr. 10, 1980 may have been higher than on Mar. 6, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 240 ft<sup>3</sup>/s (6.8 m<sup>3</sup>/s) and maximum (\*):

| Date   | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|--------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 2 | 1445 | ice jam                                               | *4.29 1.308             | Feb. 21 | 0915 | *278 7.87                                             | 3.91 1.192              |

Minimum discharge, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Aug. 29, 30, 31, Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB    | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|--------|------|------|-------|-------|-------|-------|-------|
| 1     | 5.5   | 8.4   | 23    | 9.5   | 5.6    | 67   | 17   | 28    | 10    | 6.5   | 4.4   | 3.7   |
| 2     | 5.8   | 8.1   | 19    | 9.0   | 60     | 58   | 29   | 35    | 9.5   | 6.5   | 4.4   | 3.4   |
| 3     | 6.1   | 7.1   | 20    | 8.6   | 40     | 50   | 28   | 28    | 9.5   | 7.8   | 4.1   | 3.2   |
| 4     | 9.2   | 7.1   | 17    | 8.2   | 26     | 41   | 21   | 21    | 12    | 8.8   | 3.9   | 3.2   |
| 5     | 5.8   | 7.4   | 14    | 8.0   | 20     | 41   | 20   | 19    | 11    | 28    | 6.5   | 2.8   |
| 6     | 5.5   | 7.1   | 13    | 8.2   | 19     | 38   | 34   | 18    | 9.2   | 32    | 6.1   | 2.8   |
| 7     | 5.2   | 6.8   | 14    | 8.4   | 18     | 36   | 30   | 17    | 9.2   | 18    | 4.4   | 2.8   |
| 8     | 5.5   | 6.8   | 14    | 8.2   | 18     | 36   | 23   | 16    | 8.4   | 13    | 3.4   | 3.4   |
| 9     | 5.5   | 6.8   | 16    | 8.0   | 17     | 34   | 21   | 15    | 8.4   | 9.9   | 4.1   | 8.8   |
| 10    | 5.5   | 8.1   | 17    | 7.7   | 17     | 32   | 21   | 14    | 8.4   | 9.9   | 3.4   | 5.5   |
| 11    | 7.8   | 8.1   | 15    | 7.4   | 100    | 29   | 20   | 16    | 8.4   | 9.2   | 3.4   | 4.7   |
| 12    | 9.2   | 7.4   | 14    | 7.2   | 150    | 28   | 18   | 35    | 7.4   | 8.4   | 4.7   | 4.1   |
| 13    | 8.1   | 7.1   | 13    | 7.0   | 86     | 28   | 18   | 45    | 8.4   | 5.8   | 4.7   | 3.9   |
| 14    | 7.4   | 6.1   | 12    | 6.8   | 50     | 26   | 21   | 27    | 8.4   | 5.5   | 3.9   | 4.1   |
| 15    | 7.1   | 5.5   | 11    | 6.6   | 33     | 24   | 35   | 20    | 8.8   | 4.7   | 4.4   | 7.4   |
| 16    | 6.8   | 5.5   | 11    | 6.4   | 21     | 24   | 26   | 35    | 8.8   | 3.9   | 8.1   | 11    |
| 17    | 6.8   | 5.5   | 10    | 6.2   | 21     | 22   | 21   | 38    | 8.4   | 3.7   | 5.2   | 8.8   |
| 18    | 6.8   | 6.8   | 10    | 6.0   | 21     | 20   | 21   | 27    | 7.8   | 3.2   | 3.9   | 7.4   |
| 19    | 9.5   | 7.8   | 10    | 6.0   | 21     | 21   | 18   | 20    | 7.4   | 6.8   | 3.4   | 6.8   |
| 20    | 8.4   | 7.8   | 10    | 6.0   | 100    | 20   | 18   | 18    | 8.4   | 6.8   | 3.2   | 7.4   |
| 21    | 7.8   | 7.8   | 9.5   | 6.2   | 220    | 20   | 17   | 16    | 13    | 11    | 3.0   | 6.5   |
| 22    | 7.4   | 7.8   | 9.0   | 6.4   | 103    | 20   | 16   | 15    | 12    | 7.8   | 3.0   | 6.8   |
| 23    | 7.1   | 8.1   | 9.0   | 6.6   | 53     | 20   | 16   | 14    | 13    | 5.8   | 3.0   | 9.5   |
| 24    | 6.8   | 9.9   | 8.8   | 6.6   | 162    | 20   | 26   | 13    | 9.9   | 4.7   | 3.4   | 8.4   |
| 25    | 13    | 28    | 8.6   | 6.6   | 156    | 20   | 24   | 12    | 11    | 4.4   | 3.7   | 7.4   |
| 26    | 32    | 24    | 8.4   | 6.4   | 165    | 18   | 19   | 11    | 11    | 4.4   | 3.0   | 6.5   |
| 27    | 21    | 16    | 8.2   | 6.4   | 133    | 19   | 17   | 9.9   | 9.9   | 4.1   | 3.2   | 5.8   |
| 28    | 13    | 33    | 8.0   | 6.2   | 82     | 19   | 16   | 9.9   | 8.4   | 3.7   | 3.0   | 5.8   |
| 29    | 10    | 56    | 8.0   | 6.2   | ---    | 18   | 21   | 12    | 7.4   | 8.4   | 2.6   | 5.5   |
| 30    | 9.2   | 40    | 9.0   | 6.0   | ---    | 18   | 31   | 13    | 6.5   | 6.1   | 2.4   | 5.5   |
| 31    | 9.2   | ---   | 10    | 5.8   | ---    | 18   | ---  | 12    | ---   | 4.1   | 2.6   | ---   |
| TOTAL | 274.0 | 371.9 | 379.5 | 218.8 | 1917.6 | 885  | 663  | 629.8 | 279.9 | 262.9 | 122.5 | 172.9 |
| MEAN  | 8.84  | 12.4  | 12.2  | 7.06  | 68.5   | 28.5 | 22.1 | 20.3  | 9.33  | 8.48  | 3.95  | 5.76  |
| MAX   | 32    | 56    | 23    | 9.5   | 220    | 67   | 35   | 45    | 13    | 32    | 8.1   | 11    |
| MIN   | 5.2   | 5.5   | 8.0   | 5.8   | 5.6    | 18   | 16   | 9.9   | 6.5   | 3.2   | 2.4   | 2.8   |

CAL YR 1980 TOTAL 9413.2 MEAN 25.7 MAX 500 MIN 1.7  
WTR YR 1981 TOTAL 6177.8 MEAN 16.9 MAX 220 MIN 2.4

## CONNECTICUT RIVER BASIN

01183500 WESTFIELD RIVER NEAR WESTFIELD, MA

LOCATION.--Lat 42°06'24", long 72°41'58", Hampden County, Hydrologic Unit 01080206, on left bank 0.7 mi (1.1 km) downstream from Great Brook, 3 mi (5 km) east of Westfield, and 8.1 mi (13.0 km) upstream from mouth.

DRAINAGE AREA.--497 mi<sup>2</sup> (1,287 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1914 to current year.

Water-quality records: Water years 1952-53, 1957, 1967-74.

REVISED RECORDS.--WSP 601: 1924(M). WSP 756: Drainage area. WSP 1051: 1919-21(M), 1925(M). WSP 1231: 1915-16(M), 1920.

GAGE.--Water-stage recorder. Datum of gage is 98.25 ft (29.947 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 3, 1933, on right bank at same datum.

REMARKS.--Records excellent. Flow regulated by Borden Brook Reservoir, Cobble Mountain Reservoir since 1931, Knightville Reservoir since 1941, and Littleville Lake since 1965 (Reservoirs in Connecticut River basin). High flow slightly affected by retarding reservoirs since 1963. Diversion from Little River for municipal supply of Springfield. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--67 years, 917 ft<sup>3</sup>/s (25.97 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,300 ft<sup>3</sup>/s (1,990 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 34.2 ft (10.42 m), from floodmarks, from rating curve extended above 18,000 ft<sup>3</sup>/s (510 m<sup>3</sup>/s) on basis of computations of flow over dam at gage heights 27.20 ft (8.291 m), 29.40 ft (8.961 m), and 34.2 ft (10.42 m); minimum, 9 ft<sup>3</sup>/s (0.25 m<sup>3</sup>/s) Oct. 2, 1921; minimum daily, 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s) Dec. 28, 29, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,600 ft<sup>3</sup>/s (385 m<sup>3</sup>/s) Feb. 20, gage height, 14.30 ft (4.359 m); minimum, 73 ft<sup>3</sup>/s (2.07 m<sup>3</sup>/s) Sept. 8; minimum daily, 79 ft<sup>3</sup>/s (2.24 m<sup>3</sup>/s) Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN       | FEB    | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|--------|----------|-----------|--------|-------|-------|-------|------|------|------|------|
| 1           | 100   | 195    | 795      | 192       | 141    | 5280  | 499   | 1120  | 465  | 154  | 161  | 87   |
| 2           | 94    | 180    | 544      | 195       | 778    | 4830  | 611   | 939   | 376  | 150  | 137  | 84   |
| 3           | 105   | 177    | 475      | 195       | 1160   | 4270  | 933   | 789   | 303  | 159  | 197  | 89   |
| 4           | 132   | 170    | 437      | 180       | 595    | 3090  | 1120  | 670   | 357  | 182  | 143  | 86   |
| 5           | 145   | 161    | 389      | 173       | 570    | 1670  | 1120  | 590   | 310  | 389  | 197  | 93   |
| 6           | 143   | 148    | 324      | 170       | 544    | 1210  | 1230  | 549   | 267  | 529  | 177  | 79   |
| 7           | 132   | 161    | 310      | 175       | 519    | 945   | 1800  | 451   | 257  | 397  | 170  | 87   |
| 8           | 120   | 150    | 327      | 168       | 529    | 909   | 1460  | 428   | 264  | 273  | 163  | 87   |
| 9           | 107   | 159    | 338      | 170       | 509    | 885   | 1200  | 415   | 236  | 216  | 100  | 156  |
| 10          | 107   | 166    | 415      | 150       | 451    | 850   | 921   | 397   | 257  | 177  | 82   | 264  |
| 11          | 116   | 190    | 433      | 170       | 1320   | 813   | 766   | 737   | 296  | 159  | 140  | 175  |
| 12          | 109   | 192    | 361      | 159       | 3870   | 789   | 681   | 1210  | 233  | 148  | 160  | 141  |
| 13          | 120   | 177    | 303      | 156       | 2930   | 754   | 621   | 927   | 211  | 141  | 150  | 109  |
| 14          | 103   | 148    | 270      | 145       | 2730   | 616   | 692   | 675   | 192  | 163  | 125  | 135  |
| 15          | 122   | 161    | 219      | 141       | 2230   | 549   | 1070  | 653   | 211  | 112  | 100  | 156  |
| 16          | 114   | 145    | 260      | 154       | 1570   | 585   | 885   | 1340  | 219  | 111  | 120  | 203  |
| 17          | 112   | 148    | 251      | 135       | 1050   | 524   | 697   | 1310  | 208  | 109  | 200  | 154  |
| 18          | 126   | 156    | 211      | 150       | 939    | 484   | 703   | 1110  | 185  | 120  | 160  | 150  |
| 19          | 122   | 148    | 233      | 139       | 1030   | 475   | 611   | 983   | 170  | 148  | 130  | 145  |
| 20          | 150   | 166    | 233      | 145       | 4450   | 470   | 565   | 879   | 166  | 137  | 110  | 135  |
| 21          | 139   | 156    | 203      | 145       | 6420   | 442   | 524   | 748   | 195  | 166  | 100  | 139  |
| 22          | 118   | 175    | 211      | 130       | 3330   | 437   | 460   | 585   | 225  | 177  | 95   | 132  |
| 23          | 122   | 163    | 225      | 150       | 3520   | 428   | 470   | 446   | 335  | 182  | 95   | 166  |
| 24          | 111   | 200    | 225      | 139       | 5850   | 368   | 856   | 406   | 324  | 150  | 95   | 161  |
| 25          | 195   | 648    | 211      | 141       | 5190   | 338   | 945   | 357   | 245  | 130  | 93   | 200  |
| 26          | 1220  | 819    | 451      | 132       | 6680   | 361   | 720   | 349   | 346  | 128  | 103  | 185  |
| 27          | 703   | 479    | 260      | 159       | 6110   | 393   | 627   | 306   | 320  | 126  | 93   | 156  |
| 28          | 415   | 549    | 228      | 145       | 5750   | 778   | 554   | 313   | 245  | 122  | 93   | 152  |
| 29          | 286   | 1440   | 230      | 145       | ---    | 856   | 611   | 289   | 185  | 200  | 93   | 154  |
| 30          | 251   | 1120   | 219      | 135       | ---    | 494   | 1240  | 299   | 175  | 236  | 89   | 156  |
| 31          | 219   | ---    | 206      | 132       | ---    | 519   | ---   | 303   | ---  | 195  | 107  | ---  |
| TOTAL       | 6158  | 9047   | 9797     | 4815      | 70765  | 35412 | 25192 | 20573 | 7778 | 5786 | 3978 | 4216 |
| MEAN        | 199   | 302    | 316      | 155       | 2527   | 1142  | 840   | 664   | 259  | 187  | 128  | 141  |
| MAX         | 1220  | 1440   | 795      | 195       | 6680   | 5280  | 1800  | 1340  | 465  | 529  | 200  | 264  |
| MIN         | 94    | 145    | 203      | 130       | 141    | 338   | 460   | 289   | 166  | 109  | 82   | 79   |
| CAL YR 1980 | TOTAL | 264526 | MEAN 723 | MAX 14500 | MIN 87 |       |       |       |      |      |      |      |
| WTR YR 1981 | TOTAL | 203517 | MEAN 558 | MAX 6680  | MIN 79 |       |       |       |      |      |      |      |



## 01183750 CONNECTICUT RIVER AT AGAWAM, MA

LOCATION.--Lat 42°02'57", long 72°36'35", Hampden County, multiple-parameter monitor on right bank at Agawam, MA, 1.4 mi (2.3 km) upstream from Massachusetts-Connecticut State line, and 4.5 mi (7.2 km) upstream from gaging station at Thompsonville, CT.

DRAINAGE AREA.--9,661 mi<sup>2</sup> (25,022 km<sup>2</sup>) at gage at Thompsonville, CT.

PERIOD OF RECORD.--Water years 1969 to December 1980 (discontinued). Prior to October 1971, published as 01184000 Connecticut River at Thompsonville, CT.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1969 to November 1977, July 1979 to December 1980 (discontinued).

pH: January 1969 to August 1976, July 1979 to December 1980 (discontinued).

WATER TEMPERATURES: January 1969 to November 1977, July 1979 to December 1980 (discontinued).

DISSOLVED OXYGEN: January 1969 to November 1977, July 1979 to December 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor January 1969 to December 1980.

REMARKS.--Figures of daily discharge for gaging station at Thompsonville, CT. (station 01184000) are used for this site. No winter records in water years 1973-77, 1979-80. Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORDS.--

SPECIFIC CONDUCTANCE: Maximum recorded, 268 micromhos Feb. 3, 1973; minimum recorded, 41 micromhos Mar. 25, 26, 1980.

pH: Maximum recorded, 9.7 units Aug. 9, 1970; minimum recorded, 5.2 units Mar. 26, 1980.

WATER TEMPERATURES: Maximum recorded, 31.5°C Aug. 16, 1970; minimum recorded, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum recorded, 15.9 mg/L Feb. 17, 1971; minimum recorded, 1.0 mg/L Aug. 20, 1971.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 147 micromhos Nov. 23; minimum recorded, 79 micromhos Dec. 1, 2, 5, 6.

pH: Maximum recorded, 6.7 units Oct. 1; minimum recorded, 5.6 units Nov. 23, 24.

WATER TEMPERATURES: Maximum recorded, 19.5°C Oct. 1, 2, 3, 4; minimum recorded, 1.0°C Dec. 6.

DISSOLVED OXYGEN: Maximum recorded, 12.4 mg/L Nov. 27; minimum recorded, 7.1 mg/L Oct. 3, 4, 5.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 129     | 124 | 126  | 99       | 94  | 95   | 80       | 79  | 80   |         |     |      |
| 2     | 130     | 120 | 126  | 106      | 98  | 101  | 85       | 79  | 81   |         |     |      |
| 3     | 134     | 125 | 129  | 120      | 108 | 113  | 87       | 83  | 85   |         |     |      |
| 4     | 122     | 111 | 118  | 113      | 106 | 109  | 87       | 85  | 86   |         |     |      |
| 5     | 124     | 115 | 120  | 107      | 98  | 101  | 85       | 79  | 81   |         |     |      |
| 6     | 126     | 116 | 120  | 108      | 101 | 104  | 90       | 79  | 83   |         |     |      |
| 7     | 124     | 115 | 118  | 117      | 102 | 107  | 90       | 84  | 88   |         |     |      |
| 8     | 118     | 112 | 115  | 104      | 92  | 100  | 97       | 90  | 93   |         |     |      |
| 9     | 118     | 108 | 114  | 104      | 95  | 99   | 99       | 91  | 96   |         |     |      |
| 10    | 122     | 108 | 115  | 108      | 100 | 105  | 99       | 91  | 95   |         |     |      |
| 11    | 118     | 104 | 113  | 109      | 99  | 104  | ---      | --- | ---  |         |     |      |
| 12    | 122     | 111 | 115  | 110      | 100 | 104  | ---      | --- | ---  |         |     |      |
| 13    | 144     | 121 | 129  | 108      | 95  | 102  | ---      | --- | ---  |         |     |      |
| 14    | 128     | 118 | 124  | 98       | 92  | 96   | ---      | --- | ---  |         |     |      |
| 15    | 130     | 123 | 126  | 112      | 97  | 101  | ---      | --- | ---  |         |     |      |
| 16    | 132     | 124 | 129  | 132      | 108 | 119  | ---      | --- | ---  |         |     |      |
| 17    | 129     | 124 | 126  | 134      | 110 | 122  | ---      | --- | ---  |         |     |      |
| 18    | 126     | 114 | 121  | 116      | 101 | 109  | ---      | --- | ---  |         |     |      |
| 19    | 130     | 119 | 123  | 123      | 113 | 116  | ---      | --- | ---  |         |     |      |
| 20    | 127     | 121 | 125  | 116      | 107 | 111  | ---      | --- | ---  |         |     |      |
| 21    | 126     | 111 | 119  | 123      | 107 | 115  | ---      | --- | ---  |         |     |      |
| 22    | 126     | 109 | 116  | 127      | 110 | 117  | ---      | --- | ---  |         |     |      |
| 23    | 115     | 104 | 109  | 147      | 121 | 133  | ---      | --- | ---  |         |     |      |
| 24    | 109     | 104 | 107  | 145      | 109 | 126  | ---      | --- | ---  |         |     |      |
| 25    | 114     | 103 | 108  | 122      | 109 | 116  | ---      | --- | ---  |         |     |      |
| 26    | 112     | 101 | 108  | 130      | 92  | 106  | ---      | --- | ---  |         |     |      |
| 27    | 100     | 90  | 94   | 93       | 88  | 90   | ---      | --- | ---  |         |     |      |
| 28    | 100     | 93  | 95   | 90       | 86  | 89   | ---      | --- | ---  |         |     |      |
| 29    | 97      | 94  | 96   | 91       | 81  | 88   | ---      | --- | ---  |         |     |      |
| 30    | 97      | 92  | 93   | 83       | 80  | 81   | ---      | --- | ---  |         |     |      |
| 31    | 97      | 92  | 95   | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 144     | 90  | 115  | 147      | 80  | 106  | 99       | 79  | 87   |         |     |      |

## CONNECTICUT RIVER BASIN

01183750 CONNECTICUT RIVER AT AGAWAM, MA--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 6.7     | 6.0 | 6.3  | 6.4      | 6.3 | 6.4  | 6.4      | 6.2 | 6.3  |         |     |      |
| 2     | 6.5     | 6.1 | 6.2  | 6.3      | 6.0 | 6.1  | 6.4      | 6.2 | 6.3  |         |     |      |
| 3     | 6.5     | 6.1 | 6.2  | 6.3      | 5.7 | 6.1  | 6.4      | 6.0 | 6.2  |         |     |      |
| 4     | 6.5     | 6.1 | 6.2  | 6.5      | 6.2 | 6.4  | 6.2      | 6.0 | 6.1  |         |     |      |
| 5     | 6.4     | 6.0 | 6.1  | 6.5      | 6.3 | 6.4  | 6.2      | 6.0 | 6.1  |         |     |      |
| 6     | 6.5     | 6.0 | 6.2  | 6.4      | 6.1 | 6.3  | 6.2      | 6.0 | 6.1  |         |     |      |
| 7     | 6.3     | 6.1 | 6.2  | 6.4      | 6.2 | 6.3  | 6.2      | 6.0 | 6.1  |         |     |      |
| 8     | 6.4     | 6.2 | 6.3  | 6.4      | 6.2 | 6.3  | 6.5      | 6.2 | 6.3  |         |     |      |
| 9     | 6.4     | 6.2 | 6.3  | 6.2      | 6.1 | 6.2  | 6.5      | 6.3 | 6.5  |         |     |      |
| 10    | 6.3     | 6.0 | 6.2  | 6.3      | 6.2 | 6.2  | 6.3      | 6.2 | 6.3  |         |     |      |
| 11    | 6.2     | 6.1 | 6.2  | 6.3      | 6.2 | 6.3  | ---      | --- | ---  |         |     |      |
| 12    | 6.3     | 6.0 | 6.1  | 6.4      | 6.2 | 6.3  | ---      | --- | ---  |         |     |      |
| 13    | 6.1     | 5.8 | 5.9  | 6.4      | 6.2 | 6.3  | ---      | --- | ---  |         |     |      |
| 14    | 6.2     | 5.8 | 6.0  | 6.5      | 6.3 | 6.4  | ---      | --- | ---  |         |     |      |
| 15    | 6.3     | 6.0 | 6.1  | 6.3      | 6.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 16    | 6.5     | 6.1 | 6.2  | 6.1      | 5.9 | 6.0  | ---      | --- | ---  |         |     |      |
| 17    | 6.5     | 6.1 | 6.3  | 6.2      | 5.8 | 6.0  | ---      | --- | ---  |         |     |      |
| 18    | 6.4     | 6.2 | 6.3  | 6.3      | 6.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 19    | 6.4     | 6.1 | 6.2  | 6.3      | 6.2 | 6.2  | ---      | --- | ---  |         |     |      |
| 20    | 6.4     | 6.0 | 6.2  | 6.4      | 6.0 | 6.2  | ---      | --- | ---  |         |     |      |
| 21    | 6.3     | 6.2 | 6.2  | 6.3      | 6.0 | 6.2  | ---      | --- | ---  |         |     |      |
| 22    | 6.4     | 6.2 | 6.3  | 6.3      | 6.2 | 6.2  | ---      | --- | ---  |         |     |      |
| 23    | 6.4     | 6.2 | 6.3  | 6.1      | 5.6 | 5.8  | ---      | --- | ---  |         |     |      |
| 24    | 6.4     | 6.2 | 6.3  | 6.3      | 5.6 | 6.0  | ---      | --- | ---  |         |     |      |
| 25    | 6.4     | 6.3 | 6.4  | 6.4      | 6.3 | 6.3  | ---      | --- | ---  |         |     |      |
| 26    | 6.4     | 6.3 | 6.4  | 6.3      | 6.2 | 6.3  | ---      | --- | ---  |         |     |      |
| 27    | 6.4     | 6.3 | 6.3  | 6.2      | 6.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 28    | 6.3     | 6.2 | 6.3  | 6.3      | 6.2 | 6.2  | ---      | --- | ---  |         |     |      |
| 29    | 6.4     | 6.2 | 6.3  | 6.3      | 6.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 30    | 6.4     | 6.2 | 6.3  | 6.2      | 6.1 | 6.2  | ---      | --- | ---  |         |     |      |
| 31    | 6.5     | 6.2 | 6.4  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 6.7     | 5.8 | 6.2  | 6.5      | 5.6 | 6.2  | 6.5      | 6.0 | 6.2  |         |     |      |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 19.5    | 17.0 | 18.5 | 9.0      | 8.0 | 8.5  | 4.0      | 3.0 | 3.5  |         |     |      |
| 2     | 19.5    | 18.0 | 18.5 | 9.5      | 7.5 | 8.0  | 4.5      | 3.5 | 4.0  |         |     |      |
| 3     | 19.5    | 18.0 | 18.5 | 8.5      | 6.5 | 7.5  | 4.5      | 3.5 | 4.0  |         |     |      |
| 4     | 19.5    | 17.5 | 18.5 | 9.0      | 8.0 | 8.5  | 3.5      | 2.5 | 3.0  |         |     |      |
| 5     | 18.5    | 17.0 | 17.5 | 9.0      | 8.0 | 8.5  | 2.5      | 1.5 | 2.0  |         |     |      |
| 6     | 18.0    | 16.5 | 17.0 | 8.5      | 7.5 | 8.0  | 2.0      | 1.0 | 1.5  |         |     |      |
| 7     | 17.0    | 16.5 | 16.5 | 9.5      | 8.0 | 8.5  | 2.0      | 1.5 | 2.0  |         |     |      |
| 8     | 17.0    | 16.0 | 16.5 | 9.5      | 8.0 | 8.5  | 3.0      | 2.0 | 2.5  |         |     |      |
| 9     | 17.0    | 15.5 | 16.0 | 8.0      | 8.0 | 8.0  | 4.0      | 2.5 | 3.0  |         |     |      |
| 10    | 17.0    | 14.5 | 15.5 | 8.0      | 7.0 | 7.5  | 3.5      | 2.5 | 3.0  |         |     |      |
| 11    | 15.5    | 15.0 | 15.5 | 7.0      | 6.5 | 7.0  | ---      | --- | ---  |         |     |      |
| 12    | 16.5    | 14.0 | 15.5 | 7.0      | 6.0 | 6.5  | ---      | --- | ---  |         |     |      |
| 13    | 16.0    | 13.0 | 14.0 | 7.0      | 6.0 | 6.5  | ---      | --- | ---  |         |     |      |
| 14    | 15.0    | 12.5 | 13.5 | 7.0      | 6.5 | 7.0  | ---      | --- | ---  |         |     |      |
| 15    | 15.0    | 12.5 | 13.5 | 7.5      | 6.5 | 7.0  | ---      | --- | ---  |         |     |      |
| 16    | 15.0    | 13.0 | 14.0 | 8.5      | 5.5 | 6.5  | ---      | --- | ---  |         |     |      |
| 17    | 15.5    | 13.5 | 14.5 | 6.5      | 5.0 | 6.0  | ---      | --- | ---  |         |     |      |
| 18    | 16.0    | 15.0 | 15.5 | 5.5      | 4.5 | 5.0  | ---      | --- | ---  |         |     |      |
| 19    | 16.5    | 14.5 | 15.5 | 5.0      | 4.5 | 5.0  | ---      | --- | ---  |         |     |      |
| 20    | 16.0    | 14.0 | 14.5 | 5.0      | 4.5 | 4.5  | ---      | --- | ---  |         |     |      |
| 21    | 14.0    | 13.5 | 13.5 | 5.0      | 4.0 | 4.5  | ---      | --- | ---  |         |     |      |
| 22    | 14.5    | 12.5 | 13.0 | 5.0      | 4.5 | 4.5  | ---      | --- | ---  |         |     |      |
| 23    | 13.0    | 11.5 | 12.5 | 5.5      | 4.0 | 4.5  | ---      | --- | ---  |         |     |      |
| 24    | 12.5    | 11.5 | 12.0 | 6.0      | 4.5 | 5.0  | ---      | --- | ---  |         |     |      |
| 25    | 12.0    | 11.0 | 11.5 | 6.0      | 5.0 | 5.5  | ---      | --- | ---  |         |     |      |
| 26    | 11.5    | 10.5 | 11.0 | 5.0      | 3.5 | 4.0  | ---      | --- | ---  |         |     |      |
| 27    | 11.0    | 10.0 | 10.5 | 3.5      | 2.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 28    | 10.0    | 9.5  | 10.0 | 3.5      | 3.0 | 3.5  | ---      | --- | ---  |         |     |      |
| 29    | 10.0    | 9.0  | 9.5  | 3.5      | 3.0 | 3.0  | ---      | --- | ---  |         |     |      |
| 30    | 9.0     | 8.5  | 8.5  | 3.5      | 2.5 | 3.0  | ---      | --- | ---  |         |     |      |
| 31    | 9.5     | 8.0  | 9.0  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 19.5    | 8.0  | 14.0 | 9.5      | 2.5 | 6.0  | 4.5      | 1.0 | 3.0  |         |     |      |

## CONNECTICUT RIVER BASIN

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01183750 CONNECTICUT RIVER AT AGAWAM, MA--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN  | MEAN | MAX      | MIN  | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|------|------|----------|------|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |      |      | DECEMBER |      |      | JANUARY |     |      |
| 1     | 9.9     | 7.2  | 8.2  | 10.7     | 10.2 | 10.5 | 11.9     | 11.8 | 11.8 |         |     |      |
| 2     | 9.3     | 7.2  | 8.0  | 10.4     | 9.2  | 9.7  | 11.8     | 11.6 | 11.7 |         |     |      |
| 3     | 9.3     | 7.1  | 7.9  | 10.7     | 8.2  | 9.8  | 11.6     | 11.1 | 11.4 |         |     |      |
| 4     | 9.1     | 7.1  | 7.7  | 10.8     | 10.1 | 10.4 | 11.7     | 11.1 | 11.4 |         |     |      |
| 5     | 8.8     | 7.1  | 7.8  | 10.8     | 10.3 | 10.5 | 12.3     | 11.7 | 12.0 |         |     |      |
| 6     | 9.4     | 7.2  | 8.1  | 10.9     | 10.1 | 10.5 | 12.3     | 12.2 | 12.2 |         |     |      |
| 7     | 8.8     | 7.7  | 8.2  | 10.8     | 10.0 | 10.4 | 12.2     | 12.1 | 12.1 |         |     |      |
| 8     | 8.9     | 8.1  | 8.5  | 10.4     | 10.0 | 10.2 | 12.0     | 11.6 | 11.8 |         |     |      |
| 9     | 9.0     | 8.1  | 8.5  | 10.3     | 10.0 | 10.2 | 11.6     | 11.2 | 11.4 |         |     |      |
| 10    | 9.6     | 7.9  | 8.6  | 10.6     | 10.0 | 10.3 | 11.2     | 11.1 | 11.2 |         |     |      |
| 11    | 8.5     | 7.8  | 8.2  | 11.0     | 10.6 | 10.8 | ---      | ---  | ---  |         |     |      |
| 12    | 9.0     | 7.4  | 8.2  | 11.5     | 10.9 | 11.2 | ---      | ---  | ---  |         |     |      |
| 13    | 10.2    | 7.3  | 8.4  | 11.8     | 11.3 | 11.6 | ---      | ---  | ---  |         |     |      |
| 14    | 10.2    | 7.6  | 8.6  | 11.7     | 11.2 | 11.4 | ---      | ---  | ---  |         |     |      |
| 15    | 9.6     | 8.0  | 8.6  | 11.8     | 10.9 | 11.3 | ---      | ---  | ---  |         |     |      |
| 16    | 10.4    | 8.0  | 8.8  | 11.6     | 9.9  | 10.7 | ---      | ---  | ---  |         |     |      |
| 17    | 9.9     | 8.0  | 8.7  | 11.4     | 10.3 | 10.9 | ---      | ---  | ---  |         |     |      |
| 18    | 9.0     | 8.1  | 8.6  | 12.1     | 11.2 | 11.6 | ---      | ---  | ---  |         |     |      |
| 19    | 9.3     | 7.4  | 8.2  | 12.2     | 11.6 | 11.9 | ---      | ---  | ---  |         |     |      |
| 20    | 9.7     | 7.5  | 8.4  | 12.3     | 11.5 | 11.9 | ---      | ---  | ---  |         |     |      |
| 21    | 9.2     | 7.9  | 8.5  | 12.3     | 11.2 | 11.7 | ---      | ---  | ---  |         |     |      |
| 22    | 9.3     | 8.2  | 8.9  | 12.0     | 11.3 | 11.6 | ---      | ---  | ---  |         |     |      |
| 23    | 9.8     | 8.9  | 9.4  | 11.5     | 9.6  | 10.7 | ---      | ---  | ---  |         |     |      |
| 24    | 10.0    | 9.6  | 9.8  | 11.4     | 9.1  | 10.5 | ---      | ---  | ---  |         |     |      |
| 25    | 9.8     | 9.6  | 9.7  | 11.5     | 10.6 | 11.1 | ---      | ---  | ---  |         |     |      |
| 26    | 10.1    | 9.6  | 9.9  | 12.2     | 11.3 | 11.8 | ---      | ---  | ---  |         |     |      |
| 27    | 10.4    | 10.0 | 10.2 | 12.4     | 12.0 | 12.2 | ---      | ---  | ---  |         |     |      |
| 28    | 10.1    | 9.8  | 10.0 | 12.3     | 12.0 | 12.1 | ---      | ---  | ---  |         |     |      |
| 29    | 10.3    | 9.9  | 10.1 | 12.1     | 11.7 | 11.9 | ---      | ---  | ---  |         |     |      |
| 30    | 10.5    | 10.2 | 10.4 | 12.0     | 11.8 | 11.9 | ---      | ---  | ---  |         |     |      |
| 31    | 10.8    | 10.4 | 10.5 | ---      | ---  | ---  | ---      | ---  | ---  |         |     |      |
| MONTH | 10.8    | 7.1  | 8.8  | 12.4     | 8.2  | 11.0 | 12.3     | 11.1 | 11.7 |         |     |      |

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT  
(National stream-quality accounting network and radiochemical station)

LOCATION.--Lat 41°59'14", long 72°36'21", Hartford County, Hydrologic Unit 01080205, on right bank just upstream from Enfield Dam, 1 mi (2 km) downstream from Thompsonville, 3 mi (5 km) downstream from Massachusetts-Connecticut State line, and at mile 68.2 (109.7 km).

DRAINAGE AREA.--9,661 mi<sup>2</sup> (25,022 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1928 to current year.

REVISED RECORDS.--WSP 741: 1932. WSP 891: Drainage area. WDR CT-77-1: 1976.

GAGE.--Water-stage recorders on river and on canal of Connecticut Light and Power Co. Datum of gage is 38.48 ft (11.729 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Discharge includes water diverted around station by canal of Connecticut Light and Power Co. Flow regulated by powerplants, by diversion from Chicopee River basin, and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, Quabbin Reservoir (Reservoirs in Connecticut River basin), and other reservoirs, combined usable capacity, about 107 billion cu ft (3.03 billion cu m). Records of chemical analyses and water temperatures for the current year for station 01183750 (Connecticut River at Agawam, MA), 4.5 mi (7.2 km) upstream, are also published in this report.

AVERAGE DISCHARGE.--53 years, 16,350 ft<sup>3</sup>/s (463.0 m<sup>3</sup>/s), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 282,000 ft<sup>3</sup>/s (7,990 m<sup>3</sup>/s) Mar. 20, 1936, gage height, 16.6 ft (5.06 m), from floodmarks; minimum daily, 968 ft<sup>3</sup>/s (27.4 m<sup>3</sup>/s) Oct. 20, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 113,000 ft<sup>3</sup>/s (3,200 m<sup>3</sup>/s) Feb. 26, gage height, 6.88 ft (2.097 m); minimum daily, 2,100 ft<sup>3</sup>/s (59.5 m<sup>3</sup>/s) Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT    | NOV     | DEC    | JAN    | FEB     | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    |
|-------------|--------|---------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|
| 1           | 7180   | 12000   | 20400  | 6070   | 3100    | 67600  | 40200  | 23100  | 11200  | 8240   | 9400   | 4450   |
| 2           | 8680   | 5520    | 19900  | 5230   | 4950    | 58700  | 42000  | 20600  | 13400  | 7630   | 4000   | 6800   |
| 3           | 7460   | 4920    | 17700  | 5910   | 15400   | 53200  | 40800  | 17400  | 13700  | 5490   | 4470   | 7290   |
| 4           | 8700   | 7990    | 18200  | 4650   | 17700   | 41100  | 40400  | 15700  | 14000  | 4350   | 7460   | 6260   |
| 5           | 8770   | 10400   | 21600  | 4100   | 17600   | 31500  | 33700  | 17200  | 13600  | 5000   | 8000   | 4830   |
| 6           | 8070   | 7870    | 19400  | 7080   | 15200   | 24100  | 34100  | 18800  | 13100  | 7470   | 6810   | 3840   |
| 7           | 10600  | 6460    | 15500  | 7080   | 14400   | 23800  | 37600  | 15000  | 12700  | 12400  | 7460   | 3250   |
| 8           | 11500  | 8120    | 12500  | 5830   | 9780    | 21900  | 33500  | 14300  | 9390   | 11900  | 10500  | 4230   |
| 9           | 9390   | 9560    | 12100  | 5160   | 8640    | 21200  | 28300  | 13900  | 11700  | 10800  | 9780   | 5910   |
| 10          | 7470   | 8910    | 13500  | 5050   | 10500   | 20900  | 26700  | 10900  | 13200  | 9330   | 8270   | 7050   |
| 11          | 7920   | 9540    | 15800  | 4010   | 12400   | 21700  | 25800  | 9360   | 12400  | 5910   | 8660   | 8360   |
| 12          | 7480   | 9590    | 15300  | 4600   | 40400   | 20800  | 24500  | 16600  | 13400  | 3750   | 10200  | 5690   |
| 13          | 4810   | 9810    | 13500  | 5650   | 44200   | 18700  | 23500  | 21500  | 13300  | 4140   | 10900  | 4150   |
| 14          | 4710   | 9570    | 9690   | 5830   | 39900   | 18600  | 21400  | 30200  | 13100  | 7540   | 8940   | 4520   |
| 15          | 5880   | 7370    | 7390   | 5710   | 30400   | 18200  | 24700  | 27300  | 12700  | 6420   | 8040   | 9260   |
| 16          | 5950   | 4880    | 10000  | 5530   | 26900   | 17800  | 23200  | 27000  | 12400  | 4780   | 8090   | 9960   |
| 17          | 6540   | 6250    | 10200  | 4900   | 22200   | 17000  | 23100  | 30800  | 10700  | 3240   | 13700  | 9180   |
| 18          | 7390   | 10300   | 9720   | 4050   | 19100   | 16700  | 21600  | 30100  | 9280   | 2420   | 18000  | 5800   |
| 19          | 6830   | 10400   | 11400  | 4100   | 21500   | 16000  | 19000  | 26200  | 8490   | 2660   | 19700  | 3540   |
| 20          | 5820   | 8060    | 11300  | 4750   | 31400   | 15600  | 19100  | 24500  | 6380   | 3780   | 18900  | 2100   |
| 21          | 7640   | 7800    | 6870   | 5000   | 69600   | 13700  | 20800  | 23200  | 4990   | 8870   | 15600  | 4000   |
| 22          | 8720   | 8200    | 6240   | 4900   | 70200   | 11600  | 17200  | 20500  | 7410   | 9400   | 14300  | 7320   |
| 23          | 9340   | 4240    | 8680   | 4500   | 69800   | 10600  | 18600  | 16600  | 10800  | 6350   | 8620   | 14400  |
| 24          | 10000  | 5000    | 8950   | 4650   | 80200   | 10000  | 21700  | 14700  | 11400  | 5760   | 4500   | 27800  |
| 25          | 10900  | 10900   | 8310   | 4310   | 98300   | 12600  | 20100  | 9980   | 9240   | 3890   | 7970   | 31000  |
| 26          | 13400  | 16300   | 8800   | 4350   | 111000  | 13000  | 23600  | 9390   | 10000  | 2840   | 9100   | 28300  |
| 27          | 13500  | 16400   | 8440   | 5250   | 106000  | 14400  | 25800  | 12300  | 10900  | 4290   | 9820   | 22300  |
| 28          | 12800  | 17300   | 5740   | 5790   | 84100   | 15000  | 22800  | 14400  | 10700  | 7780   | 6170   | 18900  |
| 29          | 14000  | 20700   | 6070   | 4600   | ---     | 15200  | 21600  | 13300  | 8780   | 8410   | 7860   | 18300  |
| 30          | 14200  | 20400   | 8240   | 4210   | ---     | 16800  | 22300  | 10800  | 9690   | 10400  | 4270   | 20300  |
| 31          | 13900  | ---     | 7380   | 3710   | ---     | 28300  | ---    | 6790   | ---    | 12000  | 3690   | ---    |
| TOTAL       | 279550 | 294760  | 368820 | 156560 | 1094870 | 706300 | 797700 | 562420 | 332050 | 207240 | 293180 | 309090 |
| MEAN        | 9018   | 9825    | 11900  | 5050   | 39100   | 22780  | 26590  | 18140  | 11070  | 6685   | 9457   | 10300  |
| MAX         | 14200  | 20700   | 21600  | 7080   | 111000  | 67600  | 42000  | 30800  | 14000  | 12400  | 19700  | 31000  |
| MIN         | 4710   | 4240    | 5740   | 3710   | 3100    | 10000  | 17200  | 6790   | 4990   | 2420   | 3690   | 2100   |
| CAL YR 1980 | TOTAL  | 4648380 | MEAN   | 12700  | MAX     | 85100  | MIN    | 1810   |        |        |        |        |
| WTR YR 1981 | TOTAL  | 5402540 | MEAN   | 14800  | MAX     | 111000 | MIN    | 2100   |        |        |        |        |

## 01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN.--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956, 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1955 to September 1956, October 1973 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1973.

REMARKS.--Interruptions in the record are due to malfunctions of the instrument. Instantaneous records are representative of the cross section while continuous records are based on point samples. The instantaneous record values will not necessarily fall within the corresponding daily range of the continuous records.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 206 micromhos Jan. 22, 1979; minimum, 46 micromhos Apr. 2, 1977.

WATER TEMPERATURES: Maximum, 36.5°C Aug. 30, 1977; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 192 micromhos Sept. 27; minimum, 47 micromhos Jan. 15.

WATER TEMPERATURES: Maximum, 29.0°C July 11; minimum, 0.0°C on many days during winter period.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE  | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(UMHOS) | PH<br>(UNITS) | TEMPER-<br>ATURE,<br>AIR<br>(DEG C) | TEMPER-<br>ATURE<br>(DEG C) | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS) | TUR-<br>BID-<br>ITY<br>(NTU) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L) | OXYGEN,<br>DIS-<br>SOLVED<br>(PER-<br>CENT<br>SATUR-<br>ATION) | COLI-<br>FORM,<br>TOTAL,<br>IMMED.<br>(COLS.<br>PER<br>100 ML) |
|-------|------|-------------------------------------------------|---------------------------------------------------|---------------|-------------------------------------|-----------------------------|----------------------------------------------|------------------------------|-------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|
| OCT   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 23... | 1015 | 9530                                            | 123                                               | 6.8           | 7.0                                 | 12.0                        | 15                                           | 3.0                          | 8.6                                 | 77                                                             | 20000                                                          |
| NOV   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 18... | 1015 | 9360                                            | 111                                               | 6.9           | .5                                  | 4.5                         | 10                                           | 2.0                          | 10.4                                | 81                                                             | 80000                                                          |
| DEC   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 16... | 0915 | 9820                                            | 110                                               | 6.8           | -1.5                                | 1.0                         | 15                                           | 4.0                          | 13.4                                | 94                                                             | 26000                                                          |
| JAN   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 14... | 0930 | 5400                                            | 130                                               | 7.5           | <-5.0                               | .0                          | 10                                           | 2.0                          | 11.9                                | 82                                                             | 80000                                                          |
| FEB   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 13... | 1045 | 43600                                           | 102                                               | 6.6           | -4.0                                | 1.0                         | 15                                           | 23                           | 14.2                                | 100                                                            | --                                                             |
| MAR   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 12... | 0930 | 21100                                           | 96                                                | 6.9           | 4.5                                 | 3.5                         | 10                                           | 2.0                          | 12.6                                | 88                                                             | --                                                             |
| APR   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 14... | 1000 | 20600                                           | 92                                                | 6.9           | 8.0                                 | 9.0                         | 10                                           | 3.0                          | 11.8                                | 101                                                            | --                                                             |
| MAY   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 13... | 0930 | 20400                                           | 100                                               | 7.0           | 14.0                                | 14.5                        | 8                                            | 1.0                          | 9.2                                 | 89                                                             | --                                                             |
| JUN   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 15... | 1115 | 12700                                           | 112                                               | 6.9           | 23.0                                | 20.5                        | 3                                            | 2.0                          | 7.7                                 | 85                                                             | --                                                             |
| JUL   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 08... | 0945 | 12500                                           | 109                                               | 6.5           | 31.5                                | 26.0                        | 5                                            | 2.0                          | 7.1                                 | 87                                                             | --                                                             |
| AUG   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 06... | 0930 | 5680                                            | 130                                               | 6.8           | 23.5                                | 26.0                        | 0                                            | 5.0                          | 7.4                                 | 91                                                             | --                                                             |
| SEP   |      |                                                 |                                                   |               |                                     |                             |                                              |                              |                                     |                                                                |                                                                |
| 03... | 0930 | 5590                                            | 112                                               | 6.9           | 18.5                                | 21.5                        | 8                                            | 3.0                          | 7.3                                 | 82                                                             | --                                                             |

| DATE  | COLI-<br>FORM,<br>FECAL,<br>0.45<br>UM-MF<br>(COLS./<br>100 ML) | STREP-<br>TOCOCCI<br>FECAL,<br>KF AGAR<br>(COLS.<br>PER<br>100 ML) | HARD-<br>NESS<br>(MG/L<br>AS<br>CAC03) | HARD-<br>NESS<br>NONCAR-<br>BONATE<br>(MG/L<br>AS<br>CAC03) | CALCIUM<br>DIS-<br>SOLVED<br>(MG/L<br>AS CA) | MAGNE-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS MG) | SODIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS NA) | PERCENT<br>SODIUM | SODIUM<br>AD-<br>SORP-<br>TION<br>RATIO | POTAS-<br>SIUM,<br>DIS-<br>SOLVED<br>(MG/L<br>AS K) | ALKA-<br>LINITY<br>LAB<br>(MG/L<br>AS<br>CAC03) |
|-------|-----------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------|----------------------------------------------|------------------------------------------------------|----------------------------------------------|-------------------|-----------------------------------------|-----------------------------------------------------|-------------------------------------------------|
| OCT   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 23... | 3800                                                            | 230                                                                | 39                                     | 15                                                          | 13                                           | 1.6                                                  | 6.4                                          | 25                | .4                                      | 1.5                                                 | 24                                              |
| NOV   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 18... | 4500                                                            | 1200                                                               | 37                                     | 14                                                          | 12                                           | 1.8                                                  | 7.6                                          | 30                | .5                                      | 1.6                                                 | 23                                              |
| DEC   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 16... | 3400                                                            | 1300                                                               | 34                                     | 13                                                          | 11                                           | 1.5                                                  | 6.7                                          | 29                | .5                                      | 1.2                                                 | 21                                              |
| JAN   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 14... | 10000                                                           | --                                                                 | 40                                     | 17                                                          | 13                                           | 1.8                                                  | 7.4                                          | 28                | .5                                      | 1.4                                                 | 23                                              |
| FEB   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 13... | 1100                                                            | 3800                                                               | 23                                     | 11                                                          | 7.2                                          | 1.2                                                  | 7.9                                          | 41                | .7                                      | 1.7                                                 | 12                                              |
| MAR   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 12... | 1200                                                            | 800                                                                | 30                                     | --                                                          | 9.6                                          | 1.5                                                  | 5.1                                          | 26                | .4                                      | 1.1                                                 | 22                                              |
| APR   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 14... | 1600                                                            | 1100                                                               | 36                                     | 15                                                          | 12                                           | 1.4                                                  | 5.4                                          | 24                | .4                                      | 1.1                                                 | 21                                              |
| MAY   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 13... | 1200                                                            | 88                                                                 | 34                                     | 4.0                                                         | 11                                           | 1.5                                                  | 6.1                                          | 27                | .5                                      | 1.1                                                 | 30                                              |
| JUN   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 15... | 2600                                                            | 140                                                                | 36                                     | 8.0                                                         | 12                                           | 1.5                                                  | 5.3                                          | 23                | .4                                      | 1.4                                                 | 28                                              |
| JUL   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 08... | 5800                                                            | 22000                                                              | 34                                     | 8.0                                                         | 11                                           | 1.5                                                  | 7.2                                          | 31                | .5                                      | 1.4                                                 | 26                                              |
| AUG   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 06... | 320                                                             | 440                                                                | 40                                     | 15                                                          | 13                                           | 1.8                                                  | 9.5                                          | 33                | .7                                      | 1.8                                                 | 25                                              |
| SEP   |                                                                 |                                                                    |                                        |                                                             |                                              |                                                      |                                              |                   |                                         |                                                     |                                                 |
| 03... | 4800                                                            | 120                                                                | 37                                     | 12                                                          | 11                                           | 2.4                                                  | 6.8                                          | 27                | .5                                      | 1.4                                                 | 25                                              |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.



## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | SULFATE<br>DIS-<br>SOLVED<br>(MG/L<br>AS SO4) | CHLO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS CL) | FLUO-<br>RIDE,<br>DIS-<br>SOLVED<br>(MG/L<br>AS F) | SILICA,<br>DIS-<br>SOLVED<br>(MG/L<br>AS<br>SiO2) | SOLIDS,<br>RESIDUE<br>AT 180<br>DEG. C<br>DIS-<br>SOLVED<br>(MG/L) | SOLIDS,<br>SUM OF<br>CONSTITUENTS,<br>DIS-<br>SOLVED<br>(MG/L) | SOLIDS,<br>DIS-<br>SOLVED<br>(TONS<br>PER<br>AC-FT) | SOLIDS,<br>DIS-<br>SOLVED<br>(TONS<br>PER<br>DAY) | SOLIDS,<br>RESIDUE<br>AT 105<br>DEG. C,<br>TOTAL<br>(MG/L) | NITRO-<br>GEN,<br>NITRATE<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NITRITE<br>TOTAL<br>(MG/L<br>AS N) |
|-----------|-----------------------------------------------|-----------------------------------------------------|----------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------|------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| OCT 23... | 12                                            | 9.3                                                 | .1                                                 | 5.0                                               | 75                                                                 | 65                                                             | .10                                                 | 1930                                              | 79                                                         | .33                                                  | .010                                                 |
| NOV 18... | 11                                            | 11                                                  | .1                                                 | 5.6                                               | 74                                                                 | 67                                                             | .10                                                 | 1870                                              | 84                                                         | .44                                                  | .010                                                 |
| DEC 16... | 11                                            | 9.6                                                 | <.1                                                | 6.2                                               | 62                                                                 | 62                                                             | .08                                                 | 1640                                              | 68                                                         | --                                                   | <.010                                                |
| JAN 14... | 13                                            | 10                                                  | <.1                                                | 7.2                                               | 87                                                                 | 70                                                             | .12                                                 | 1270                                              | 82                                                         | --                                                   | <.010                                                |
| FEB 13... | 8.4                                           | 13                                                  | <.1                                                | 4.0                                               | 66                                                                 | 53                                                             | .09                                                 | 7770                                              | 68                                                         | --                                                   | <.010                                                |
| MAR 12... | 9.3                                           | 7.9                                                 | <.1                                                | 5.3                                               | 58                                                                 | 55                                                             | .08                                                 | 3300                                              | 63                                                         | --                                                   | --                                                   |
| APR 14... | 9.3                                           | 7.2                                                 | <.1                                                | 6.0                                               | 64                                                                 | 57                                                             | .09                                                 | 3560                                              | 73                                                         | --                                                   | <.010                                                |
| MAY 13... | 10                                            | 8.8                                                 | <.1                                                | 5.0                                               | 67                                                                 | 63                                                             | .09                                                 | 3690                                              | 83                                                         | --                                                   | <.010                                                |
| JUN 15... | 9.5                                           | 8.3                                                 | <.1                                                | 4.6                                               | 74                                                                 | 61                                                             | .10                                                 | 2540                                              | 78                                                         | .32                                                  | .020                                                 |
| JUL 08... | 10                                            | 9.1                                                 | <.1                                                | 4.9                                               | 68                                                                 | 63                                                             | .09                                                 | 2300                                              | 74                                                         | .34                                                  | .010                                                 |
| AUG 06... | 11                                            | 12                                                  | .1                                                 | 3.5                                               | 85                                                                 | 69                                                             | .12                                                 | 1300                                              | 86                                                         | .27                                                  | .010                                                 |
| SEP 03... | 9.3                                           | 10                                                  | .1                                                 | 4.3                                               | 68                                                                 | 62                                                             | .09                                                 | 1030                                              | 84                                                         | --                                                   | <.010                                                |

| DATE      | NITRO-<br>GEN,<br>NO2+NO3<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>NO2+NO3<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS NH4) | NITRO-<br>GEN,<br>AMMONIA<br>DIS-<br>SOLVED<br>(MG/L<br>AS NH4) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>ORGANIC<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,AM-<br>MONIA +<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,NH4<br>+ ORG.<br>SUSP.<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN,AM-<br>MONIA +<br>ORGANIC<br>DIS-<br>TOTAL<br>(MG/L<br>AS N) |
|-----------|------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------|
| OCT 23... | .34                                                  | .32                                                           | .060                                                 | .060                                                          | .07                                                    | .08                                                             | .26                                                  | .16                                                           | .32                                                                | .10                                                             | .22                                                                        |
| NOV 18... | .45                                                  | .48                                                           | .170                                                 | .130                                                          | .21                                                    | .17                                                             | .31                                                  | .22                                                           | .48                                                                | .08                                                             | .35                                                                        |
| DEC 16... | .44                                                  | .44                                                           | .800                                                 | .090                                                          | .04                                                    | .12                                                             | .00                                                  | .18                                                           | .36                                                                | .09                                                             | .27                                                                        |
| JAN 14... | .54                                                  | .54                                                           | .340                                                 | .250                                                          | .41                                                    | .32                                                             | .20                                                  | .00                                                           | .54                                                                | .29                                                             | .25                                                                        |
| FEB 13... | .49                                                  | .53                                                           | .150                                                 | .140                                                          | --                                                     | .18                                                             | 1.4                                                  | .35                                                           | 1.50                                                               | 1.0                                                             | .49                                                                        |
| MAR 12... | .45                                                  | .47                                                           | .050                                                 | .090                                                          | --                                                     | .12                                                             | .21                                                  | .14                                                           | .26                                                                | .03                                                             | .23                                                                        |
| APR 14... | .37                                                  | .37                                                           | .090                                                 | .100                                                          | --                                                     | .13                                                             | .30                                                  | .28                                                           | .39                                                                | .01                                                             | .38                                                                        |
| MAY 13... | .31                                                  | .31                                                           | .080                                                 | .110                                                          | --                                                     | .14                                                             | .66                                                  | .54                                                           | .74                                                                | .09                                                             | .65                                                                        |
| JUN 15... | .34                                                  | .35                                                           | .110                                                 | .110                                                          | --                                                     | .14                                                             | .74                                                  | .35                                                           | .85                                                                | .39                                                             | .46                                                                        |
| JUL 08... | .35                                                  | .36                                                           | .050                                                 | .050                                                          | --                                                     | .06                                                             | .54                                                  | .31                                                           | .59                                                                | .23                                                             | .36                                                                        |
| AUG 06... | .28                                                  | .28                                                           | .130                                                 | .110                                                          | --                                                     | .14                                                             | .49                                                  | .34                                                           | .62                                                                | .17                                                             | .45                                                                        |
| SEP 03... | .32                                                  | .33                                                           | .100                                                 | .100                                                          | --                                                     | .13                                                             | .54                                                  | .36                                                           | .64                                                                | .18                                                             | .46                                                                        |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.

## CONNECTICUT RIVER BASIN

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01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS N) | NITRO-<br>GEN<br>DIS-<br>SOLVED<br>(MG/L<br>AS N) | NITRO-<br>GEN,<br>TOTAL<br>(MG/L<br>AS NO3) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P) | PHOS-<br>PHORUS<br>TOTAL<br>(MG/L<br>AS P04) | PHOS-<br>PHORUS,<br>DIS-<br>SOLVED<br>(MG/L<br>AS P) | ARSENIC<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>SUS-<br>PENDE<br>TOTAL<br>(UG/L<br>AS AS) | ARSENIC<br>DIS-<br>SOLVED<br>(UG/L<br>AS AS) | BARIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) | BARIUM,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS BA) |
|-----------|-------------------------------------------|---------------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------|------------------------------------------------------|-------------------------------------|------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|
| OCT 23... | .66                                       | .54                                               | 2.9                                         | .070                                        | .21                                          | .050                                                 | --                                  | --                                                   | --                                           | --                                                      | --                                                              |
| NOV 18... | .93                                       | .84                                               | 4.1                                         | .090                                        | .28                                          | .050                                                 | 0                                   | 0                                                    | 0                                            | 100                                                     | 80                                                              |
| DEC 16... | .80                                       | .71                                               | 3.5                                         | .050                                        | .15                                          | .030                                                 | --                                  | --                                                   | --                                           | --                                                      | --                                                              |
| JAN 14... | 1.1                                       | .79                                               | 4.8                                         | .230                                        | .71                                          | .220                                                 | 0                                   | 0                                                    | 1                                            | <50                                                     | --                                                              |
| FEB 13... | 2.0                                       | 1.0                                               | 8.8                                         | .290                                        | .89                                          | .040                                                 | --                                  | --                                                   | --                                           | --                                                      | --                                                              |
| MAR 12... | .71                                       | .70                                               | 3.1                                         | .030                                        | .09                                          | .020                                                 | --                                  | --                                                   | --                                           | --                                                      | --                                                              |
| APR 14... | .76                                       | .75                                               | 3.4                                         | .050                                        | .15                                          | .030                                                 | --                                  | --                                                   | --                                           | --                                                      | --                                                              |
| MAY 13... | 1.1                                       | .96                                               | 4.6                                         | .040                                        | .12                                          | .020                                                 | 0                                   | 0                                                    | 0                                            | 100                                                     | 80                                                              |
| JUN 15... | 1.2                                       | .81                                               | 5.3                                         | .070                                        | .21                                          | .010                                                 | --                                  | --                                                   | --                                           | --                                                      | --                                                              |
| JUL 08... | .94                                       | .72                                               | 4.2                                         | <.010                                       | .03                                          | <.010                                                | 1                                   | 1                                                    | 0                                            | 100                                                     | 80                                                              |
| AUG 06... | .90                                       | .73                                               | 4.0                                         | .150                                        | .46                                          | .120                                                 | --                                  | --                                                   | --                                           | --                                                      | --                                                              |
| SEP 03... | .96                                       | .79                                               | 4.3                                         | .110                                        | .34                                          | .080                                                 | --                                  | --                                                   | --                                           | --                                                      | --                                                              |

| DATE      | BARIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS BA) | CADMIUM<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CD) | CADMIUM<br>DIS-<br>SOLVED<br>(UG/L<br>AS CD) | CHRO-<br>MIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>SUS-<br>PENDE<br>RECOV.<br>(UG/L<br>AS CR) | CHRO-<br>MIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CR) | COBALT,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CO) | COBALT,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CO) | COPPER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) |
|-----------|----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|
| OCT 23... | --                                           | 0                                                       | 0                                                               | 0                                            | 18                                                             | 16                                                           | 2                                                   | --                                                      | --                                                              | --                                           | 4                                                       |
| NOV 18... | 20                                           | 1                                                       | 0                                                               | 3                                            | 20                                                             | 10                                                           | 10                                                  | 1                                                       | 0                                                               | 1                                            | 3                                                       |
| DEC 16... | --                                           | 6                                                       | 0                                                               | 8                                            | 12                                                             | 8                                                            | 4                                                   | --                                                      | --                                                              | --                                           | 4                                                       |
| JAN 14... | 20                                           | 0                                                       | 0                                                               | 1                                            | 10                                                             | 0                                                            | 10                                                  | 0                                                       | 0                                                               | 1                                            | 4                                                       |
| FEB 13... | --                                           | 1                                                       | 1                                                               | 0                                            | 25                                                             | 23                                                           | 2                                                   | --                                                      | --                                                              | --                                           | 20                                                      |
| MAR 12... | --                                           | 3                                                       | 2                                                               | 1                                            | 3                                                              | 0                                                            | 3                                                   | --                                                      | --                                                              | --                                           | 6                                                       |
| APR 14... | --                                           | 1                                                       | 1                                                               | 0                                            | 4                                                              | 2                                                            | 2                                                   | --                                                      | --                                                              | --                                           | 7                                                       |
| MAY 13... | 20                                           | 1                                                       | 0                                                               | 1                                            | <10                                                            | --                                                           | 10                                                  | 2                                                       | 1                                                               | 1                                            | 8                                                       |
| JUN 15... | --                                           | 1                                                       | 1                                                               | 0                                            | 4                                                              | 4                                                            | 0                                                   | --                                                      | --                                                              | --                                           | 4                                                       |
| JUL 08... | 20                                           | 1                                                       | 0                                                               | 19                                           | 10                                                             | --                                                           | <10                                                 | 7                                                       | 6                                                               | 1                                            | 8                                                       |
| AUG 06... | --                                           | 2                                                       | --                                                              | <1                                           | 6                                                              | --                                                           | <1                                                  | --                                                      | --                                                              | --                                           | 5                                                       |
| SEP 03... | --                                           | <1                                                      | --                                                              | <1                                           | 6                                                              | --                                                           | 2                                                   | --                                                      | --                                                              | --                                           | 9                                                       |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | COPPER,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS CU) | COPPER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS CU) | IRON,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS FE) | IRON,<br>DIS-<br>SOLVED<br>(UG/L<br>AS FE) | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB) | LEAD,<br>DIS-<br>SOLVED<br>(UG/L<br>AS PB) | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>SUS-<br>PENDE<br>RECOV.<br>(UG/L<br>AS MN) | MANGA-<br>NESE,<br>DIS-<br>SOLVED<br>(UG/L<br>AS MN) |
|-----------|-----------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|
| OCT 23... | 1                                                               | 3                                            | 310                                                   | 230                                                           | 80                                         | 2                                                     | 2                                                             | 0                                          | --                                                              | --                                                            | 30                                                   |
| NOV 18... | 0                                                               | 4                                            | 280                                                   | 90                                                            | 190                                        | 7                                                     | 7                                                             | 0                                          | 50                                                              | 0                                                             | 50                                                   |
| DEC 16... | 2                                                               | 2                                            | 280                                                   | --                                                            | --                                         | 0                                                     | 0                                                             | 0                                          | --                                                              | --                                                            | --                                                   |
| JAN 14... | 0                                                               | 6                                            | 200                                                   | 30                                                            | 170                                        | 0                                                     | 0                                                             | 0                                          | 40                                                              | 0                                                             | 40                                                   |
| FEB 13... | 15                                                              | 5                                            | 7700                                                  | --                                                            | --                                         | 22                                                    | 18                                                            | 4                                          | --                                                              | --                                                            | --                                                   |
| MAR 12... | 3                                                               | 3                                            | 530                                                   | --                                                            | --                                         | 7                                                     | 7                                                             | 0                                          | --                                                              | --                                                            | --                                                   |
| APR 14... | 4                                                               | 3                                            | 440                                                   | --                                                            | --                                         | 3                                                     | 3                                                             | 0                                          | --                                                              | --                                                            | --                                                   |
| MAY 13... | 3                                                               | 5                                            | 500                                                   | 390                                                           | 110                                        | 1                                                     | 1                                                             | 0                                          | 50                                                              | 30                                                            | 20                                                   |
| JUN 15... | 3                                                               | 1                                            | 450                                                   | --                                                            | --                                         | 5                                                     | 3                                                             | 2                                          | --                                                              | --                                                            | --                                                   |
| JUL 08... | 0                                                               | 10                                           | 420                                                   | 320                                                           | 100                                        | 8                                                     | 7                                                             | 1                                          | 50                                                              | 30                                                            | 20                                                   |
| AUG 06... | --                                                              | 4                                            | 190                                                   | --                                                            | --                                         | 5                                                     | --                                                            | 2                                          | --                                                              | --                                                            | --                                                   |
| SEP 03... | --                                                              | 6                                            | 210                                                   | --                                                            | --                                         | 2                                                     | --                                                            | 2                                          | --                                                              | --                                                            | --                                                   |

| DATE      | MERCURY<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS HG) | MERCURY<br>DIS-<br>SOLVED<br>(UG/L<br>AS HG) | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI) | NICKEL,<br>DIS-<br>SOLVED<br>(UG/L<br>AS NI) | SELE-<br>NIUM,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS SE) | SELE-<br>NIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS SE) | SILVER,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) | SILVER,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS AG) |
|-----------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|
| OCT 23... | --                                                      | --                                                              | --                                           | 4                                                       | 0                                                               | 4                                            | --                                                             | --                                                                     | --                                                  | --                                                      | --                                                              |
| NOV 18... | .2                                                      | .1                                                              | .1                                           | 5                                                       | 2                                                               | 3                                            | 0                                                              | 0                                                                      | 0                                                   | 0                                                       | 0                                                               |
| DEC 16... | --                                                      | --                                                              | --                                           | 3                                                       | 2                                                               | 1                                            | --                                                             | --                                                                     | --                                                  | --                                                      | --                                                              |
| JAN 14... | .1                                                      | .0                                                              | .1                                           | 8                                                       | 7                                                               | 1                                            | 0                                                              | 0                                                                      | 0                                                   | 0                                                       | 0                                                               |
| FEB 13... | --                                                      | --                                                              | --                                           | 16                                                      | 14                                                              | 2                                            | --                                                             | --                                                                     | --                                                  | --                                                      | --                                                              |
| MAR 12... | --                                                      | --                                                              | --                                           | 15                                                      | 15                                                              | 0                                            | --                                                             | --                                                                     | --                                                  | --                                                      | --                                                              |
| APR 14... | --                                                      | --                                                              | --                                           | 4                                                       | 2                                                               | 2                                            | --                                                             | --                                                                     | --                                                  | --                                                      | --                                                              |
| MAY 13... | .3                                                      | .1                                                              | .2                                           | 17                                                      | 16                                                              | 1                                            | 0                                                              | 0                                                                      | 0                                                   | 0                                                       | 0                                                               |
| JUN 15... | --                                                      | --                                                              | --                                           | 4                                                       | 0                                                               | 4                                            | --                                                             | --                                                                     | --                                                  | --                                                      | --                                                              |
| JUL 08... | .2                                                      | .0                                                              | .2                                           | 8                                                       | 3                                                               | 5                                            | 0                                                              | 0                                                                      | 0                                                   | 0                                                       | 0                                                               |
| AUG 06... | --                                                      | --                                                              | --                                           | 5                                                       | --                                                              | 8                                            | --                                                             | --                                                                     | --                                                  | --                                                      | --                                                              |
| SEP 03... | --                                                      | --                                                              | --                                           | 3                                                       | --                                                              | 3                                            | --                                                             | --                                                                     | --                                                  | --                                                      | --                                                              |

## 01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | SILVER,<br>DIS-<br>SOLVED<br>(UG/L<br>AS AG) | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>SUS-<br>PENDE<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN) | ZINC,<br>DIS-<br>SOLVED<br>(UG/L<br>AS ZN) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C) | CARBON,<br>ORGANIC<br>DIS-<br>SOLVED<br>(MG/L<br>AS C) | CARBON,<br>ORGANIC<br>SUS-<br>PENDE<br>TOTAL<br>(MG/L<br>AS C) | METHY-<br>LENE<br>BLUE<br>ACTIVE<br>SUB-<br>STANCE<br>(MG/L) | PHYTO-<br>PLANK-<br>TON,<br>TOTAL<br>(CELLS<br>PER ML) |
|-----------|----------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------|-----------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------|
| OCT 23... | --                                           | 20                                                    | 20                                                            | 1                                          | 4.6                                           | --                                                     | --                                                             | --                                                           | --                                                     |
| NOV 18... | 0                                            | 60                                                    | 20                                                            | 40                                         | 3.5                                           | 3.1                                                    | .4                                                             | --                                                           | 670                                                    |
| DEC 16... | --                                           | 30                                                    | 10                                                            | 20                                         | 5.0                                           | --                                                     | --                                                             | --                                                           | --                                                     |
| JAN 14... | 0                                            | 20                                                    | 10                                                            | 10                                         | 4.1                                           | 3.8                                                    | .3                                                             | .00                                                          | --                                                     |
| FEB 13... | --                                           | 80                                                    | 40                                                            | 40                                         | 6.6                                           | --                                                     | --                                                             | --                                                           | --                                                     |
| MAR 12... | --                                           | 110                                                   | 80                                                            | 30                                         | 3.3                                           | --                                                     | --                                                             | --                                                           | 570                                                    |
| APR 14... | --                                           | 60                                                    | 50                                                            | 10                                         | 3.1                                           | --                                                     | --                                                             | --                                                           | --                                                     |
| MAY 13... | 0                                            | 130                                                   | 120                                                           | 10                                         | 3.4                                           | 3.1                                                    | .3                                                             | .00                                                          | 1500                                                   |
| JUN 15... | --                                           | 10                                                    | 0                                                             | 20                                         | 4.2                                           | --                                                     | --                                                             | --                                                           | 5600                                                   |
| JUL 08... | 0                                            | 50                                                    | 20                                                            | 30                                         | 4.4                                           | 4.1                                                    | .3                                                             | .00                                                          | 1600                                                   |
| AUG 06... | --                                           | 20                                                    | --                                                            | 10                                         | 4.1                                           | --                                                     | --                                                             | --                                                           | 7700                                                   |
| SEP 03... | --                                           | 30                                                    | --                                                            | 20                                         | 4.9                                           | --                                                     | --                                                             | --                                                           | 18000                                                  |

## RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | TIME | GROSS<br>ALPHA,<br>DIS-<br>SOLVED<br>(UG/L<br>AS<br>U-NAT) | GROSS<br>ALPHA,<br>SUSP.<br>TOTAL<br>(UG/L<br>AS<br>U-NAT) | GROSS<br>ALPHA,<br>DIS-<br>SOLVED<br>(PCI/L<br>AS<br>U-NAT) | GROSS<br>ALPHA,<br>SUSP.<br>TOTAL<br>(PCI/L<br>AS<br>U-NAT) | GROSS<br>BETA,<br>DIS-<br>SOLVED<br>(PCI/L<br>AS<br>CS-137) | GROSS<br>BETA,<br>SUSP.<br>TOTAL<br>(PCI/L<br>AS<br>CS-137) | GROSS<br>BETA,<br>DIS-<br>SOLVED<br>(PCI/L<br>AS<br>YT-90) | GROSS<br>BETA,<br>SUSP.<br>TOTAL<br>(PCI/L<br>AS<br>YT-90) | RADIUM<br>226,<br>DIS-<br>SOLVED,<br>RADON<br>METHOD<br>(PCI/L) | URANIUM<br>DIS-<br>SOLVED,<br>EXTRAC-<br>TION<br>(UG/L) |
|-----------|------|------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------|
| OCT 23... | 1015 | 1.4                                                        | <.4                                                        | 1.0                                                         | <.3                                                         | 2.3                                                         | .4                                                          | 2.2                                                        | .4                                                         | .05                                                             | .06                                                     |
| APR 14... | 1000 | <1.1                                                       | <.4                                                        | .7                                                          | .3                                                          | 2.0                                                         | .6                                                          | 1.8                                                        | .6                                                         | .58                                                             | .08                                                     |

## SUSPENDED-SEDIMENT MEASUREMENTS, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE      | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SEDI-<br>MENT,<br>SUS-<br>PENDE<br>(MG/L) | SEDI-<br>MENT,<br>DIS-<br>CHARGE,<br>SUS-<br>PENDE<br>(T/DAY) | SED.<br>SUSP.<br>SIEVE<br>DIAM.<br>% FINER<br>THAN<br>.062 MM | DATE      | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | SEDI-<br>MENT,<br>SUS-<br>PENDE<br>(MG/L) | SEDI-<br>MENT,<br>DIS-<br>CHARGE,<br>SUS-<br>PENDE<br>(T/DAY) | SED.<br>SUSP.<br>SIEVE<br>DIAM.<br>% FINER<br>THAN<br>.062 MM |
|-----------|------|-------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|-----------|------|-------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| OCT 23... | 1015 | 9530                                            | 4                                         | 103                                                           | 100                                                           | APR 14... | 1000 | 20600                                           | 12                                        | 667                                                           | 89                                                            |
| NOV 18... | 1015 | 9360                                            | 4                                         | 101                                                           | 100                                                           | MAY 13... | 0930 | 20400                                           | 17                                        | 936                                                           | 79                                                            |
| DEC 16... | 0915 | 9820                                            | 4                                         | 106                                                           | 100                                                           | JUN 15... | 1115 | 12700                                           | 15                                        | 514                                                           | 81                                                            |
| JAN 14... | 0930 | 5400                                            | 7                                         | 102                                                           | 100                                                           | JUL 08... | 0945 | 12500                                           | 12                                        | 405                                                           | 100                                                           |
| FEB 13... | 1045 | 43600                                           | 215                                       | 25300                                                         | 70                                                            | AUG 06... | 0930 | 5680                                            | 2                                         | 31                                                            | 100                                                           |
| MAR 12... | 0930 | 21100                                           | 10                                        | 570                                                           | 77                                                            | SEP 03... | 0930 | 5590                                            | 2                                         | 30                                                            | 100                                                           |

&lt; ACTUAL VALUE IS KNOWN TO BE LESS THAN THE VALUE SHOWN.

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE<br>TIME                  | PHYTOPLANKTON     |      |                   |      |                   |      |                   |      |
|-------------------------------|-------------------|------|-------------------|------|-------------------|------|-------------------|------|
|                               | NOV 18,80<br>1015 |      | MAR 12,81<br>0930 |      | MAY 13,81<br>0930 |      | JUN 15,81<br>1115 |      |
| TOTAL CELLS/ML                | 670               |      | 570               |      | 1500              |      | 5600              |      |
| DIVERSITY: DIVISION           | 0.8               |      | 0.7               |      | 1.0               |      | 1.5               |      |
| ..CLASS                       | 0.8               |      | 0.7               |      | 1.0               |      | 1.5               |      |
| ..ORDER                       | 0.8               |      | 0.7               |      | 1.5               |      | 2.0               |      |
| ...FAMILY                     | 0.9               |      | 0.8               |      | 1.8               |      | 2.2               |      |
| ....GENUS                     | 0.9               |      | 0.8               |      | 2.9               |      | 2.7               |      |
| ORGANISM                      | CELLS             | PER- | CELLS             | PER- | CELLS             | PER- | CELLS             | PER- |
| CHLOROPHYTA (GREEN ALGAE)     | /ML               | CENT | /ML               | CENT | /ML               | CENT | /ML               | CENT |
| ..CHLOROPHYCEAE               |                   |      |                   |      |                   |      |                   |      |
| ...CHLOROCOCCALES             |                   |      |                   |      |                   |      |                   |      |
| ...CHARACIACEAE               |                   |      |                   |      |                   |      |                   |      |
| ...SCHROEDERIA                | --                | -    | --                | -    | --                | -    | --                | -    |
| ...COELASTRACEAE              |                   |      |                   |      |                   |      |                   |      |
| ...COELASTRUM                 | --                | -    | --                | -    | --                | -    | --                | -    |
| ...HYDRODICTYACEAE            |                   |      |                   |      |                   |      |                   |      |
| ...PEDIASTRUM                 | --                | -    | --                | -    | --                | -    | --                | -    |
| ...MICRACTINIACEAE            |                   |      |                   |      |                   |      |                   |      |
| ...MICRACTINIUM               | --                | -    | --                | -    | --                | -    | 40                | 1    |
| ...OOCYSTACEAE                |                   |      |                   |      |                   |      |                   |      |
| ...ANKISTRODESMUS             | --                | -    | --                | -    | 13                | 1    | 240               | 4    |
| ...DICTYOSPHAERIUM            | --                | -    | --                | -    | 160               | 10   | 360               | 6    |
| ...KIRCHNERIELLA              | --                | -    | --                | -    | --                | -    | --                | -    |
| ...OOCYSTIS                   | --                | -    | --                | -    | --                | -    | --                | -    |
| ...SELENASTRUM                | --                | -    | --                | -    | --                | -    | 120               | 2    |
| ...TREUBARIA                  | --                | -    | --                | -    | --                | -    | *                 | 0    |
| ...SCENEDESMACEAE             |                   |      |                   |      |                   |      |                   |      |
| ...CRUCIGENIA                 | --                | -    | --                | -    | --                | -    | --                | -    |
| ...SCENEDESMUS                | --                | -    | --                | -    | 52                | 3    | 100               | 2    |
| ...TETRASTRUM                 | --                | -    | --                | -    | --                | -    | 81                | 1    |
| ...VOLVOCALES                 |                   |      |                   |      |                   |      |                   |      |
| ...CHLAMYDOMONADACEAE         |                   |      |                   |      |                   |      |                   |      |
| ...CHLAMYDOMONAS              | 39                | 6    | --                | -    | 13                | 1    | 140               | 3    |
| ...ZYGNEMATALES               |                   |      |                   |      |                   |      |                   |      |
| ...DESMIDIACEAE               |                   |      |                   |      |                   |      |                   |      |
| ...COSMARIUM                  | --                | -    | --                | -    | --                | -    | --                | -    |
| CHRYSTOPHYTA                  |                   |      |                   |      |                   |      |                   |      |
| ..BACILLARIOPHYCEAE           |                   |      |                   |      |                   |      |                   |      |
| ...CENTRALES                  |                   |      |                   |      |                   |      |                   |      |
| ...COSCINODISCACEAE           |                   |      |                   |      |                   |      |                   |      |
| ...CYCLOTELLA                 | --                | -    | --                | -    | 400#              | 26   | 1800#             | 32   |
| ...MELOSIRA                   | --                | -    | --                | -    | 380#              | 24   | 200               | 4    |
| ...STEPHANODISCUS             | --                | -    | --                | -    | 230#              | 15   | --                | -    |
| ...PENNALES                   |                   |      |                   |      |                   |      |                   |      |
| ...ACHNANTHACEAE              |                   |      |                   |      |                   |      |                   |      |
| ...ACHNANTHES                 | --                | -    | --                | -    | 13                | 1    | --                | -    |
| ...FRAGILARIACEAE             |                   |      |                   |      |                   |      |                   |      |
| ...ASTERIONELLA               | 39                | 6    | 100#              | 18   | --                | -    | --                | -    |
| ...FRAGILARIA                 | --                | -    | --                | -    | --                | -    | 560               | 10   |
| ...SYNEDRA                    | --                | -    | --                | -    | 26                | 2    | 40                | 1    |
| ...GOMPHONEMATACEAE           |                   |      |                   |      |                   |      |                   |      |
| ...GOMPHONEMA                 | --                | -    | --                | -    | 13                | 1    | --                | -    |
| ...NAVICULACEAE               |                   |      |                   |      |                   |      |                   |      |
| ...DIPLONEIS                  | --                | -    | --                | -    | --                | -    | --                | -    |
| ...NAVICULA                   | --                | -    | 13                | 2    | --                | -    | *                 | 0    |
| ...NITZSCHIA                  |                   |      |                   |      |                   |      |                   |      |
| ...NITZSCHIA                  | 26                | 4    | --                | -    | 130               | 8    | 60                | 1    |
| ...SURIPELLACEAE              |                   |      |                   |      |                   |      |                   |      |
| ...SURIPELLA                  | --                | -    | --                | -    | 13                | 1    | --                | -    |
| ..CHRYSTOPHYCEAE              |                   |      |                   |      |                   |      |                   |      |
| ...CHRYSOMONADALES            |                   |      |                   |      |                   |      |                   |      |
| ...OCHROMONADACEAE            |                   |      |                   |      |                   |      |                   |      |
| ...OCHROMONAS                 | --                | -    | --                | -    | --                | -    | --                | -    |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                   |      |                   |      |                   |      |                   |      |
| ..CYANOPHYCEAE                |                   |      |                   |      |                   |      |                   |      |
| ...CHROOCOCCALES              |                   |      |                   |      |                   |      |                   |      |
| ...CHROOCOCCACEAE             |                   |      |                   |      |                   |      |                   |      |
| ...AGMENELLUM                 | --                | -    | --                | -    | --                | -    | --                | -    |
| ...ANACYSTIS                  | --                | -    | --                | -    | 100               | 7    | 1800#             | 32   |
| ...HORMOGONALES               |                   |      |                   |      |                   |      |                   |      |
| ...NOSTOCACEAE                |                   |      |                   |      |                   |      |                   |      |
| ...APHANIZOMENON              | --                | -    | --                | -    | --                | -    | --                | -    |
| ...OSCILLATORIACEAE           |                   |      |                   |      |                   |      |                   |      |
| ...OSCILLATORIA               | 570#              | 85   | 450#              | 80   | --                | -    | --                | -    |
| PYRRHOPHYTA (FIRE ALGAE)      |                   |      |                   |      |                   |      |                   |      |
| ..DINOPHYCEAE                 |                   |      |                   |      |                   |      |                   |      |
| ...GYMNODINIALES              |                   |      |                   |      |                   |      |                   |      |
| ...GYMNODINIACEAE             |                   |      |                   |      |                   |      |                   |      |
| ...GYMNODINIUM                | --                | -    | --                | -    | --                | -    | --                | -    |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%



## CONNECTICUT RIVER BASIN

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01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

## PHYTOPLANKTON--Continued

| DATE<br>TIME                  | JUL 8,81<br>0945 | AUG 6,81<br>0930 | SEP 3,81<br>0930 |              |              |              |
|-------------------------------|------------------|------------------|------------------|--------------|--------------|--------------|
| TOTAL CELLS/ML                | 1600             | 7700             | 18000            |              |              |              |
| DIVERSITY: DIVISION           | 1.5              | 1.4              | 1.4              |              |              |              |
| ..CLASS                       | 1.5              | 1.4              | 1.4              |              |              |              |
| ...ORDER                      | 2.0              | 1.7              | 1.8              |              |              |              |
| ...FAMILY                     | 2.8              | 2.1              | 2.4              |              |              |              |
| ....GENUS                     | 3.0              | 2.8              | 2.7              |              |              |              |
| ORGANISM                      | CELLS<br>/ML     | PER-<br>CENT     | CELLS<br>/ML     | PER-<br>CENT | CELLS<br>/ML | PER-<br>CENT |
| CHLOROPHYTA (GREEN ALGAE)     |                  |                  |                  |              |              |              |
| ..CHLOROPHYCEAE               |                  |                  |                  |              |              |              |
| ...CHLOROCOCCALES             |                  |                  |                  |              |              |              |
| ....CHARACIACEAE              |                  |                  |                  |              |              |              |
| ....SCHROEDERIA               | --               | -                | * 0              |              | --           | -            |
| ...COELASTRACEAE              |                  |                  |                  |              |              |              |
| ....COELASTRUM                | --               | -                | --               | -            | 560          | 3            |
| ...HYDRODICTYACEAE            |                  |                  |                  |              |              |              |
| ....PEDIASTRUM                | 180              | 11               | --               | -            | --           | -            |
| ...MICRACTINIACEAE            |                  |                  |                  |              |              |              |
| ....MICRACTINIUM              | 52               | 3                | 1000             | 13           | 210          | 1            |
| ...OOCYSTACEAE                |                  |                  |                  |              |              |              |
| ....ANKISTRODESMUS            | 26               | 2                | 370              | 5            | *            | 0            |
| ....DICTYOSPHAERIUM           | --               | -                | --               | -            | 1300         | 7            |
| ....KIRCHNERIELLA             | --               | -                | 220              | 3            | 280          | 2            |
| ....OOCYSTIS                  | 13               | 1                | 74               | 1            | 110          | 1            |
| ...SELENASTRUM                | 26               | 2                | --               | -            | --           | -            |
| ...TREUBARIA                  | --               | -                | 110              | 1            | --           | -            |
| ...SCENEDESMACEAE             |                  |                  |                  |              |              |              |
| ....CRUCIGENIA                | 52               | 3                | --               | -            | 140          | 1            |
| ...SCENEDESMUS                | 280#             | 18               | 220              | 3            | 350          | 2            |
| ...TETRASTRUM                 | --               | -                | --               | -            | --           | -            |
| ...VOLVOCALES                 |                  |                  |                  |              |              |              |
| ...CHLAMYDOMONADACEAE         |                  |                  |                  |              |              |              |
| ....CHLAMYDOMONAS             | 100              | 6                | 370              | 5            | 320          | 2            |
| ...ZYGNEMATALES               |                  |                  |                  |              |              |              |
| ...DESMIDIACEAE               |                  |                  |                  |              |              |              |
| ....COSMARIUM                 | --               | -                | --               | -            | *            | 0            |
| CHRYSTOPHYTA                  |                  |                  |                  |              |              |              |
| ..BACILLARIOPHYCEAE           |                  |                  |                  |              |              |              |
| ...CENTRALES                  |                  |                  |                  |              |              |              |
| ...COSCINODISCEACEAE          |                  |                  |                  |              |              |              |
| ....CYCLOTELLA                | 440#             | 27               | 920              | 12           | 2000         | 11           |
| ....MELOSIRA                  | 13               | 1                | 110              | 1            | 810          | 5            |
| ...STEPHANODISCUS             | --               | -                | --               | -            | --           | -            |
| ...PENNALES                   |                  |                  |                  |              |              |              |
| ...ACHNANTHACEAE              |                  |                  |                  |              |              |              |
| ....ACHNANTHES                | --               | -                | --               | -            | --           | -            |
| ...FRAGILARIACEAE             |                  |                  |                  |              |              |              |
| ....ASTERIONELLA              | --               | -                | --               | -            | --           | -            |
| ....FRAGILARIA                | 78               | 5                | --               | -            | 700          | 4            |
| ....SYNEDRA                   | --               | -                | --               | -            | *            | 0            |
| ...GOMPHONEMATACEAE           |                  |                  |                  |              |              |              |
| ....GOMPHONEMA                | --               | -                | --               | -            | --           | -            |
| ...NAVICULACEAE               |                  |                  |                  |              |              |              |
| ....DIPLONEIS                 | --               | -                | --               | -            | *            | 0            |
| ....NAVICULA                  | 26               | 2                | *                | 0            | *            | 0            |
| ...NITZSCHIA                  |                  |                  |                  |              |              |              |
| ....NITZSCHIA                 | 13               | 1                | *                | 0            | *            | 0            |
| ...SURIPELLACEAE              |                  |                  |                  |              |              |              |
| ....SURIPELLA                 | --               | -                | --               | -            | --           | -            |
| CHRYSTOPHYCEAE                |                  |                  |                  |              |              |              |
| ...CHRYSOMONADALES            |                  |                  |                  |              |              |              |
| ...OCHROMONADACEAE            |                  |                  |                  |              |              |              |
| ....OCHROMONAS                | --               | -                | *                | 0            | --           | -            |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                  |                  |                  |              |              |              |
| ..CYANOPHYCEAE                |                  |                  |                  |              |              |              |
| ...CHROOCOCCALES              |                  |                  |                  |              |              |              |
| ....CHROOCOCCACEAE            |                  |                  |                  |              |              |              |
| ....AGMENELLUM                | --               | -                | 1500#            | 19           | --           | -            |
| ....ANACYSTIS                 | 300#             | 19               | 2700#            | 34           | 560          | 3            |
| ...HORMOGONALES               |                  |                  |                  |              |              |              |
| ...NOSTOCACEAE                |                  |                  |                  |              |              |              |
| ....APHANIZOMENON             | --               | -                | --               | -            | 9200#        | 52           |
| ...OSCILLATORIACEAE           |                  |                  |                  |              |              |              |
| ....OSCILLATORIA              | --               | -                | --               | -            | 920          | 5            |
| PYRRHOPHYTA (FIRE ALGAE)      |                  |                  |                  |              |              |              |
| ..DINOPHYCEAE                 |                  |                  |                  |              |              |              |
| ...GYMNODINIALES              |                  |                  |                  |              |              |              |
| ....GYMNODINIACEAE            |                  |                  |                  |              |              |              |
| ....GYMNODINIUM               | --               | -                | --               | -            | *            | 0            |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | --- | --- | ---      | 101 | 99  | 100      | 95  | 89  | 92      | 116 | 110 | 113  |
| 2       | --- | --- | ---      | 103 | 100 | 101      | 89  | 87  | 88      | 121 | 116 | 118  |
| 3       | --- | --- | ---      | 110 | 101 | 105      | 92  | 88  | 90      | 124 | 118 | 121  |
| 4       | --- | --- | ---      | 117 | 111 | 115      | 94  | 90  | 92      | 123 | 119 | 120  |
| 5       | --- | --- | ---      | 116 | 108 | 112      | 93  | 89  | 91      | 125 | 116 | 120  |
| 6       | --- | --- | ---      | 112 | 107 | 109      | 89  | 85  | 87      | 123 | 117 | 120  |
| 7       | --- | --- | ---      | 112 | 110 | 111      | 90  | 86  | 88      | 123 | 118 | 121  |
| 8       | --- | --- | ---      | 118 | 110 | 113      | 95  | 89  | 91      | 125 | 119 | 121  |
| 9       | --- | --- | ---      | 110 | 104 | 106      | 100 | 95  | 97      | 128 | 120 | 123  |
| 10      | --- | --- | ---      | 116 | 107 | 113      | 100 | 96  | 98      | 127 | 115 | 120  |
| 11      | --- | --- | ---      | 115 | 111 | 113      | 96  | 90  | 93      | --- | --- | ---  |
| 12      | --- | --- | ---      | 116 | 112 | 115      | 90  | 88  | 89      | --- | --- | ---  |
| 13      | --- | --- | ---      | 118 | 115 | 116      | 97  | 90  | 93      | --- | --- | ---  |
| 14      | --- | --- | ---      | 116 | 110 | 112      | 106 | 99  | 103     | --- | --- | ---  |
| 15      | --- | --- | ---      | 112 | 110 | 111      | 107 | 102 | 105     | 62  | 47  | 54   |
| 16      | --- | --- | ---      | 114 | 111 | 113      | 103 | 99  | 101     | 74  | 63  | 69   |
| 17      | --- | --- | ---      | 126 | 114 | 119      | 103 | 100 | 101     | 76  | 73  | 75   |
| 18      | --- | --- | ---      | 127 | 114 | 119      | 110 | 104 | 106     | 73  | 61  | 67   |
| 19      | --- | --- | ---      | 126 | 119 | 124      | 108 | 99  | 102     | 60  | 49  | 53   |
| 20      | --- | --- | ---      | 127 | 115 | 121      | 102 | 99  | 101     | 96  | 54  | 74   |
| 21      | --- | --- | ---      | 123 | 117 | 120      | 107 | 103 | 105     | 123 | 95  | 108  |
| 22      | --- | --- | ---      | 125 | 119 | 121      | 140 | 105 | 117     | 130 | 125 | 127  |
| 23      | --- | --- | ---      | 121 | 115 | 119      | 108 | 106 | 107     | 124 | 116 | 119  |
| 24      | 105 | 103 | 104      | 118 | 108 | 112      | 111 | 107 | 109     | 125 | 117 | 122  |
| 25      | 108 | 102 | 105      | 136 | 120 | 129      | 119 | 105 | 110     | 128 | 122 | 124  |
| 26      | 112 | 106 | 110      | 129 | 111 | 121      | 123 | 107 | 115     | 130 | 127 | 129  |
| 27      | 106 | 94  | 98       | 111 | 99  | 102      | 113 | 106 | 110     | 130 | 124 | 127  |
| 28      | 101 | 96  | 98       | 102 | 96  | 98       | 111 | 103 | 106     | 126 | 123 | 125  |
| 29      | 102 | 101 | 101      | 103 | 96  | 99       | 110 | 104 | 107     | 124 | 121 | 122  |
| 30      | 101 | 97  | 99       | 99  | 94  | 97       | 119 | 111 | 114     | 131 | 121 | 125  |
| 31      | 99  | 97  | 98       | --- | --- | ---      | 120 | 110 | 115     | 137 | 131 | 134  |
| MONTH   | 112 | 94  | 102      | 136 | 94  | 112      | 140 | 85  | 101     | 137 | 47  | 109  |

| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN  | MAX | MIN | MEAN | MAX | MIN | MEAN |
|----------|-----|-----|-------|-----|-----|-------|-----|-----|------|-----|-----|------|
| FEBRUARY |     |     | MARCH |     |     | APRIL |     |     | MAY  |     |     |      |
| 1        | 137 | 99  | 132   | --- | --- | ---   | 75  | 68  | 71   | 89  | 82  | 85   |
| 2        | 153 | 57  | 133   | --- | --- | ---   | 72  | 70  | 71   | 84  | 81  | 82   |
| 3        | 166 | 121 | 146   | --- | --- | ---   | 74  | 69  | 72   | 89  | 82  | 85   |
| 4        | 118 | 107 | 115   | --- | --- | ---   | 78  | 70  | 74   | 92  | 88  | 89   |
| 5        | 111 | 104 | 106   | --- | --- | ---   | 82  | 74  | 78   | 92  | 88  | 90   |
| 6        | 111 | 108 | 109   | --- | --- | ---   | 84  | 79  | 81   | 93  | 86  | 89   |
| 7        | 112 | 109 | 110   | --- | --- | ---   | 86  | 81  | 83   | 93  | 88  | 90   |
| 8        | 132 | 112 | 121   | --- | --- | ---   | 93  | 83  | 88   | 98  | 92  | 94   |
| 9        | 142 | 131 | 137   | 101 | 90  | 94    | 102 | 91  | 96   | 98  | 94  | 96   |
| 10       | 135 | 113 | 129   | 103 | 97  | 100   | 111 | 101 | 106  | 102 | 97  | 99   |
| 11       | 116 | 105 | 110   | 104 | 99  | 102   | 121 | 109 | 115  | 110 | 102 | 107  |
| 12       | 127 | 91  | 104   | 108 | 102 | 106   | 130 | 120 | 125  | 110 | 99  | 106  |
| 13       | 96  | 93  | 95    | 103 | 101 | 102   | 140 | 128 | 134  | 98  | 93  | 95   |
| 14       | 95  | 93  | 94    | 97  | 84  | 90    | 145 | 138 | 142  | 98  | 93  | 95   |
| 15       | 93  | 90  | 92    | 81  | 78  | 80    | 146 | 142 | 144  | 106 | 97  | 101  |
| 16       | 90  | 87  | 89    | 75  | 68  | 72    | 146 | 143 | 144  | 117 | 103 | 111  |
| 17       | 91  | 88  | 89    | 64  | 61  | 63    | 144 | 142 | 143  | 118 | 113 | 116  |
| 18       | 96  | 90  | 93    | 59  | 57  | 58    | 141 | 139 | 140  | 116 | 110 | 114  |
| 19       | 97  | 96  | 96    | 58  | 55  | 56    | 140 | 139 | 139  | 115 | 112 | 113  |
| 20       | 99  | 96  | 98    | 61  | 54  | 57    | 137 | 135 | 136  | 132 | 110 | 118  |
| 21       | 97  | 83  | 85    | 61  | 56  | 59    | 137 | 133 | 135  | 150 | 132 | 142  |
| 22       | 89  | 85  | 87    | 56  | 52  | 54    | 134 | 131 | 133  | 151 | 142 | 147  |
| 23       | 89  | 87  | 88    | 57  | 51  | 54    | 130 | 115 | 123  | 142 | 139 | 140  |
| 24       | --- | --- | ---   | 60  | 53  | 57    | 113 | 111 | 112  | 146 | 139 | 144  |
| 25       | --- | --- | ---   | 62  | 58  | 60    | 112 | 105 | 109  | 146 | 137 | 142  |
| 26       | --- | --- | ---   | 57  | 54  | 56    | 103 | 102 | 102  | 140 | 128 | 135  |
| 27       | --- | --- | ---   | 57  | 53  | 55    | 100 | 93  | 97   | 126 | 114 | 120  |
| 28       | --- | --- | ---   | 62  | 53  | 57    | 92  | 88  | 90   | 112 | 106 | 108  |
| 29       | --- | --- | ---   | 66  | 59  | 63    | 93  | 90  | 91   | 104 | 99  | 102  |
| 30       | --- | --- | ---   | 69  | 62  | 66    | 94  | 90  | 92   | 101 | 93  | 96   |
| 31       | --- | --- | ---   | 71  | 65  | 68    | --- | --- | ---  | 106 | 97  | 101  |
| MONTH    | 166 | 57  | 107   | 108 | 51  | 71    | 146 | 68  | 109  | 151 | 81  | 108  |

## CONNECTICUT RIVER BASIN

199

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY   | MAX  | MIN | MEAN | MAX  | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|-------|------|-----|------|------|-----|------|--------|-----|------|-----------|-----|------|
|       | JUNE |     |      | JULY |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1     | 111  | 101 | 107  | 112  | 108 | 111  | 141    | 136 | 139  | 126       | 120 | 124  |
| 2     | 111  | 108 | 110  | 113  | 106 | 110  | 139    | 135 | 136  | 134       | 125 | 128  |
| 3     | 115  | 111 | 114  | 109  | 107 | 108  | 142    | 136 | 138  | 125       | 112 | 119  |
| 4     | 112  | 109 | 111  | 113  | 107 | 110  | 146    | 139 | 143  | 117       | 113 | 115  |
| 5     | 113  | 110 | 111  | 114  | 108 | 112  | 142    | 127 | 137  | 119       | 114 | 117  |
| 6     | 117  | 111 | 114  | 118  | 109 | 113  | 148    | 140 | 145  | 125       | 119 | 123  |
| 7     | 126  | 115 | 119  | 110  | 106 | 109  | 148    | 140 | 143  | 125       | 123 | 125  |
| 8     | 130  | 126 | 128  | 108  | 101 | 104  | 153    | 144 | 148  | 132       | 106 | 127  |
| 9     | 131  | 129 | 130  | 113  | 107 | 110  | 150    | 145 | 147  | 129       | 120 | 126  |
| 10    | 129  | 125 | 126  | 115  | 111 | 113  | 154    | 144 | 148  | 131       | 128 | 130  |
| 11    | 131  | 126 | 128  | 113  | 110 | 112  | 152    | 150 | 151  | 137       | 129 | 133  |
| 12    | 136  | 131 | 134  | 118  | 114 | 115  | 156    | 147 | 153  | 130       | 127 | 129  |
| 13    | 135  | 130 | 133  | 124  | 117 | 119  | 150    | 147 | 149  | 132       | 128 | 130  |
| 14    | 130  | 127 | 129  | 126  | 120 | 124  | 152    | 144 | 150  | 132       | 129 | 130  |
| 15    | 129  | 123 | 126  | 121  | 120 | 121  | 150    | 143 | 147  | 148       | 132 | 139  |
| 16    | 127  | 119 | 122  | 123  | 120 | 121  | 151    | 146 | 149  | 141       | 133 | 136  |
| 17    | 125  | 120 | 123  | 125  | 122 | 123  | 147    | 134 | 141  | 139       | 135 | 137  |
| 18    | 121  | 116 | 118  | ---  | --- | ---  | 134    | 127 | 131  | 138       | 135 | 136  |
| 19    | 117  | 111 | 115  | ---  | --- | ---  | 127    | 121 | 124  | 143       | 137 | 138  |
| 20    | 116  | 112 | 114  | ---  | --- | ---  | 124    | 116 | 119  | 143       | 52  | 108  |
| 21    | 118  | 112 | 115  | 144  | 137 | 140  | 127    | 124 | 125  | 136       | 123 | 130  |
| 22    | 115  | 110 | 113  | 142  | 133 | 138  | 127    | 122 | 124  | 137       | 132 | 135  |
| 23    | 116  | 111 | 114  | 143  | 133 | 138  | 130    | 124 | 128  | 139       | 131 | 135  |
| 24    | 114  | 110 | 112  | 143  | 140 | 141  | 127    | 123 | 125  | 155       | 135 | 141  |
| 25    | 113  | 108 | 110  | 140  | 137 | 139  | 134    | 124 | 131  | 178       | 156 | 167  |
| 26    | 113  | 107 | 110  | ---  | --- | ---  | 133    | 125 | 129  | 188       | 178 | 184  |
| 27    | 111  | 109 | 110  | ---  | --- | ---  | 127    | 121 | 125  | 192       | 188 | 190  |
| 28    | 111  | 109 | 110  | 139  | 129 | 135  | 122    | 118 | 120  | 188       | 183 | 185  |
| 29    | 111  | 108 | 109  | 143  | 128 | 135  | 122    | 115 | 119  | 188       | 183 | 186  |
| 30    | 109  | 106 | 108  | 144  | 140 | 142  | 119    | 112 | 115  | 183       | 165 | 175  |
| 31    | ---  | --- | ---  | 144  | 136 | 140  | 120    | 116 | 118  | ---       | --- | ---  |
| MONTH | 136  | 101 | 117  | 144  | 101 | 122  | 156    | 112 | 135  | 192       | 52  | 139  |
| YEAR  | 192  | 47  | 113  |      |     |      |        |     |      |           |     |      |

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY     | MAX  | MIN  | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 18.0 | 17.0 | 17.5     | 8.5 | 7.5 | 8.0      | 3.0 | 2.5 | 3.0     | .0  | .0  | .0   |
| 2       | 18.0 | 17.5 | 18.0     | 8.0 | 7.5 | 7.5      | 3.5 | 3.0 | 3.0     | .0  | .0  | .0   |
| 3       | 18.0 | 17.5 | 18.0     | 7.5 | 7.0 | 7.5      | 3.5 | 3.0 | 3.0     | .0  | .0  | .0   |
| 4       | 18.0 | 17.5 | 17.5     | 8.0 | 7.0 | 7.5      | 2.5 | 1.5 | 2.0     | .0  | .0  | .0   |
| 5       | 17.5 | 17.0 | 17.0     | 8.5 | 7.5 | 8.0      | 1.5 | 1.0 | 1.0     | .0  | .0  | .0   |
| 6       | 17.0 | 16.0 | 16.5     | 7.5 | 7.0 | 7.5      | 1.0 | .5  | 1.0     | .0  | .0  | .0   |
| 7       | 16.0 | 15.5 | 16.0     | 8.5 | 7.5 | 8.0      | 1.0 | .5  | 1.0     | .0  | .0  | .0   |
| 8       | 15.5 | 15.0 | 15.5     | 8.5 | 8.0 | 8.5      | 2.0 | 1.0 | 1.5     | .0  | .0  | .0   |
| 9       | 15.5 | 15.0 | 15.5     | 8.0 | 7.5 | 7.5      | 2.5 | 2.0 | 2.0     | .0  | .0  | .0   |
| 10      | 15.0 | 14.5 | 15.0     | 7.5 | 7.0 | 7.5      | 2.5 | 2.0 | 2.5     | .0  | .0  | .0   |
| 11      | 15.0 | 14.5 | 15.0     | 6.5 | 6.0 | 6.0      | 2.5 | 1.5 | 1.5     | .0  | .0  | .0   |
| 12      | 15.0 | 14.5 | 14.5     | 6.0 | 5.5 | 6.0      | 1.0 | .5  | 1.0     | .0  | .0  | .0   |
| 13      | 14.5 | 13.0 | 13.5     | 6.0 | 5.0 | 5.5      | 1.0 | .5  | 1.0     | .0  | .0  | .0   |
| 14      | 13.5 | 12.5 | 13.0     | 6.5 | 6.0 | 6.0      | .5  | .0  | .5      | .0  | .0  | .0   |
| 15      | 13.0 | 12.5 | 13.0     | 6.5 | 6.0 | 6.0      | .0  | .0  | .0      | .0  | .0  | .0   |
| 16      | 13.5 | 12.5 | 13.0     | 6.0 | 5.5 | 6.0      | .0  | .0  | .0      | .0  | .0  | .0   |
| 17      | 14.5 | 13.0 | 14.0     | 5.5 | 5.0 | 5.0      | .5  | .0  | .5      | .0  | .0  | .0   |
| 18      | 15.0 | 14.0 | 14.5     | 4.5 | 4.0 | 4.0      | .0  | .0  | .0      | .0  | .0  | .0   |
| 19      | 15.0 | 14.5 | 15.0     | 4.0 | 3.5 | 4.0      | .0  | .0  | .0      | .0  | .0  | .0   |
| 20      | 14.5 | 14.0 | 14.5     | 4.0 | 3.5 | 4.0      | .0  | .0  | .0      | .5  | .0  | .0   |
| 21      | 14.0 | 13.0 | 13.5     | 4.0 | 3.5 | 4.0      | .0  | .0  | .0      | .0  | .0  | .0   |
| 22      | 13.5 | 12.5 | 13.0     | 4.5 | 3.5 | 4.0      | .0  | .0  | .0      | .0  | .0  | .0   |
| 23      | 12.5 | 11.5 | 12.0     | 4.0 | 3.5 | 3.5      | .0  | .0  | .0      | .5  | .0  | .0   |
| 24      | 11.5 | 10.5 | 11.0     | 4.0 | 3.5 | 3.5      | .0  | .0  | .0      | .5  | .0  | .5   |
| 25      | 11.0 | 10.5 | 11.0     | 5.5 | 4.0 | 5.0      | .0  | .0  | .0      | .5  | .0  | .0   |
| 26      | 11.0 | 10.0 | 10.5     | 5.0 | 3.5 | 4.0      | .0  | .0  | .0      | .0  | .0  | .0   |
| 27      | 10.0 | 9.5  | 10.0     | 3.5 | 2.5 | 2.5      | .0  | .0  | .0      | .5  | .0  | .5   |
| 28      | 10.0 | 9.0  | 9.5      | 3.0 | 2.0 | 2.5      | .0  | .0  | .0      | .5  | .5  | .5   |
| 29      | 9.0  | 8.5  | 9.0      | 3.0 | 2.5 | 2.5      | .0  | .0  | .0      | .5  | .5  | .5   |
| 30      | 8.5  | 8.0  | 8.5      | 2.5 | 2.0 | 2.5      | .5  | .0  | .0      | .5  | .0  | .0   |
| 31      | 8.5  | 8.0  | 8.5      | --- | --- | ---      | .0  | .0  | .0      | .5  | .0  | .0   |
| MONTH   | 18.0 | 8.0  | 13.5     | 8.5 | 2.0 | 5.5      | 3.5 | .0  | 1.0     | .5  | .0  | .0   |

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981--Continued

| DAY      | MAX | MIN | MEAN  | MAX  | MIN | MEAN  | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|-------|------|-----|-------|------|------|------|------|------|------|
| FEBRUARY |     |     | MARCH |      |     | APRIL |      |      | MAY  |      |      |      |
| 1        | .5  | .0  | .5    | 3.0  | 2.5 | 2.5   | 10.0 | 9.0  | 9.5  | 12.5 | 11.5 | 12.5 |
| 2        | 1.5 | .5  | 1.0   | 3.0  | 2.5 | 3.0   | 9.5  | 8.5  | 9.0  | 13.0 | 12.0 | 12.5 |
| 3        | 1.0 | .0  | .5    | 3.0  | 2.5 | 2.5   | 9.5  | 8.5  | 9.0  | 14.0 | 12.5 | 13.0 |
| 4        | .5  | .0  | .0    | 2.5  | 2.0 | 2.5   | 9.0  | 8.5  | 9.0  | 14.5 | 13.0 | 14.0 |
| 5        | .5  | .0  | .0    | 3.0  | 2.5 | 2.5   | 9.5  | 9.0  | 9.0  | 15.5 | 14.5 | 15.0 |
| 6        | .5  | .0  | .0    | 3.0  | 2.0 | 2.5   | 9.5  | 9.0  | 9.0  | 16.5 | 15.0 | 15.5 |
| 7        | .5  | .0  | .0    | 3.0  | 2.5 | 3.0   | 9.0  | 8.0  | 8.5  | 16.0 | 15.0 | 15.5 |
| 8        | .5  | .0  | .5    | 3.5  | 3.0 | 3.5   | 10.0 | 8.5  | 9.5  | 16.0 | 15.0 | 15.5 |
| 9        | .5  | .0  | .5    | 4.5  | 3.5 | 4.0   | 10.5 | 9.5  | 10.0 | 16.0 | 15.0 | 15.5 |
| 10       | .5  | .0  | .5    | 4.5  | 4.0 | 4.0   | 11.0 | 9.5  | 10.5 | 16.0 | 15.0 | 15.5 |
| 11       | 2.5 | .5  | 1.5   | 4.5  | 4.0 | 4.5   | 11.0 | 10.0 | 10.5 | 16.5 | 15.5 | 16.0 |
| 12       | 2.5 | .0  | 1.0   | 5.0  | 4.0 | 4.5   | 11.5 | 10.5 | 11.0 | 16.5 | 16.0 | 16.0 |
| 13       | .5  | .0  | .5    | 5.5  | 4.5 | 5.0   | 11.5 | 10.5 | 11.0 | 16.5 | 15.5 | 16.0 |
| 14       | .5  | .0  | .5    | 5.5  | 4.0 | 4.5   | 11.0 | 10.0 | 10.5 | 16.5 | 15.5 | 16.0 |
| 15       | 1.0 | .0  | .5    | 4.5  | 4.0 | 4.0   | 10.5 | 9.5  | 10.0 | 16.5 | 16.0 | 16.5 |
| 16       | 1.5 | .5  | 1.0   | 5.0  | 4.0 | 4.5   | 10.0 | 8.5  | 9.5  | 16.5 | 16.0 | 16.5 |
| 17       | 3.0 | 1.5 | 2.0   | 4.5  | 4.0 | 4.5   | 9.5  | 9.0  | 9.5  | 16.5 | 15.5 | 16.0 |
| 18       | 4.0 | 2.5 | 3.0   | 4.5  | 4.0 | 4.0   | 11.0 | 9.5  | 10.0 | 16.5 | 15.0 | 15.5 |
| 19       | 4.0 | 3.0 | 3.5   | 4.5  | 4.0 | 4.0   | 11.5 | 10.0 | 11.0 | 16.0 | 14.5 | 15.5 |
| 20       | 4.5 | 3.5 | 4.0   | 5.0  | 4.0 | 4.5   | 11.0 | 10.0 | 10.5 | 16.5 | 15.0 | 16.0 |
| 21       | 3.5 | 2.5 | 2.5   | 4.5  | 4.0 | 4.5   | 10.5 | 9.5  | 10.0 | 17.0 | 15.5 | 16.5 |
| 22       | 3.0 | 2.5 | 3.0   | 5.5  | 4.0 | 5.0   | 10.5 | 9.5  | 10.0 | 17.0 | 16.0 | 16.5 |
| 23       | 3.0 | 1.5 | 2.5   | 5.5  | 4.5 | 5.0   | 10.5 | 9.5  | 10.0 | 17.5 | 16.0 | 16.5 |
| 24       | 2.0 | 1.0 | 2.0   | 6.5  | 5.5 | 6.0   | 10.0 | 9.5  | 9.5  | 18.0 | 16.5 | 17.5 |
| 25       | 2.5 | 2.0 | 2.5   | 6.5  | 6.0 | 6.0   | 10.0 | 9.5  | 9.5  | 19.5 | 17.5 | 18.5 |
| 26       | 2.5 | 2.5 | 2.5   | 7.0  | 6.0 | 6.5   | 10.5 | 9.0  | 10.0 | 20.5 | 18.5 | 19.5 |
| 27       | 3.0 | 2.5 | 2.5   | 6.5  | 6.5 | 6.5   | 11.5 | 10.0 | 10.5 | 21.5 | 20.0 | 20.5 |
| 28       | 3.0 | 2.5 | 2.5   | 7.5  | 6.5 | 7.0   | 11.0 | 10.0 | 10.5 | 21.0 | 20.5 | 21.0 |
| 29       | --- | --- | ---   | 8.5  | 7.0 | 8.0   | 11.5 | 10.5 | 11.0 | 21.0 | 20.5 | 20.5 |
| 30       | --- | --- | ---   | 9.0  | 8.5 | 8.5   | 12.0 | 11.0 | 11.5 | 22.0 | 20.5 | 21.5 |
| 31       | --- | --- | ---   | 10.0 | 8.5 | 9.5   | ---  | ---  | ---  | 22.5 | 21.5 | 22.0 |
| MONTH    | 4.5 | .0  | 1.5   | 10.0 | 2.0 | 4.5   | 12.0 | 8.0  | 10.0 | 22.5 | 11.5 | 16.5 |

| DAY   | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN   | MAX  | MIN  | MEAN      | MAX  | MIN  | MEAN |
|-------|------|------|------|------|------|--------|------|------|-----------|------|------|------|
| JUNE  |      |      | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |      |      |
| 1     | 23.0 | 21.0 | 22.0 | 26.0 | 24.5 | 25.0   | 26.0 | 25.0 | 25.5      | 23.0 | 23.0 | 23.0 |
| 2     | 22.0 | 20.0 | 21.0 | 25.5 | 25.0 | 25.0   | 26.5 | 25.0 | 26.0      | 23.5 | 22.5 | 23.0 |
| 3     | 20.5 | 20.0 | 20.5 | 25.5 | 24.5 | 25.0   | 27.0 | 26.0 | 26.5      | 23.0 | 22.0 | 22.5 |
| 4     | 21.5 | 20.0 | 20.5 | 25.5 | 25.0 | 25.5   | 27.5 | 26.5 | 27.0      | 22.5 | 22.0 | 22.0 |
| 5     | 22.0 | 20.5 | 21.5 | 26.0 | 25.0 | 25.5   | 27.5 | 26.5 | 27.0      | 22.5 | 21.5 | 22.0 |
| 6     | 22.5 | 22.0 | 22.0 | 26.5 | 25.0 | 25.5   | 27.5 | 26.0 | 26.5      | 23.5 | 22.0 | 22.5 |
| 7     | 22.0 | 21.0 | 22.0 | 27.0 | 25.5 | 26.5   | 27.0 | 26.0 | 26.5      | 22.5 | 22.0 | 22.5 |
| 8     | 22.0 | 20.5 | 21.5 | 27.5 | 26.0 | 27.0   | 26.5 | 25.5 | 26.0      | 22.5 | 21.0 | 22.0 |
| 9     | 22.0 | 21.0 | 21.5 | 28.0 | 26.5 | 27.5   | 26.0 | 25.0 | 25.5      | 22.5 | 21.5 | 22.0 |
| 10    | 22.5 | 21.0 | 22.0 | 28.5 | 27.0 | 28.0   | 26.5 | 25.5 | 26.0      | 22.0 | 21.0 | 21.5 |
| 11    | 22.5 | 21.5 | 22.0 | 29.0 | 27.0 | 28.0   | 27.0 | 25.5 | 26.5      | 22.5 | 21.0 | 22.0 |
| 12    | 23.0 | 22.0 | 22.5 | 28.5 | 27.5 | 28.0   | 27.0 | 26.0 | 26.5      | 22.5 | 21.5 | 22.0 |
| 13    | 23.0 | 22.0 | 22.5 | 28.5 | 28.0 | 28.0   | 26.5 | 26.0 | 26.5      | 23.0 | 22.0 | 22.5 |
| 14    | 22.0 | 21.5 | 22.0 | 28.0 | 27.0 | 27.5   | 26.5 | 26.0 | 26.5      | 23.0 | 22.0 | 22.5 |
| 15    | 22.0 | 21.5 | 21.5 | 27.0 | 26.0 | 26.5   | 26.5 | 26.0 | 26.0      | 23.0 | 22.0 | 22.5 |
| 16    | 23.5 | 21.5 | 22.5 | 27.0 | 26.0 | 26.5   | 26.5 | 25.0 | 25.5      | 22.0 | 21.0 | 21.5 |
| 17    | 24.0 | 23.0 | 23.5 | ---  | ---  | ---    | 25.0 | 24.0 | 24.5      | 21.5 | 21.0 | 21.0 |
| 18    | 24.5 | 22.5 | 23.5 | ---  | ---  | ---    | 25.0 | 23.5 | 24.0      | 21.0 | 20.0 | 20.5 |
| 19    | 24.5 | 23.5 | 24.0 | ---  | ---  | ---    | 24.5 | 23.5 | 24.0      | 20.0 | 19.0 | 19.5 |
| 20    | 24.0 | 23.5 | 23.5 | 27.0 | 26.5 | 26.5   | 24.0 | 22.5 | 23.5      | 19.5 | 18.0 | 18.5 |
| 21    | 24.5 | 23.0 | 24.0 | 27.5 | 26.0 | 26.5   | 23.5 | 22.5 | 23.0      | 19.5 | 18.0 | 19.0 |
| 22    | 25.0 | 24.0 | 24.5 | 27.0 | 26.5 | 26.5   | 23.0 | 22.5 | 22.5      | 19.5 | 19.0 | 19.5 |
| 23    | 24.0 | 23.5 | 24.0 | 27.0 | 25.5 | 26.0   | 23.5 | 22.0 | 23.0      | 19.5 | 18.0 | 18.5 |
| 24    | 23.5 | 23.0 | 23.5 | 26.5 | 26.0 | 26.5   | 23.0 | 22.5 | 22.5      | 18.0 | 17.0 | 17.5 |
| 25    | 23.5 | 23.0 | 23.5 | 27.0 | 26.0 | 26.5   | 22.5 | 22.0 | 22.5      | 17.5 | 17.0 | 17.0 |
| 26    | 24.0 | 23.0 | 23.5 | ---  | ---  | ---    | 22.5 | 21.5 | 22.0      | 17.0 | 15.5 | 16.0 |
| 27    | 23.5 | 22.5 | 23.0 | ---  | ---  | ---    | 22.5 | 21.5 | 22.0      | 16.0 | 15.5 | 16.0 |
| 28    | 24.0 | 22.0 | 23.0 | 26.5 | 25.5 | 26.0   | 23.5 | 22.0 | 22.5      | 16.0 | 15.5 | 15.5 |
| 29    | 25.0 | 23.0 | 24.0 | 26.0 | 25.0 | 25.5   | 23.5 | 22.5 | 23.0      | 15.5 | 15.0 | 15.0 |
| 30    | 25.0 | 23.5 | 24.5 | 25.5 | 24.5 | 25.0   | 22.5 | 22.0 | 22.5      | 15.0 | 14.5 | 14.5 |
| 31    | ---  | ---  | ---  | 26.0 | 24.5 | 25.5   | 23.5 | 22.0 | 22.5      | ---  | ---  | ---  |
| MONTH | 25.0 | 20.0 | 22.5 | 29.0 | 24.5 | 26.5   | 27.5 | 21.5 | 24.5      | 23.5 | 14.5 | 20.0 |

## CONNECTICUT RIVER BASIN

201

## 01185100 FALL RIVER BELOW OTIS RESERVOIR, NEAR OTIS, MA

LOCATION.--Lat 42°09'42", long 73°03'48", Berkshire County, Hydrologic Unit 01080207, on right bank 0.4 mi (0.6 km) downstream from Otis Reservoir, 0.5 mi (0.8 km) upstream from mouth, and 2.6 mi (4.2 km) southeast of Otis.

DRAINAGE AREA.--16.5 mi<sup>2</sup> (42.7 km<sup>2</sup>).

PERIOD OF RECORD.--August 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,260 ft (384 m), from topographic map.

REMARKS.--Records good. Flow regulated by Otis Reservoir (Reservoirs in Connecticut River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--12 years, 37.9 ft<sup>3</sup>/s (1.073 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 422 ft<sup>3</sup>/s (12.0 m<sup>3</sup>/s) July 2, 1972, gage height, 5.41 ft (1.649 m); minimum daily, 0.68 ft<sup>3</sup>/s (0.019 m<sup>3</sup>/s) June 20, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 334 ft<sup>3</sup>/s (9.46 m<sup>3</sup>/s) Oct. 18, gage height, 5.02 ft (1.530 m); minimum daily, 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s) Oct. 1, 2, July 14, 15, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT    | NOV    | DEC       | JAN     | FEB     | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|--------|--------|-----------|---------|---------|-------|------|------|------|------|------|------|
| 1           | 1.5    | 81     | 77        | 2.1     | 2.0     | 277   | 2.7  | 3.6  | 2.4  | 1.6  | 1.7  | 1.7  |
| 2           | 1.5    | 81     | 77        | 2.0     | 2.3     | 144   | 2.7  | 3.1  | 2.1  | 1.8  | 1.7  | 1.7  |
| 3           | 1.7    | 82     | 76        | 2.0     | 2.0     | 93    | 2.6  | 2.5  | 2.0  | 1.7  | 1.8  | 1.7  |
| 4           | 1.8    | 83     | 75        | 1.9     | 1.9     | 92    | 2.5  | 2.1  | 1.9  | 1.7  | 1.8  | 1.7  |
| 5           | 1.8    | 83     | 74        | 2.0     | 1.8     | 49    | 2.4  | 2.0  | 1.9  | 2.0  | 1.9  | 1.6  |
| 6           | 1.8    | 83     | 73        | 2.0     | 1.7     | 28    | 2.7  | 2.0  | 1.9  | 2.0  | 1.8  | 1.6  |
| 7           | 1.8    | 83     | 73        | 2.0     | 1.7     | 28    | 2.6  | 2.0  | 1.9  | 1.9  | 1.7  | 1.6  |
| 8           | 1.8    | 82     | 73        | 2.0     | 1.6     | 28    | 2.4  | 1.9  | 1.8  | 1.9  | 1.7  | 1.8  |
| 9           | 1.8    | 82     | 73        | 2.0     | 1.6     | 28    | 2.4  | 1.9  | 1.9  | 1.8  | 1.7  | 1.9  |
| 10          | 1.8    | 82     | 73        | 2.0     | 1.6     | 28    | 2.4  | 1.9  | 1.9  | 1.8  | 1.7  | 1.8  |
| 11          | 2.0    | 81     | 49        | 2.0     | 65      | 28    | 2.3  | 1.9  | 1.9  | 1.7  | 2.1  | 1.8  |
| 12          | 2.0    | 81     | 2.4       | 2.0     | 122     | 28    | 2.3  | 2.4  | 1.8  | 1.6  | 2.1  | 1.7  |
| 13          | 19     | 80     | 2.4       | 2.0     | 120     | 28    | 2.1  | 2.8  | 1.8  | 1.6  | 2.0  | 1.7  |
| 14          | 91     | 80     | 2.3       | 2.0     | 118     | 28    | 2.2  | 2.5  | 1.9  | 1.5  | 1.9  | 1.8  |
| 15          | 67     | 80     | 2.3       | 2.0     | 117     | 27    | 2.2  | 2.6  | 1.9  | 1.5  | 1.8  | 1.9  |
| 16          | 50     | 80     | 2.3       | 2.0     | 65      | 14    | 2.2  | 3.7  | 1.7  | 1.6  | 1.8  | 1.9  |
| 17          | 41     | 80     | 2.3       | 2.0     | 36      | 3.0   | 2.2  | 3.2  | 1.6  | 1.6  | 1.8  | 2.0  |
| 18          | 283    | 80     | 2.2       | 2.0     | 24      | 2.8   | 2.1  | 2.6  | 1.7  | 1.6  | 1.7  | 2.0  |
| 19          | 238    | 79     | 2.2       | 2.0     | 15      | 2.8   | 2.1  | 2.4  | 1.7  | 1.6  | 1.8  | 2.0  |
| 20          | 35     | 79     | 2.2       | 2.0     | 63      | 2.8   | 2.1  | 2.2  | 1.7  | 1.6  | 1.7  | 2.0  |
| 21          | 35     | 78     | 2.2       | 2.0     | 119     | 2.7   | 2.0  | 2.1  | 1.7  | 1.7  | 1.8  | 1.9  |
| 22          | 35     | 78     | 2.2       | 2.0     | 142     | 2.6   | 2.0  | 2.1  | 1.7  | 1.7  | 1.8  | 1.9  |
| 23          | 35     | 78     | 2.2       | 2.0     | 150     | 2.6   | 2.0  | 2.0  | 1.7  | 1.7  | 1.8  | 2.0  |
| 24          | 34     | 78     | 2.1       | 2.0     | 209     | 2.6   | 2.4  | 1.9  | 1.7  | 1.7  | 1.8  | 1.9  |
| 25          | 134    | 78     | 2.1       | 2.0     | 268     | 2.5   | 2.3  | 1.9  | 1.9  | 1.6  | 1.8  | 1.8  |
| 26          | 245    | 78     | 2.1       | 2.0     | 283     | 2.4   | 2.2  | 1.9  | 1.9  | 1.6  | 1.8  | 1.7  |
| 27          | 30     | 78     | 2.1       | 1.9     | 284     | 2.4   | 2.1  | 1.9  | 1.8  | 1.6  | 1.8  | 1.8  |
| 28          | 30     | 77     | 2.1       | 1.9     | 281     | 2.4   | 2.1  | 1.9  | 1.7  | 1.5  | 1.7  | 1.9  |
| 29          | 30     | 77     | 2.1       | 1.9     | ---     | 2.4   | 2.4  | 2.1  | 1.6  | 1.8  | 1.7  | 1.9  |
| 30          | 30     | 77     | 2.0       | 1.9     | ---     | 2.5   | 3.2  | 4.3  | 1.6  | 1.7  | 1.7  | 1.9  |
| 31          | 55     | ---    | 2.1       | 1.9     | ---     | 2.7   | ---  | 3.4  | ---  | 1.6  | 1.7  | ---  |
| TOTAL       | 1538.3 | 2399   | 836.9     | 61.5    | 2499.2  | 987.2 | 69.9 | 74.8 | 54.7 | 52.3 | 55.6 | 54.6 |
| MEAN        | 49.6   | 80.0   | 27.0      | 1.98    | 89.3    | 31.8  | 2.33 | 2.41 | 1.82 | 1.69 | 1.79 | 1.82 |
| MAX         | 283    | 83     | 77        | 2.1     | 284     | 277   | 3.2  | 4.3  | 2.4  | 2.0  | 2.1  | 2.0  |
| MIN         | 1.5    | 77     | 2.0       | 1.9     | 1.6     | 2.4   | 2.0  | 1.9  | 1.6  | 1.5  | 1.7  | 1.6  |
| CAL YR 1980 | TOTAL  | 8554.2 | MEAN 23.4 | MAX 283 | MIN 1.4 |       |      |      |      |      |      |      |
| WTR YR 1981 | TOTAL  | 8684.0 | MEAN 23.8 | MAX 284 | MIN 1.5 |       |      |      |      |      |      |      |



## CONNECTICUT RIVER BASIN

01185500 WEST BRANCH FARMINGTON RIVER NEAR NEW BOSTON, MA

LOCATION.--Lat 42°04'45", long 73°04'24", Berkshire County, Hydrologic Unit 01080207, on left bank 5 ft (1.5 m) downstream from highway bridge, 0.3 mi (0.5 km) downstream from Clam River, 1 mi (1.6 km) south of New Boston, and at mile 65.0 (104.6 km).

DRAINAGE AREA.--92.0 mi<sup>2</sup> (238.3 km<sup>2</sup>).

PERIOD OF RECORD.--May 1913 to current year. Prior to October 1948, published as Farmington River near New Boston.

REVISED RECORDS.--WSP 641: 1924(M). WSP 756: Drainage area. WSP 781: 1928(M). WSP 1231: 1914.

GAGE.--Water-stage recorder. Datum of gage is 758.21 ft (231.102 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Otis Reservoir 7.0 mi (11.3 km) upstream on Fall River (Reservoirs in Connecticut River basin). High flow slightly affected by retarding reservoirs since 1966. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--68 years, 182 ft<sup>3</sup>/s (5.154 m<sup>3</sup>/s), 26.87 in/yr (682 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,300 ft<sup>3</sup>/s (971 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 14.06 ft (4.285 m), from rating curve extended above 9,600 ft<sup>3</sup>/s (270 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; minimum daily, 2.4 ft<sup>3</sup>/s (0.068 m<sup>3</sup>/s) Aug. 20, 21, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,740 ft<sup>3</sup>/s (134 m<sup>3</sup>/s) Feb. 20, gage height, 8.13 ft (2.478 m); minimum daily, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Oct 1, Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB   | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|-------|------|------|------|------|------|------|------|
| 1     | 12   | 121  | 199  | 26   | 17    | 635  | 143  | 233  | 56   | 30   | 22   | 16   |
| 2     | 15   | 116  | 178  | 25   | 350   | 480  | 170  | 197  | 53   | 41   | 21   | 15   |
| 3     | 19   | 114  | 181  | 25   | 220   | 345  | 143  | 156  | 47   | 45   | 19   | 14   |
| 4     | 33   | 112  | 153  | 22   | 120   | 283  | 129  | 129  | 50   | 42   | 17   | 14   |
| 5     | 34   | 111  | 156  | 18   | 84    | 238  | 135  | 115  | 43   | 83   | 18   | 13   |
| 6     | 38   | 111  | 150  | 18   | 70    | 192  | 227  | 103  | 40   | 102  | 27   | 13   |
| 7     | 41   | 120  | 149  | 19   | 80    | 177  | 182  | 93   | 39   | 73   | 23   | 12   |
| 8     | 82   | 125  | 145  | 23   | 73    | 170  | 148  | 85   | 38   | 54   | 21   | 13   |
| 9     | 55   | 131  | 152  | 24   | 69    | 163  | 133  | 78   | 41   | 44   | 20   | 43   |
| 10    | 44   | 138  | 148  | 23   | 66    | 156  | 139  | 69   | 45   | 37   | 19   | 24   |
| 11    | 50   | 126  | 121  | 21   | 900   | 150  | 124  | 68   | 43   | 31   | 17   | 19   |
| 12    | 54   | 119  | 60   | 18   | 1130  | 143  | 115  | 180  | 37   | 26   | 80   | 16   |
| 13    | 60   | 120  | 65   | 17   | 709   | 141  | 100  | 215  | 37   | 24   | 46   | 15   |
| 14    | 137  | 116  | 46   | 17   | 550   | 139  | 129  | 161  | 40   | 23   | 36   | 15   |
| 15    | 118  | 115  | 39   | 18   | 404   | 133  | 152  | 175  | 50   | 21   | 29   | 32   |
| 16    | 105  | 111  | 47   | 19   | 263   | 127  | 124  | 243  | 45   | 19   | 30   | 31   |
| 17    | 97   | 107  | 47   | 20   | 242   | 94   | 112  | 182  | 38   | 18   | 28   | 28   |
| 18    | 279  | 111  | 42   | 20   | 254   | 91   | 107  | 137  | 36   | 19   | 24   | 24   |
| 19    | 300  | 114  | 43   | 21   | 254   | 94   | 96   | 113  | 35   | 22   | 21   | 22   |
| 20    | 81   | 112  | 36   | 21   | 1860  | 86   | 91   | 97   | 35   | 22   | 19   | 24   |
| 21    | 81   | 110  | 38   | 19   | 2000  | 82   | 85   | 86   | 37   | 41   | 18   | 21   |
| 22    | 79   | 110  | 38   | 19   | 1100  | 71   | 79   | 78   | 65   | 37   | 17   | 20   |
| 23    | 82   | 109  | 38   | 19   | 650   | 71   | 86   | 71   | 90   | 27   | 17   | 26   |
| 24    | 83   | 129  | 37   | 19   | 1800  | 72   | 190  | 62   | 56   | 22   | 16   | 26   |
| 25    | 322  | 258  | 37   | 19   | 1180  | 73   | 168  | 57   | 89   | 21   | 17   | 25   |
| 26    | 413  | 215  | 36   | 18   | 1010  | 74   | 146  | 51   | 124  | 20   | 16   | 22   |
| 27    | 131  | 177  | 33   | 19   | 853   | 87   | 122  | 48   | 72   | 22   | 16   | 21   |
| 28    | 108  | 234  | 31   | 20   | 711   | 97   | 107  | 45   | 50   | 21   | 16   | 21   |
| 29    | 99   | 313  | 34   | 20   | ---   | 102  | 137  | 59   | 41   | 31   | 15   | 20   |
| 30    | 87   | 241  | 36   | 19   | ---   | 124  | 307  | 60   | 34   | 33   | 15   | 18   |
| 31    | 105  | ---  | 31   | 18   | ---   | 163  | ---  | 58   | ---  | 25   | 15   | ---  |
| TOTAL | 3244 | 4246 | 2546 | 624  | 17019 | 5053 | 4126 | 3504 | 1506 | 1076 | 715  | 623  |
| MEAN  | 105  | 142  | 82.1 | 20.1 | 608   | 163  | 138  | 113  | 50.2 | 34.7 | 23.1 | 20.8 |
| MAX   | 413  | 313  | 199  | 26   | 2000  | 635  | 307  | 243  | 124  | 102  | 80   | 43   |
| MIN   | 12   | 107  | 31   | 17   | 17    | 71   | 79   | 45   | 34   | 18   | 15   | 12   |
| MEAN† | 58.3 | 71.4 | 66.1 | 21.3 | 655   | 149  | 165  | 137  | 54.4 | 38.8 | 23.1 | 20.8 |
| CFSM† | .63  | .78  | .72  | .23  | 7.12  | 1.62 | 1.79 | 1.49 | .59  | .42  | .25  | .23  |
| IN†   | .73  | .87  | .83  | .27  | 7.42  | 1.87 | 2.00 | 1.72 | .66  | .49  | .29  | .25  |

CAL YR 1980 TOTAL 48340.5 MEAN 132 MAX 3200 MIN 7.0 MEAN† 132 CFSM† 1.43 IN 19.50  
WTR YR 1981 TOTAL 44282.0 MEAN 121 MAX 2000 MIN 12 MEAN† 118 CFSM† 1.28 IN 17.39

† Adjusted for change in contents in Otis Reservoir.

## Reservoirs in Connecticut River basin

- 01127850; 01128000. FIRST CONNECTICUT AND SECOND CONNECTICUT LAKES on Connecticut River are operated as a unit for storage of water for power and are used for recreation. The downstream order and usable capacity of each are as follows: Second Lake, 12 mi (19 km) northeast of Pittsburg, NH, 506,000,000 ft<sup>3</sup> (14,300,000 m<sup>3</sup>); First Lake, 5.6 mi (9.0 km) northeast of Pittsburg, NH, 3,330,000,000 ft<sup>3</sup> (94,300,000 m<sup>3</sup>). Records furnished by New England Power Co.
01129000. LAKE FRANCIS on Connecticut River at Pittsburg, NH, completed in March 1940, used for storage of water for power and for recreation, has usable capacity of 4,326,000,000 ft<sup>3</sup> (122,500,000 m<sup>3</sup>). Records furnished by New Hampshire Water Resources Board.
- 01132000; 01132500. MOORE AND COMERFORD RESERVOIRS on Connecticut River are operated as a unit for storage of water for hydroelectric power development and are used for recreation. The downstream order and usable capacity of each are as follows: Moore Reservoir, 4.5 mi (7.2 km) northwest of Littleton, NH, filled in April 1956, 4,970,000,000 ft<sup>3</sup> (141,000,000 m<sup>3</sup>); Comerford Reservoir, 5 mi (8 km) northeast of Monroe, NH, completed in 1930, 1,279,000,000 ft<sup>3</sup> (36,220,000 m<sup>3</sup>). Records furnished by New England Power Co.
01141000. UNION VILLAGE RESERVOIR on Ompompanoosuc River, 0.3 mi (0.5 km) north of Union Village, VT, completed in 1949 for flood control, has usable capacity of 1,660,000,000 ft<sup>3</sup> (47,000,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
- 01148000; 01150000. LAKES AND PONDS IN MASCOMA RIVER BASIN are operated as a unit for storage of water for power and are used for recreation. The reservoirs and usable capacity of each are as follows: 01148000 Goose Pond, 5.2 mi (8.4 km) northeast of Mascoma, NH, 509,000,000 ft<sup>3</sup> (14,400,000 m<sup>3</sup>); Grafton Pond, 8.5 mi (13.7 km) southeast of Mascoma, 144,000,000 ft<sup>3</sup> (4,080,000 m<sup>3</sup>); Crystal Lake, 5.8 mi (9.3 km) southeast of Mascoma, 75,000,000 ft<sup>3</sup> (2,100,000 m<sup>3</sup>); 01150000 Mascoma Lake at Mascoma, 337,000,000 ft<sup>3</sup> (9,540,000 m<sup>3</sup>); total usable capacity of the four reservoirs, 1,060,000,000 ft<sup>3</sup> (30,000,000 m<sup>3</sup>). Records furnished by New Hampshire Water Resources Board.
01151400. NORTH HARTLAND RESERVOIR on Ottauquechee River at North Hartland, VT, completed in 1961, used for flood control and recreation, has usable capacity of 3,110,000,000 ft<sup>3</sup> (88,100,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01152000. SUNAPEE LAKE on Sugar River at Sunapee, NH, used for recreation and storage of water for power, has usable capacity of 862,000,000 ft<sup>3</sup> (24,400,000 m<sup>3</sup>). Records furnished by New Hampshire Water Resources Board.
01152900. NORTH SPRINGFIELD RESERVOIR on Black River at North Springfield, VT, completed in 1960, used for flood control and recreation, has usable capacity of 2,230,000,000 ft<sup>3</sup> (63,200,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01155400. BALL MOUNTAIN RESERVOIR on West River, 2 mi (3.2 km) north of Jamaica, VT, completed in 1961, used for flood control and recreation, has usable capacity of 2,380,000,000 ft<sup>3</sup> (67,400,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01155900. TOWNSHEND RESERVOIR on West River, 1.8 mi (2.9 km) northwest of Townshend, VT, completed in 1961, used for flood control and recreation, has usable capacity of 1,460,000,000 ft<sup>3</sup> (41,300,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01157500. SURRY MOUNTAIN LAKE on Ashuelot River, 4.5 mi (7.2 km) north of Keene, NH, completed in 1942, used for flood control and recreation, has usable capacity of 1,420,000,000 ft<sup>3</sup> (40,200,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01158550. OTTER BROOK LAKE on Otter Brook, 2.5 mi (4.0 km) northeast of Keene, NH, completed in 1958, used for flood control and recreation, has usable capacity of 798,000,000 ft<sup>3</sup> (22,600,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01163500. BIRCH HILL RESERVOIR on Millers River, 1 mi (1.6 km) east of South Royalston, MA, completed in 1941 for flood control, has usable capacity of 2,180,000,000 ft<sup>3</sup> (61,700,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01164500. TULLY RESERVOIR on East Branch Tully River, 3.5 mi (5.6 km) north of Athol, MA, completed in 1948 for flood control, has usable capacity of 958,000,000 ft<sup>3</sup> (27,100,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
- 01167490; 01168000. SOMERSET AND HARRIMAN RESERVOIRS in Deerfield River basin are operated as a unit for storage of water for hydroelectric power development and are used for recreation. The downstream order and usable capacity of each are as follows: Somerset Reservoir on East Branch Deerfield River, 2.5 mi (4.0 km) northeast of Somerset, VT, completed in 1913, 2,500,000,000 ft<sup>3</sup> (71,000,000 m<sup>3</sup>); Harriman Reservoir on Deerfield River at Davis Bridge, VT, completed in 1924, 5,060,000,000 ft<sup>3</sup> (143,000,000 m<sup>3</sup>). Records furnished by New England Power Co.
01172400. BARRE FALLS RESERVOIR on Ware River, 4 mi (6 km) east of Barre, MA, completed in 1958 for flood control, has usable capacity of 1,050,000,000 ft<sup>3</sup> (29,700,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01175000. QUABBIN RESERVOIR on Swift River, 3.2 mi (5.1 km) east of Belchertown, MA, completed in August 1939 for storage of water for municipal supply, has usable capacity of 53,800,000,000 ft<sup>3</sup> (1,520,000,000 m<sup>3</sup>). Records furnished by Water Division, Metropolitan District Commission.
01176410. CONANT BROOK RESERVOIR in Chicopee River basin, 1.5 mi (2.4 km) southeast of South Monson, MA, completed in September 1966 for flood control, has usable capacity of 163,000,000 ft<sup>3</sup> (4,620,000 m<sup>3</sup>). Records furnished by Corps of Engineers.
01176500. LUDLOW RESERVOIR in Chicopee River basin, 3.2 mi (5.1 km) northwest of Three Rivers, MA, completed in 1875 for storage of water for municipal supply, has usable capacity of 201,000,000 ft<sup>3</sup> (5,690,000 m<sup>3</sup>). Records furnished by Board of Water Commissioners, Springfield, MA.
01179000. KNIGHTVILLE RESERVOIR on Westfield River, 4 mi (6 km) north of Huntington, MA, completed in 1941 for flood control, has usable capacity of 2,130,000,000 ft<sup>3</sup> (60,300,000 m<sup>3</sup>). Records furnished by Corps of Engineers.

## CONNECTICUT RIVER BASIN

## Reservoirs in Connecticut River basin--Continued

01180450. LITTLEVILLE LAKE on Middle Branch Westfield River, 2 mi (3 km) north of Huntington, MA, completed in 1965, used for flood control, water supply, and recreation, has usable capacity of 1,410,000,000 ft<sup>3</sup> (39,900,000 m<sup>3</sup>). Records furnished by Corps of Engineers.

01181900; 01182500. BORDEN BROOK AND COBBLE MOUNTAIN RESERVOIRS in Little River basin are operated as a unit for storage of water for municipal supply and for hydroelectric power development. The downstream order and usable capacity of each are as follows: Borden Brook Reservoir on Borden Brook, 3.5 mi (5.6 km) south of Blandford, MA, completed in 1909, 344,000,000 ft<sup>3</sup> (9,740,000 m<sup>3</sup>); Cobble Mountain Reservoir on Little River, 6.5 mi (10.5 km) west of Westfield, MA, completed in 1931, 3,050,000,000 ft<sup>3</sup> (86,400,000 m<sup>3</sup>). Records furnished by Board of Water Commissioners, Springfield, MA.

01185000. OTIS RESERVOIR in Farmington River basin, 3 mi (5 km) southeast of Otis, MA, completed in 1865, used for storage of water for power and for recreation, has usable capacity of 780,000,000 ft<sup>3</sup> (22,000,000 m<sup>3</sup>). Records furnished by Massachusetts Department of Natural Resources, Division of Forests and Parks.

## MONTHEND USABLE CONTENTS, IN MILLIONS OF CUBIC FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| Date                | First and Second Connecticut Lakes | Lake Francis          | Moore and Comerford Reservoirs   | Union Village Reservoir                     | Lakes and Ponds in Mascoma River basin | North Hartland Reservoir |
|---------------------|------------------------------------|-----------------------|----------------------------------|---------------------------------------------|----------------------------------------|--------------------------|
| Sept. 30, 1980..... | 3174.6                             | 3455.5                | 5769.0                           | 1.4                                         | 855.0                                  | 122.0                    |
| Oct. 31.....        | 2685.5                             | 3415.0                | 5348.0                           | 1.4                                         | 864.8                                  | 102.8                    |
| Nov. 30.....        | 2685.5                             | 3389.1                | 5932.8                           | 41.6                                        | 787.5                                  | 131.0                    |
| Dec. 31.....        | 2107.2                             | 3089.0                | 5202.8                           | 17.3                                        | 663.6                                  | 127.0                    |
| Jan. 31, 1981.....  | 1571.8                             | 2237.1                | 5084.9                           | 20.9                                        | 637.5                                  | 121.0                    |
| Feb. 28.....        | 1779.4                             | 2994.2                | 4861.7                           | 127.2                                       | 920.8                                  | 313.6                    |
| Mar. 31.....        | 1606.3                             | 2342.0                | 2658.8                           | 47.5                                        | 1024.0                                 | 167.6                    |
| Apr. 30.....        | 2853.5                             | 3257.7                | 5664.3                           | 4.5                                         | 1058.2                                 | 32.4                     |
| May 31.....         | 3399.1                             | 3886.2                | 5744.3                           | 3.9                                         | 1086.6                                 | 122.0                    |
| June 30.....        | 3511.5                             | 3835.6                | 5767.2                           | 2.4                                         | 1088.8                                 | 119.0                    |
| July 31.....        | 3475.1                             | 3606.6                | 5571.3                           | 2.4                                         | 1050.5                                 | 120.0                    |
| Aug. 31.....        | 3018.8                             | 3751.7                | 5738.0                           | 1.4                                         | 1043.5                                 | 121.0                    |
| Sept. 30.....       | 2964.5                             | 3688.6                | 5523.6                           | 4.8                                         | 975.1                                  | 117.0                    |
|                     | Sunapee Lake                       | Springfield Reservoir | Ball Mountain Reservoir          | Townshend Reservoir                         | Surry Mountain Lake                    | Otter Brook Lake         |
| Sept. 30, 1980..... | 354                                | 23.3                  | 124.6                            | 35.2                                        | 43.6                                   | 35.8                     |
| Oct. 31.....        | 301                                | 24.0                  | 17.7                             | 24.4                                        | 28.1                                   | 37.2                     |
| Nov. 30.....        | 309                                | 57.2                  | 48.4                             | 42.5                                        | 88.8                                   | 43.8                     |
| Dec. 31.....        | 349                                | 23.3                  | 14.4                             | 36.6                                        | 82.0                                   | 35.8                     |
| Jan. 31, 1981.....  | 301                                | 21.8                  | 12.4                             | 35.5                                        | 80.7                                   | 35.1                     |
| Feb. 28.....        | 641                                | 947.4                 | 530.8                            | 1309.1                                      | 380.6                                  | 110.6                    |
| Mar. 31.....        | 522                                | 114.9                 | 145.1                            | 59.6                                        | 145.1                                  | 61.1                     |
| Apr. 30.....        | 632                                | 29.1                  | 205.3                            | 38.6                                        | 82.0                                   | 21.7                     |
| May 31.....         | 638                                | 25.4                  | 92.4                             | 35.2                                        | 69.3                                   | 37.9                     |
| June 30.....        | 612                                | 24.0                  | 96.1                             | 36.9                                        | 68.1                                   | 37.2                     |
| July 31.....        | 556                                | 26.9                  | 142.7                            | 38.0                                        | 74.4                                   | 38.6                     |
| Aug. 31.....        | 515                                | 23.3                  | 100.4                            | 35.5                                        | 58.6                                   | 36.8                     |
| Sept. 30.....       | 478                                | 28.4                  | 109.8                            | .1                                          | 73.1                                   | 38.6                     |
|                     | Birch Hill Reservoir               | Tully Reservoir       | Somerset and Harriman Reservoirs | Barre Falls Reservoir                       | Quabbin Reservoir†                     | Conant Brook Reservoir   |
| Sept. 30, 1980..... | 2.7                                | 53.0                  | 5103.3                           | 1.6                                         | 49679                                  | 0                        |
| Oct. 31.....        | 2.5                                | 57.4                  | 5133.7                           | 2.9                                         | 48075                                  | 0                        |
| Nov. 30.....        | 5.7                                | 27.2                  | 6003.4                           | 37.4                                        | 47092                                  | .1                       |
| Dec. 31.....        | 1.8                                | 17.1                  | 5081.5                           | 32.8                                        | 45970                                  | .1                       |
| Jan. 31, 1981.....  | 1.6                                | 14.8                  | 3921.5                           | 35.6                                        | 44659                                  | 0                        |
| Feb. 28.....        | 159.0                              | 122.4                 | 5883.3                           | 135.9                                       | 46420                                  | .1                       |
| Mar. 31.....        | 94.8                               | 103.2                 | 4243.8                           | 3.7                                         | 47283                                  | .1                       |
| Apr. 30.....        | 11.8                               | 71.8                  | 4770.6                           | 5.0                                         | 47854                                  | .1                       |
| May 31.....         | 3.6                                | 61.8                  | 5274.2                           | 3.1                                         | 47644                                  | .1                       |
| June 30.....        | 2.7                                | 61.8                  | 5420.0                           | 3.1                                         | 47022                                  | .1                       |
| July 31.....        | 3.0                                | 108.0                 | 5403.4                           | 3.7                                         | 46059                                  | .1                       |
| Aug. 31.....        | 1.5                                | 104.8                 | 4848.6                           | 2.2                                         | 44444                                  | 0                        |
| Sept. 30.....       | 3.0                                | 108.0                 | 4735.6                           | 2.9                                         | 43244                                  | 0                        |
|                     | Ludlow Reservoir                   | Knightville Reservoir | Littleville Lake                 | Borden Brook and Cobble Mountain Reservoirs | Otis Reservoir                         |                          |
| Sept. 30, 1980..... | 132.5                              | 0.1                   | 414.6                            | 2320.7                                      | 691.8                                  |                          |
| Oct. 31.....        | 121.0                              | .5                    | 418.5                            | 2236.2                                      | 567.7                                  |                          |
| Nov. 30.....        | 129.1                              | 15.0                  | 431.5                            | 2209.3                                      | 385.9                                  |                          |
| Dec. 31.....        | 132.5                              | 19.2                  | 418.5                            | 2110.5                                      | 343.0                                  |                          |
| Jan. 31, 1981.....  | 125.9                              | 5.8                   | 417.2                            | 1988.4                                      | 346.0                                  |                          |
| Feb. 28.....        | 179.4                              | 805.9                 | 700.2                            | 2896.6                                      | 461.3                                  |                          |
| Mar. 31.....        | 177.5                              | 165.3                 | 458.8                            | 2928.7                                      | 424.8                                  |                          |
| Apr. 30.....        | 179.4                              | 6.2                   | 430.2                            | 2987.2                                      | 496.0                                  |                          |
| May 31.....         | 177.5                              | .6                    | 418.5                            | 2960.5                                      | 560.3                                  |                          |
| June 30.....        | 170.4                              | .3                    | 417.2                            | 2824.8                                      | 571.3                                  |                          |
| July 31.....        | 166.8                              | .4                    | 417.2                            | 2674.0                                      | 582.3                                  |                          |
| Aug. 31.....        | 0                                  | .1                    | 414.6                            | 2499.3                                      | 582.3                                  |                          |
| Sept. 30.....       | 0                                  | .3                    | 415.9                            | 2366.5                                      | 582.3                                  |                          |

† Affected by diversion from Ware River and diversion to Wachusett Reservoir and Chicopee Valley aqueduct.

## 01197000 EAST BRANCH HOUSATONIC RIVER AT COLTSVILLE, MA

LOCATION.--Lat 42°28'10", long 73°11'49", Berkshire County, Hydrologic Unit 01100005, on right bank 40 ft (12 m) downstream from Hubbard Avenue Bridge at Coltsville, 1.2 mi (1.9 km) upstream from Unkamet Brook, and 2 mi (3 km) northeast of Pittsfield.

DRAINAGE AREA.--57.1 mi<sup>2</sup> (147.9 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: March 1936 to current year. Prior to October 1945, published as Housatonic River at Coltsville.

Water-quality records: Water years 1963-65.

REVISED RECORDS.--WSP 851: 1936(M).

GAGE.--Water-stage recorder. Datum of gage is 993.49 ft (302.816 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period of no gage-height record, Dec. 25 to Feb. 25, which are poor. Flow regulated by powerplants upstream and, since 1949, by Cleveland Brook Reservoir, usable capacity, 214,000,000 ft<sup>3</sup> (6,060,000 m<sup>3</sup>), 5.4 mi (8.7 km) upstream; regulation greater prior to 1955. Diversion upstream from Cleveland Brook Reservoir for municipal supply of Pittsfield since May 1950; see table below for figures of diversion. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--45 years, 114 ft<sup>3</sup>/s (3.228 m<sup>3</sup>/s), 27.11 in/yr (689 mm/yr), adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft<sup>3</sup>/s (181 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 10.80 ft (3.292 m), from rating curve extended above 2,300 ft<sup>3</sup>/s (65 m<sup>3</sup>/s) on basis of computation of peak flow over dam; minimum daily, 4.4 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Aug. 15, 1936.

Maximum discharge since at least 1755, that of Sept. 21, 1938.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft<sup>3</sup>/s (34 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 20 | --   | *1400 40                                              | -- --                   |      |      |                                                       |                         |

Minimum daily discharge, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) July 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1     | 16   | 52   | 72   | 18   | 13   | 211  | 184  | 139  | 61   | 16   | 17   | 17   |
| 2     | 15   | 49   | 64   | 19   | 270  | 184  | 208  | 96   | 36   | 17   | 15   | 20   |
| 3     | 18   | 50   | 78   | 16   | 190  | 128  | 166  | 78   | 31   | 16   | 15   | 32   |
| 4     | 29   | 52   | 52   | 15   | 90   | 91   | 119  | 65   | 32   | 16   | 15   | 34   |
| 5     | 25   | 33   | 39   | 14   | 72   | 85   | 106  | 58   | 31   | 31   | 20   | 34   |
| 6     | 21   | 23   | 27   | 15   | 63   | 73   | 141  | 53   | 29   | 57   | 25   | 33   |
| 7     | 18   | 21   | 24   | 16   | 60   | 68   | 104  | 48   | 31   | 38   | 23   | 32   |
| 8     | 18   | 21   | 30   | 17   | 58   | 62   | 78   | 42   | 27   | 31   | 20   | 35   |
| 9     | 17   | 23   | 57   | 18   | 56   | 61   | 82   | 37   | 35   | 21   | 17   | 65   |
| 10    | 16   | 29   | 54   | 17   | 50   | 59   | 134  | 33   | 37   | 18   | 17   | 49   |
| 11    | 18   | 27   | 34   | 15   | 350  | 58   | 117  | 42   | 31   | 16   | 15   | 40   |
| 12    | 19   | 24   | 29   | 16   | 500  | 58   | 100  | 153  | 26   | 16   | 14   | 32   |
| 13    | 19   | 22   | 28   | 15   | 280  | 57   | 94   | 155  | 23   | 14   | 14   | 22   |
| 14    | 18   | 21   | 22   | 15   | 180  | 55   | 113  | 117  | 21   | 12   | 13   | 20   |
| 15    | 17   | 20   | 23   | 15   | 160  | 48   | 193  | 94   | 26   | 11   | 17   | 20   |
| 16    | 17   | 19   | 26   | 15   | 120  | 58   | 124  | 102  | 31   | 11   | 26   | 19   |
| 17    | 17   | 19   | 25   | 15   | 115  | 47   | 106  | 94   | 27   | 10   | 21   | 22   |
| 18    | 20   | 20   | 24   | 15   | 145  | 43   | 113  | 78   | 23   | 11   | 20   | 21   |
| 19    | 25   | 21   | 25   | 14   | 185  | 40   | 94   | 67   | 20   | 11   | 15   | 19   |
| 20    | 23   | 21   | 21   | 14   | 820  | 37   | 80   | 62   | 19   | 15   | 12   | 18   |
| 21    | 20   | 20   | 19   | 14   | 800  | 34   | 67   | 58   | 23   | 22   | 11   | 19   |
| 22    | 19   | 22   | 21   | 14   | 435  | 32   | 54   | 54   | 35   | 19   | 12   | 20   |
| 23    | 18   | 20   | 22   | 15   | 300  | 35   | 51   | 48   | 68   | 16   | 12   | 22   |
| 24    | 20   | 30   | 19   | 15   | 645  | 39   | 134  | 34   | 36   | 14   | 12   | 32   |
| 25    | 44   | 114  | 19   | 15   | 550  | 42   | 124  | 27   | 35   | 13   | 13   | 31   |
| 26    | 97   | 105  | 18   | 16   | 411  | 43   | 94   | 27   | 46   | 12   | 14   | 25   |
| 27    | 73   | 65   | 18   | 17   | 324  | 57   | 73   | 26   | 31   | 17   | 14   | 22   |
| 28    | 46   | 68   | 18   | 17   | 253  | 57   | 62   | 25   | 22   | 15   | 14   | 39   |
| 29    | 48   | 128  | 20   | 16   | ---  | 65   | 80   | 26   | 19   | 22   | 15   | 32   |
| 30    | 56   | 105  | 20   | 14   | ---  | 128  | 202  | 30   | 18   | 26   | 21   | 26   |
| 31    | 55   | ---  | 19   | 14   | ---  | 232  | ---  | 67   | ---  | 22   | 19   | ---  |
| TOTAL | 882  | 1244 | 967  | 481  | 7495 | 2287 | 3397 | 2035 | 930  | 586  | 508  | 852  |
| MEAN  | 28.5 | 41.5 | 31.2 | 15.5 | 268  | 73.8 | 113  | 65.6 | 31.0 | 18.9 | 16.4 | 28.4 |
| MAX   | 97   | 128  | 78   | 19   | 820  | 232  | 208  | 155  | 68   | 57   | 26   | 65   |
| MIN   | 15   | 19   | 18   | 14   | 13   | 32   | 51   | 25   | 18   | 10   | 11   | 17   |
| (†)   | 14.4 | 11.6 | 10.5 | 13.7 | 11.9 | 11.9 | 14.6 | 11.3 | 11.7 | 14.8 | 12.4 | 13.2 |

CAL YR 1980 TOTAL 25947 MEAN 70.9 MAX 2690 MIN 11 MEAN† 84.1 CFSM† 1.47 IN† 20.04  
WTR YR 1981 TOTAL 21664 MEAN 59.4 MAX 820 MIN 10 MEAN† 72.0 CFSM† 1.26 IN† 17.13

† Diversion, in cubic feet per second, from Cleveland Brook Reservoir for municipal supply of Pittsfield; records furnished by city of Pittsfield.

‡ Adjusted for diversion.



## HOUSATONIC RIVER BASIN

01197015 TOWN BROOK AT BRIDGE STREET AT LANESBOROUGH, MA

LOCATION.--Lat 42°31'12", long 73°13'48", Berkshire County, Hydrologic Unit 01100005, on right bank 20 ft (6 m) upstream from bridge on Bridge Street at Lanesborough and 1.3 mi (2.1 km) upstream from Pontoosuc Lake.

DRAINAGE AREA.--10.7 mi<sup>2</sup> (27.7 km<sup>2</sup>).

PERIOD OF RECORD.--June 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1111.64 ft (338.828 m) Massachusetts Department of Public Works datum.

REMARKS.--Records good except those for winter period, which are fair. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 443 ft<sup>3</sup>/s (12.5 m<sup>3</sup>/s) Feb. 20, 1981, gage height, 4.52 ft (1.378 m), from rating curve extended above 200 ft<sup>3</sup>/s (5.7 m<sup>3</sup>/s); maximum gage height, 4.97 ft (1.515 m) Feb. 11, 1981, ice jam; minimum discharge, 0.40 ft<sup>3</sup>/s (0.011 m<sup>3</sup>/s) Sept. 12, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 190 ft<sup>3</sup>/s (5.4 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date   | Time  | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |     |      |      |       |
|---------|------|-------------------------------------------------------|-------------------------|--------|-------|-------------------------------------------------------|-------------------------|-----|------|------|-------|
| Feb. 11 | --   | 320                                                   | 9.1                     | a*4.97 | 1.515 | Feb. 24                                               | 0830                    | 197 | 5.58 | 3.45 | 1.052 |
| Feb. 20 | 2030 | b*443                                                 | 12.5                    | 4.52   | 1.378 |                                                       |                         |     |      |      |       |

a Ice jam.

b From rating curve extended above 200 ft<sup>3</sup>/s (5.7 m<sup>3</sup>/s).

Minimum discharge, 0.45 ft<sup>3</sup>/s (0.013 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN  | FEB    | MAR   | APR  | MAY   | JUN   | JUL   | AUG  | SEP   |
|-------|-------|-------|-------|------|--------|-------|------|-------|-------|-------|------|-------|
| 1     | .55   | 1.7   | 9.2   | 3.8  | 1.7    | 40    | 38   | 24    | 14    | 4.4   | 2.1  | 1.5   |
| 2     | .57   | 1.7   | 8.4   | 3.4  | 70     | 33    | 81   | 23    | 11    | 4.4   | 1.7  | 1.5   |
| 3     | .89   | 1.6   | 14    | 2.8  | 50     | 30    | 49   | 22    | 11    | 4.4   | 1.5  | 1.2   |
| 4     | 2.4   | 1.7   | 9.0   | 2.4  | 37     | 27    | 40   | 19    | 12    | 4.2   | 1.5  | 1.1   |
| 5     | 1.6   | 1.7   | 8.4   | 2.0  | 23     | 25    | 47   | 18    | 9.5   | 6.9   | 7.5  | 1.1   |
| 6     | 1.1   | 1.6   | 8.0   | 2.0  | 20     | 23    | 49   | 17    | 9.9   | 6.1   | 7.5  | .97   |
| 7     | .93   | 1.6   | 7.4   | 2.3  | 17     | 21    | 39   | 16    | 9.5   | 4.6   | 4.0  | .97   |
| 8     | .87   | 1.6   | 8.4   | 2.5  | 15     | 20    | 34   | 14    | 7.5   | 3.8   | 3.0  | 1.3   |
| 9     | .85   | 2.0   | 12    | 2.5  | 16     | 19    | 37   | 13    | 11    | 3.4   | 3.0  | 4.9   |
| 10    | .85   | 2.9   | 9.8   | 2.3  | 14     | 18    | 37   | 13    | 8.5   | 2.9   | 2.5  | 2.7   |
| 11    | 1.0   | 2.6   | 8.1   | 2.3  | 95     | 17    | 32   | 16    | 7.5   | 2.5   | 2.2  | 1.6   |
| 12    | 1.1   | 2.0   | 7.2   | 2.1  | 100    | 16    | 29   | 69    | 6.4   | 2.2   | 2.5  | 1.3   |
| 13    | 1.1   | 2.0   | 7.5   | 2.0  | 46     | 15    | 26   | 50    | 6.1   | 2.2   | 2.1  | 1.4   |
| 14    | 1.0   | 2.0   | 6.6   | 2.0  | 34     | 15    | 40   | 33    | 5.8   | 2.0   | 2.0  | 1.4   |
| 15    | 1.0   | 2.0   | 5.6   | 2.0  | 27     | 15    | 35   | 31    | 6.4   | 1.8   | 2.0  | 1.6   |
| 16    | 1.0   | 1.9   | 5.9   | 2.1  | 24     | 15    | 28   | 33    | 8.2   | 1.7   | 5.3  | 1.6   |
| 17    | 1.0   | 1.7   | 4.7   | 2.1  | 36     | 14    | 28   | 28    | 6.9   | 1.6   | 2.7  | 1.4   |
| 18    | 1.6   | 1.6   | 5.4   | 2.2  | 38     | 13    | 26   | 24    | 5.8   | 1.5   | 2.1  | 1.5   |
| 19    | 2.1   | 2.5   | 4.6   | 2.1  | 47     | 13    | 23   | 21    | 5.1   | 1.6   | 1.8  | 1.7   |
| 20    | 1.3   | 2.2   | 4.5   | 2.1  | 200    | 11    | 21   | 19    | 5.3   | 3.0   | 1.6  | 1.8   |
| 21    | 1.2   | 2.0   | 4.4   | 2.0  | 153    | 10    | 20   | 18    | 6.4   | 11    | 1.5  | 1.6   |
| 22    | 1.1   | 2.0   | 4.3   | 2.0  | 85     | 9.9   | 19   | 16    | 13    | 4.2   | 1.5  | 1.7   |
| 23    | 1.0   | 1.9   | 4.2   | 2.0  | 61     | 11    | 21   | 15    | 11    | 3.0   | 1.4  | 1.8   |
| 24    | 1.0   | 7.0   | 3.8   | 2.0  | 139    | 13    | 38   | 14    | 6.7   | 2.4   | 1.5  | 4.2   |
| 25    | 2.0   | 26    | 3.7   | 2.0  | 100    | 13    | 25   | 12    | 11    | 2.0   | 1.5  | 3.4   |
| 26    | 5.3   | 11    | 3.6   | 2.0  | 73     | 15    | 23   | 11    | 11    | 2.0   | 1.5  | 2.5   |
| 27    | 3.1   | 7.0   | 3.4   | 2.2  | 57     | 18    | 21   | 9.9   | 8.5   | 4.0   | 1.3  | 2.2   |
| 28    | 2.6   | 18    | 3.4   | 2.2  | 46     | 17    | 19   | 9.2   | 6.7   | 2.5   | 1.2  | 3.8   |
| 29    | 2.3   | 25    | 3.8   | 2.1  | ---    | 23    | 25   | 9.2   | 5.6   | 5.3   | 1.3  | 3.0   |
| 30    | 2.0   | 13    | 3.9   | 1.9  | ---    | 36    | 33   | 11    | 5.1   | 3.6   | 1.4  | 2.5   |
| 31    | 1.9   | ---   | 4.0   | 1.8  | ---    | 45    | ---  | 27    | ---   | 2.5   | 1.3  | ---   |
| TOTAL | 46.31 | 151.5 | 197.2 | 69.2 | 1624.7 | 610.9 | 983  | 655.3 | 252.4 | 107.7 | 74.0 | 59.24 |
| MEAN  | 1.49  | 5.05  | 6.36  | 2.23 | 58.0   | 19.7  | 32.8 | 21.1  | 8.41  | 3.47  | 2.39 | 1.97  |
| MAX   | 5.3   | 26    | 14    | 3.8  | 200    | 45    | 81   | 69    | 14    | 11    | 7.5  | 4.9   |
| MIN   | .55   | 1.6   | 3.4   | 1.8  | 1.7    | 9.9   | 19   | 9.2   | 5.1   | 1.5   | 1.2  | .97   |
| CFSM  | .14   | .47   | .59   | .21  | 5.42   | 1.84  | 3.07 | 1.97  | .79   | .32   | .22  | .18   |
| IN.   | .16   | .53   | .69   | .24  | 5.65   | 2.12  | 3.42 | 2.28  | .88   | .37   | .26  | .21   |

WTR YR 1981 TOTAL 4831.45 MEAN 13.2 MAX 200 MIN .55 CFSM 1.23 IN 16.80



## HOUSATONIC RIVER BASIN

207

## 01197500 HOUSATONIC RIVER NEAR GREAT BARRINGTON, MA

LOCATION.--Lat 42°13'55", long 73°21'19", Berkshire County, Hydrologic Unit 01100005, on left bank at upstream side of highway bridge at Van Deusenville, 0.5 mi (0.8 km) upstream from Williams River, and 2 mi (3 km) north of Great Barrington.

DRAINAGE AREA.--280 mi<sup>2</sup> (725 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: May 1913 to current year.

Water-quality records: Water years 1957-59, 1963-64, 1971, 1979-80.

REVISED RECORDS.--WSP 415: 1913-14. WSP 781: 1928(M). WSP 1051: 1928, 1933. WSP 1301: 1914-15(M), 1917-27(M), 1929-31(M).

GAGE.--Water-stage recorder. Datum of gage is 683.04 ft (208.191 m) National Geodetic Vertical Datum of 1929.

Prior to Oct. 1, 1931, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period, which are fair. Regulation at low flow by powerplants upstream. High flow slightly affected by retarding reservoir since 1973. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--68 years, 526 ft<sup>3</sup>/s (14.90 m<sup>3</sup>/s), 25.51 in/yr (648 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft<sup>3</sup>/s (346 m<sup>3</sup>/s) Jan. 1, 1949, gage height, 12.08 ft (3.682 m), from rating curve extended above 6,400 ft<sup>3</sup>/s (180 m<sup>3</sup>/s) on basis of computations of flow over dams at gage heights 11.72 ft (3.572 m) and 12.08 ft (3.682 m); minimum daily, 1.0 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) Oct. 18, 1914.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft<sup>3</sup>/s (68 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 22 | 0715 | *3570 101                                             | 7.28 2.219              |      |      |                                                       |                         |

Minimum daily discharge, 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) Jan. 14-16, Aug. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB   | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|-------|-------|-------|-------|------|------|------|------|
| 1     | 164  | 252  | 366  | 142  | 110   | 1270  | 642   | 737   | 418  | 155  | 139  | 102  |
| 2     | 167  | 264  | 303  | 140  | 390   | 1070  | 722   | 612   | 349  | 152  | 126  | 102  |
| 3     | 176  | 261  | 294  | 130  | 1200  | 898   | 779   | 520   | 291  | 158  | 122  | 104  |
| 4     | 206  | 253  | 272  | 120  | 700   | 775   | 716   | 468   | 277  | 158  | 139  | 104  |
| 5     | 224  | 256  | 235  | 110  | 430   | 694   | 659   | 433   | 269  | 213  | 122  | 108  |
| 6     | 193  | 237  | 215  | 105  | 340   | 625   | 740   | 413   | 250  | 246  | 180  | 108  |
| 7     | 176  | 222  | 201  | 115  | 285   | 580   | 751   | 396   | 251  | 242  | 173  | 108  |
| 8     | 167  | 212  | 200  | 130  | 262   | 550   | 637   | 373   | 237  | 200  | 129  | 108  |
| 9     | 155  | 195  | 235  | 130  | 265   | 524   | 568   | 370   | 232  | 155  | 129  | 180  |
| 10    | 147  | 209  | 276  | 120  | 245   | 508   | 595   | 407   | 272  | 161  | 129  | 203  |
| 11    | 155  | 227  | 255  | 110  | 540   | 490   | 618   | 326   | 268  | 149  | 126  | 164  |
| 12    | 176  | 224  | 211  | 105  | 2100  | 475   | 581   | 746   | 246  | 139  | 164  | 144  |
| 13    | 176  | 205  | 202  | 105  | 1850  | 462   | 534   | 1210  | 236  | 129  | 161  | 134  |
| 14    | 173  | 166  | 196  | 100  | 1100  | 445   | 481   | 999   | 224  | 124  | 141  | 122  |
| 15    | 170  | 167  | 165  | 100  | 691   | 398   | 529   | 817   | 244  | 122  | 134  | 139  |
| 16    | 164  | 172  | 178  | 100  | 554   | 393   | 585   | 842   | 261  | 122  | 144  | 152  |
| 17    | 164  | 175  | 185  | 105  | 610   | 350   | 509   | 801   | 236  | 122  | 167  | 147  |
| 18    | 164  | 164  | 175  | 105  | 701   | 302   | 439   | 676   | 210  | 119  | 139  | 139  |
| 19    | 213  | 163  | 180  | 110  | 729   | 284   | 461   | 590   | 183  | 115  | 134  | 139  |
| 20    | 196  | 155  | 160  | 110  | 1200  | 273   | 428   | 520   | 170  | 113  | 131  | 147  |
| 21    | 176  | 149  | 150  | 110  | 2850  | 259   | 399   | 468   | 180  | 131  | 124  | 149  |
| 22    | 167  | 147  | 160  | 105  | 3420  | 252   | 352   | 429   | 189  | 176  | 117  | 167  |
| 23    | 152  | 146  | 164  | 105  | 2600  | 245   | 325   | 389   | 250  | 152  | 113  | 180  |
| 24    | 147  | 149  | 165  | 110  | 2240  | 242   | 462   | 345   | 253  | 134  | 102  | 200  |
| 25    | 161  | 379  | 155  | 115  | 2450  | 252   | 570   | 312   | 217  | 122  | 106  | 217  |
| 26    | 339  | 467  | 145  | 115  | 2340  | 253   | 537   | 276   | 231  | 119  | 108  | 196  |
| 27    | 326  | 353  | 147  | 120  | 1970  | 272   | 420   | 262   | 231  | 119  | 108  | 176  |
| 28    | 267  | 291  | 166  | 120  | 1600  | 325   | 313   | 245   | 196  | 139  | 108  | 196  |
| 29    | 226  | 442  | 162  | 120  | ---   | 373   | 336   | 242   | 173  | 164  | 108  | 227  |
| 30    | 204  | 458  | 169  | 115  | ---   | 443   | 613   | 242   | 164  | 186  | 104  | 196  |
| 31    | 211  | ---  | 150  | 115  | ---   | 563   | ---   | 299   | ---  | 164  | 100  | ---  |
| TOTAL | 5902 | 7160 | 6237 | 3542 | 33772 | 14845 | 16301 | 15765 | 7208 | 4700 | 4027 | 4558 |
| MEAN  | 190  | 239  | 201  | 114  | 1206  | 479   | 543   | 509   | 240  | 152  | 130  | 152  |
| MAX   | 339  | 467  | 366  | 142  | 3420  | 1270  | 779   | 1210  | 418  | 246  | 180  | 227  |
| MIN   | 147  | 146  | 145  | 100  | 110   | 242   | 313   | 242   | 164  | 113  | 100  | 102  |
| CFSM  | .68  | .85  | .72  | .41  | 4.31  | 1.71  | 1.94  | 1.82  | .86  | .54  | .46  | .54  |
| IN.   | .78  | .95  | .83  | .47  | 4.49  | 1.97  | 2.17  | 2.09  | .96  | .62  | .54  | .61  |

|             |       |        |      |     |     |      |     |     |      |      |    |       |
|-------------|-------|--------|------|-----|-----|------|-----|-----|------|------|----|-------|
| CAL YR 1980 | TOTAL | 128758 | MEAN | 352 | MAX | 4060 | MIN | 81  | CFSM | 1.26 | IN | 17.11 |
| WTR YR 1981 | TOTAL | 124017 | MEAN | 340 | MAX | 3420 | MIN | 100 | CFSM | 1.21 | IN | 16.48 |

## 01331500 HOOSIC RIVER AT ADAMS, MA

LOCATION.--Lat 42°36'40", long 73°07'28", Berkshire County, Hydrologic Unit 02020003, on left bank at Adams, 500 ft (150 m) downstream from Dry Brook, and 0.4 mi (0.6 km) upstream from Pecks Brook.

DRAINAGE AREA.--46.3 mi<sup>2</sup> (119.9 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1931 to current year.  
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: 1971-72.

GAGE.--Water-stage recorder. Datum of gage is 828.01 ft (252.377 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1964, datum was 9.00 ft (2.743 m) higher and Oct. 1, 1964, to May 29, 1974, 8.00 ft (2.438 m) higher, at site 500 ft (150 m) upstream.

REMARKS.--Records good. Diversion upstream for municipal supply of Adams. Some diurnal fluctuation by mill upstream prior to 1961. Flow regulated by Cheshire Reservoir 5.1 mi (8.2 km) upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--50 years, 89.6 ft<sup>3</sup>/s (2.537 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft<sup>3</sup>/s (144 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 9.25 ft (2.819 m), site and datum then in use, from rating curve extended above 1,100 ft<sup>3</sup>/s (31 m<sup>3</sup>/s) on basis of computation of peak flow over dam; minimum daily, 8.0 ft<sup>3</sup>/s (0.23 m<sup>3</sup>/s) Aug. 31, Sept. 1, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft<sup>3</sup>/s (25 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 11 | 2215 | a1220 34.6                                            | 7.97 2.429              | Feb. 20 | 1900 | a*1910 54.1                                           | 8.48 2.585              |

a From rating curve extended above 450 ft<sup>3</sup>/s (13 m<sup>3</sup>/s).

Minimum discharge not determined; minimum daily, 8.5 ft<sup>3</sup>/s (0.24 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|---------|------|------|------|------|------|------|------|------|------|------|
| 1           | 8.5   | 22      | 54   | 23   | 16   | 185  | 140  | 104  | 67   | 27   | 22   | 13   |
| 2           | 8.5   | 21      | 52   | 25   | 280  | 160  | 193  | 89   | 50   | 26   | 20   | 14   |
| 3           | 14    | 18      | 78   | 20   | 201  | 134  | 130  | 82   | 45   | 26   | 19   | 13   |
| 4           | 30    | 18      | 45   | 18   | 97   | 116  | 107  | 73   | 47   | 26   | 18   | 12   |
| 5           | 21    | 21      | 36   | 18   | 82   | 107  | 121  | 69   | 39   | 44   | 32   | 12   |
| 6           | 17    | 19      | 36   | 19   | 71   | 97   | 167  | 67   | 39   | 49   | 54   | 12   |
| 7           | 14    | 18      | 33   | 20   | 67   | 92   | 116  | 61   | 44   | 35   | 31   | 11   |
| 8           | 12    | 19      | 36   | 21   | 63   | 87   | 94   | 57   | 35   | 30   | 26   | 11   |
| 9           | 10    | 21      | 73   | 23   | 63   | 80   | 104  | 54   | 48   | 26   | 25   | 29   |
| 10          | 10    | 32      | 55   | 21   | 57   | 75   | 130  | 50   | 42   | 24   | 25   | 20   |
| 11          | 12    | 26      | 42   | 18   | 424  | 73   | 102  | 52   | 37   | 21   | 22   | 17   |
| 12          | 14    | 22      | 36   | 20   | 483  | 69   | 94   | 182  | 32   | 19   | 23   | 16   |
| 13          | 13    | 21      | 39   | 18   | 197  | 67   | 82   | 130  | 31   | 19   | 21   | 16   |
| 14          | 13    | 21      | 35   | 18   | 150  | 63   | 134  | 94   | 28   | 19   | 19   | 16   |
| 15          | 12    | 21      | 31   | 18   | 127  | 59   | 182  | 84   | 28   | 17   | 19   | 18   |
| 16          | 11    | 18      | 33   | 18   | 113  | 63   | 116  | 92   | 31   | 17   | 44   | 18   |
| 17          | 12    | 16      | 32   | 18   | 143  | 54   | 102  | 82   | 32   | 16   | 28   | 16   |
| 18          | 16    | 19      | 31   | 18   | 171  | 50   | 99   | 71   | 28   | 16   | 23   | 16   |
| 19          | 27    | 22      | 32   | 18   | 213  | 48   | 89   | 65   | 26   | 15   | 20   | 15   |
| 20          | 20    | 22      | 26   | 18   | 874  | 48   | 80   | 61   | 27   | 19   | 18   | 16   |
| 21          | 17    | 22      | 27   | 18   | 864  | 47   | 73   | 55   | 35   | 58   | 16   | 15   |
| 22          | 13    | 22      | 27   | 17   | 437  | 45   | 69   | 52   | 54   | 36   | 16   | 15   |
| 23          | 16    | 21      | 27   | 18   | 285  | 47   | 73   | 48   | 58   | 28   | 16   | 16   |
| 24          | 16    | 33      | 27   | 18   | 637  | 48   | 146  | 45   | 35   | 24   | 15   | 37   |
| 25          | 28    | 156     | 27   | 18   | 456  | 50   | 104  | 42   | 44   | 22   | 15   | 27   |
| 26          | 94    | 73      | 26   | 18   | 326  | 50   | 92   | 40   | 66   | 21   | 14   | 20   |
| 27          | 45    | 45      | 27   | 18   | 256  | 55   | 82   | 37   | 44   | 28   | 14   | 19   |
| 28          | 32    | 61      | 26   | 17   | 209  | 57   | 73   | 39   | 35   | 23   | 12   | 25   |
| 29          | 31    | 127     | 27   | 17   | ---  | 80   | 92   | 32   | 32   | 40   | 11   | 22   |
| 30          | 26    | 71      | 27   | 16   | ---  | 171  | 153  | 39   | 29   | 32   | 11   | 18   |
| 31          | 22    | ---     | 25   | 15   | ---  | 221  | ---  | 104  | ---  | 25   | 11   | ---  |
| TOTAL       | 635.0 | 1048    | 1128 | 580  | 7362 | 2598 | 3339 | 2152 | 1188 | 828  | 660  | 525  |
| MEAN        | 20.5  | 34.9    | 36.4 | 18.7 | 263  | 83.8 | 111  | 69.4 | 39.6 | 26.7 | 21.3 | 17.5 |
| MAX         | 94    | 156     | 78   | 25   | 874  | 221  | 193  | 182  | 67   | 58   | 54   | 37   |
| MIN         | 8.5   | 16      | 25   | 15   | 16   | 45   | 69   | 32   | 26   | 15   | 11   | 11   |
| CAL YR 1980 | TOTAL | 21177.0 | MEAN | 57.9 | MAX  | 976  | MIN  | 8.1  |      |      |      |      |
| WTR YR 1981 | TOTAL | 22043.0 | MEAN | 60.4 | MAX  | 874  | MIN  | 8.5  |      |      |      |      |

## 01332000 NORTH BRANCH HOOSIC RIVER AT NORTH ADAMS, MA

LOCATION.--Lat 42°42'08", long 73°05'37", Berkshire County, Hydrologic Unit 02020003, on left bank at North Adams, 0.4 mi (0.6 km) downstream from Hudson Brook, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--39.0 mi<sup>2</sup> (101.0 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: June 1931 to current year.

Water-quality records: Water years 1967-69.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1933(M). WSP 801: 1928(M). WDR MA-NH-RI-VT-73-1: 1971. GAGE.--Water-stage recorder. Concrete control at present site. Datum of gage is 820.46 ft (250.076 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 23, 1938, at site 100 ft (30 m) upstream at same datum.

July 9, 1959, to July 29, 1960, nonrecording gage at site 500 ft (150 m) upstream at datum about 4.6 ft (1.40 m) lower.

REMARKS.--Records good except those for period of no gage-height record, Feb. 2-26, which are poor. Infrequent diurnal fluctuation at low flow by mill upstream; more frequent fluctuation prior to 1948. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--50 years, 96.5 ft<sup>3</sup>/s (2.733 m<sup>3</sup>/s), 33.60 in/yr (853 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,950 ft<sup>3</sup>/s (253 m<sup>3</sup>/s) Sept. 21, 1938, gage height, 12.05 ft (3.673 m), from floodmarks, by computation of peak flow over dam; maximum gage height, 12.24 ft (3.731 m) Aug. 10, 1976; minimum discharge, 1.7 ft<sup>3</sup>/s (0.048 m<sup>3</sup>/s) July 30, 1965; minimum daily, 3.1 ft<sup>3</sup>/s (0.088 m<sup>3</sup>/s) July 30, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1927 reached a discharge of 9,980 ft<sup>3</sup>/s (283 m<sup>3</sup>/s), by computation of flow over dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft<sup>3</sup>/s (37 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Feb. 20 | --   | a*4390 124                                            | b10.47 3.191            |      |      |                                                       |                         |

a From rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) on basis of computations of flow over dam at gage heights 10.28 ft (3.133 m) and 12.24 ft (3.731 m).

b From peak-stage indicator.

Minimum discharge, 6.8 ft<sup>3</sup>/s (0.19 m<sup>3</sup>/s) Oct. 2; minimum daily, 7.0 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG   | SEP    |
|-------|-------|------|------|------|------|------|------|------|------|------|-------|--------|
| 1     | 7.1   | 30   | 110  | 28   | 14   | 134  | 221  | 90   | 74   | 25   | 36    | 10     |
| 2     | 7.0   | 28   | 110  | 26   | 300  | 115  | 364  | 80   | 61   | 25   | 28    | 11     |
| 3     | 10    | 24   | 175  | 24   | 150  | 93   | 185  | 77   | 47   | 27   | 22    | 11     |
| 4     | 57    | 24   | 102  | 19   | 70   | 82   | 140  | 67   | 42   | 29   | 21    | 10     |
| 5     | 36    | 25   | 81   | 18   | 52   | 78   | 160  | 60   | 35   | 129  | 40    | 9.4    |
| 6     | 23    | 23   | 80   | 20   | 45   | 70   | 200  | 57   | 49   | 274  | 80    | 8.6    |
| 7     | 16    | 21   | 79   | 21   | 41   | 67   | 140  | 54   | 68   | 113  | 40    | 8.1    |
| 8     | 13    | 21   | 81   | 21   | 38   | 63   | 110  | 49   | 42   | 68   | 28    | 9.5    |
| 9     | 11    | 22   | 150  | 19   | 36   | 59   | 105  | 45   | 51   | 44   | 26    | 69     |
| 10    | 11    | 52   | 103  | 17   | 35   | 56   | 130  | 42   | 50   | 34   | 31    | 25     |
| 11    | 12    | 37   | 68   | 16   | 350  | 55   | 105  | 49   | 40   | 25   | 23    | 17     |
| 12    | 20    | 29   | 65   | 15   | 500  | 53   | 95   | 297  | 31   | 21   | 22    | 17     |
| 13    | 16    | 25   | 74   | 14   | 150  | 52   | 80   | 205  | 26   | 21   | 18    | 30     |
| 14    | 14    | 24   | 51   | 14   | 105  | 51   | 120  | 132  | 23   | 18   | 16    | 24     |
| 15    | 12    | 23   | 42   | 14   | 90   | 47   | 150  | 99   | 25   | 18   | 15    | 54     |
| 16    | 12    | 21   | 61   | 14   | 80   | 53   | 110  | 99   | 24   | 16   | 72    | 29     |
| 17    | 12    | 17   | 50   | 15   | 110  | 44   | 94   | 88   | 20   | 14   | 40    | 21     |
| 18    | 16    | 21   | 51   | 15   | 150  | 40   | 82   | 75   | 16   | 17   | 27    | 18     |
| 19    | 34    | 23   | 48   | 14   | 200  | 38   | 80   | 68   | 14   | 19   | 19    | 17     |
| 20    | 21    | 20   | 45   | 15   | 1200 | 38   | 69   | 60   | 20   | 41   | 16    | 23     |
| 21    | 18    | 19   | 49   | 14   | 1100 | 36   | 65   | 54   | 39   | 226  | 13    | 19     |
| 22    | 18    | 20   | 46   | 14   | 400  | 34   | 59   | 49   | 103  | 88   | 13    | 17     |
| 23    | 18    | 19   | 43   | 14   | 230  | 34   | 54   | 43   | 106  | 52   | 13    | 45     |
| 24    | 18    | 26   | 39   | 14   | 500  | 38   | 115  | 39   | 51   | 33   | 13    | 119    |
| 25    | 55    | 290  | 32   | 14   | 400  | 42   | 134  | 34   | 152  | 24   | 17    | 76     |
| 26    | 198   | 150  | 34   | 14   | 290  | 43   | 92   | 29   | 180  | 21   | 14    | 49     |
| 27    | 83    | 90   | 30   | 14   | 207  | 61   | 77   | 26   | 96   | 122  | 12    | 40     |
| 28    | 61    | 130  | 28   | 14   | 156  | 61   | 69   | 37   | 62   | 61   | 11    | 128    |
| 29    | 52    | 280  | 29   | 14   | ---  | 141  | 82   | 29   | 43   | 106  | 9.9   | 70     |
| 30    | 43    | 150  | 29   | 13   | ---  | 320  | 121  | 26   | 32   | 81   | 10    | 50     |
| 31    | 37    | ---  | 26   | 13   | ---  | 415  | ---  | 135  | ---  | 51   | 11    | ---    |
| TOTAL | 961.1 | 1684 | 2011 | 511  | 6999 | 2513 | 3608 | 2294 | 1622 | 1843 | 756.9 | 1034.6 |
| MEAN  | 31.0  | 56.1 | 64.9 | 16.5 | 250  | 81.1 | 120  | 74.0 | 54.1 | 59.5 | 24.4  | 34.5   |
| MAX   | 198   | 290  | 175  | 28   | 1200 | 415  | 364  | 297  | 180  | 274  | 80    | 128    |
| MIN   | 7.0   | 17   | 26   | 13   | 14   | 34   | 54   | 26   | 14   | 14   | 9.9   | 8.1    |
| CFSM  | .80   | 1.44 | 1.66 | .42  | 6.41 | 2.08 | 3.08 | 1.90 | 1.39 | 1.53 | .63   | .89    |
| IN.   | .92   | 1.61 | 1.92 | .49  | 6.68 | 2.40 | 3.44 | 2.19 | 1.55 | 1.76 | .72   | .99    |

| CAL YR 1980 | TOTAL | 23226.3 | MEAN 63.5 | MAX 1700 | MIN 6.7 | CFSM 1.63 | IN 22.15 |
|-------------|-------|---------|-----------|----------|---------|-----------|----------|
| WTR YR 1981 | TOTAL | 25837.6 | MEAN 70.8 | MAX 1200 | MIN 7.0 | CFSM 1.82 | IN 24.64 |

## HUDSON RIVER BASIN

## 01332500 HOOSIC RIVER NEAR WILLIAMSTOWN, MA

LOCATION.--Lat 42°42'01", long 73°09'34", Berkshire County, Hydrologic Unit 02020003, on left bank 0.3 mi (0.5 km) downstream from Sherman Brook and 2.7 mi (4.3 km) east of junction of U.S. Highway 7 and State Highway 2 in Williamstown.

DRAINAGE AREA.--126 mi<sup>2</sup> (326 km<sup>2</sup>). Area at site used prior to June 6, 1979, 132 mi<sup>2</sup> (342 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1940 to current year.

Water-quality records: Water years 1953-54, 1957-58, 1967-69.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 616.11 ft (187.790 m), Corps of Engineers datum. Prior to June 6, 1979, at site 1.2 mi (1.9 km) downstream at different datum.

REMARKS.--Records good except those for winter period, which are fair. Prior to 1966, slight diurnal fluctuation at low flow caused by mills upstream. Some regulation by Cheshire Reservoir 16 mi (26 km) upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--41 years, 273 ft<sup>3</sup>/s (7.731 m<sup>3</sup>/s), 29.42 in/yr (747 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft<sup>3</sup>/s (368 m<sup>3</sup>/s) Dec. 31, 1948, gage height, 14.85 ft (4.526 m), former site and datum, from rating curve extended above 4,300 ft<sup>3</sup>/s (120 m<sup>3</sup>/s) on basis of contracted-opening measurement of peak flow; minimum, 5.8 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) Aug. 30, 31, Oct. 26, 1940; minimum daily, 24 ft<sup>3</sup>/s (0.68 m<sup>3</sup>/s) Sept. 9, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft<sup>3</sup>/s (68 m<sup>3</sup>/s) and maximum (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 11 | 2115 | 3280 92.9                                             | 8.86 2.701              | Feb. 20 | 2100 | a*5330 151                                            | 10.23 3.118             |

Minimum discharge, 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s) Oct. 1, 2; minimum daily, 29 ft<sup>3</sup>/s (0.82 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB   | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|-------|------|------|------|------|------|------|------|
| 1     | 29   | 78   | 205  | 72   | 98    | 467  | 514  | 266  | 214  | 92   | 96   | 51   |
| 2     | 29   | 72   | 200  | 80   | 900   | 404  | 755  | 234  | 163  | 86   | 79   | 55   |
| 3     | 37   | 67   | 325  | 64   | 622   | 329  | 461  | 219  | 146  | 82   | 80   | 48   |
| 4     | 102  | 71   | 202  | 58   | 277   | 282  | 366  | 200  | 137  | 86   | 78   | 47   |
| 5     | 74   | 73   | 148  | 58   | 208   | 277  | 448  | 181  | 125  | 234  | 135  | 47   |
| 6     | 52   | 71   | 141  | 60   | 174   | 244  | 548  | 172  | 141  | 404  | 216  | 46   |
| 7     | 47   | 68   | 141  | 64   | 162   | 224  | 379  | 158  | 172  | 209  | 119  | 44   |
| 8     | 39   | 70   | 147  | 72   | 154   | 219  | 311  | 146  | 125  | 146  | 96   | 47   |
| 9     | 39   | 74   | 294  | 72   | 164   | 204  | 294  | 133  | 141  | 114  | 88   | 158  |
| 10    | 36   | 110  | 219  | 64   | 126   | 195  | 366  | 129  | 137  | 92   | 85   | 83   |
| 11    | 40   | 93   | 154  | 58   | 1140  | 185  | 300  | 141  | 121  | 82   | 85   | 65   |
| 12    | 46   | 79   | 135  | 64   | 1590  | 176  | 282  | 619  | 106  | 73   | 88   | 61   |
| 13    | 43   | 73   | 130  | 58   | 595   | 172  | 234  | 448  | 96   | 67   | 73   | 76   |
| 14    | 45   | 73   | 119  | 58   | 418   | 172  | 348  | 311  | 86   | 73   | 66   | 85   |
| 15    | 36   | 72   | 96   | 58   | 336   | 158  | 435  | 260  | 86   | 67   | 65   | 111  |
| 16    | 38   | 67   | 133  | 58   | 297   | 176  | 305  | 277  | 99   | 67   | 167  | 81   |
| 17    | 36   | 60   | 121  | 58   | 396   | 150  | 277  | 244  | 92   | 64   | 109  | 73   |
| 18    | 49   | 73   | 133  | 58   | 513   | 141  | 271  | 214  | 79   | 79   | 88   | 66   |
| 19    | 77   | 76   | 129  | 56   | 689   | 137  | 229  | 195  | 73   | 70   | 77   | 63   |
| 20    | 60   | 73   | 114  | 56   | 2640  | 133  | 214  | 181  | 96   | 96   | 65   | 67   |
| 21    | 54   | 73   | 110  | 56   | 2680  | 125  | 200  | 167  | 114  | 373  | 63   | 63   |
| 22    | 53   | 72   | 105  | 54   | 1330  | 125  | 181  | 154  | 250  | 176  | 61   | 61   |
| 23    | 55   | 67   | 105  | 58   | 819   | 125  | 185  | 141  | 250  | 121  | 61   | 94   |
| 24    | 53   | 123  | 100  | 58   | 1710  | 133  | 441  | 133  | 137  | 99   | 59   | 218  |
| 25    | 116  | 531  | 96   | 58   | 1310  | 141  | 305  | 121  | 300  | 86   | 62   | 153  |
| 26    | 375  | 273  | 94   | 58   | 893   | 146  | 255  | 117  | 348  | 76   | 61   | 102  |
| 27    | 169  | 168  | 92   | 58   | 664   | 185  | 224  | 110  | 214  | 200  | 57   | 99   |
| 28    | 122  | 255  | 90   | 56   | 521   | 181  | 209  | 121  | 154  | 117  | 54   | 207  |
| 29    | 113  | 507  | 96   | 52   | ---   | 282  | 234  | 106  | 121  | 193  | 49   | 129  |
| 30    | 97   | 270  | 96   | 52   | ---   | 656  | 373  | 117  | 99   | 158  | 49   | 100  |
| 31    | 88   | ---  | 79   | 79   | ---   | 876  | ---  | 341  | ---  | 116  | 49   | ---  |
| TOTAL | 2249 | 3832 | 4349 | 1885 | 21426 | 7420 | 9944 | 6356 | 4422 | 3998 | 2580 | 2600 |
| MEAN  | 72.5 | 128  | 140  | 60.8 | 765   | 239  | 331  | 205  | 147  | 129  | 83.2 | 86.7 |
| MAX   | 375  | 531  | 325  | 80   | 2680  | 876  | 755  | 619  | 348  | 404  | 216  | 218  |
| MIN   | 29   | 60   | 79   | 52   | 98    | 125  | 181  | 106  | 73   | 64   | 49   | 44   |
| CFSM  | .55  | .97  | 1.06 | .46  | 5.80  | 1.81 | 2.51 | 1.55 | 1.11 | .98  | .63  | .66  |
| IN.   | .63  | 1.08 | 1.23 | .53  | 6.04  | 2.09 | 2.80 | 1.79 | 1.25 | 1.13 | .73  | .73  |

|             |       |       |          |          |        |           |          |
|-------------|-------|-------|----------|----------|--------|-----------|----------|
| CAL YR 1980 | TOTAL | 67090 | MEAN 183 | MAX 3200 | MIN 24 | CFSM 1.39 | IN 18.91 |
| WTR YR 1981 | TOTAL | 71061 | MEAN 195 | MAX 2680 | MIN 29 | CFSM 1.48 | IN 20.03 |



## 01333000 GREEN RIVER AT WILLIAMSTOWN, MA

LOCATION.--Lat 42°42'32", long 73°11'50", Berkshire County, Hydrologic Unit 02020003, on left bank 0.1 mi (0.2 km) upstream from bridge on State Highway 2 at Williamstown and 0.8 mi (1.3 km) upstream from mouth.

DRAINAGE AREA.--42.6 mi<sup>2</sup> (110.3 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: September 1949 to current year.

Water-quality records: Water years 1967-69.

GAGE.--Water-stage recorder. Altitude of gage is 615 ft (187 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Slight diurnal fluctuation at times caused by mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--32 years, 83.1 ft<sup>3</sup>/s (2.353 m<sup>3</sup>/s), 26.49 in/yr (673 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,060 ft<sup>3</sup>/s (115 m<sup>3</sup>/s) Dec. 21, 1973, gage height, 5.68 ft

(1.731 m) in gage well, from rating curve extended above 750 ft<sup>3</sup>/s (21 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 4.94 ft (1.506 m); maximum gage height, 6.35 ft (1.935 m) Mar. 13, 1977, from floodmarks, gage height in well unknown; minimum discharge, 3.1 ft<sup>3</sup>/s (0.088 m<sup>3</sup>/s) Sept. 20, 22, 24, 25, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 31, 1948, reached a stage of about 7.5 ft (2.3 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 850 ft<sup>3</sup>/s (24 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) (m <sup>3</sup> /s) | Gage height<br>(ft) (m) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Feb. 11 | --   | 1000 28                                               | a*4.58 1.396            | Feb. 20 | 1930 | b*1970 55.8                                           | 4.47 1.362              |

a Ice jam.

b From rating curve extended as explained above.

Minimum discharge, 3.6 ft<sup>3</sup>/s (0.10 m<sup>3</sup>/s) Nov. 18, result of freezeup.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC  | JAN   | FEB    | MAR  | APR  | MAY  | JUN  | JUL  | AUG   | SEP   |
|-------|-------|-------|------|-------|--------|------|------|------|------|------|-------|-------|
| 1     | 4.3   | 9.1   | 44   | 15    | 8.5    | 183  | 172  | 86   | 62   | 30   | 19    | 9.6   |
| 2     | 4.4   | 9.0   | 39   | 15    | 300    | 156  | 315  | 86   | 53   | 30   | 17    | 9.5   |
| 3     | 6.5   | 8.4   | 65   | 14    | 163    | 131  | 195  | 81   | 49   | 29   | 16    | 9.0   |
| 4     | 15    | 8.2   | 40   | 12    | 83     | 115  | 161  | 76   | 48   | 28   | 16    | 8.6   |
| 5     | 9.6   | 8.4   | 38   | 10    | 60     | 107  | 186  | 71   | 41   | 48   | 40    | 7.8   |
| 6     | 6.8   | 7.8   | 37   | 10    | 58     | 97   | 189  | 68   | 52   | 42   | 55    | 7.6   |
| 7     | 6.1   | 7.6   | 34   | 12    | 58     | 90   | 151  | 64   | 47   | 33   | 31    | 7.3   |
| 8     | 5.7   | 7.9   | 38   | 13    | 52     | 82   | 133  | 60   | 39   | 28   | 26    | 9.5   |
| 9     | 5.2   | 10    | 56   | 13    | 44     | 79   | 136  | 55   | 46   | 25   | 24    | 41    |
| 10    | 4.9   | 14    | 44   | 12    | 36     | 76   | 133  | 53   | 38   | 23   | 21    | 15    |
| 11    | 5.7   | 10    | 35   | 12    | 370    | 73   | 124  | 55   | 36   | 20   | 21    | 12    |
| 12    | 6.3   | 9.1   | 35   | 10    | 430    | 70   | 115  | 205  | 32   | 18   | 21    | 11    |
| 13    | 5.9   | 8.7   | 35   | 9.7   | 189    | 68   | 103  | 175  | 30   | 18   | 18    | 11    |
| 14    | 5.5   | 8.5   | 31   | 9.4   | 148    | 64   | 131  | 131  | 29   | 17   | 16    | 20    |
| 15    | 5.2   | 8.1   | 31   | 10    | 126    | 62   | 126  | 122  | 29   | 17   | 16    | 20    |
| 16    | 5.1   | 7.7   | 27   | 10    | 118    | 64   | 113  | 124  | 30   | 15   | 39    | 13    |
| 17    | 5.1   | 7.2   | 25   | 11    | 158    | 57   | 107  | 111  | 26   | 14   | 22    | 12    |
| 18    | 9.3   | 6.9   | 26   | 12    | 153    | 52   | 103  | 95   | 23   | 16   | 19    | 11    |
| 19    | 13    | 11    | 26   | 11    | 195    | 52   | 91   | 88   | 21   | 19   | 17    | 14    |
| 20    | 8.0   | 9.4   | 25   | 11    | 791    | 49   | 91   | 79   | 26   | 28   | 15    | 16    |
| 21    | 7.2   | 9.1   | 23   | 10    | 623    | 46   | 88   | 74   | 26   | 82   | 14    | 11    |
| 22    | 6.5   | 9.2   | 22   | 10    | 376    | 43   | 82   | 68   | 93   | 32   | 13    | 11    |
| 23    | 6.1   | 8.5   | 21   | 10    | 265    | 43   | 86   | 62   | 64   | 25   | 13    | 15    |
| 24    | 5.8   | 35    | 20   | 10    | 567    | 46   | 122  | 57   | 41   | 21   | 13    | 54    |
| 25    | 11    | 119   | 19   | 10    | 471    | 47   | 91   | 53   | 97   | 19   | 12    | 38    |
| 26    | 32    | 51    | 18   | 10    | 337    | 48   | 86   | 48   | 70   | 18   | 11    | 29    |
| 27    | 17    | 32    | 17   | 11    | 250    | 60   | 81   | 44   | 55   | 27   | 11    | 27    |
| 28    | 14    | 80    | 17   | 11    | 201    | 57   | 77   | 40   | 46   | 19   | 10    | 61    |
| 29    | 12    | 117   | 19   | 10    | ---    | 71   | 86   | 39   | 39   | 30   | 9.5   | 34    |
| 30    | 11    | 61    | 20   | 9.4   | ---    | 156  | 103  | 41   | 34   | 26   | 10    | 29    |
| 31    | 9.7   | ---   | 17   | 8.8   | ---    | 243  | ---  | 107  | ---  | 21   | 9.7   | ---   |
| TOTAL | 269.9 | 698.8 | 944  | 342.3 | 6630.5 | 2587 | 3777 | 2518 | 1322 | 818  | 595.2 | 573.9 |
| MEAN  | 8.71  | 23.3  | 30.5 | 11.0  | 237    | 83.5 | 126  | 81.2 | 44.1 | 26.4 | 19.2  | 19.1  |
| MAX   | 32    | 119   | 65   | 15    | 791    | 243  | 315  | 205  | 97   | 82   | 55    | 61    |
| MIN   | 4.3   | 6.9   | 17   | 8.8   | 8.5    | 43   | 77   | 39   | 21   | 14   | 9.5   | 7.3   |
| CFSM  | .20   | .55   | .72  | .26   | 5.56   | 1.96 | 2.96 | 1.91 | 1.04 | .62  | .45   | .45   |
| IN.   | .24   | .61   | .82  | .30   | 5.79   | 2.26 | 3.30 | 2.20 | 1.15 | .71  | .52   | .50   |

| CAL YR 1980 | TOTAL | 17831.4 | MEAN 48.7 | MAX 1090 | MIN 3.6 | CFSM 1.14 | IN 15.57 |
|-------------|-------|---------|-----------|----------|---------|-----------|----------|
| WTR YR 1981 | TOTAL | 21076.6 | MEAN 57.7 | MAX 791  | MIN 4.3 | CFSM 1.35 | IN 18.40 |



## HUDSON RIVER BASIN

## 01333300 HOOSIC RIVER BELOW WILLIAMSTOWN, MA

LOCATION.--Lat 42°44'28", long 73°12'47", Berkshire County, multiple-parameter monitor on right bank 0.3 mi (0.5 km) upstream from Massachusetts-Vermont State line, 2 mi (3 km) northwest of Williamstown, and 3.9 mi (6.3 km) downstream from gaging station on Hoosic River near Williamstown.

DRAINAGE AREA.--203 mi<sup>2</sup> (526 km<sup>2</sup>).

PERIOD OF RECORD.--Water years 1969-75, July 1977 to December 1980 (discontinued).

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1968 to May 1975, October 1977 to December 1980 (discontinued).

pH: November 1968 to May 1975, August 1977 to December 1980 (discontinued).

WATER TEMPERATURES: November 1968 to May 1975, July 1977 to December 1980 (discontinued).

DISSOLVED OXYGEN: November 1968 to May 1975, July 1977 to December 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor November 1968 to December 1980.

REMARKS.--Interruptions in the record were due to malfunctions in the instrument. No winter records in water years 1973, 1978-80.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 573 micromhos Feb. 20, 1974; minimum, 59 micromhos Apr. 19, 1972.

pH: Maximum recorded, 9.9 units Dec. 24, 1970; minimum, 5.8 units July 5, 1970.

WATER TEMPERATURES: Maximum recorded, 27.0°C Aug. 4, 1979; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum recorded, 16.5 mg/L Feb. 15, 1971; minimum, 0.0 mg/L July 24, 25, 27, 28, 1970.

## EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 428 micromhos Oct. 10; minimum recorded, 105 micromhos Oct. 26.

pH: Maximum recorded, 8.0 units Oct. 1; minimum recorded, 6.8 units Oct. 26, 27, Nov. 29, 30.

WATER TEMPERATURES: Maximum recorded, 17.5°C Oct. 1; minimum recorded, 1.0°C Nov. 27.

DISSOLVED OXYGEN: Maximum recorded, 14.8 mg/L Nov. 21, 23; minimum recorded, 7.1 mg/L Oct. 18.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | ---     | --- | ---  | 313      | 259 | 288  | 177      | 150 | 165  |         |     |      |
| 2     | ---     | --- | ---  | 292      | 259 | 279  | 187      | 171 | 179  |         |     |      |
| 3     | ---     | --- | ---  | 316      | 267 | 290  | 192      | 146 | 167  |         |     |      |
| 4     | ---     | --- | ---  | 348      | 284 | 317  | ---      | --- | ---  |         |     |      |
| 5     | ---     | --- | ---  | 345      | 293 | 328  | ---      | --- | ---  |         |     |      |
| 6     | ---     | --- | ---  | 352      | 297 | 331  | ---      | --- | ---  |         |     |      |
| 7     | ---     | --- | ---  | 357      | 315 | 342  | ---      | --- | ---  |         |     |      |
| 8     | ---     | --- | ---  | 347      | 288 | 330  | ---      | --- | ---  |         |     |      |
| 9     | ---     | --- | ---  | 338      | 260 | 302  | ---      | --- | ---  |         |     |      |
| 10    | 428     | 365 | 394  | 272      | 231 | 244  | ---      | --- | ---  |         |     |      |
| 11    | 405     | 360 | 377  | 282      | 241 | 261  | ---      | --- | ---  |         |     |      |
| 12    | 385     | 314 | 345  | 315      | 299 | 307  | ---      | --- | ---  |         |     |      |
| 13    | 311     | 255 | 285  | 335      | 303 | 319  | ---      | --- | ---  |         |     |      |
| 14    | 334     | 274 | 300  | 333      | 225 | 308  | ---      | --- | ---  |         |     |      |
| 15    | 359     | 322 | 347  | 329      | 278 | 307  | ---      | --- | ---  |         |     |      |
| 16    | 391     | 353 | 374  | 305      | 231 | 281  | ---      | --- | ---  |         |     |      |
| 17    | 417     | 342 | 390  | 276      | 260 | 276  | ---      | --- | ---  |         |     |      |
| 18    | 414     | 362 | 388  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| 19    | 375     | 270 | 305  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| 20    | 314     | 242 | 274  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| 21    | 350     | 282 | 314  | 358      | 237 | 332  | ---      | --- | ---  |         |     |      |
| 22    | 390     | 319 | 351  | 350      | 235 | 322  | ---      | --- | ---  |         |     |      |
| 23    | 399     | 247 | 370  | 319      | 278 | 243  | ---      | --- | ---  |         |     |      |
| 24    | 403     | 358 | 381  | 287      | 153 | 253  | ---      | --- | ---  |         |     |      |
| 25    | 397     | 200 | 350  | 221      | 129 | 147  | ---      | --- | ---  |         |     |      |
| 26    | 193     | 105 | 132  | 191      | 145 | 168  | ---      | --- | ---  |         |     |      |
| 27    | 200     | 134 | 175  | 206      | 162 | 185  | ---      | --- | ---  |         |     |      |
| 28    | 249     | 171 | 223  | 201      | 148 | 187  | ---      | --- | ---  |         |     |      |
| 29    | 255     | 218 | 239  | 139      | 116 | 124  | ---      | --- | ---  |         |     |      |
| 30    | 316     | 221 | 273  | 153      | 128 | 140  | ---      | --- | ---  |         |     |      |
| 31    | 310     | 255 | 288  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 428     | 105 | 313  | 358      | 116 | 267  | 192      | 146 | 170  |         |     |      |

## HUDSON RIVER BASIN

213

01333300 HOOSIC RIVER BELOW WILLIAMSTOWN, MA--Continued

PH (UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 8.0     | 7.4 | 7.6  | 7.3      | 7.0 | 7.1  | 7.1      | 6.9 | 7.0  |         |     |      |
| 2     | 7.8     | 7.1 | 7.4  | 7.4      | 7.0 | 7.2  | 7.1      | 6.9 | 7.0  |         |     |      |
| 3     | 7.7     | 7.1 | 7.3  | 7.3      | 7.1 | 7.2  | 7.1      | 6.9 | 7.0  |         |     |      |
| 4     | 7.4     | 7.0 | 7.2  | 7.2      | 7.0 | 7.1  | ---      | --- | ---  |         |     |      |
| 5     | 7.7     | 7.0 | 7.3  | 7.5      | 7.0 | 7.2  | ---      | --- | ---  |         |     |      |
| 6     | 7.8     | 7.0 | 7.4  | 7.5      | 7.1 | 7.3  | ---      | --- | ---  |         |     |      |
| 7     | 7.8     | 7.2 | 7.4  | 7.5      | 7.1 | 7.3  | ---      | --- | ---  |         |     |      |
| 8     | 7.9     | 7.2 | 7.5  | 7.5      | 7.1 | 7.2  | ---      | --- | ---  |         |     |      |
| 9     | 7.8     | 7.1 | 7.4  | 7.4      | 7.0 | 7.2  | ---      | --- | ---  |         |     |      |
| 10    | 7.7     | 7.2 | 7.4  | 7.4      | 7.0 | 7.1  | ---      | --- | ---  |         |     |      |
| 11    | 7.4     | 7.1 | 7.2  | 7.4      | 7.0 | 7.2  | ---      | --- | ---  |         |     |      |
| 12    | 7.5     | 7.1 | 7.3  | 7.5      | 7.1 | 7.3  | ---      | --- | ---  |         |     |      |
| 13    | 7.6     | 7.0 | 7.2  | 7.5      | 7.1 | 7.3  | ---      | --- | ---  |         |     |      |
| 14    | 7.6     | 7.1 | 7.3  | 7.5      | 7.1 | 7.2  | ---      | --- | ---  |         |     |      |
| 15    | 7.6     | 7.1 | 7.3  | 7.7      | 7.1 | 7.3  | ---      | --- | ---  |         |     |      |
| 16    | 7.6     | 7.1 | 7.3  | 7.7      | 7.2 | 7.4  | ---      | --- | ---  |         |     |      |
| 17    | 7.6     | 7.0 | 7.2  | 7.8      | 7.1 | 7.4  | ---      | --- | ---  |         |     |      |
| 18    | 7.4     | 7.0 | 7.2  | 7.6      | 7.2 | 7.2  | ---      | --- | ---  |         |     |      |
| 19    | 7.6     | 7.0 | 7.2  | 7.6      | 7.1 | 7.3  | ---      | --- | ---  |         |     |      |
| 20    | 7.5     | 7.0 | 7.2  | 7.6      | 7.1 | 7.3  | ---      | --- | ---  |         |     |      |
| 21    | 7.4     | 7.0 | 7.2  | 7.7      | 7.2 | 7.3  | ---      | --- | ---  |         |     |      |
| 22    | 7.5     | 7.0 | 7.2  | 7.6      | 7.1 | 7.3  | ---      | --- | ---  |         |     |      |
| 23    | 7.6     | 7.2 | 7.4  | 7.8      | 7.1 | 7.4  | ---      | --- | ---  |         |     |      |
| 24    | 7.6     | 7.4 | 7.5  | 7.4      | 6.9 | 7.2  | ---      | --- | ---  |         |     |      |
| 25    | 7.3     | 6.9 | 7.2  | 7.0      | 6.9 | 6.9  | ---      | --- | ---  |         |     |      |
| 26    | 7.0     | 6.8 | 6.9  | 7.1      | 6.9 | 7.0  | ---      | --- | ---  |         |     |      |
| 27    | 7.1     | 6.8 | 7.0  | 7.3      | 7.0 | 7.2  | ---      | --- | ---  |         |     |      |
| 28    | 7.1     | 6.9 | 7.0  | 7.0      | 6.9 | 7.0  | ---      | --- | ---  |         |     |      |
| 29    | 7.3     | 7.0 | 7.1  | 6.9      | 6.8 | 6.8  | ---      | --- | ---  |         |     |      |
| 30    | 7.3     | 7.0 | 7.1  | 7.0      | 6.8 | 6.9  | ---      | --- | ---  |         |     |      |
| 31    | 7.3     | 7.0 | 7.2  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 8.0     | 6.8 | 7.3  | 7.8      | 6.8 | 7.2  | 7.1      | 6.9 | 7.0  |         |     |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 17.5    | 14.0 | 15.5 | 8.0      | 6.5 | 7.0  | 5.5      | 3.0 | 4.5  |         |     |      |
| 2     | 17.0    | 14.0 | 15.5 | 7.5      | 5.5 | 6.5  | 6.5      | 5.0 | 5.5  |         |     |      |
| 3     | 16.0    | 14.5 | 15.0 | 7.0      | 4.0 | 5.5  | 5.5      | 2.0 | 4.0  |         |     |      |
| 4     | 15.0    | 14.0 | 14.5 | 9.0      | 6.5 | 8.0  | ---      | --- | ---  |         |     |      |
| 5     | 14.5    | 12.5 | 13.0 | 9.5      | 7.0 | 8.5  | ---      | --- | ---  |         |     |      |
| 6     | 14.0    | 11.5 | 12.5 | 7.5      | 6.0 | 7.0  | ---      | --- | ---  |         |     |      |
| 7     | 13.5    | 11.0 | 12.0 | 10.0     | 7.5 | 8.5  | ---      | --- | ---  |         |     |      |
| 8     | 14.0    | 10.5 | 12.0 | 11.0     | 7.5 | 10.0 | ---      | --- | ---  |         |     |      |
| 9     | 14.5    | 11.5 | 12.5 | 7.5      | 6.0 | 6.5  | ---      | --- | ---  |         |     |      |
| 10    | 13.0    | 9.0  | 11.0 | 7.5      | 5.5 | 6.5  | ---      | --- | ---  |         |     |      |
| 11    | 13.0    | 11.0 | 12.0 | 5.5      | 4.0 | 4.5  | ---      | --- | ---  |         |     |      |
| 12    | 12.0    | 10.5 | 11.5 | 5.0      | 3.5 | 4.5  | ---      | --- | ---  |         |     |      |
| 13    | 10.5    | 8.5  | 9.5  | 6.0      | 3.5 | 5.0  | ---      | --- | ---  |         |     |      |
| 14    | 10.5    | 7.5  | 8.5  | 8.0      | 6.0 | 7.0  | ---      | --- | ---  |         |     |      |
| 15    | 11.0    | 7.5  | 9.0  | 7.5      | 6.0 | 7.0  | ---      | --- | ---  |         |     |      |
| 16    | 12.0    | 9.5  | 11.0 | 6.5      | 3.5 | 5.0  | ---      | --- | ---  |         |     |      |
| 17    | 15.0    | 11.0 | 13.0 | 5.0      | 2.5 | 4.0  | ---      | --- | ---  |         |     |      |
| 18    | 16.0    | 13.5 | 14.5 | 4.0      | 1.5 | 2.5  | ---      | --- | ---  |         |     |      |
| 19    | 14.5    | 12.5 | 13.5 | 5.0      | 2.5 | 3.5  | ---      | --- | ---  |         |     |      |
| 20    | 12.0    | 10.0 | 11.0 | 6.0      | 4.0 | 5.0  | ---      | --- | ---  |         |     |      |
| 21    | 10.0    | 9.0  | 9.5  | 5.0      | 3.5 | 4.5  | ---      | --- | ---  |         |     |      |
| 22    | 9.5     | 8.0  | 9.0  | 5.5      | 4.0 | 5.0  | ---      | --- | ---  |         |     |      |
| 23    | 9.0     | 6.5  | 7.5  | 5.0      | 3.0 | 4.5  | ---      | --- | ---  |         |     |      |
| 24    | 9.0     | 5.5  | 7.0  | 6.0      | 4.0 | 5.5  | ---      | --- | ---  |         |     |      |
| 25    | 9.0     | 7.0  | 8.0  | 5.0      | 3.5 | 4.0  | ---      | --- | ---  |         |     |      |
| 26    | 8.5     | 6.5  | 7.0  | 3.5      | 1.5 | 2.5  | ---      | --- | ---  |         |     |      |
| 27    | 7.5     | 6.0  | 6.5  | 2.0      | 1.0 | 1.5  | ---      | --- | ---  |         |     |      |
| 28    | 7.0     | 6.0  | 6.5  | 4.0      | 2.0 | 3.0  | ---      | --- | ---  |         |     |      |
| 29    | 7.0     | 5.0  | 6.0  | 4.0      | 3.0 | 3.5  | ---      | --- | ---  |         |     |      |
| 30    | 7.0     | 5.0  | 6.0  | 3.5      | 3.0 | 3.0  | ---      | --- | ---  |         |     |      |
| 31    | 8.0     | 5.0  | 6.5  | ---      | --- | ---  | ---      | --- | ---  |         |     |      |
| MONTH | 17.5    | 5.0  | 10.5 | 11.0     | 1.0 | 5.5  | 6.5      | 2.0 | 4.5  |         |     |      |

## HUDSON RIVER BASIN

01333300 HOOSIC RIVER BELOW WILLIAMSTOWN, MA--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN  | MEAN | MAX      | MIN  | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|------|------|----------|------|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |      |      | DECEMBER |      |      | JANUARY |     |      |
| 1     | 12.3    | 8.1  | 9.7  | 11.6     | 10.1 | 10.7 | 12.2     | 11.4 | 10.6 |         |     |      |
| 2     | 11.4    | 7.4  | 8.7  | 12.0     | 9.5  | 10.9 | 12.2     | 10.9 | 11.5 |         |     |      |
| 3     | 11.5    | 7.3  | 8.9  | 12.6     | 10.6 | 11.3 | 12.3     | 11.0 | 11.8 |         |     |      |
| 4     | 10.2    | 7.6  | 8.8  | 11.5     | 9.7  | 10.6 | ---      | ---  | ---  |         |     |      |
| 5     | 11.5    | 8.5  | 9.7  | 11.6     | 9.6  | 10.4 | ---      | ---  | ---  |         |     |      |
| 6     | 12.2    | 8.6  | 10.0 | 12.4     | 9.9  | 11.0 | ---      | ---  | ---  |         |     |      |
| 7     | 12.3    | 8.5  | 10.0 | 12.1     | 9.5  | 10.6 | ---      | ---  | ---  |         |     |      |
| 8     | 13.0    | 8.5  | 10.2 | 11.8     | 9.0  | 10.1 | ---      | ---  | ---  |         |     |      |
| 9     | 12.0    | 8.0  | 9.5  | 11.9     | 9.8  | 10.7 | ---      | ---  | ---  |         |     |      |
| 10    | 12.4    | 8.5  | 9.9  | 12.1     | 10.2 | 11.0 | ---      | ---  | ---  |         |     |      |
| 11    | 10.0    | 8.2  | 8.9  | 12.7     | 10.7 | 11.5 | ---      | ---  | ---  |         |     |      |
| 12    | 10.9    | 8.1  | 9.3  | 13.1     | 11.1 | 11.8 | ---      | ---  | ---  |         |     |      |
| 13    | 11.8    | 8.7  | 9.9  | 13.4     | 10.8 | 11.9 | ---      | ---  | ---  |         |     |      |
| 14    | 11.9    | 9.0  | 10.3 | 13.0     | 10.3 | 11.1 | ---      | ---  | ---  |         |     |      |
| 15    | 12.1    | 9.0  | 10.2 | 13.2     | 10.1 | 11.3 | ---      | ---  | ---  |         |     |      |
| 16    | 11.4    | 8.6  | 9.6  | 13.3     | 10.4 | 11.7 | ---      | ---  | ---  |         |     |      |
| 17    | 11.4    | 7.8  | 9.2  | 14.3     | 10.9 | 12.2 | ---      | ---  | ---  |         |     |      |
| 18    | 9.8     | 7.1  | 8.1  | 13.4     | 11.3 | 12.2 | ---      | ---  | ---  |         |     |      |
| 19    | 10.9    | 7.4  | 8.9  | 13.9     | 11.3 | 12.2 | ---      | ---  | ---  |         |     |      |
| 20    | 11.0    | 8.4  | 9.4  | 14.1     | 11.1 | 12.1 | ---      | ---  | ---  |         |     |      |
| 21    | 11.3    | 8.8  | 9.8  | 14.8     | 11.0 | 12.3 | ---      | ---  | ---  |         |     |      |
| 22    | 11.6    | 8.7  | 10.0 | 13.9     | 10.9 | 11.6 | ---      | ---  | ---  |         |     |      |
| 23    | 12.3    | 9.3  | 10.4 | 14.8     | 11.2 | 12.7 | ---      | ---  | ---  |         |     |      |
| 24    | 12.5    | 9.6  | 10.7 | 13.1     | 11.0 | 11.9 | ---      | ---  | ---  |         |     |      |
| 25    | 10.2    | 8.1  | 9.6  | 12.1     | 11.4 | 11.8 | ---      | ---  | ---  |         |     |      |
| 26    | 10.7    | 9.5  | 10.2 | 13.0     | 11.9 | 12.5 | ---      | ---  | ---  |         |     |      |
| 27    | 11.3    | 10.3 | 10.8 | 13.3     | 12.2 | 12.7 | ---      | ---  | ---  |         |     |      |
| 28    | 10.9    | 10.3 | 10.6 | 12.1     | 11.6 | 11.9 | ---      | ---  | ---  |         |     |      |
| 29    | 11.9    | 10.0 | 11.0 | 12.1     | 11.7 | 11.9 | ---      | ---  | ---  |         |     |      |
| 30    | 11.9    | 10.5 | 11.1 | 12.4     | 11.8 | 12.0 | ---      | ---  | ---  |         |     |      |
| 31    | 11.9    | 10.2 | 11.0 | ---      | ---  | ---  | ---      | ---  | ---  |         |     |      |
| MONTH | 13.0    | 7.1  | 9.8  | 14.8     | 9.0  | 11.6 | 12.3     | 10.9 | 11.3 |         |     |      |

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second, a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

## Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

## Discharge measurements made at low-flow partial-record stations during water year 1981

| Discharge measurements made at low flow partial record stations during water year 1981 |                                     |                                                                                                                                      |                                  |                           |                                |                                |
|----------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------|--------------------------------|--------------------------------|
| Station No.                                                                            | Station name                        | Location                                                                                                                             | Drainage area (mi <sup>2</sup> ) | Period of record          | Measurements                   |                                |
|                                                                                        |                                     |                                                                                                                                      |                                  |                           | Date                           | Discharge (ft <sup>3</sup> /s) |
| Merrimack River basin                                                                  |                                     |                                                                                                                                      |                                  |                           |                                |                                |
| 01096800                                                                               | North Brook at Berlin, MA           | Lat 42°22'10", long 71°38'22", Worcester County, at bridge on Jones Rd., 0.8 mi south of Berlin, and 2.2 mi above mouth.             | 11.1                             | 1962-66, 1978-81          | 5-26-81<br>8- 4-81<br>8-20-81  | 9.3<br>4.3<br>4.0              |
| 01097400                                                                               | Spencer Brook near Concord, MA      | Lat 42°30'07", long 71°22'55", Middlesex County, at bridge on Spencer Brook Rd., 3.3 mi northwest of Concord.                        | 3.74                             | 1962-65, 1978-81          | 5-26-81<br>8- 4-81<br>8-20-81  | 2.2<br>.38<br>.35              |
| 01100700                                                                               | East Meadow River near Haverhill MA | Lat 42°48'41", long 71°01'59", Essex County, 10 ft downstream from culvert on State Highway 110, and 3.5 mi north-east of Haverhill. | 4.93                             | 1963-74+, 1978-81         | 5-26-81<br>8- 5-81<br>8-14-81  | 2.9<br>1.1<br>1.7              |
| Taunton River basin                                                                    |                                     |                                                                                                                                      |                                  |                           |                                |                                |
| 01106500                                                                               | Matfield River at Elmwood, MA       | Lat 42°00'55", long 70°57'42", Plymouth County, 20 ft upstream from bridge on State Highway 18 at Elmwood.                           | 40.6                             | 1958-60+, 1965, 1978-81   | 7- 2-81<br>9- 1-81             | 19<br>15                       |
| 01107400                                                                               | Fall Brook near Middleboro MA       | Lat 41°51'55", long 70°54'32", Plymouth County, at twin-box culvert on Wood St., 2 mi south of Middleboro.                           | 9.34                             | 1966-68, 1978-81          | 10- 9-80<br>6-19-81            | 1.4<br>3.2                     |
| 01108320                                                                               | Canoe River near Norton, MA         | Lat 41°58'38", long 71°08'40" Bristol County, at culvert on Plain St 2.4 mi northeast of Norton.                                     | 18.6                             | 1965-68, 1978-81          | 10- 8-80<br>6-19-81<br>8-13-81 | 1.2<br>2.9<br>.83              |
| Warren River basin                                                                     |                                     |                                                                                                                                      |                                  |                           |                                |                                |
| 01109225                                                                               | Rocky Run near Rehoboth MA          | Lat 41°46'52", long 71°15'05", Bristol County, at culvert on Davis St., 4 mi south of Rehoboth.                                      | 7.37                             | 1972-74, 1979-81          | 6-19-81<br>8-24-81             | 0.46<br>.02                    |
| Thames River basin                                                                     |                                     |                                                                                                                                      |                                  |                           |                                |                                |
| 01123200                                                                               | Stevens Brook at Holland MA         | Lat 42°03'41", long 72°09'45", Hampden County, 100 ft upstream from bridge on Mashapaug Rd., 0.3 mi south of Holland.                | 4.44                             | 1960-62, 1965-66, 1979-81 | 5-27-81<br>8- 4-81             | 4.1<br>.21                     |
| 01124750                                                                               | Browns Brook near Webster, MA       | Lat 42°03'24", long 71°49'51", Worcester County, 15 ft downstream from culvert on State Highway 16, 1.8 mi east of Webster.          | .49                              | 1963-77+, 1978-81         | 5-26-81<br>8- 4-81             | 1.7<br>.14                     |
| 01124800                                                                               | Sucker Brook near Webster, MA       | Lat 42°04'01", long 71°51'16", Worcester County, at bridge on Mine Brook Rd., 1.5 mi northeast of Webster.                           | 2.54                             | 1960-62, 1965-66, 1979-81 | 5-27-81<br>8- 4-81             | 3.2<br>.38                     |
| Connecticut River basin                                                                |                                     |                                                                                                                                      |                                  |                           |                                |                                |
| 01162900                                                                               | Otter River at Gardner MA           | Lat 42°33'52". long 72°00'43", Worcester County, at bridge on State Highway 2A at Gardner.                                           | 19.1                             | 1965-66, 1978-81          | 5-28-81<br>7- 2-81             | 13<br>11                       |

† Operated as a continuous-record gaging station.

## Discharge measurements made at low-flow partial-record stations during water year 1981--Continued

| Station No.                        | Station name                          | Location                                                                                                                                                                   | Drainage area (mi <sup>2</sup> ) | Period of record               | Measurements                             |                                |
|------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|------------------------------------------|--------------------------------|
|                                    |                                       |                                                                                                                                                                            |                                  |                                | Date                                     | Discharge (ft <sup>3</sup> /s) |
| Connecticut River basin--Continued |                                       |                                                                                                                                                                            |                                  |                                |                                          |                                |
| 01166100                           | Whetstone Brook at Wendell Depot, MA  | Lat 42°35'22", long 72°21'31", Franklin County, 0.5 mi upstream from mouth, and 0.5 mi south of Wendell Depot.                                                             | 4.88                             | 1965-66, 1978-81               | 5-27-81<br>7- 2-81<br>8-19-81            | 1.5<br>.74<br>.67              |
| 01168300                           | Cold River near Zoar, MA              | Lat 42°38'12", long 72°56'10", Franklin County, at bridge 150 ft east of State Highway 2, 0.9 mi upstream from mouth, and 1.1 mi south of Zoar.                            | 29.6                             | 1938†, 1965a, 1967-69, 1978-81 | 5-21-81<br>6-19-81<br>6-30-81<br>8- 3-81 | 31<br>5.3<br>7.5<br>4.3        |
| 01173050                           | Pleasant Brook at Barre, MA           | Lat 42°25'10", long 72°05'22", Worcester County, 0.35 mi upstream from mouth, and 0.8 mi east of Barre.                                                                    | 2.46                             | 1960-62, 1965, 1978-81         | 8-24-81                                  | 1.6                            |
| 01180800                           | Walker Brook near Becket Center, MA   | Lat 42°15'49", long 73°02'48", Berkshire County, 20 ft upstream from culvert on U.S. Highway 20, and 1.7 mi southeast of Becket Center.                                    | 3.01                             | 1962, 1963-77‡, 1978-81        | 5-20-81<br>8-28-81                       | 3.1<br>.47                     |
| 01183400                           | Great Brook near Southwick, MA        | Lat 42°03'58", long 72°44'10", Hampden County, 50 ft upstream from bridge on State Highway 57, and 2 mi northeast of Southwick.                                            | 23.2                             | 1962-68, 1978-81               | 5-21-81<br>7-28-81<br>8-25-81            | 15<br>6.3<br>5.0               |
| Housatonic River basin             |                                       |                                                                                                                                                                            |                                  |                                |                                          |                                |
| 01198000                           | Green River near Great Barrington, MA | Lat 42°11'31", long 73°23'28", Berkshire County, 250 ft downstream from Hurlburt Street Bridge, 0.2 mi downstream from Seekonk Brook, and 1.5 mi west of Great Barrington. | 51.0                             | 1952-71‡, 1973†, 1980-81       | 5-20-81<br>8-27-81                       | 126<br>9.3                     |
| 01198030                           | Schenob Brook at Sheffield, MA        | Lat 42°06'33", long 73°22'09", Berkshire County, at upstream side of Berkshire School Road bridge, 0.8 mi west of Sheffield.                                               | 22.7                             | 1971-72‡, 1978-81              | 5-20-81<br>8-27-81                       | 38<br>2.7                      |
| Hudson River basin                 |                                       |                                                                                                                                                                            |                                  |                                |                                          |                                |
| 01331360                           | Kitchen Brook at Cheshire, MA         | Lat 42°33'31", long 73°10'04", Berkshire County, at culvert on South St., 0.2 mi southwest of Cheshire, and 0.4 mi upstream from mouth.                                    | 4.78                             | 1965a, 1967-69, 1978-81        | 5-20-81<br>6-18-81<br>8- 3-81            | 7.5<br>1.3<br>0                |
| 01333100                           | Hemlock Brook near Williamstown, MA   | Lat 42°41'16", long 73°13'50", Berkshire County, at culvert on U.S. Highway 7 and State Highway 2, and 2.2 mi southwest of Williamstown.                                   | 5.25                             | 1967-69, 1978-81               | 5-20-81<br>6-17-81<br>6-30-81<br>8- 3-81 | 8.8<br>1.6<br>2.9<br>.80       |

a Published in table of miscellaneous measurements.

† Miscellaneous flood measurement.

‡ Operated as a continuous-record gaging station.



## Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

## Annual maximum discharge at crest-stage partial-record stations during water year 1981

| Station No.            | Station name                                        | Location                                                                                                                                                             | Drainage area (mi <sup>2</sup> ) | Period of record  | Annual maximum |                    |                                 |
|------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------|----------------|--------------------|---------------------------------|
|                        |                                                     |                                                                                                                                                                      |                                  |                   | Date           | Gage height (feet) | Dis-charge (ft <sup>3</sup> /s) |
| Merrimack River basin  |                                                     |                                                                                                                                                                      |                                  |                   |                |                    |                                 |
| 01095200               | Houghton Brook near Oakdale, MA                     | Lat 42°24'57", long 71°48'12", Worcester County, at culvert on State Highway 140, 2 mi north of Oakdale.                                                             | 0.69                             | 1964-81           | 2-24-81        | 7.59               | 30                              |
| 01097452               | Jackstraw Brook at Hopkinton Road, West-borough, MA | Lat 42°15'28", long 71°36'13", Worcester County, at culvert on Hopkinton Rd. (Route 135), 0.9 mi southeast of West-borough.                                          | 1.24                             | 1972-81           | 2-25-81        | 7.74               | 17                              |
| 01100100               | Richardson Brook near Lowell, MA                    | Lat 42°39'48", long 71°16'02", Middlesex County, at culvert on Methuen St., 3 mi northeast of Lowell.                                                                | 4.32                             | 1963-81           | 2-26-81        | 13.12              | 125                             |
| 01100800               | Cobbler Brook near Merrimac, MA                     | Lat 42°50'55", long 71°01'10", Essex County, at culvert on Highland St., 1.3 mi northwest of Merrimac.                                                               | .77                              | 1963-81           | 2-26-81        | 8.37               | 54                              |
| Charles River basin    |                                                     |                                                                                                                                                                      |                                  |                   |                |                    |                                 |
| 01104600               | Beaver Brook at Belmont, MA                         | Lat 42°23'26", long 71°11'51", Middlesex County, at culvert on State Highway 60 (Trapelo Rd.), 1 mi southwest of Belmont.                                            | 4.09                             | 1963-81           | 2-26-81        | 10.92              | 110                             |
| South River basin      |                                                     |                                                                                                                                                                      |                                  |                   |                |                    |                                 |
| 01105850               | Furnace Brook near Marshfield, MA                   | Lat 42°06'30", long 70°43'53", Plymouth County, at culvert on Furnace St., 1.7 mi northwest of Marshfield.                                                           | 1.61                             | 1964-81           | 2-26-81        | 8.61               | 30                              |
| Taunton River basin    |                                                     |                                                                                                                                                                      |                                  |                   |                |                    |                                 |
| 01109100               | Taunton River tributary near Fall River, MA         | Lat 41°45'31", long 71°07'01", Bristol County, at culvert on State Highway 79, 4 mi northeast of Fall River.                                                         | 0.25                             | 1964-81           |                | unknown            |                                 |
| Runnins River basin    |                                                     |                                                                                                                                                                      |                                  |                   |                |                    |                                 |
| 01109270               | Runnins River at Seekonk, MA                        | Lat 41°49'25", long 71°20'00", Bristol County, at culvert on Pleasant St., 1.0 mi north of Seekonk.                                                                  | 4.24                             | 1967-81           | 2-20-81        | 5.37               | 37                              |
| Blackstone River basin |                                                     |                                                                                                                                                                      |                                  |                   |                |                    |                                 |
| 01109480               | Kettle Brook Diversion Weir at Auburn, MA           | Lat 42°13'06", long 71°49'40", Worcester County, on right bank behind MacKensie Machinery Co., on State Highway 12, 1.8 mi north of Massachusetts Turnpike overpass. | --                               | 1979-81           | 5-17-81        | 487.50             | 170                             |
| 01109500               | Kettle Brook at Worcester, MA                       | Lat 42°13'55", long 71°50'07", Worcester County, on right bank, 75 ft downstream from Webster St. bridge, 1.0 mi upstream from Beaver Brook.                         | --                               | 1923-78+, 1979-81 | about 2-26-81  | 3.68               | a205                            |

<sup>+</sup> Operated as continuous-record station.

a Diversion flow at station 01109480 not included.

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 1981--Continued

| Station No.             | Station name                                           | Location                                                                                                           | Drainage area (mi <sup>2</sup> ) | Period of record | Annual maximum |                    |                                 |
|-------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------|----------------|--------------------|---------------------------------|
|                         |                                                        |                                                                                                                    |                                  |                  | Date           | Gage height (feet) | Dis-charge (ft <sup>3</sup> /s) |
| Thames River basin      |                                                        |                                                                                                                    |                                  |                  |                |                    |                                 |
| *01123160               | Wales Brook tributary near Wales, MA                   | Lat 42°04'48", long 72°11'51", Hampden County, at culvert on Holland Rd., 1.5 mi northeast of Wales.               | 0.71                             | 1964-81          | 2-24-81        | 7.78               | 24                              |
| 01124050                | Tufts Branch at Dudley, MA                             | Lat 42°03'11", long 71°56'22", Worcester County, at culvert on Dudley-Southbridge Rd., 0.7 mi northwest of Dudley. | 1.06                             | 1963-81          | 2-25-81        | 10.11              | 33                              |
| Connecticut River basin |                                                        |                                                                                                                    |                                  |                  |                |                    |                                 |
| 01161300                | Millers Brook at Northfield, MA                        | Lat 42°41'07", long 72°27'11", Franklin County, at culvert on Beers Plain Rd., 0.8 mi south of Northfield.         | 2.33                             | 1964-81          | 2-20-81        | 16.23              | a90                             |
| 01171910                | Broad Brook near Holyoke, MA                           | Lat 42°11'59", long 72°41'11", Hampden County, at culvert on Keys Rd., 3.5 mi west of Holyoke.                     | 2.26                             | 1965-81          | 2-20-81        | 17.04              | 70                              |
| *01175600               | Caruth Brook near Paxton, MA                           | Lat 42°19'00", long 71°58'16", Worcester County, at culvert on Spring St., 2.2 mi west of Paxton.                  | 2.35                             | 1965-81          | 2-25-81        | 7.48               | 58                              |
| 01178230                | Mill Brook at Plainfield, MA                           | Lat 42°30'57", long 72°55'30", Hampshire County, at culvert on High St., 0.4 mi west of Plainfield.                | 4.47                             | 1964-76, 1978-81 | 2-20-81        | 15.58              | 250                             |
| 01183100                | Seymour Brook tributary at Granville, MA               | Lat 42°03'53", long 72°51'42", Hampden County, at culvert on State Highway 189, at Granville.                      | .66                              | 1964-77, 1979-81 | 2-20-81        | 12.88              | 143                             |
| 01183810                | Longmeadow Brook at Pondsides Rd., near Longmeadow, MA | Lat 42°02'22", long 72°35'32", Hampden County, at culvert on Pondsides Rd., 2 mi southwest of Longmeadow.          | 4.15                             | 1967-77, 1979-81 | 9-9-81         | 4.58               | 60                              |
| Housatonic River basin  |                                                        |                                                                                                                    |                                  |                  |                |                    |                                 |
| 01197550                | Housatonic River tributary at Risingdale, MA           | Lat 42°13'57", long 73°20'47", Berkshire County, at culvert on State Highway 183, 0.7 mi southeast of Risingdale.  | 0.69                             | 1963-81          | 2-20-81        | 15.74              | 20                              |

\* Also a miscellaneous measurement site.

a Estimated.

## Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (\*).

## Discharge measurements made at miscellaneous sites during water year 1981

| Stream                              | Tributary to                        | Location                                                                                                                                                                                                 | Drainage area (mi <sup>2</sup> ) | Measured previously (water years) | Measurements       |                                 |
|-------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------|--------------------|---------------------------------|
|                                     |                                     |                                                                                                                                                                                                          |                                  |                                   | Date               | Dis-charge (ft <sup>3</sup> /s) |
| Blackstone River basin              |                                     |                                                                                                                                                                                                          |                                  |                                   |                    |                                 |
| 01110500<br>Blackstone River        | Providence River (Narragansett Bay) | Lat 42°09'13", long 71°39'09", Worcester County, 100 ft downstream from Sutton St. Bridge, at Northbridge, MA.                                                                                           | 139                              | 1940-77†, 1978-80                 | 10- 1-80           | 100                             |
|                                     |                                     |                                                                                                                                                                                                          |                                  |                                   | 11-25-80           | 254                             |
|                                     |                                     |                                                                                                                                                                                                          |                                  |                                   | 2-27-81            | 1400                            |
|                                     |                                     |                                                                                                                                                                                                          |                                  |                                   | 3- 2-81            | 734                             |
|                                     |                                     |                                                                                                                                                                                                          |                                  |                                   | 4-13-81            | 203                             |
|                                     |                                     |                                                                                                                                                                                                          |                                  |                                   | 5-18-81            | 432                             |
|                                     |                                     |                                                                                                                                                                                                          |                                  |                                   | 7-23-81            | 228                             |
| Pawcatuck River basin               |                                     |                                                                                                                                                                                                          |                                  |                                   |                    |                                 |
| 01117650<br>Pawcatuck River         | Block Island Sound (Atlantic Ocean) | Lat 41°25'58", long 71°41'40", Washington County, below bridge on Knights Factory Rd. (formerly Narragansett Trail), at Wood River Junction, RI.                                                         | -                                | 1967a                             | 10- 8-80           | *31                             |
| 01117745<br>Wood River              | Pawcatuck River                     | Lat 41°35'53", long 71°44'47", Washington County, at bridge on dirt road 1.1 mi east of Escoheag, and 4.0 mi northwest of Arcadia, RI.                                                                   | 17.5                             | 1979                              | 10-10-80           | *1.3                            |
| 01117748<br>Wood River              | do                                  | Lat 41°34'48", long 71° 43'18", Washington County, at junction of Barber Rd. and Ten Rod Rd., 0.6 mi west of West Exeter, and 2.2 mi northwest of Arcadia, RI.                                           | -                                | -                                 | 10-10-80           | *3                              |
| 01117770<br>Breakheart Brook        | Wood River                          | Lat 41°35'42", long 71°42'14", Washington County, at bridge on Austin Farm Rd., at outlet of Breakheart Pond in Arcadia State Reservation, 1.3 mi north of West Exeter, and 2.8 mi north of Arcadia, RI. | 6.22                             | 1966-67                           | 10-10-80           | *.97                            |
| 01117790<br>Flat River              | do                                  | Lat 41°34'45", long 71°43'10", Washington County, at bridge on Barber Rd., 0.5 mi west of West Exeter, and 2.1 mi northwest of Arcadia, RI.                                                              | -                                | -                                 | 10-10-80           | *4.5                            |
| 01117877<br>Wood River              | Pawcatuck River                     | Lat 41°32'26", long 71°41'48", Washington County, at bridge on Nooseneck Rd., at Barberville, and 1.0 mi south of Arcadia, RI.                                                                           | -                                | -                                 | 10-17-80           | *12                             |
| 01117990<br>Locustville Pond Outlet | Wood River                          | Lat 41°30'27", long 71°42'59", Washington County, at bridge on State Highway 138, at Hope Valley, RI.                                                                                                    | 12.2                             | 1977, 1979                        | 10- 9-80           | *4.6                            |
| 01118009<br>Wood River              | Pawcatuck River                     | Lat 41°26'10", long 71°43'17", Washington County, 0.1 mi south of Alton-Carolina Rd., and 0.1 mi south of Alton, RI.                                                                                     | 85.7                             | 1977, 1979-80                     | 10- 8-80           | *30                             |
| 01118010<br>Pawcatuck River         | Block Island Sound (Atlantic Ocean) | Lat 41°24'58", long 71°43'46", Washington County, at bridge on Burdickville Rd., at Burdickville, 1.5 mi south of Alton, RI.                                                                             | 205                              | 1966-67, 1977, 1979-80            | 10- 8-80           | *63                             |
| Thames River basin                  |                                     |                                                                                                                                                                                                          |                                  |                                   |                    |                                 |
| 01119100<br>Sawmill Brook           | Middle River                        | Lat 42°02'04", long 72°18'13", Hampden County, at bridge on Stafford Hollow Rd., 3.8 mi south of South Monson, MA.                                                                                       | -                                | 1980                              | 8-19-81<br>8-31-81 | *0.16<br>*.11                   |
| 01123090<br>Hollow Brook            | Mill Brook                          | Lat 42°05'03", long 72°13'40", Hampden County, at culvert on Hollow Rd., 1.1 mi north of Wales, MA.                                                                                                      | -                                | 1980                              | 8-19-81<br>8-31-81 | *.20<br>*.22                    |
| 01123100<br>Mountain Brook          | do                                  | Lat 42°07'10", long 72°13'08", Hampden County, at bridge on U.S. Route 20, 0.9 mi west of Brimfield, MA.                                                                                                 | 1.37                             | 1960-62‡, 1965-66‡, 1980          | 8-19-81<br>8-28-81 | *.10<br>*.10                    |

See footnotes at end of table.

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1981--Continued

| Stream                                      | Tributary to    | Location                                                                                                                                                                                         | Drainage<br>area<br>(mi <sup>2</sup> ) | Measured<br>previously<br>(water) | Measurements       |                |
|---------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------|--------------------|----------------|
|                                             |                 |                                                                                                                                                                                                  |                                        |                                   | Date               | Dis-<br>charge |
| Thames River basin--Continued               |                 |                                                                                                                                                                                                  |                                        |                                   |                    |                |
| 01123150<br>East<br>Brook                   | Mill Brook      | Lat 42°08'18", long 72°11'24", Hampden<br>County, at bridge 500 ft east of<br>Sherman Pond, 1.2 mi north of<br>Brimfield, MA.                                                                    | 4.14                                   | 1960-62†,<br>1965†,<br>1980       | 8-28-81            | *0.32          |
| 01123158<br>Wales<br>Brook                  | do              | Lat 42°04'37", long 72°12'16", Hampden<br>County, at bridge on Hollow Rd.,<br>1.1 mi northeast of Wales, MA.                                                                                     | -                                      | 1980                              | 8-19-81<br>8-31-81 | *.46<br>*.32   |
| †01123160<br>Wales Brook<br>tributary       | Wales Brook     | Lat 42°04'48", long 72°11'51", Hampden<br>County, at culvert on Holland Rd.,<br>1.5 mi northeast of Wales, MA.                                                                                   | .71                                    | 1965-66†,<br>1980                 | 8-19-81<br>8-31-81 | *.06<br>*.03   |
| 01123190<br>May Brook                       | Quinebaug River | Lat 42°01'46", long 72°10'32", Tolland<br>County, 800 ft south of Connecticut-<br>Massachusetts state line, 2.6 mi south<br>of Holland, MA, and 2.8 mi north of<br>Union, CT.                    | -                                      | 1980                              | 8-31-81            | *.10           |
| 01123250<br>Quinebaug<br>River<br>tributary | do              | Lat 42°09'57", long 72°08'38", Worcester<br>County, at culvert on Brookfield Rd.,<br>4 mi southwest of Brookfield, MA.                                                                           | 2.07                                   | 1960-62†,<br>1965-66†,<br>1980    | 8-20-81<br>8-28-81 | *.08<br>*.08   |
| 01123300<br>Quinebaug<br>River<br>tributary | Quinebaug River | Lat 42°08'52", long 72°07'55", Worcester<br>County, at culvert on Sturbridge Rd.,<br>2.2 mi northwest of Fiskdale, MA.                                                                           | 5.49                                   | 1960-62†,<br>1965-66†,<br>1980    | 8-20-81<br>8-28-81 | *.51<br>*.46   |
| 01123695<br>McKinstry<br>Brook              | do              | Lat 42°07'38", long 72°01'52", Worcester<br>County, at bridge on Hill Rd., 2.4 mi<br>southwest of Charlton City, MA.                                                                             | -                                      | 1980                              | 8-19-81<br>8-28-81 | 0<br>0         |
| 01123700<br>McKinstry<br>Brook              | do              | Lat 42°05'30", long 72°02'43", Worcester<br>County, 100 ft below Plimpton Street<br>Bridge, at Southbridge, MA.                                                                                  | 7.76                                   | 1960-62†,<br>1965-66†,<br>1980    | 8-18-81<br>8-31-81 | *.12<br>*.05   |
| 01123800<br>Lebanon<br>Brook                | do              | Lat 42°03'20", long 72°01'10", Worcester<br>County, at bridge on State Highway 169,<br>1.8 mi southwest of Southbridge, MA.                                                                      | 9.41                                   | 1960-62†,<br>1965-66†,<br>1980    | 8-18-81            | *.83           |
| 01123810<br>Quinebaug<br>River<br>tributary | do              | Lat 42°04'15", long 72°00'23", Worcester<br>County, at bridge at wastewater treatment<br>plant off Dresser Hill Rd., 0.5 mi<br>northeast of Sandersdale, 1.4 mi southeast<br>of Southbridge, MA. | -                                      | 1980                              | 8-18-81            | *.18           |
| 01124100<br>Tufts<br>Branch                 | do              | Lat 42°01'42", long 71°56'19", Worcester<br>County, 200 ft above bridge on State<br>Highway 197, 1.2 mi southwest of<br>Dudley, MA.                                                              | 2.21                                   | 1960-62†,<br>1965-66†,<br>1980    | 8-18-81            | 0              |
| 01124285<br>French River                    | do              | Lat 42°11'16", long 71°53'50", Worcester<br>County, at culvert on unnamed road at<br>Cominsville, 1.9 mi north of North<br>Oxford, MA.                                                           | -                                      | 1980                              | 8-18-81<br>9- 8-81 | *5.38<br>*1.83 |
| 01124390<br>Little River                    | French River    | Lat 42°09'16", long 71°54'47", Worcester<br>County, at bridge on U.S. Highway 20,<br>0.7 mi east of Richardson Corners,<br>1.5 mi west of North Oxford, MA.                                      | -                                      | 1980                              | 8-18-81<br>9- 8-81 | *1.36<br>*.74  |
| 01124515<br>French<br>River<br>tributary    | do              | Lat 42°05'45", long 71°52'39", Worcester<br>County, at culvert on Nelson St., 0.7 mi<br>southeast of West Oxford, 1.3 mi southwest<br>of Oxford, MA.                                             | -                                      | 1980                              | 8-18-81<br>9- 8-81 | *1.93<br>*1.11 |
| 01124910<br>Mill Brook                      | do              | Lat 42°04'02", long 71°52'34", Worcester<br>County, at bridge on Bigelow Rd., 1.3 mi<br>north of Webster, MA.                                                                                    | -                                      | 1980                              | 8-18-81            | *2.11          |
| 01125780<br>Rocky Brook                     | Fivemile River  | Lat 42°00'48", long 71°48'09", Windham<br>County, at bridge on East Thompson Rd.,<br>0.5 mi northeast of East Thompson, CT.                                                                      | -                                      | 1980†                             | 8-18-81            | *.57           |

See footnotes at end of table.

## Discharge measurements made at miscellaneous sites during water year 1981--Continued

| Discharge measurements made at miscellaneous sites during water year 1961--continued |                         |                                                                                                                                               |                                  |                                   |                               |                                 |
|--------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------|-------------------------------|---------------------------------|
| Stream                                                                               | Tributary to            | Location                                                                                                                                      | Drainage area (mi <sup>2</sup> ) | Measured previously (water years) | Measurements                  |                                 |
|                                                                                      |                         |                                                                                                                                               |                                  |                                   | Date                          | Dis-charge (ft <sup>3</sup> /s) |
| Connecticut River basin                                                              |                         |                                                                                                                                               |                                  |                                   |                               |                                 |
| 01172600<br>Canesto Brook                                                            | Burnshirt River         | Lat 42°28'24", long 72°03'08", Worcester County, at culvert on Williamsville Rd., 1.4 mi east of Williamsville, MA.                           | 4.48                             | 1960-62+, 1965-66+, 1980          | 8- 3-81<br>8-28-81            | *2.7<br>1.2                     |
| 01172700<br>Natty Pond Brook                                                         | Canesto Brook           | Lat 42°28'41", long 72°01'26", Worcester County, at bridge on Williamsville Rd., 0.9 mi west of Hubbardston, MA.                              | 2.51                             | 1960-62+, 1965-66+                | 8- 3-81<br>8-28-81            | *3.3<br>*1.2                    |
| 01172800<br>Natty Pond Brook                                                         | Canesto Brook           | Lat 42°27'06", long 72°01'48", Worcester County, at bridge on Hale Rd., 0.8 mi above mouth, 2.0 mi southwest of Hubbardston, MA.              | 5.50                             | 1960-62+, 1965+, 1980             | 8- 3-81<br>8-28-81            | *3.7<br>*1.7                    |
| 01172950<br>Ware River tributary                                                     | Ware River              | Lat 42°23'35", long 72°02'39", Worcester County, at bridge on State Highway 122, at Coldbrook Springs, MA.                                    | -                                | 1980                              | 8- 3-81<br>8-28-81            | *2.8<br>*2.1                    |
| 01173150<br>Smith Brook                                                              | Prince River            | Lat 42°23'52", long 72°06'17", Worcester County, at culvert on Loring Rd., 1.0 mi north of South Barre, MA.                                   | .57                              | 1960-62+, 1965-66+, 1980          | 8- 3-81<br>8-28-81            | *.03<br>*.01                    |
| 01173200<br>Bell Brook                                                               | Pratt Brook             | Lat 42°22'24", long 72°05'56", Worcester County, at culvert on Woods Rd., 0.4 mi south of Barre Plains, MA.                                   | 3.57                             | 1960-62+, 1965-66+, 1980          | 8-21-81                       | *.51                            |
| 01173230<br>Pine Hill Brook                                                          | Ware River              | Lat 42°22'16", long 72°07'39", Worcester County, at bridge on Glazer Rd., 0.5 mi southwest of Barre Plains, MA.                               | 2.62                             | 1960-62+, 1965-66+, 1980          | 8-20-81                       | *.01                            |
| 01173300<br>Winimusset Brook                                                         | do                      | Lat 42°20'33", long 72°08'44", Worcester County, at culvert on Hardwick Rd., 0.8 mi south of Wheelwright, 3 mi southwest of Barre Plains, MA. | 5.69                             | 1960-62+, 1965-66+, 1980          | 8-21-81                       | *1.5                            |
| 01173350<br>Danforth Brook                                                           | do                      | Lat 42°19'42", long 72°12'19", Worcester County, at culvert on State Highway 32, 1.1 mi north of Gilbertville, MA.                            | 4.01                             | 1960-62+, 1965-66+, 1980          | 8-19-81<br>9- 8-81            | *.61<br>*.28                    |
| 01173400<br>Muddy Brook                                                              | do                      | Lat 42°22'06", long 72°13'16", Worcester County, at culvert on Greenwich Rd., 1.8 mi northwest of Hardwick, MA.                               | 4.34                             | 1960-62+, 1965-66+, 1980          | 8-19-81<br>9- 8-81            | *.42<br>*.10                    |
| 01173450<br>Flat Brook                                                               | do                      | Lat 42°14'56", long 72°15'53", Hampshire County, at culvert on State Highway 32, 1.4 mi southwest of Ware, MA.                                | 6.50                             | 1960-62+, 1965-66+, 1980          | 8-19-81<br>9- 8-81            | *1.0<br>*.50                    |
| 01173900<br>Middle Branch Swift River                                                | Quabbin Reservoir       | Lat 42°32'45", long 72°19'10", Franklin County, at culvert on Elm St., at North New Salem, MA.                                                | 4.73                             | 1964-74+, 1980                    | 8-20-81<br>8-31-81            | *.33<br>*.26                    |
| 01174200<br>East Branch Swift River                                                  | do                      | Lat 42°30'44", long 72°09'18", Worcester County, at bridge on State Highway 101, 2.3 mi northeast of Petersham, MA.                           | -                                | 1980                              | 8- 3-81<br>8-28-81<br>9- 8-81 | *2.6<br>*1.5<br>*.77            |
| 01174560<br>West Branch Swift River                                                  | do                      | Lat 42°27'50", long 72°22'59", Franklin County, at bridge on Cooleyville Rd., 0.4 mi west of Cooleyville, 1.6 mi northeast of Shutesbury, MA. | -                                | 1980                              | 8-20-81<br>8-31-81            | *.29<br>*.11                    |
| 01174563<br>West Branch Swift River tributary                                        | West Branch Swift River | Lat 42°27'52", long 72°22'56", Franklin County, at bridge on Cooleyville Rd., 0.3 mi west of Cooleyville, 1.7 mi northeast of Shutesbury, MA. | -                                | -                                 | 8-20-81<br>8-31-81            | *.46<br>*.32                    |
| 01175570<br>Jabish Brook                                                             | Swift River             | Lat 42°21'05", long 72°24'37", Hampshire County, at culvert on Gold St., 0.4 mi west of Knights Corner, 2.8 mi south of Pelham, MA.           | -                                | 1980                              | 8-20-81<br>9- 8-81            | *.27<br>*.20                    |
| 01175580<br>Jabish Brook                                                             | do                      | Lat 42°17'16", long 72°24'02", Hampshire County, at bridge on State Highway 9, 0.8 mi north of Belchertown, MA.                               | -                                | 1980                              | 8-20-81<br>9- 8-81            | *.99<br>*.68                    |

See footnotes at end of table.



## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1981--Continued

| Stream                             | Tributary to          | Location                                                                                                                                              | Drainage area (mi <sup>2</sup> ) | Measured previously (water years) | Measurements       |                                 |
|------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------|--------------------|---------------------------------|
|                                    |                       |                                                                                                                                                       |                                  |                                   | Date               | Dis-charge (ft <sup>3</sup> /s) |
| Connecticut River basin--Continued |                       |                                                                                                                                                       |                                  |                                   |                    |                                 |
| ††01175600<br>Caruth Brook         | Turkey Hill Brook     | Lat 42°19'00", long 71°58'16", Worcester County, at culvert on Nanigian Rd., 2.2 mi west of Paxton, MA.                                               | 2.35                             | 1960-62†, 1965-66†, 1980          | 8-19-80            | *0.08                           |
| 01175700<br>Maynard Brook          | Fivemile River        | Lat 42°19'27", long 72°02'44", Worcester County, at culvert on North Brookfield Rd., 2.0 mi south of Oakham, MA.                                      | 1.88                             | 1960-62†, 1965-66†, 1980          | 8-19-80            | *.17                            |
| 01175730<br>Great Brook            | East Brookfield River | Lat 42°12'09", long 72°03'04", Worcester County, 40 ft upstream from bridge on Podunk St., 1.6 mi south of East Brookfield, MA.                       | 4.34                             | 1960-62†, 1965-66†                | 8-21-81            | *.08                            |
| 01175790<br>Coys Brook             | Quaboag River         | Lat 42°14'01", long 72°08'05", Worcester County at bridge on State Highway 9, at West Brookfield, MA.                                                 | 7.88                             | 1960-62†, 1965†, 1980             | 8-21-81            | *.71                            |
| 01175820<br>Meadow Brook           | Mill Brook            | Lat 42°17'31", long 72°08'09", Worcester County, at bridge on West Brookfield Rd., 1.8 mi south of New Braintree, MA.                                 | 7.30                             | 1960-62†, 1965†                   | 8-19-81            | *.46                            |
| 01175890<br>Naultaug Brook         | Quaboag River         | Lat 42°13'31", long 72°10'12", Worcester County, at bridge on State Highway 67, 1.5 mi northeast of Warren, MA                                        | -                                | -                                 | 8-21-81            | *.32                            |
| 01175910<br>Cheney Brook           | do                    | Lat 42°12'56", long 72°12'24", Worcester County, at bridge on State Highway 67, 0.6 mi west of Warren, MA.                                            | 1.29                             | 1960-62†, 1965†, 1980             | 8-21-81            | *.01                            |
| 01175940<br>O'Neil Brook           | do                    | Lat 42°12'58", long 72°13'14", Worcester County, at bridge on State Highway 67, 0.8 mi east of West Warren, MA.                                       | 2.07                             | 1960-62†, 1965†, 1980             | 8-20-81            | *.06                            |
| 01175970<br>School Street Brook    | do                    | Lat 42°12'49", long 72°14'30", Worcester County, at culvert on School St., at West Warren, MA.                                                        | 1.22                             | 1960-62†, 1965†, 1980             | 8-20-81            | *.21                            |
| 01176100<br>Blodgett Mill Brook    | do                    | Lat 42°10'13", long 72°15'41", Hampden County, at Boston and Albany Railroad culvert, 0.3 mi south of West Brimfield, 3.5 mi northeast of Palmer, MA. | 7.72                             | 1960-62†, 1965-66†, 1980          | 8-21-81            | *1.2                            |
| 01176200<br>Kings Brook            | do                    | Lat 42°09'41", long 72°16'08", Hampden County, at culvert on State Highway 67, 1 mi south of West Brimfield and 3 mi east of Palmer, MA.              | 3.87                             | 1960-62†, 1965-66†, 1980          | 8-21-81            | *1.8                            |
| 01176395<br>Calkins Pond Outlet    | Chicopee Brook        | Lat 42°04'20", long 72°19'40", Hampden County, at culvert on Bumstead Rd., 1.5 mi southwest of South Monson, MA.                                      | -                                | 1980                              | 8-21-81            | *.06                            |
| 01176400<br>Chicopee Brook         | Quaboag River         | Lat 42°05'01", long 72°18'57", Hampden County, at culvert on Maple St., at South Monson, 1.5 mi south of Monson, MA.                                  | 4.68                             | 1960-62†, 1965-66†, 1980          | 8-21-81            | *2.4                            |
| 01176450<br>Roaring Brook          | Broad Brook Canal     | Lat. 42°14'07", long 72°24'18", Hampshire County, at culvert on State Highway 21, 4 mi south of Belchertown, MA.                                      | 2.77                             | 1963-74††, 1965, 1980             | 8-20-81<br>8-31-81 | *.08<br>*.02                    |
| 01177032<br>Harris Brook           | Higher Brook          | Lat 42°11'24", long 72°28'44", Hampden County, at culvert at intersection of Church St. and Rood St., 1.0 mi west of Ludlow Center, MA.               | 2.77                             | 1957-58, 1980                     | 8-20-81<br>8-31-81 | *.68<br>*.50                    |

a Water-quality station.

† Operated as a continuous-record station.

‡ Published as low-flow partial-record station.

†† Also a crest-stage partial-record station.

‡‡ Crest-stage partial-record station.

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| DATE                                                                            | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|---------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| MERRIMACK RIVER BASIN                                                           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01094400 - NORTH NASHUA RIVER AT FITCHBURG, MA (LAT 42 34 34 LONG 071 47 19)    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                      |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 19...                                                                           | 1245 | 22                                              | 1.0                                   | 128                                    | 20...      | 1000 | 116                                             | 14.0                                  | 182                                    |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 09...                                                                           | 1200 | 36                                              | 1.0                                   | 148                                    | 14...      | 1230 | 65                                              | 25.0                                  | --                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 20...                                                                           | 1230 | 177                                             | 6.5                                   | 256                                    | 27...      | 1145 | 21                                              | 14.0                                  | --                                     |
| APR                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 14...                                                                           | 1300 | 75                                              | 10.5                                  | 230                                    |            |      |                                                 |                                       |                                        |
| 01094500 - NORTH NASHUA RIVER NEAR LEOMINSTER, MA (LAT 42 30 06 LONG 071 43 23) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 09...                                                                           | 1645 | 47                                              | 17.0                                  | --                                     | 16...      | 0600 | 171                                             | 4.5                                   | 165                                    |
| NOV                                                                             |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 19...                                                                           | 0945 | 53                                              | 1.5                                   | 185                                    | 20...      | 0700 | 200                                             | 14.5                                  | 154                                    |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 09...                                                                           | 1100 | 51                                              | 1.0                                   | 144                                    | 29...      | 1015 | 115                                             | 25.0                                  | --                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 20...                                                                           | 1530 | 225                                             | 8.5                                   | 235                                    | 21...      | 1000 | 56                                              | 23.0                                  | --                                     |
| 01096000 - SQUANNACOOK RIVER NEAR WEST GROTON MA (LAT 42 38 03 LONG 071 39 30)  |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 29...                                                                           | 1200 | 41                                              | 12.0                                  | 92                                     | 11...      | 1230 | 70                                              | 13.5                                  | 81                                     |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 08...                                                                           | 1130 | 20                                              | 1.0                                   | 108                                    | 16...      | 1230 | 48                                              | 25.0                                  | --                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 18...                                                                           | 0930 | 80                                              | 5.0                                   | 45                                     | 26...      | 1515 | 25                                              | 14.0                                  | --                                     |
| APR                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 02...                                                                           | 0930 | 103                                             | 11.5                                  | 63                                     |            |      |                                                 |                                       |                                        |
| 01096500 - NASHUA RIVER AT EAST PEPPERELL, MA (LAT 42 40 03 LONG 071 34 32)     |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                      |      |                                                 |                                       |                                        | JUN , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                           | 1115 | 165                                             | 8.5                                   | 101                                    | 10...      | 1300 | 255                                             | 17.5                                  | 166                                    |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 08...                                                                           | 1245 | 87                                              | 1.0                                   | 175                                    | 16...      | 1000 | 402                                             | 25.5                                  | --                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 18...                                                                           | 1045 | 325                                             | .5                                    | 205                                    | 26...      | 1230 | 91                                              | 24.0                                  | --                                     |
| APR                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 02...                                                                           | 1130 | 790                                             | 13.0                                  | 132                                    |            |      |                                                 |                                       |                                        |
| 01096800 - NORTH BROOK AT BERLIN, MA (LAT 42 22 10 LONG 071 38 22)              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                      |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 20...                                                                           | --   | 4.0                                             | 20.5                                  | --                                     |            |      |                                                 |                                       |                                        |
| 01096910 - BOULDER BROOK AT EAST BOLTON, MA (LAT 42 27 04 LONG 071 34 39)       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                      |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 17...                                                                           | 0900 | .20                                             | 1.0                                   | 198                                    | 19...      | 0800 | 3.1                                             | 9.0                                   | 176                                    |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 07...                                                                           | 1030 | .28                                             | .0                                    | --                                     | 23...      | 1530 | 1.0                                             | --                                    | 225                                    |
| FEB                                                                             |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 19...                                                                           | 0745 | 1.7                                             | 2.0                                   | 210                                    | 02...      | 0945 | .17                                             | 15.0                                  | 380                                    |
| APR                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 16...                                                                           | 0810 | 3.4                                             | 4.5                                   | 143                                    |            |      |                                                 |                                       |                                        |
| 01097000 - ASSABET RIVER AT MAYNARD, MA (LAT 42 25 55 LONG 071 27 01)           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                      |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 17...                                                                           | 1100 | 40                                              | 3.5                                   | 152                                    | 19...      | 0930 | 304                                             | 11.5                                  | 188                                    |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 07...                                                                           | 1230 | 44                                              | .0                                    | 108                                    | 10...      | 0900 | 45                                              | 23.0                                  | --                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | 11...      | 1100 | 47                                              | 26.0                                  | --                                     |
| 19...                                                                           | 1030 | 131                                             | 2.5                                   | 144                                    | SEP        |      |                                                 |                                       |                                        |
| APR                                                                             |      |                                                 |                                       |                                        | 02...      | 1130 | 20                                              | 20.0                                  | 300                                    |
| 16...                                                                           | 1015 | 267                                             | 8.5                                   | 169                                    |            |      |                                                 |                                       |                                        |
| 01097300 - NASHOBA BROOK NEAR ACTON, MA (LAT 42 31 19 LONG 071 24 15)           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                      |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 17...                                                                           | 1525 | 5.4                                             | 1.0                                   | 93                                     | 02...      | 1400 | 28                                              | 10.5                                  | 104                                    |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 08...                                                                           | 1430 | 4.3                                             | .0                                    | 168                                    | 19...      | 1245 | 24                                              | 14.5                                  | 134                                    |
| FEB                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 18...                                                                           | 1300 | 12                                              | 1.5                                   | 196                                    | 27...      | 1430 | 1.7                                             | 15.0                                  | --                                     |
| 01097400 - SPENCER BROOK NEAR CONCORD, MA (LAT 42 30 07 LONG 071 22 55)         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                      |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 20...                                                                           | 1600 | .35                                             | 19.5                                  | --                                     |            |      |                                                 |                                       |                                        |

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| DATE                                                                                           | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|------------------------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| MERRIMACK RIVER BASIN--CONTINUED                                                               |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01098530 - SUDBURY RIVER AT SAXONVILLE, MA (LAT 42 19 31 LONG 071 23 53)                       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                     |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 16...                                                                                          | 1745 | 32                                              | 11.0                                  | 220                                    | 19...      | 1235 | 176                                             | 17.5                                  | 255                                    |
| DEC 02...                                                                                      | 1200 | 153                                             | 5.5                                   | 125                                    | JUL 13...  | 1245 | 34                                              | 22.0                                  | --                                     |
| JAN , 1981                                                                                     |      |                                                 |                                       |                                        | AUG 12...  | 1300 | 38                                              | 26.0                                  | 230                                    |
| 13...                                                                                          | 0955 | 69                                              | .0                                    | 250                                    | SEP 02...  | 1400 | 32                                              | 21.0                                  | 230                                    |
| FEB 27...                                                                                      | 1145 | 763                                             | 3.5                                   | 205                                    |            |      |                                                 |                                       |                                        |
| APR 07...                                                                                      | 1150 | 189                                             | 10.0                                  | --                                     |            |      |                                                 |                                       |                                        |
| 01099500 - CONCORD RIVER BELOW RIVER MEADOW BROOK, AT LOWELL, MA (LAT 42 38 12 LONG 071 18 09) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                                     |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 24...                                                                                          | 1400 | 262                                             | 6.5                                   | 172                                    | 29...      | 1230 | 323                                             | 18.5                                  | 230                                    |
| JAN , 1981                                                                                     |      |                                                 |                                       |                                        | JUL 30...  | 1200 | 251                                             | 27.0                                  | --                                     |
| 06...                                                                                          | 0845 | 168                                             | .0                                    | 136                                    | SEP 21...  | 1245 | 151                                             | 16.5                                  | 116                                    |
| FEB 20...                                                                                      | 0900 | 483                                             | 5.0                                   | 204                                    |            |      |                                                 |                                       |                                        |
| APR 16...                                                                                      | 1400 | 675                                             | 4.5                                   | 278                                    |            |      |                                                 |                                       |                                        |
| 01100000 - MERRIMACK RIVER BELOW CONCORD RIVER AT LOWELL, MA (LAT 42 38 45 LONG 071 17 56)     |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                                     |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                                          | 1230 | 2600                                            | 2.0                                   | 156                                    | 16...      | 1300 | 8530                                            | 10.5                                  | 92                                     |
| JAN , 1981                                                                                     |      |                                                 |                                       |                                        | MAY 13...  | 0930 | 8310                                            | 16.0                                  | 142                                    |
| 06...                                                                                          | 1130 | 2900                                            | .0                                    | 178                                    | SEP 22...  | 1200 | 2740                                            | 21.0                                  | 140                                    |
| FEB 19...                                                                                      | 1300 | 7260                                            | 4.0                                   | 104                                    |            |      |                                                 |                                       |                                        |
| 01100600 - SHAWSHEN RIVER NEAR WILMINGTON, MA (LAT 42 34 05 LONG 071 12 55)                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                     |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 09...                                                                                          | 1145 | 8.5                                             | 13.0                                  | --                                     | 01...      | 1200 | 46                                              | 13.0                                  | 255                                    |
| NOV 03...                                                                                      | 1420 | 6.8                                             | 5.5                                   | 165                                    | MAY 12...  | 1015 | 17                                              | 16.0                                  | 232                                    |
| JAN , 1981                                                                                     |      |                                                 |                                       |                                        | JUL 28...  | 1415 | 6.6                                             | 27.5                                  | --                                     |
| 07...                                                                                          | 0730 | 9.5                                             | .0                                    | 220                                    | SEP 21...  | 1030 | 14                                              | 18.5                                  | 198                                    |
| FEB 17...                                                                                      | 0710 | 28                                              | 2.5                                   | 292                                    |            |      |                                                 |                                       |                                        |
| MAR 13...                                                                                      | 1045 | 79                                              | 6.0                                   | 105                                    |            |      |                                                 |                                       |                                        |
| PARKER RIVER BASIN                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01101000 - PARKER RIVER AT BYFIELD, MA (LAT 42 45 10 LONG 070 56 46)                           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                                     |      |                                                 |                                       |                                        | MAR , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                                          | 1310 | 7.4                                             | 6.0                                   | 171                                    | 31...      | 1330 | 31                                              | 12.5                                  | 158                                    |
| JAN , 1981                                                                                     |      |                                                 |                                       |                                        | MAY 14...  | 1415 | 24                                              | 10.0                                  | --                                     |
| 05...                                                                                          | 1130 | 6.2                                             | .5                                    | 142                                    | JUL 29...  | 1100 | 7.4                                             | 21.0                                  | --                                     |
| FEB 17...                                                                                      | 1415 | 26                                              | 1.5                                   | 107                                    |            |      |                                                 |                                       |                                        |
| IPSWICH RIVER BASIN                                                                            |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01101500 - IPSWICH RIVER AT SOUTH MIDDLETON, MA (LAT 42 34 10 LONG 071 01 39)                  |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| NOV , 1980                                                                                     |      |                                                 |                                       |                                        | MAR , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                                          | 1030 | 34                                              | 7.0                                   | 163                                    | 31...      | 0930 | 41                                              | 12.5                                  | 182                                    |
| JAN , 1981                                                                                     |      |                                                 |                                       |                                        | MAY 12...  | 1200 | 21                                              | 10.0                                  | 225                                    |
| 05...                                                                                          | 0930 | 10                                              | .0                                    | 115                                    | SEP 21...  | 0800 | 4.2                                             | 14.0                                  | 128                                    |
| FEB 17...                                                                                      | 1130 | 61                                              | 1.5                                   | 142                                    |            |      |                                                 |                                       |                                        |
| 01102000 - IPSWICH RIVER NEAR IPSWICH MA (LAT 42 39 35 LONG 070 53 39)                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                     |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 28...                                                                                          | 1430 | 74                                              | 9.5                                   | 225                                    | 15...      | 1355 | 137                                             | 8.5                                   | 166                                    |
| JAN , 1981                                                                                     |      |                                                 |                                       |                                        | MAY 18...  | 1430 | 103                                             | 14.5                                  | 210                                    |
| 05...                                                                                          | 1400 | 23                                              | .0                                    | 135                                    |            |      |                                                 |                                       |                                        |
| FEB 17...                                                                                      | 1530 | 75                                              | 2.5                                   | 104                                    |            |      |                                                 |                                       |                                        |

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| DATE | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|

MYSTIC RIVER BASIN

01102500 - ABERJONA RIVER AT WINCHESTER, MA (LAT 42 26 50 LONG 071 08 22)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | APR , 1981 |      |     |      |     |
| 16...      | 1335 | 3.6 | 11.0 | 480 | 06...      | 1145 | 58  | 11.0 | --  |
| DEC        |      |     |      |     | MAY        |      |     |      |     |
| 01...      | 1205 | 17  | 4.5  | 310 | 18...      | 1020 | 26  | 16.0 | --  |
| JAN , 1981 |      |     |      |     | JUN        |      |     |      |     |
| 12...      | 1055 | 2.4 | 1.0  | 185 | 30...      | 1030 | 4.5 | 20.0 | --  |
| FEB        |      |     |      |     | SEP        |      |     |      |     |
| 27...      | 1805 | 223 | 4.0  | --  | 10...      | 1205 | 5.0 | 10.5 | 340 |

CHARLES RIVER BASIN

01104000 - MOTHER BROOK AT DEDHAM, MA (LAT 42 15 18 LONG 071 09 53)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | APR , 1981 |      |     |      |     |
| 17...      | 1330 | .23 | 13.5 | 510 | 08...      | 1435 | 94  | 12.0 | --  |
| NOV        |      |     |      |     | MAY        |      |     |      |     |
| 26...      | 1620 | 1.3 | 4.0  | 395 | 18...      | 1705 | 59  | 17.0 | --  |
| JAN , 1981 |      |     |      |     | JUN        |      |     |      |     |
| 08...      | 1000 | .41 | .0   | 435 | 30...      | 1520 | 2.7 | 23.0 | --  |
| FEB        |      |     |      |     | AUG        |      |     |      |     |
| 26...      | 1610 | 338 | 2.0  | 208 | 11...      | 1500 | 1.5 | 26.5 | 355 |

01104200 - CHARLES RIVER AT WELLESLEY, MA (LAT 42 18 59 LONG 071 13 42)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | APR , 1981 |      |     |      |     |
| 15...      | 1300 | 51  | 11.0 | 260 | 08...      | 1115 | 342 | 11.0 | 165 |
| DEC        |      |     |      |     | MAY        |      |     |      |     |
| 02...      | 1525 | 241 | 4.5  | 146 | 20...      | 1030 | 310 | 16.5 | 190 |
| JAN , 1981 |      |     |      |     | JUL        |      |     |      |     |
| 08...      | 1530 | 47  | .0   | 279 | 02...      | 1420 | 86  | 24.0 | 180 |
| FEB        |      |     |      |     | AUG        |      |     |      |     |
| 27...      | 1520 | 865 | 3.5  | 198 | 21...      | 1300 | 21  | 24.5 | 215 |

01104500 - CHARLES RIVER AT WALTHAM, MA (LAT 42 22 20 LONG 071 14 03)

|            |      |      |      |     |            |      |     |      |     |
|------------|------|------|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |      |      |     | APR , 1981 |      |     |      |     |
| 15...      | 1715 | 60   | 13.0 | 255 | 08...      | 1710 | 338 | 12.0 | 172 |
| DEC        |      |      |      |     | MAY        |      |     |      |     |
| 02...      | 1710 | 236  | 5.0  | 106 | 19...      | 1910 | 322 | 18.0 | 215 |
| JAN , 1981 |      |      |      |     | JUL        |      |     |      |     |
| 08...      | 1400 | 61   | .0   | 210 | 02...      | 1600 | 82  | 23.5 | 192 |
| FEB        |      |      |      |     | AUG        |      |     |      |     |
| 26...      | 1840 | 1030 | 4.0  | 405 | 20...      | 1030 | 13  | 21.5 | 285 |

NEPONSET RIVER BASIN

01105000 - NEPONSET RIVER AT NORWOOD, MA (LAT 42 10 39 LONG 071 12 05)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | MAR , 1981 |      |     |      |     |
| 02...      | 1425 | 6.6 | 20.0 | 225 | 30...      | 1245 | 31  | 11.5 | 178 |
| NOV        |      |     |      |     | MAY        |      |     |      |     |
| 17...      | 1535 | 5.9 | 4.5  | 265 | 12...      | 1145 | 30  | 17.0 | 185 |
| JAN , 1981 |      |     |      |     | JUN        |      |     |      |     |
| 05...      | 1145 | 9.0 | .0   | 355 | 18...      | 1210 | 4.0 | 27.5 | 264 |
| FEB        |      |     |      |     | AUG        |      |     |      |     |
| 17...      | 1210 | 21  | 6.0  | 245 | 12...      | 1310 | 3.5 | 24.5 | 272 |

01105500 - EAST BRANCH NEPONSET RIVER AT CANTON, MA (LAT 42 09 16 LONG 071 08 47)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | MAR , 1981 |      |     |      |     |
| 02...      | 1805 | 4.5 | 19.5 | 164 | 30...      | 1550 | 31  | 12.0 | --  |
| NOV        |      |     |      |     | MAY        |      |     |      |     |
| 17...      | 1215 | 8.0 | 4.0  | 145 | 11...      | 1700 | 19  | 21.0 | --  |
| JAN , 1981 |      |     |      |     | JUN        |      |     |      |     |
| 05...      | 1640 | 11  | .0   | 44  | 18...      | 1500 | 5.6 | 28.0 | 247 |
| FEB        |      |     |      |     | AUG        |      |     |      |     |
| 17...      | 1555 | 35  | 7.0  | 203 | 12...      | 1430 | 9.1 | 27.0 | 243 |

WEYMOUTH FORE RIVER BASIN

01105585 - TOWN BROOK AT QUINCY, MA (LAT 42 14 52 LONG 070 59 52)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | APR , 1981 |      |     |      |     |
| 06...      | 1645 | .67 | 14.0 | 555 | 07...      | 1650 | 3.1 | 10.0 | --  |
| DEC        |      |     |      |     | MAY        |      |     |      |     |
| 01...      | 1650 | 2.5 | 7.0  | 225 | 19...      | 1725 | 1.7 | 13.0 | --  |
| JAN , 1981 |      |     |      |     | JUN        |      |     |      |     |
| 12...      | 1425 | 2.0 | 1.0  | 215 | 19...      | 1520 | 1.1 | 19.5 | 450 |
| FEB        |      |     |      |     | AUG        |      |     |      |     |
| 26...      | 1100 | 75  | 3.5  | 455 | 11...      | 1145 | .98 | 20.0 | 500 |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE                                                                             | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|----------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| WEYMOUTH BACK RIVER BASIN                                                        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01105600 - OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MA (LAT 42 11 25 LONG 070 56 43) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | MAR , 1981 |      |                                                 |                                       |                                        |
| 03...                                                                            | 1735 | .18                                             | 14.5                                  | 215                                    | 31...      | 1145 | 4.5                                             | 13.0                                  | 180                                    |
| NOV                                                                              |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 18...                                                                            | 1220 | 6.8                                             | 20.0                                  | 143                                    | 12...      | 1505 | 5.0                                             | 15.0                                  | 200                                    |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 06...                                                                            | 1525 | 2.3                                             | .0                                    | 183                                    | 15...      | 1330 | 1.2                                             | 18.0                                  | 250                                    |
| FEB                                                                              |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 18...                                                                            | 1125 | 5.7                                             | 5.5                                   | 235                                    | 11...      | 1435 | 1.3                                             | 23.0                                  | --                                     |
| NORTH RIVER BASIN                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01105730 - INDIAN HEAD RIVER AT HANOVER, MA (LAT 42 06 02 LONG 070 49 23)        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | MAR , 1981 |      |                                                 |                                       |                                        |
| 03...                                                                            | 1335 | 1.5                                             | 17.0                                  | 275                                    | 31...      | 1825 | 35                                              | 13.0                                  | 197                                    |
| NOV                                                                              |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 18...                                                                            | 1610 | 31                                              | 3.5                                   | 205                                    | 13...      | 1020 | 28                                              | 16.5                                  | 245                                    |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 06...                                                                            | 1015 | 11                                              | .0                                    | 144                                    | 16...      | 1545 | 7.9                                             | 19.5                                  | 250                                    |
| FEB                                                                              |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 18...                                                                            | 1645 | 36                                              | 4.0                                   | 260                                    | 13...      | 1200 | 4.5                                             | 27.0                                  | --                                     |
| JONES RIVER BASIN                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01105870 - JONES RIVER AT KINGSTON, MA (LAT 41 59 27 LONG 070 44 03)             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 07...                                                                            | 1715 | 6.6                                             | 12.0                                  | 105                                    | 01...      | 1055 | 21                                              | 13.0                                  | 97                                     |
| NOV                                                                              |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 20...                                                                            | 1145 | 17                                              | 2.0                                   | 60                                     | 13...      | 1320 | 25                                              | 17.0                                  | 85                                     |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 06...                                                                            | 1315 | 9.5                                             | .0                                    | 20                                     | 17...      | 1545 | 8.7                                             | 20.0                                  | 90                                     |
| FEB                                                                              |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 18...                                                                            | 1405 | 22                                              | 4.5                                   | 88                                     | 17...      | 1615 | 4.4                                             | 23.0                                  | --                                     |
| HERRING RIVER BASIN                                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01105880 - HERRING RIVER AT NORTH HAWWICH, MA (LAT 41 42 00 LONG 070 06 27)      |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 09...                                                                            | 1745 | 1.9                                             | 10.0                                  | 84                                     | 01...      | 1620 | 3.0                                             | 10.0                                  | --                                     |
| NOV                                                                              |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 20...                                                                            | 1650 | 2.5                                             | 5.0                                   | 85                                     | 13...      | 1720 | 8.6                                             | 15.5                                  | --                                     |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 26...                                                                            | 1735 | 1.1                                             | 5.0                                   | 80                                     | 18...      | 1445 | 3.0                                             | 26.5                                  | 90                                     |
| FEB                                                                              |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 19...                                                                            | 1135 | 1.8                                             | 9.0                                   | 80                                     | 28...      | 1400 | 1.3                                             | 17.0                                  | 88                                     |
| TAUNTON RIVER BASIN                                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01106500 - MATFIELD RIVER AT ELMWOOD, MA (LAT 42 00 55 LONG 070 57 42)           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| JUL , 1981                                                                       |      |                                                 |                                       |                                        | SEP , 1981 |      |                                                 |                                       |                                        |
| 02...                                                                            | 0945 | 19                                              | 20.0                                  | --                                     | 01...      | 1345 | 15                                              | 20.5                                  | --                                     |
| 01107400 - FALL BROOK NEAR MIDDLEBORO, MA (LAT 41 51 55 LONG 070 54 32)          |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 09...                                                                            | 1045 | 1.4                                             | 13.5                                  | --                                     |            |      |                                                 |                                       |                                        |
| 01108320 - CANOE RIVER NEAR NORTON, MA (LAT 41 58 38 LONG 071 08 40)             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | AUG , 1981 |      |                                                 |                                       |                                        |
| 08...                                                                            | 1050 | 1.2                                             | 10.0                                  | --                                     | 13...      | 1515 | .83                                             | 24.5                                  | 134                                    |
| JUN , 1981                                                                       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 19...                                                                            | 1315 | 2.9                                             | 24.0                                  | 111                                    |            |      |                                                 |                                       |                                        |
| 01108500 - WADING RIVER AT WEST MANSFIELD, MA (LAT 42 00 00 LONG 071 15 38)      |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 08...                                                                            | 1445 | 5.1                                             | 13.0                                  | 195                                    | 03...      | 1440 | 30                                              | 13.0                                  | --                                     |
| NOV                                                                              |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 19...                                                                            | 1150 | 6.9                                             | 2.0                                   | 139                                    | 14...      | 1126 | 18                                              | 18.0                                  | 182                                    |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 13...                                                                            | 1445 | 1.5                                             | .0                                    | 202                                    | 01...      | 1740 | 2.7                                             | 23.5                                  | 153                                    |
| FEB                                                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 20...                                                                            | 1735 | 13                                              | 6.5                                   | 148                                    |            |      |                                                 |                                       |                                        |



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| DATE | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|

TAUNTON RIVER BASIN--CONTINUED

01109000 - WADING RIVER NEAR NORTON, MA (LAT 41 56 51 LONG 071 10 38)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | APR , 1981 |      |     |      |     |
| 08...      | 1825 | 9.9 | 14.0 | 290 | 03...      | 1115 | 82  | 12.0 | 135 |
| NOV        |      |     |      |     | MAY        |      |     |      |     |
| 19...      | 1550 | 23  | 2.0  | 132 | 14...      | 1415 | 40  | 19.0 | 165 |
| JAN , 1981 |      |     |      |     | JUL        |      |     |      |     |
| 13...      | 1250 | 14  | .0   | --  | 02...      | 1140 | 9.5 | 23.5 | 146 |
| FEB        |      |     |      |     | AUG        |      |     |      |     |
| 25...      | 1140 | 130 | 5.5  | 134 | 13...      | 1300 | 6.8 | 25.5 | 244 |

01109060 - THREEMILE RIVER AT NORTH DIGHTON, MA (LAT 41 51 58 LONG 071 07 24)

|            |      |    |      |     |            |      |     |      |     |
|------------|------|----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |    |      |     | APR , 1981 |      |     |      |     |
| 10...      | 1250 | 18 | 13.0 | 195 | 02...      | 1410 | 166 | 13.0 | --  |
| NOV        |      |    |      |     | MAY        |      |     |      |     |
| 25...      | 1840 | 66 | 6.0  | 119 | 14...      | 1750 | 80  | 18.0 | --  |
| JAN , 1981 |      |    |      |     | JUL        |      |     |      |     |
| 07...      | 1200 | 31 | .5   | 95  | 01...      | 1040 | 22  | 22.0 | --  |
| FEB        |      |    |      |     | AUG        |      |     |      |     |
| 20...      | 1210 | 94 | 5.0  | 150 | 24...      | 1030 | 11  | 21.0 | 237 |

01109070 - SEGREGANSET RIVER NEAR DIGHTON, MA (LAT 41 50 25 LONG 071 08 36)

|            |      |     |      |     |            |      |     |      |    |
|------------|------|-----|------|-----|------------|------|-----|------|----|
| NOV , 1980 |      |     |      |     | MAY , 1981 |      |     |      |    |
| 25...      | 1525 | 12  | 7.0  | 140 | 15...      | 1530 | 7.3 | 18.0 | -- |
| JAN , 1981 |      |     |      |     | JUL        |      |     |      |    |
| 07...      | 0950 | 4.0 | .0   | 162 | 01...      | 1445 | .73 | 21.5 | -- |
| FEB        |      |     |      |     | AUG        |      |     |      |    |
| 20...      | 1430 | 20  | 5.5  | 106 | 24...      | 1300 | .16 | 20.0 | 93 |
| APR        |      |     |      |     |            |      |     |      |    |
| 02...      | 1655 | 36  | 11.0 | --  |            |      |     |      |    |

WARREN RIVER BASIN

01109225 - ROCKY RUN NEAR REHOBOTH, MA (LAT 41 46 52 LONG 071 15 03)

|            |      |     |      |    |            |      |     |      |     |
|------------|------|-----|------|----|------------|------|-----|------|-----|
| JUN , 1981 |      |     |      |    | AUG , 1981 |      |     |      |     |
| 19...      | 0830 | .46 | 20.0 | 89 | 24...      | 1430 | .02 | 21.5 | 124 |

BLACKSTONE RIVER BASIN

01110000 - QUINSIGAMOND RIVER AT NORTH GRAFTON, MA (LAT 42 13 49 LONG 071 42 41)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | MAY , 1981 |      |     |      |     |
| 03...      | 1330 | .04 | 16.0 | 400 | 18...      | 1325 | 52  | 12.0 | --  |
| NOV        |      |     |      |     | JUL        |      |     |      |     |
| 26...      | 1100 | 31  | 4.0  | 310 | 14...      | 1145 | 24  | 22.0 | 255 |
| JAN , 1981 |      |     |      |     | SEP        |      |     |      |     |
| 09...      | 0915 | 8.3 | 1.5  | 335 | 01...      | 1300 | 2.2 | 21.0 | 280 |
| FEB        |      |     |      |     |            |      |     |      |     |
| 26...      | 1400 | 182 | 4.0  | 240 |            |      |     |      |     |

01111200 - WEST RIVER BELOW WEST HILL DAM, NEAR UXBRIDGE, MA (LAT 42 06 17 LONG 071 36 28)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | MAY , 1981 |      |     |      |     |
| 01...      | 1045 | 3.3 | 14.0 | 265 | 19...      | 1005 | 114 | 14.5 | 111 |
| NOV        |      |     |      |     | JUL        |      |     |      |     |
| 25...      | 0815 | 27  | 4.0  | 164 | 24...      | 1430 | 190 | 25.5 | 148 |
| JAN , 1981 |      |     |      |     | AUG        |      |     |      |     |
| 14...      | 1120 | 7.0 | .5   | 210 | 28...      | 0910 | 2.9 | 19.0 | 149 |
| MAR        |      |     |      |     |            |      |     |      |     |
| 02...      | 0815 | 281 | 4.0  | 97  |            |      |     |      |     |

01111300 - NIPMUC RIVER NEAR HARRISVILLE, RI (LAT 41 58 52 LONG 071 41 11)

|            |      |    |     |    |            |      |    |      |    |
|------------|------|----|-----|----|------------|------|----|------|----|
| DEC , 1980 |      |    |     |    | MAY , 1981 |      |    |      |    |
| 09...      | 0940 | 19 | 3.0 | 43 | 26...      | 0930 | 14 | 18.0 | 50 |
| MAR , 1981 |      |    |     |    |            |      |    |      |    |
| 26...      | 1120 | 21 | 5.0 | 46 |            |      |    |      |    |

01112500 - BLACKSTONE RIVER AT WOONSOCKET, RI (LAT 42 00 22 LONG 071 30 13)

|            |      |     |      |     |            |      |     |     |     |
|------------|------|-----|------|-----|------------|------|-----|-----|-----|
| OCT , 1980 |      |     |      |     | MAR , 1981 |      |     |     |     |
| 27...      | 1345 | 668 | 10.0 | 153 | 26...      | 1430 | 529 | 7.0 | 225 |

MOSHASSUCK RIVER BASIN

01114000 - MOSHASSUCK RIVER AT PROVIDENCE, RI (LAT 41 50 02 LONG 071 24 42)

|            |      |    |      |     |            |      |     |      |     |
|------------|------|----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |    |      |     | APR , 1981 |      |     |      |     |
| 29...      | 1050 | 11 | 11.0 | 280 | 01...      | 1045 | 21  | 14.0 | 320 |
| DEC        |      |    |      |     | MAY        |      |     |      |     |
| 11...      | 0815 | 15 | 4.5  | 292 | 21...      | 0950 | 23  | 16.0 | 266 |
| FEB , 1981 |      |    |      |     | JUL        |      |     |      |     |
| 03...      | 0935 | 45 | 1.5  | 330 | 16...      | 1050 | 6.0 | 22.5 | 340 |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE                                                                                              | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|---------------------------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| WOONASQUATUCKET RIVER BASIN                                                                       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01114500 - WOONASQUATUCKET RIVER AT CENTERDALE, RI (LAT 41 51 32 LONG 071 29 16)                  |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                        |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 28...                                                                                             | 0900 | 16                                              | 11.0                                  | 157                                    | 01...      | 0840 | 46                                              | 10.0                                  | 160                                    |
| DEC                                                                                               |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 08...                                                                                             | 0815 | 21                                              | 4.0                                   | 163                                    | 21...      | 0750 | 65                                              | 16.0                                  | 134                                    |
| FEB , 1981                                                                                        |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 03...                                                                                             | 0750 | 53                                              | 2.5                                   | 162                                    | 16...      | 1320 | 17                                              | 24.5                                  | 161                                    |
| PAWTUXET RIVER BASIN                                                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01115630 - NOOSENECK RIVER AT NOOSENECK, RI (LAT 41 37 36 LONG 071 37 59)                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                        |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                                             | 1310 | 2.9                                             | 9.5                                   | 97                                     | 22...      | 1205 | 10                                              | 14.5                                  | 69                                     |
| DEC                                                                                               |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 02...                                                                                             | 1420 | 9.2                                             | 6.5                                   | 92                                     | 16...      | 0810 | 2.9                                             | 18.5                                  | 88                                     |
| FEB , 1981                                                                                        |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 02...                                                                                             | 0945 | 7.7                                             | .5                                    | 95                                     | 25...      | 0900 | 2.9                                             | 12.0                                  | 96                                     |
| MAR                                                                                               |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 25...                                                                                             | 1120 | 13                                              | 3.0                                   | 63                                     |            |      |                                                 |                                       |                                        |
| 01116000 - SOUTH BRANCH PAWTUXET RIVER AT WASHINGTON, RI (LAT 41 41 24 LONG 071 33 59)            |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                        |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 23...                                                                                             | 1405 | 36                                              | 10.5                                  | 87                                     | 22...      | 0950 | 39                                              | 18.0                                  | 94                                     |
| DEC                                                                                               |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 11...                                                                                             | 1105 | 63                                              | 1.5                                   | 89                                     | 02...      | 0715 | 30                                              | 22.5                                  | 86                                     |
| FEB , 1981                                                                                        |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 02...                                                                                             | 1020 | 46                                              | 4.0                                   | 120                                    | 15...      | 1315 | 29                                              | 22.5                                  | 101                                    |
| APR                                                                                               |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 03...                                                                                             | 0820 | 80                                              | 10.0                                  | 86                                     |            |      |                                                 |                                       |                                        |
| PAWCATUCK RIVER BASIN                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01117500 - PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI (LAT 41 26 42 LONG 071 40 53)               |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                        |      |                                                 |                                       |                                        | JAN , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                                             | 0905 | 33                                              | 12.0                                  | 103                                    | 27...      | 1100 | 48                                              | .5                                    | 122                                    |
| DEC                                                                                               |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 08...                                                                                             | 1230 | 61                                              | 2.5                                   | 113                                    | 27...      | 1050 | 95                                              | 19.5                                  | 87                                     |
| 01117800 - WOOD RIVER NEAR ARCADIA, RI (LAT 41 34 26 LONG 071 43 16)                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                        |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                                             | 0720 | 12                                              | 8.5                                   | 45                                     | 22...      | 0750 | 55                                              | 12.5                                  | 41                                     |
| DEC                                                                                               |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 02...                                                                                             | 1120 | 53                                              | 5.0                                   | 61                                     | 02...      | 1015 | 28                                              | 18.5                                  | 37                                     |
| MAR , 1981                                                                                        |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 25...                                                                                             | 0725 | 55                                              | 3.0                                   | 42                                     | 21...      | 1355 | 19                                              | 13.5                                  | 42                                     |
| THAMES RIVER BASIN                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01123200 - STEVENS BROOK AT HOLLAND, MA (LAT 42 03 41 LONG 072 09 45)                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| MAY , 1981                                                                                        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 27...                                                                                             | 1200 | 4.1                                             | 18.0                                  | --                                     |            |      |                                                 |                                       |                                        |
| 01123360 - QUINEBAUG RIVER BELOW EAST BRIMFIELD DAM AT FISKDALE, MA (LAT 42 06 31 LONG 072 07 27) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                        |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 02...                                                                                             | 1425 | 6.7                                             | 18.0                                  | 85                                     | 21...      | 0945 | 148                                             | 18.0                                  | 77                                     |
| NOV                                                                                               |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 18...                                                                                             | 1005 | 33                                              | 4.0                                   | 84                                     | 16...      | 1000 | 27                                              | 26.0                                  | 83                                     |
| JAN , 1981                                                                                        |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 12...                                                                                             | 1450 | 19                                              | 2.5                                   | 127                                    | 26...      | 1015 | 6.1                                             | 21.0                                  | 87                                     |
| FEB                                                                                               |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 20...                                                                                             | 1000 | 135                                             | 4.0                                   | 82                                     |            |      |                                                 |                                       |                                        |
| 01123600 - QUINEBAUG RIVER BELOW WESTVILLE DAM NEAR SOUTHBRIDGE, MA (LAT 42 04 58 LONG 072 03 27) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                        |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 03...                                                                                             | 0925 | 41                                              | 17.0                                  | 148                                    | 20...      | 1540 | 204                                             | 16.5                                  | 102                                    |
| NOV                                                                                               |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 18...                                                                                             | 1340 | 50                                              | 4.0                                   | 130                                    | 16...      | 1615 | 37                                              | 25.5                                  | 114                                    |
| JAN , 1981                                                                                        |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 12...                                                                                             | 1320 | 29                                              | 1.0                                   | 134                                    | 26...      | 1315 | 11                                              | 21.0                                  | 140                                    |
| FEB                                                                                               |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 20...                                                                                             | 1400 | 239                                             | 4.5                                   | 95                                     |            |      |                                                 |                                       |                                        |
| 01124285 - FRENCH RIVER NEAR NORTH OXFORD, MA (LAT 42 11 16 LONG 071 53 50)                       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                        |      |                                                 |                                       |                                        | SEP , 1981 |      |                                                 |                                       |                                        |
| 18...                                                                                             | 1500 | 5.4                                             | 24.5                                  | --                                     | 09...      | 1155 | 1.8                                             | 21.0                                  | 100                                    |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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| DATE | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|

THAMES RIVER BASIN--CONTINUED

01124350 - FRENCH RIVER BELOW DAM, AT HODGES VILLAGE, MA (LAT 42 07 06 LONG 071 52 54)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |      |     | MAY , 1981 |      |     |      |     |
| 07...      | 0850 | 16  | 12.0 | 103 | 19...      | 1640 | 96  | 16.5 | 111 |
| NOV        |      |     |      |     | JUL        |      |     |      |     |
| 17...      | 0840 | 24  | 2.0  | 108 | 15...      | 1000 | 23  | 24.5 | 106 |
| JAN , 1981 |      |     |      |     | AUG        |      |     |      |     |
| 13...      | 1040 | 5.8 | .5   | 133 | 27...      | 1010 | 5.6 | 17.0 | 108 |
| FEB        |      |     |      |     |            |      |     |      |     |
| 16...      | 1030 | 32  | 2.0  | 142 |            |      |     |      |     |

01124390 - LITTLE RIVER AT RICHARDSON CORNERS, MA (LAT 42 09 16 LONG 071 54 47)

|            |      |     |      |    |            |      |     |      |     |
|------------|------|-----|------|----|------------|------|-----|------|-----|
| AUG , 1981 |      |     |      |    | SEP , 1981 |      |     |      |     |
| 18...      | 1400 | 1.4 | 20.0 | -- | 08...      | 1330 | .74 | 19.0 | 170 |

01124500 - LITTLE RIVER NEAR OXFORD, MA (LAT 42 06 57 LONG 071 53 26)

|            |      |     |      |     |            |      |     |      |    |
|------------|------|-----|------|-----|------------|------|-----|------|----|
| OCT , 1980 |      |     |      |     | MAY , 1981 |      |     |      |    |
| 07...      | 1245 | 3.9 | 14.0 | 78  | 20...      | 1140 | 65  | 16.5 | 86 |
| NOV        |      |     |      |     | JUL        |      |     |      |    |
| 17...      | 1050 | 10  | 3.5  | 92  | 15...      | 1100 | 14  | 18.0 | 92 |
| JAN , 1981 |      |     |      |     | AUG        |      |     |      |    |
| 13...      | 1130 | 9.8 | 1.0  | 95  | 27...      | 1200 | 3.5 | 21.0 | 95 |
| FEB        |      |     |      |     |            |      |     |      |    |
| 16...      | 1325 | 37  | 5.5  | 112 |            |      |     |      |    |

01124515 - FRENCH RIVER TRIBUTARY AT WEST OXFORD, MA (LAT 42 05 45 LONG 071 52 39)

|            |      |     |      |    |
|------------|------|-----|------|----|
| AUG , 1981 |      |     |      |    |
| 18...      | 1215 | 1.9 | 20.0 | -- |

01124750 - BROWNS BROOK NEAR WEBSTER, MA (LAT 42 03 24 LONG 071 49 51)

|            |      |     |      |    |            |      |     |      |    |
|------------|------|-----|------|----|------------|------|-----|------|----|
| MAY , 1981 |      |     |      |    | AUG , 1981 |      |     |      |    |
| 26...      | 1300 | 1.7 | 13.5 | -- | 18...      | 0930 | .10 | 15.5 | -- |

01124800 - SUCKER BROOK NEAR WEBSTER, MA (LAT 42 04 01 LONG 071 51 16)

|            |      |     |      |    |            |      |     |      |    |
|------------|------|-----|------|----|------------|------|-----|------|----|
| MAY , 1981 |      |     |      |    | AUG , 1981 |      |     |      |    |
| 27...      | 0930 | 3.2 | 18.0 | -- | 18...      | 1030 | .24 | 15.5 | -- |

01124910 - MILL BROOK NEAR WEBSTER, MA (LAT 42 04 02 LONG 071 52 34)

|            |      |     |      |    |
|------------|------|-----|------|----|
| AUG , 1981 |      |     |      |    |
| 18...      | 1125 | 2.1 | 25.5 | -- |

01125000 - FRENCH RIVER AT WEBSTER, MA (LAT 42 03 03 LONG 071 53 08)

|            |      |     |     |     |            |      |     |      |     |
|------------|------|-----|-----|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |     |     | MAY , 1981 |      |     |      |     |
| 14...      | 1330 | 43  | --  | 108 | 19...      | 1320 | 231 | 15.5 | 113 |
| NOV        |      |     |     |     | JUL        |      |     |      |     |
| 17...      | 1420 | 47  | 4.0 | 110 | 15...      | 1640 | 42  | 26.5 | 108 |
| JAN , 1981 |      |     |     |     | AUG        |      |     |      |     |
| 13...      | 1335 | 32  | 1.0 | 122 | 27...      | 1515 | 20  | 22.5 | 127 |
| FEB        |      |     |     |     |            |      |     |      |     |
| 26...      | 1610 | 765 | 3.5 | 102 |            |      |     |      |     |

CONNECTICUT RIVER BASIN

01161500 - TARBELL BROOK NEAR WINCHENDON, MA (LAT 42 42 45 LONG 072 05 09)

|            |      |     |      |    |            |      |     |      |    |
|------------|------|-----|------|----|------------|------|-----|------|----|
| OCT , 1980 |      |     |      |    | APR , 1981 |      |     |      |    |
| 20...      | 1115 | 2.4 | 11.0 | 54 | 13...      | 1200 | 38  | 8.0  | 38 |
| DEC        |      |     |      |    | MAY        |      |     |      |    |
| 08...      | 1145 | 14  | 5.0  | -- | 26...      | 1130 | 25  | 18.0 | 56 |
| JAN , 1981 |      |     |      |    | JUL        |      |     |      |    |
| 19...      | 1145 | 2.6 | 3.0  | 77 | 02...      | 1045 | 5.9 | 19.0 | -- |
| FEB        |      |     |      |    | AUG        |      |     |      |    |
| 25...      | 1245 | 103 | 1.5  | -- | 20...      | 1430 | 3.1 | 17.0 | -- |

01162000 - MILLERS RIVER NEAR WINCHENDON, MA (LAT 42 41 03 LONG 072 05 02)

|            |      |     |      |    |            |      |     |      |    |
|------------|------|-----|------|----|------------|------|-----|------|----|
| OCT , 1980 |      |     |      |    | APR , 1981 |      |     |      |    |
| 20...      | 1235 | 21  | 11.0 | 65 | 13...      | 1500 | 174 | 11.0 | -- |
| DEC        |      |     |      |    | MAY        |      |     |      |    |
| 08...      | 1330 | 34  | 5.0  | -- | 28...      | 1400 | 95  | 19.0 | 50 |
| JAN , 1981 |      |     |      |    | JUL        |      |     |      |    |
| 19...      | 1500 | 12  | 2.0  | 87 | 15...      | 1330 | 73  | 25.0 | -- |
| FEB        |      |     |      |    | AUG        |      |     |      |    |
| 25...      | 1500 | 595 | 1.0  | -- | 20...      | 1200 | 20  | 16.0 | -- |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE                                                                            | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|---------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01162500 - PRIEST BROOK NEAR WINCHENDON, MA (LAT 42 40 57 LONG 072 06 56)       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                           | 1400 | 2.2                                             | 11.0                                  | 42                                     | 14...      | 1045 | 29                                              | 7.0                                   | 33                                     |
| DEC                                                                             |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 08...                                                                           | 1440 | 12                                              | 5.0                                   | 50                                     | 26...      | 1415 | 14                                              | 17.0                                  | 55                                     |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 21...                                                                           | 1515 | 2.3                                             | 3.0                                   | 70                                     | 01...      | 1645 | 4.4                                             | 21.0                                  | --                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 26...                                                                           | 1430 | 236                                             | 1.5                                   | --                                     | 20...      | 1000 | 3.4                                             | 16.0                                  | 40                                     |
| 01163200 - OTTER RIVER AT OTTER RIVER, MA (LAT 42 35 18 LONG 072 02 29)         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 23...                                                                           | 1400 | 15                                              | 8.0                                   | 170                                    | 06...      | 1100 | 110                                             | 4.0                                   | 120                                    |
| DEC                                                                             |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 01...                                                                           | 1100 | 78                                              | 5.0                                   | 190                                    | 01...      | 1130 | 32                                              | 18.0                                  | 140                                    |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 12...                                                                           | 1130 | 9.7                                             | 2.0                                   | 235                                    | 14...      | 1400 | 24                                              | 23.0                                  | --                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 23...                                                                           | 1600 | 211                                             | 4.0                                   | --                                     | 20...      | 1520 | 32                                              | 24.0                                  | --                                     |
| 01164000 - MILLERS RIVER AT SOUTH ROYALSTON, MA (LAT 42 37 47 LONG 072 09 03)   |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | JUN , 1981 |      |                                                 |                                       |                                        |
| 23...                                                                           | 1200 | 45                                              | 8.0                                   | --                                     | 01...      | 1300 | 314                                             | 18.0                                  | 120                                    |
| DEC                                                                             |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 09...                                                                           | 1045 | 119                                             | 1.5                                   | --                                     | 01...      | 1500 | 121                                             | 25.0                                  | 130                                    |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 22...                                                                           | 1315 | 36                                              | 1.0                                   | 290                                    |            |      |                                                 |                                       |                                        |
| 01165000 - EAST BRANCH TULLY RIVER NEAR ATHOL, MA (LAT 42 38 32 LONG 072 13 34) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                           | 1430 | 4.4                                             | 10.0                                  | 65                                     | 28...      | 1100 | 24                                              | 21.0                                  | --                                     |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 12...                                                                           | 1300 | 8.2                                             | 2.0                                   | 70                                     | 30...      | 1600 | 11                                              | 23.0                                  | 75                                     |
| MAR                                                                             |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 02...                                                                           | 1140 | 642                                             | 2.0                                   | --                                     | 31...      | 1430 | 48                                              | 28.0                                  | --                                     |
| APR                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 06...                                                                           | 1545 | 272                                             | 4.0                                   | 25                                     |            |      |                                                 |                                       |                                        |
| 01165300 - LAKE ROHUNTA OUTLET NEAR ATHOL, MA (LAT 42 34 13 LONG 072 16 22)     |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 23...                                                                           | 1600 | 9.6                                             | 10.0                                  | 68                                     | 16...      | 0945 | 51                                              | 8.0                                   | 145                                    |
| DEC                                                                             |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 09...                                                                           | 1000 | 13                                              | 4.0                                   | 80                                     | 02...      | 0945 | 20                                              | 18.0                                  | 58                                     |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | 24...      | 1530 | .24                                             | 24.0                                  | --                                     |
| 22...                                                                           | 0945 | 2.6                                             | 2.0                                   | 105                                    | JUL        |      |                                                 |                                       |                                        |
| FEB                                                                             |      |                                                 |                                       |                                        | 31...      | 1530 | 18                                              | 24.0                                  | --                                     |
| 27...                                                                           | 0945 | 183                                             | 2.0                                   | --                                     |            |      |                                                 |                                       |                                        |
| 01165500 - MOSS BROOK AT WENDELL DEPOT, MA (LAT 42 36 10 LONG 072 21 36)        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                           | 0945 | 1.5                                             | 6.5                                   | 44                                     | 14...      | 1415 | 17                                              | 7.0                                   | 39                                     |
| DEC                                                                             |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 04...                                                                           | 1145 | 8.8                                             | 2.0                                   | --                                     | 27...      | 1030 | 8.8                                             | 17.0                                  | 40                                     |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 21...                                                                           | 1200 | 1.0                                             | 3.0                                   | 50                                     | 24...      | 1230 | 6.2                                             | 22.0                                  | 38                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 26...                                                                           | 1130 | 156                                             | 2.0                                   | --                                     | 19...      | 1130 | 4.0                                             | 15.0                                  | 50                                     |
| 01166500 - MILLERS RIVER AT ERVING, MA (LAT 42 35 51 LONG 072 26 19)            |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                           | 1130 | 63                                              | 8.0                                   | 230                                    | 27...      | 1430 | 391                                             | 22.0                                  | 90                                     |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 15...                                                                           | 1500 | 46                                              | 2.5                                   | 135                                    | 30...      | 1315 | 287                                             | 24.0                                  | 80                                     |
| MAR                                                                             |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 03...                                                                           | 1100 | 2490                                            | 1.5                                   | --                                     | 19...      | 1400 | 214                                             | 21.5                                  | --                                     |
| APR                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 09...                                                                           | 1400 | 1160                                            | 3.5                                   | --                                     |            |      |                                                 |                                       |                                        |
| 01168151 - DEERFIELD RIVER NEAR ROWE, MA (LAT 42 40 57 LONG 072 58 37)          |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                      |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                           | 1315 | 640                                             | 12.0                                  | 44                                     | 06...      | 1520 | 80                                              | 12.0                                  | 53                                     |
| DEC                                                                             |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 02...                                                                           | 0900 | 953                                             | 9.0                                   | 43                                     | 30...      | 0930 | 78                                              | 17.5                                  | 55                                     |
| JAN , 1981                                                                      |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 15...                                                                           | 1350 | 852                                             | 5.0                                   | 50                                     | 04...      | 1315 | 163                                             | 19.0                                  | 46                                     |
| FEB                                                                             |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 27...                                                                           | 0850 | 2140                                            | 2.5                                   | 40                                     | 17...      | 0950 | 86                                              | 17.0                                  | 46                                     |
| MAR                                                                             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 31...                                                                           | 1140 | 1170                                            | 8.0                                   | 48                                     |            |      |                                                 |                                       |                                        |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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| DATE                                                                             | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|----------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                               |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01168500 - DEERFIELD RIVER AT CHARLEMONT, MA (LAT 42 37 33 LONG 072 51 20)       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                            | 0725 | 101                                             | 9.0                                   | 52                                     | 06...      | 1240 | 201                                             | 16.0                                  | 64                                     |
| DEC                                                                              |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 02...                                                                            | 0655 | 250                                             | 5.5                                   | 53                                     | 30...      | 0800 | 129                                             | 17.0                                  | 62                                     |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 15...                                                                            | 1510 | 1010                                            | 3.5                                   | 47                                     | 04...      | 0925 | 122                                             | 19.0                                  | 52                                     |
| FEB                                                                              |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 27...                                                                            | 1025 | 2780                                            | 3.0                                   | 43                                     | 09...      | 1205 | 227                                             | 18.0                                  | 58                                     |
| MAR                                                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 31...                                                                            | 0650 | 1650                                            | 7.5                                   | 51                                     |            |      |                                                 |                                       |                                        |
| 01169000 - NORTH RIVER AT SHATTUCKVILLE, MA (LAT 42 38 18 LONG 072 43 32)        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                            | 1315 | 20                                              | 12.5                                  | 187                                    | 18...      | 1255 | 168                                             | 12.0                                  | 92                                     |
| DEC                                                                              |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 01...                                                                            | 1315 | 125                                             | 3.0                                   | 70                                     | 29...      | 1500 | 34                                              | 24.5                                  | 196                                    |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 12...                                                                            | 1345 | 22                                              | .0                                    | 155                                    | 31...      | 0845 | 46                                              | 18.0                                  | 121                                    |
| FEB                                                                              |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 23...                                                                            | 1030 | 605                                             | 2.0                                   | 59                                     | 08...      | 1145 | 14                                              | 19.0                                  | 210                                    |
| MAR                                                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 30...                                                                            | 1245 | 199                                             | 8.0                                   | 83                                     |            |      |                                                 |                                       |                                        |
| 01169900 - SOUTH RIVER NEAR CONWAY, MA (LAT 42 32 31 LONG 072 41 39)             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 22...                                                                            | 0915 | 3.2                                             | 6.5                                   | 195                                    | 09...      | 1030 | 32                                              | 3.5                                   | 120                                    |
| DEC                                                                              |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 02...                                                                            | 1415 | 23                                              | 5.0                                   | 150                                    | 04...      | 1030 | 19                                              | 16.0                                  | 120                                    |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 15...                                                                            | 0915 | 6.6                                             | 2.0                                   | 165                                    | 04...      | 1500 | 4.4                                             | 25.0                                  | 170                                    |
| MAR                                                                              |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 03...                                                                            | 1500 | 85                                              | 1.5                                   | 130                                    | 10...      | 0820 | 7.6                                             | 12.0                                  | 156                                    |
| 01170000 - DEERFIELD RIVER NEAR WEST DEERFIELD, MA (LAT 42 32 09 LONG 072 39 14) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | AUG , 1981 |      |                                                 |                                       |                                        |
| 22...                                                                            | 0935 | 278                                             | 8.0                                   | 80                                     | 09...      | 1555 | 959                                             | 20.0                                  | 102                                    |
| JUN , 1981                                                                       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 16...                                                                            | 0840 | 144                                             | 19.0                                  | 109                                    |            |      |                                                 |                                       |                                        |
| 01170100 - GREEN RIVER NEAR COLRAIN, MA (LAT 42 42 12 LONG 072 40 16)            |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                            | 0930 | 9.6                                             | 8.5                                   | 94                                     | 18...      | 0930 | 83                                              | 8.0                                   | 84                                     |
| DEC                                                                              |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 01...                                                                            | 0945 | 60                                              | 1.5                                   | 63                                     | 16...      | 1330 | 19                                              | 2.3                                   | 114                                    |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 12...                                                                            | 1130 | 11                                              | .0                                    | 76                                     | 31...      | 1230 | 24                                              | 20.0                                  | 91                                     |
| FEB                                                                              |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 23...                                                                            | 1355 | 233                                             | 2.0                                   | 58                                     | 09...      | 0815 | 72                                              | 15.0                                  | 94                                     |
| MAR                                                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 30...                                                                            | 0935 | 130                                             | 5.0                                   | 68                                     |            |      |                                                 |                                       |                                        |
| 01170500 - CONNECTICUT RIVER AT MONTAGUE CITY, MA (LAT 42 34 48 LONG 072 34 30)  |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 21...                                                                            | 1515 | 11300                                           | 8.0                                   | 125                                    | 15...      | 1300 | 22100                                           | 8.0                                   | 85                                     |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 15...                                                                            | 1100 | 10100                                           | 2.0                                   | 120                                    | 04...      | 1245 | 12600                                           | 17.0                                  | 87                                     |
| MAR                                                                              |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 05...                                                                            | 1030 | 24700                                           | 2.0                                   | 70                                     | 10...      | 1320 | 10600                                           | 21.0                                  | 104                                    |
| 01171300 - FORT RIVER NEAR AMHERST, MA (LAT 42 21 30 LONG 072 30 23)             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 22...                                                                            | 1530 | 7.0                                             | 8.0                                   | 130                                    | 08...      | 1100 | 58                                              | 5.0                                   | --                                     |
| DEC                                                                              |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 03...                                                                            | 1045 | 25                                              | 4.0                                   | --                                     | 03...      | 1015 | 16                                              | 21.0                                  | 100                                    |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 13...                                                                            | 1645 | 5.0                                             | 1.0                                   | 140                                    | 22...      | 1325 | 8.9                                             | 22.0                                  | --                                     |
| FEB                                                                              |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 24...                                                                            | 1700 | 455                                             | 2.0                                   | --                                     | 03...      | 1145 | 6.1                                             | 19.0                                  | 120                                    |
| 01171500 - MILL RIVER AT NORTHAMPTON, MA (LAT 42 19 05 LONG 072 39 21)           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                       |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 23...                                                                            | 0900 | 9.9                                             | 7.0                                   | 135                                    | 08...      | 1345 | 74                                              | 4.5                                   | --                                     |
| DEC                                                                              |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 03...                                                                            | 1415 | 60                                              | 3.0                                   | --                                     | 03...      | 1445 | 37                                              | 18.0                                  | 82                                     |
| JAN , 1981                                                                       |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 14...                                                                            | 1430 | 14                                              | 2.0                                   | 128                                    | 20...      | 1850 | 24                                              | 21.0                                  | --                                     |
| MAR                                                                              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 04...                                                                            | 1230 | 143                                             | 1.5                                   | --                                     |            |      |                                                 |                                       |                                        |



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| DATE                                                                                      | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|-------------------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                                        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01172500 - WARE RIVER NEAR BARRE, MA (LAT 42 25 35 LONG 072 01 30)                        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 06...                                                                                     | 0925 | 9.9                                             | 12.0                                  | 71                                     | 07...      | 1020 | 200                                             | 6.0                                   | --                                     |
| NOV                                                                                       |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 24...                                                                                     | 0850 | 15                                              | 1.0                                   | 74                                     | 28...      | 1200 | 40                                              | --                                    | 68                                     |
| JAN , 1981                                                                                |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 06...                                                                                     | 1055 | 7.6                                             | 1.0                                   | 78                                     | 21...      | 1100 | 81                                              | 21.0                                  | 52                                     |
| FEB                                                                                       |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 23...                                                                                     | 1045 | 377                                             | 1.0                                   | 49                                     | 24...      | 1415 | 7.6                                             | 19.0                                  | 56                                     |
| 01172600 - CANESTO BROOK NEAR WILLIAMSVILLE, MA (LAT 42 28 24 LONG 072 03 08)             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 28...                                                                                     | 1015 | 1.2                                             | 14.0                                  | 32                                     |            |      |                                                 |                                       |                                        |
| 01172700 - NATTY POND BROOK AT HUBBARDSTON, MA (LAT 42 28 41 LONG 072 01 26)              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 28...                                                                                     | 0930 | 1.2                                             | 15.0                                  | 43                                     |            |      |                                                 |                                       |                                        |
| 01172800 - NATTY POND BROOK NEAR HUBBARDSTON, MA (LAT 42 27 06 LONG 072 01 48)            |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 28...                                                                                     | 1050 | 1.7                                             | 15.5                                  | 48                                     |            |      |                                                 |                                       |                                        |
| 01172950 - WARE RIVER TRIBUTARY AT COLDBROOK SPRINGS, MA (LAT 42 23 35 LONG 072 02 39)    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 28...                                                                                     | 1220 | 2.1                                             | 13.5                                  | 76                                     |            |      |                                                 |                                       |                                        |
| 01173000 - WARE RIVER AT INTAKE WORKS NEAR BARRE, MA (LAT 42 23 26 LONG 072 03 39)        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 24...                                                                                     | 1635 | 27                                              | 21.5                                  | --                                     |            |      |                                                 |                                       |                                        |
| 01173150 - SMITH BROOK NEAR SOUTH BARRE, MA (LAT 42 23 52 LONG 072 06 17)                 |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 28...                                                                                     | 1155 | .01                                             | 15.0                                  | 105                                    |            |      |                                                 |                                       |                                        |
| 01173200 - BELL BROOK AT BARRE PLAINS, MA (LAT 42 22 24 LONG 072 05 56)                   |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                                     | 0900 | .51                                             | 12.0                                  | 62                                     |            |      |                                                 |                                       |                                        |
| 01173230 - PINE HILL BROOK AT BARRE PLAINS, MA (LAT 42 22 16 LONG 072 07 39)              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 20...                                                                                     | 1515 | .01                                             | 26.0                                  | 58                                     |            |      |                                                 |                                       |                                        |
| 01173300 - WINIMUSSET BROOK AT WHEELWRIGHT, MA (LAT 42 20 33 LONG 072 08 44)              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                                     | 1010 | 1.5                                             | 14.5                                  | 71                                     |            |      |                                                 |                                       |                                        |
| 01173350 - DANFORTH BROOK NEAR GILBERTVILLE, MA (LAT 42 19 42 LONG 072 12 19)             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        | SEP , 1981 |      |                                                 |                                       |                                        |
| 19...                                                                                     | 1525 | .61                                             | 22.5                                  | 125                                    | 08...      | 1345 | .28                                             | --                                    | 135                                    |
| 01173400 - MUDDY BROOK NEAR HARDWICK, MA (LAT 42 22 06 LONG 072 13 16)                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        | SEP , 1981 |      |                                                 |                                       |                                        |
| 19...                                                                                     | 1600 | .42                                             | 20.0                                  | 45                                     | 08...      | 1300 | .10                                             | 17.5                                  | 50                                     |
| 01173450 - FLAT BROOK NEAR WARE, MA (LAT 42 14 56 LONG 072 15 53)                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        | SEP , 1981 |      |                                                 |                                       |                                        |
| 19...                                                                                     | 1400 | 1.0                                             | 20.5                                  | 88                                     | 08...      | 1435 | .50                                             | --                                    | 105                                    |
| 01173500 - WARE RIVER AT GIBBS CROSSING, MA (LAT 42 14 10 LONG 072 16 23)                 |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 09...                                                                                     | 1120 | 25                                              | 13.0                                  | 97                                     | 27...      | 1340 | 130                                             | --                                    | 83                                     |
| DEC                                                                                       |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 01...                                                                                     | 0940 | 264                                             | 3.0                                   | 79                                     | 31...      | 1500 | 196                                             | 24.0                                  | 68                                     |
| FEB , 1981                                                                                |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 17...                                                                                     | 1510 | 218                                             | 4.0                                   | 67                                     | 24...      | 1645 | 43                                              | 20.5                                  | 72                                     |
| 01173900 - MIDDLE BRANCH SWIFT RIVER AT NORTH NEW SALEM, MA (LAT 42 32 45 LONG 072 19 10) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                |      |                                                 |                                       |                                        | AUG , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                                     | 0740 | .33                                             | 13.0                                  | 48                                     | 31...      | 1610 | .26                                             | 17.0                                  | 43                                     |

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| DATE                                                                                          | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|-----------------------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                                            |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01174000 - HOP BROOK NEAR NEW SALEM, MA (LAT 42 28 42 LONG 072 20 05)                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                    |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 23...                                                                                         | 1115 | .43                                             | 8.0                                   | 47                                     | 07...      | 1000 | 8.4                                             | 3.0                                   | 60                                     |
| DEC                                                                                           |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 01...                                                                                         | 1330 | 2.5                                             | 5.0                                   | --                                     | 28...      | 0845 | 2.9                                             | 18.0                                  | 35                                     |
| JAN , 1981                                                                                    |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 12...                                                                                         | 1440 | .22                                             | 1.0                                   | --                                     | 19...      | 0945 | .37                                             | 14.0                                  | --                                     |
| 20...                                                                                         | 1000 | .79                                             | 3.0                                   | 90                                     |            |      |                                                 |                                       |                                        |
| FEB                                                                                           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 24...                                                                                         | 0845 | 81                                              | 3.0                                   | --                                     |            |      |                                                 |                                       |                                        |
| 01174200 - EAST BRANCH SWIFT RIVER NEAR PETERSHAM, MA (LAT 42 30 44 LONG 072 09 18)           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                    |      |                                                 |                                       |                                        | SEP , 1981 |      |                                                 |                                       |                                        |
| 28...                                                                                         | 1315 | 1.5                                             | 20.0                                  | 36                                     | 08...      | 1220 | .77                                             | 18.5                                  | 40                                     |
| 01174500 - EAST BRANCH SWIFT RIVER NEAR HARDWICK, MA (LAT 42 23 36 LONG 072 14 21)            |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| FEB , 1981                                                                                    |      |                                                 |                                       |                                        | JUL , 1981 |      |                                                 |                                       |                                        |
| 23...                                                                                         | 1415 | 160                                             | 4.0                                   | 59                                     | 20...      | 1400 | 28                                              | 24.0                                  | 43                                     |
| APR                                                                                           |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 07...                                                                                         | 1600 | 139                                             | 11.5                                  | --                                     | 25...      | 0830 | 17                                              | 21.0                                  | 45                                     |
| MAY                                                                                           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 29...                                                                                         | 1115 | 28                                              | --                                    | 58                                     |            |      |                                                 |                                       |                                        |
| 01174560 - WEST BRANCH SWIFT RIVER AT COOLEYVILLE, MA (LAT 42 27 50 LONG 072 22 59)           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                    |      |                                                 |                                       |                                        | AUG , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                                         | 0845 | .29                                             | 12.5                                  | 36                                     | 31...      | 1500 | .11                                             | 17.0                                  | 33                                     |
| 01174563 - WEST BRANCH SWIFT RIVER TRIBUTARY AT COOLEYVILLE, MA (LAT 42 27 52 LONG 072 22 56) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                    |      |                                                 |                                       |                                        | AUG , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                                         | 0920 | .46                                             | 14.0                                  | 28                                     | 31...      | 1545 | .32                                             | 22.0                                  | 25                                     |
| 01174600 - CADWELL CREEK NEAR PELHAM, MA (LAT 42 21 16 LONG 072 23 18)                        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                    |      |                                                 |                                       |                                        | JUN , 1981 |      |                                                 |                                       |                                        |
| 22...                                                                                         | 1340 | .07                                             | 7.0                                   | --                                     | 02...      | 1345 | .45                                             | 13.0                                  | 34                                     |
| DEC                                                                                           |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 01...                                                                                         | 1400 | .56                                             | 4.0                                   | --                                     | 18...      | 1345 | .06                                             | 16.0                                  | --                                     |
| APR , 1981                                                                                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 07...                                                                                         | 1430 | 1.3                                             | 2.5                                   | --                                     |            |      |                                                 |                                       |                                        |
| 01174900 - CADWELL CREEK NEAR BELCHERTOWN, MA (LAT 42 20 08 LONG 072 22 12)                   |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                    |      |                                                 |                                       |                                        | JUN , 1981 |      |                                                 |                                       |                                        |
| 22...                                                                                         | 1145 | .52                                             | 7.0                                   | 43                                     | 02...      | 1145 | 2.6                                             | 12.0                                  | 38                                     |
| DEC                                                                                           |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 01...                                                                                         | 1445 | 2.4                                             | 4.0                                   | --                                     | 18...      | 1500 | .78                                             | 14.0                                  | --                                     |
| APR , 1981                                                                                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 07...                                                                                         | 1230 | 6.0                                             | 2.5                                   | --                                     |            |      |                                                 |                                       |                                        |
| 01175500 - SWIFT RIVER AT WEST WARE, MA (LAT 42 16 04 LONG 072 19 59)                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                    |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 09...                                                                                         | 0955 | 124                                             | 19.0                                  | 38                                     | 27...      | 1615 | 25                                              | 14.5                                  | 47                                     |
| DEC                                                                                           |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 01...                                                                                         | 1305 | 113                                             | 8.0                                   | 44                                     | 24...      | 1655 | 43                                              | 16.5                                  | --                                     |
| JAN , 1981                                                                                    |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 06...                                                                                         | 1405 | 113                                             | 2.0                                   | 41                                     | 01...      | 1910 | 13                                              | 18.5                                  | 40                                     |
| FEB                                                                                           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 23...                                                                                         | 1525 | 47                                              | 4.0                                   | 42                                     |            |      |                                                 |                                       |                                        |
| 01175570 - JABISH BROOK AT KNIGHTS CORNER, MA (LAT 42 21 05 LONG 072 24 37)                   |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                    |      |                                                 |                                       |                                        | SEP , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                                         | 1010 | .27                                             | 21.5                                  | 42                                     | 08...      | 1610 | .20                                             | --                                    | 38                                     |
| 01175580 - JABISH BROOK AT BELCHERTOWN, MA (LAT 42 17 16 LONG 072 24 02)                      |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                    |      |                                                 |                                       |                                        | SEP , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                                         | 1100 | .99                                             | 15.5                                  | 102                                    | 08...      | 1520 | .68                                             | --                                    | 100                                    |
| 01175600 - CARUTH BROOK NEAR PAXTON, MA (LAT 42 19 00 LONG 071 58 16)                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 19...                                                                                         | 0920 | .08                                             | 15.5                                  | 81                                     |            |      |                                                 |                                       |                                        |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE                                                                               | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|------------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                                 |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01175670 - SEVENMILE RIVER NEAR SPENCER, MA (LAT 42 15 54 LONG 072 00 19)          |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                         |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 06...                                                                              | 1430 | .73                                             | 13.0                                  | 72                                     | 29...      | 1415 | 10                                              | 20.0                                  | 62                                     |
| DEC                                                                                |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 02...                                                                              | 1405 | 16                                              | 4.0                                   | 48                                     | 20...      | 1130 | 3.1                                             | --                                    | 57                                     |
| JAN , 1981                                                                         |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 05...                                                                              | 1405 | 3.0                                             | .0                                    | 72                                     | 25...      | 1400 | .71                                             | 18.0                                  | 66                                     |
| FEB                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 24...                                                                              | 1420 | 86                                              | 3.0                                   | 51                                     |            |      |                                                 |                                       |                                        |
| 01175700 - MAYNARD BROOK NEAR OAKHAM, MA (LAT 42 19 27 LONG 072 02 44)             |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 19...                                                                              | 1030 | .17                                             | 15.5                                  | 37                                     |            |      |                                                 |                                       |                                        |
| 01175730 - GREAT BROOK NEAR EAST BROOKFIELD, MA (LAT 42 12 09 LONG 072 03 04)      |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | 1350 | .08                                             | --                                    | 79                                     |            |      |                                                 |                                       |                                        |
| 01175790 - COYS BROOK AT WEST BROOKFIELD, MA (LAT 42 14 01 LONG 072 08 05)         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | --   | .71                                             | --                                    | 140                                    |            |      |                                                 |                                       |                                        |
| 01175820 - MEADOW BROOK NEAR NEW BRAintree, MA (LAT 42 17 31 LONG 072 08 09)       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 19...                                                                              | 1145 | .46                                             | 19.0                                  | 84                                     |            |      |                                                 |                                       |                                        |
| 01175890 - NAULTAUG BROOK NEAR WARREN, MA (LAT 42 13 31 LONG 072 10 12)            |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | 1005 | .32                                             | --                                    | 56                                     |            |      |                                                 |                                       |                                        |
| 01175910 - CHENEY BROOK AT WARREN, MA (LAT 42 12 56 LONG 072 12 24)                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | --   | .01                                             | --                                    | 245                                    |            |      |                                                 |                                       |                                        |
| 01175940 - O'NEIL BROOK AT WEST WARREN, MA (LAT 42 12 58 LONG 072 13 14)           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 20...                                                                              | 1215 | .06                                             | --                                    | 54                                     |            |      |                                                 |                                       |                                        |
| 01176000 - QUABOAG RIVER AT WEST BRIMFIELD, MA (LAT 42 10 56 LONG 072 15 51)       |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                         |      |                                                 |                                       |                                        | JUL , 1981 |      |                                                 |                                       |                                        |
| 09...                                                                              | 1440 | 38                                              | 16.0                                  | --                                     | 13...      | 1640 | 106                                             | 26.0                                  | 171                                    |
| DEC                                                                                |      |                                                 |                                       |                                        | 27...      | 1230 | 80                                              | 25.5                                  | --                                     |
| 02...                                                                              | 0940 | 280                                             | 3.0                                   | 79                                     | SEP        |      |                                                 |                                       |                                        |
| FEB , 1981                                                                         |      |                                                 |                                       |                                        | 01...      | 1625 | 32                                              | 22.0                                  | --                                     |
| 17...                                                                              | 1030 | 220                                             | 3.0                                   | 94                                     |            |      |                                                 |                                       |                                        |
| MAY                                                                                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | 1300 | 346                                             | 16.5                                  | 98                                     |            |      |                                                 |                                       |                                        |
| 01176100 - BLODGETT MILL BROOK AT WEST BRIMFIELD, MA (LAT 42 10 13 LONG 072 15 41) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | 1240 | 1.2                                             | 16.5                                  | 210                                    |            |      |                                                 |                                       |                                        |
| 01176200 - KINGS BROOK AT WEST BRIMFIELD, MA (LAT 42 09 41 LONG 072 16 08)         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | 1200 | 1.8                                             | 14.0                                  | 125                                    |            |      |                                                 |                                       |                                        |
| 01176395 - CALKINS POND OUTLET NEAR SOUTH MONSON, MA (LAT 42 04 20 LONG 072 19 40) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | 1330 | .06                                             | 25.5                                  | 62                                     |            |      |                                                 |                                       |                                        |
| 01176400 - CHICOPEE BROOK AT SOUTH MONSON, MA (LAT 42 05 01 LONG 072 18 57)        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 21...                                                                              | 1345 | 2.4                                             | 14.0                                  | 75                                     |            |      |                                                 |                                       |                                        |
| 01176450 - ROARING BROOK NEAR BELCHERTOWN, MA (LAT 42 14 07 LONG 072 24 18)        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                         |      |                                                 |                                       |                                        | AUG , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                              | 1245 | .08                                             | 14.5                                  | 100                                    | 31...      | 1410 | .02                                             | 16.5                                  | 102                                    |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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| DATE                                                                                       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|--------------------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                                         |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01177000 - CHICOPEE RIVER AT INDIAN ORCHARD, MA (LAT 42 09 38 LONG 072 30 52)              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                 |      |                                                 |                                       |                                        | JUL , 1981 |      |                                                 |                                       |                                        |
| 09...                                                                                      | 0840 | 505                                             | 15.0                                  | 89                                     | 16...      | 1800 | 80                                              | 25.0                                  | --                                     |
| NOV                                                                                        |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 20...                                                                                      | 1020 | 839                                             | 3.0                                   | 128                                    | 01...      | 1235 | 82                                              | 22.0                                  | 93                                     |
| FEB , 1981                                                                                 |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 19...                                                                                      | 1445 | 622                                             | 2.0                                   | 92                                     |            |      |                                                 |                                       |                                        |
| 01177032 - HARRIS BROOK AT LUDLOW CENTER, MA (LAT 42 11 24 LONG 072 28 44)                 |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| AUG , 1981                                                                                 |      |                                                 |                                       |                                        | AUG , 1981 |      |                                                 |                                       |                                        |
| 20...                                                                                      | 1200 | .68                                             | 16.5                                  | 120                                    | 31...      | 1330 | .50                                             | 18.5                                  | 115                                    |
| 01179500 - WESTFIELD RIVER AT KNIGHTVILLE, MA (LAT 42 17 16 LONG 072 51 53)                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                 |      |                                                 |                                       |                                        | MAR , 1981 |      |                                                 |                                       |                                        |
| 28...                                                                                      | 1015 | 134                                             | 5.0                                   | 73                                     | 24...      | 0640 | 88                                              | 1.5                                   | 72                                     |
| DEC                                                                                        |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 08...                                                                                      | 1350 | 102                                             | .0                                    | 76                                     | 11...      | 1115 | 136                                             | 12.5                                  | --                                     |
| JAN , 1981                                                                                 |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 19...                                                                                      | 1430 | 36                                              | .0                                    | 90                                     | 31...      | 1445 | 13                                              | 22.5                                  | 80                                     |
| MAR                                                                                        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 02...                                                                                      | 1015 | 3040                                            | 2.0                                   | 154                                    |            |      |                                                 |                                       |                                        |
| 01180500 - MIDDLE BRANCH WESTFIELD RIVER AT GOSS HEIGHTS, MA (LAT 42 15 31 LONG 072 52 23) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                 |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 29...                                                                                      | 0740 | 38                                              | 10.0                                  | 53                                     | 11...      | 1330 | 50                                              | 13.0                                  | 59                                     |
| DEC                                                                                        |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 08...                                                                                      | 1225 | 38                                              | 3.0                                   | 62                                     | 01...      | 1350 | 12                                              | 25.0                                  | 64                                     |
| JAN , 1981                                                                                 |      |                                                 |                                       |                                        | 29...      | 1650 | 15                                              | 24.5                                  | --                                     |
| 20...                                                                                      | 0710 | 10                                              | 1.0                                   | 77                                     | SEP        |      |                                                 |                                       |                                        |
| MAR                                                                                        |      |                                                 |                                       |                                        | 02...      | 1400 | 3.9                                             | 23.0                                  | 56                                     |
| 03...                                                                                      | 1310 | 821                                             | 2.0                                   | 41                                     |            |      |                                                 |                                       |                                        |
| 23...                                                                                      | 1235 | 1.4                                             | 4.5                                   | 80                                     |            |      |                                                 |                                       |                                        |
| 01181000 - WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA (LAT 42 14 14 LONG 072 53 46)     |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                 |      |                                                 |                                       |                                        | MAR , 1981 |      |                                                 |                                       |                                        |
| 28...                                                                                      | 0650 | 52                                              | 6.0                                   | 90                                     | 23...      | 0955 | 81                                              | 1.0                                   | 92                                     |
| DEC                                                                                        |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 08...                                                                                      | 0920 | 69                                              | .0                                    | 85                                     | 11...      | 1540 | 107                                             | 13.0                                  | --                                     |
| JAN , 1981                                                                                 |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 19...                                                                                      | 1040 | 24                                              | .0                                    | 110                                    | 01...      | 1050 | 20                                              | 21.0                                  | 117                                    |
| FEB                                                                                        |      |                                                 |                                       |                                        | 15...      | 1010 | 14                                              | 20.0                                  | --                                     |
| 12...                                                                                      | 0655 | 1400                                            | .0                                    | 64                                     | SEP        |      |                                                 |                                       |                                        |
| 24...                                                                                      | 1045 | 3420                                            | 2.5                                   | 46                                     | 02...      | 1110 | 11                                              | 20.0                                  | 107                                    |
| 01183400 - GREAT BROOK NEAR SOUTHWICK, MA (LAT 42 03 58 LONG 072 44 10)                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| JUL , 1981                                                                                 |      |                                                 |                                       |                                        | AUG , 1981 |      |                                                 |                                       |                                        |
| 28...                                                                                      | 1050 | 6.3                                             | 15.5                                  | --                                     | 25...      | 1815 | 5.0                                             | 15.0                                  | --                                     |
| 01183450 - GREAT BROOK NEAR WESTFIELD, MA (LAT 42 05 18 LONG 072 43 24)                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                 |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 08...                                                                                      | 0940 | 5.5                                             | 8.0                                   | 198                                    | 22...      | 1145 | 15                                              | 13.5                                  | 215                                    |
| NOV                                                                                        |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 19...                                                                                      | 1015 | 7.8                                             | 1.0                                   | 255                                    | 23...      | 1030 | 13                                              | 16.5                                  | --                                     |
| JAN , 1981                                                                                 |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 07...                                                                                      | 0830 | 8.4                                             | .0                                    | 191                                    | 14...      | 1115 | 5.8                                             | 19.0                                  | --                                     |
| FEB                                                                                        |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 11...                                                                                      | 1625 | 167                                             | .5                                    | 210                                    | 25...      | 1700 | 3.7                                             | 16.5                                  | 185                                    |
| 18...                                                                                      | 0830 | 21                                              | 2.0                                   | 168                                    |            |      |                                                 |                                       |                                        |
| APR                                                                                        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 08...                                                                                      | 0830 | 23                                              | 8.0                                   | --                                     |            |      |                                                 |                                       |                                        |
| 01183500 - WESTFIELD RIVER NEAR WESTFIELD, MA (LAT 42 06 24 LONG 072 41 58)                |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                                 |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 08...                                                                                      | 1255 | 116                                             | 14.0                                  | 157                                    | 22...      | 0950 | 575                                             | 14.5                                  | 103                                    |
| NOV                                                                                        |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 19...                                                                                      | 1335 | 216                                             | 5.0                                   | 173                                    | 14...      | 0945 | 152                                             | 24.0                                  | --                                     |
| JAN , 1981                                                                                 |      |                                                 |                                       |                                        | AUG        |      |                                                 |                                       |                                        |
| 07...                                                                                      | 1505 | 159                                             | .5                                    | 127                                    | 25...      | 1245 | 91                                              | 20.0                                  | 165                                    |
| FEB                                                                                        |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 18...                                                                                      | 1245 | 952                                             | 4.0                                   | 102                                    |            |      |                                                 |                                       |                                        |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|

## CONNECTICUT RIVER BASIN--CONTINUED

01185100 - FALL RIVER BELOW OTIS RESERVOIR, NEAR OTIS, MA (LAT 42 09 42 LONG 073 03 48)

|            |      |     |     |    |            |      |     |      |    |
|------------|------|-----|-----|----|------------|------|-----|------|----|
| NOV , 1980 |      |     |     |    | MAY , 1981 |      |     |      |    |
| 03...      | 1350 | 82  | 7.5 | 62 | 12...      | 1235 | 2.5 | 13.0 | 78 |
| DEC        |      |     |     |    | JUL        |      |     |      |    |
| 09...      | 1310 | 73  | .5  | 64 | 15...      | 1340 | 1.5 | 21.0 | -- |
| JAN , 1981 |      |     |     |    | 29...      | 1345 | 1.8 | 20.0 | -- |
| 21...      | 1100 | 2.0 | 1.0 | 73 | AUG        |      |     |      |    |
| MAR        |      |     |     |    | 26...      | 1700 | 1.8 | 19.0 | 72 |
| 04...      | 1230 | 92  | 3.0 | 65 |            |      |     |      |    |
| 25...      | 1145 | 2.5 | 4.0 | 71 |            |      |     |      |    |

01185500 - WEST BRANCH FARMINGTON RIVER NEAR NEW BOSTON, MA (LAT 42 04 45 LONG 073 04 24)

|            |      |     |     |     |            |      |     |      |    |
|------------|------|-----|-----|-----|------------|------|-----|------|----|
| OCT , 1980 |      |     |     |     | MAY , 1981 |      |     |      |    |
| 29...      | 1255 | 99  | 6.0 | 52  | 12...      | 0925 | 205 | 13.0 | 71 |
| DEC        |      |     |     |     | JUN        |      |     |      |    |
| 09...      | 0815 | 152 | .5  | 77  | 24...      | 1200 | 55  | 17.0 | -- |
| JAN , 1981 |      |     |     |     | JUL        |      |     |      |    |
| 20...      | 1120 | 19  | .5  | 103 | 15...      | 1545 | 19  | 24.5 | -- |
| 29...      | 1120 | 19  | .5  | 103 | 28...      | 1440 | 20  | 21.5 | -- |
| MAR        |      |     |     |     | AUG        |      |     |      |    |
| 04...      | 0800 | 283 | .0  | 58  | 26...      | 1305 | 17  | 19.0 | -- |
| 24...      | 1245 | 73  | 3.0 | 59  |            |      |     |      |    |

## HOUSATONIC RIVER BASIN

01197000 - EAST BRANCH HOUSATONIC RIVER AT COLTSVILLE, MA (LAT 42 28 10 LONG 073 11 49)

|            |      |     |     |     |            |      |     |      |     |
|------------|------|-----|-----|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |     |     | MAY , 1981 |      |     |      |     |
| 27...      | 1305 | 72  | 7.0 | 168 | 14...      | 0800 | 122 | 12.0 | 133 |
| DEC        |      |     |     |     | JUL        |      |     |      |     |
| 11...      | 0705 | 35  | 2.5 | 225 | 01...      | 0745 | 17  | 22.0 | 370 |
| JAN , 1981 |      |     |     |     | 28...      | 1545 | 11  | 21.0 | 285 |
| 25...      | 0715 | 13  | 5.0 | 275 | SEP        |      |     |      |     |
| FEB        |      |     |     |     | 15...      | 1100 | 20  | 16.0 | 315 |
| 24...      | 1700 | 723 | 3.0 | 85  |            |      |     |      |     |
| MAR        |      |     |     |     |            |      |     |      |     |
| 26...      | 1000 | 42  | 6.0 | 230 |            |      |     |      |     |

01197015 - TOWN BROOK AT BRIDGE ST AT LANESBOROUGH, MA (LAT 42 31 12 LONG 073 13 48)

|            |      |     |     |     |            |      |     |      |     |
|------------|------|-----|-----|-----|------------|------|-----|------|-----|
| OCT , 1980 |      |     |     |     | MAR , 1981 |      |     |      |     |
| 23...      | 1300 | 1.2 | 7.5 | 345 | 26...      | 0650 | 13  | 1.5  | 265 |
| DEC        |      |     |     |     | MAY        |      |     |      |     |
| 10...      | 1245 | 9.5 | 3.0 | 260 | 14...      | 1315 | 35  | 12.0 | 240 |
| JAN , 1981 |      |     |     |     | JUL        |      |     |      |     |
| 22...      | 1335 | 2.0 | .0  | 355 | 29...      | 0820 | 6.4 | 15.0 | 260 |
| FEB        |      |     |     |     | SEP        |      |     |      |     |
| 11...      | 1000 | 16  | .5  | 300 | 14...      | 1355 | 1.7 | 16.0 | 255 |
| 24...      | 0720 | 176 | 3.0 | 139 |            |      |     |      |     |

01197500 - HOUSATONIC RIVER NEAR GREAT BARRINGTON, MA (LAT 42 13 55 LONG 073 21 19)

|            |      |      |      |     |            |      |     |      |     |
|------------|------|------|------|-----|------------|------|-----|------|-----|
| NOV , 1980 |      |      |      |     | JUL , 1981 |      |     |      |     |
| 03...      | 0940 | 261  | 4.5  | 280 | 16...      | 1150 | 122 | 22.0 | --  |
| DEC        |      |      |      |     | 24...      | 1445 | 117 | --   | 345 |
| 10...      | 0720 | 277  | 1.0  | 320 | 28...      | 1000 | 144 | 22.5 | --  |
| JAN , 1981 |      |      |      |     | AUG        |      |     |      |     |
| 22...      | 0720 | 107  | .0   | 399 | 17...      | 1130 | 164 | --   | 365 |
| FEB        |      |      |      |     | 27...      | 1450 | 108 | 20.5 | 400 |
| 26...      | 1215 | 2340 | 1.5  | 154 | SEP        |      |     |      |     |
| MAR        |      |      |      |     | 04...      | 1615 | 96  | --   | 445 |
| 25...      | 0835 | 253  | 4.5  | 350 | 24...      | 1000 | 186 | 12.5 | 379 |
| MAY        |      |      |      |     |            |      |     |      |     |
| 05...      | 1230 | 435  | 17.5 | 271 |            |      |     |      |     |
| 13...      | 1100 | 1330 | 14.0 | 270 |            |      |     |      |     |

01198000 - GREEN RIVER NEAR GREAT BARRINGTON, MA (LAT 42 11 31 LONG 073 23 28)

|            |    |     |      |    |
|------------|----|-----|------|----|
| AUG , 1981 |    |     |      |    |
| 27...      | -- | 9.3 | 19.0 | -- |

01198030 - SCHENOB BROOK AT SHEFFIELD, MA (LAT 42 06 33 LONG 073 22 09)

|            |    |     |      |    |
|------------|----|-----|------|----|
| AUG , 1981 |    |     |      |    |
| 27...      | -- | 2.7 | 18.0 | -- |



MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

237

| DATE                                                                                  | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) | DATE       | TIME | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS) | TEMPER-<br>ATURE,<br>WATER<br>(DEG C) | SPECIFIC<br>CONDUCTANCE<br>(MICROMHOS) |
|---------------------------------------------------------------------------------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|------------|------|-------------------------------------------------|---------------------------------------|----------------------------------------|
| HUDSON RIVER BASIN                                                                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 01331500 - HOOSIC RIVER AT ADAMS, MA (LAT 42 36 40 LONG 073 07 28)                    |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                            |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 22...                                                                                 | 1025 | 17                                              | 7.5                                   | 230                                    | 19...      | 1100 | 65                                              | 11.0                                  | 188                                    |
| 30...                                                                                 | 1445 | 23                                              | 6.0                                   | 210                                    | JUN        |      |                                                 |                                       |                                        |
| DEC                                                                                   |      |                                                 |                                       |                                        | 18...      | 1000 | 28                                              | --                                    | 250                                    |
| 05...                                                                                 | 0710 | 35                                              | .0                                    | 200                                    | JUL        |      |                                                 |                                       |                                        |
| JAN , 1981                                                                            |      |                                                 |                                       |                                        | 28...      | 1210 | 22                                              | 19.0                                  | 220                                    |
| 28...                                                                                 | 0700 | 18                                              | 2.0                                   | 270                                    | SEP        |      |                                                 |                                       |                                        |
| FEB                                                                                   |      |                                                 |                                       |                                        | 15...      | 0840 | 19                                              | 16.5                                  | 250                                    |
| 25...                                                                                 | 0905 | 456                                             | 2.5                                   | 108                                    |            |      |                                                 |                                       |                                        |
| MAR                                                                                   |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 26...                                                                                 | 1240 | 48                                              | 6.0                                   | 215                                    |            |      |                                                 |                                       |                                        |
| 01332000 - NORTH BRANCH HOOSIC RIVER AT NORTH ADAMS, MA (LAT 42 42 08 LONG 073 05 37) |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                            |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 22...                                                                                 | 0715 | 16                                              | 7.0                                   | 106                                    | 19...      | 0915 | 68                                              | 7.0                                   | 80                                     |
| DEC                                                                                   |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 04...                                                                                 | 1145 | 90                                              | .0                                    | 75                                     | 18...      | 0800 | 16                                              | --                                    | 129                                    |
| JAN , 1981                                                                            |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 15...                                                                                 | 0815 | 14                                              | .0                                    | 110                                    | 30...      | 0815 | 86                                              | 14.0                                  | 61                                     |
| MAR                                                                                   |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 06...                                                                                 | 0745 | 61                                              | .0                                    | 80                                     | 15...      | 1100 | 56                                              | --                                    | 79                                     |
| APR                                                                                   |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 03...                                                                                 | 0645 | 199                                             | 3.0                                   | 56                                     |            |      |                                                 |                                       |                                        |
| 01332500 - HOOSIC RIVER NEAR WILLIAMSTOWN, MA (LAT 42 42 21 LONG 073 10 50)           |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                            |      |                                                 |                                       |                                        | APR , 1981 |      |                                                 |                                       |                                        |
| 23...                                                                                 | 0910 | 52                                              | 6.0                                   | 400                                    | 02...      | 0745 | 860                                             | 6.0                                   | 117                                    |
| DEC                                                                                   |      |                                                 |                                       |                                        | MAY        |      |                                                 |                                       |                                        |
| 04...                                                                                 | 0920 | 185                                             | .0                                    | 200                                    | 15...      | 0850 | 255                                             | 13.0                                  | 270                                    |
| JAN , 1981                                                                            |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 14...                                                                                 | 1320 | 58                                              | .0                                    | 305                                    | 28...      | 1030 | 121                                             | 18.5                                  | 220                                    |
| MAR                                                                                   |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 05...                                                                                 | 1345 | 271                                             | 3.0                                   | 230                                    | 15...      | 1250 | 106                                             | 18.0                                  | 235                                    |
| 01333000 - GREEN RIVER AT WILLIAMSTOWN, MA (LAT 42 42 32 LONG 073 11 50)              |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| OCT , 1980                                                                            |      |                                                 |                                       |                                        | MAY , 1981 |      |                                                 |                                       |                                        |
| 15...                                                                                 | 1120 | 5.2                                             | 7.0                                   | 280                                    | 14...      | 1645 | 126                                             | 15.0                                  | 151                                    |
| DEC                                                                                   |      |                                                 |                                       |                                        | JUN        |      |                                                 |                                       |                                        |
| 03...                                                                                 | 1350 | 67                                              | 2.0                                   | 177                                    | 30...      | 1320 | 35                                              | 21.0                                  | 240                                    |
| JAN , 1981                                                                            |      |                                                 |                                       |                                        | JUL        |      |                                                 |                                       |                                        |
| 14...                                                                                 | 0725 | 9.1                                             | .0                                    | 174                                    | 29...      | 1555 | 30                                              | 19.0                                  | 170                                    |
| FEB                                                                                   |      |                                                 |                                       |                                        | SEP        |      |                                                 |                                       |                                        |
| 25...                                                                                 | 1355 | 471                                             | 3.0                                   | 127                                    | 15...      | 1450 | 17                                              | 23.0                                  | 215                                    |
| APR                                                                                   |      |                                                 |                                       |                                        |            |      |                                                 |                                       |                                        |
| 02...                                                                                 | 1305 | 273                                             | 6.0                                   | 124                                    |            |      |                                                 |                                       |                                        |

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## BARNSTABLE COUNTY

413956070164301. Barnstable well A1W 230.

LOCATION.--Lat 41°39'56", long 70°16'43", Hydrologic Unit 01090002, 50 ft (15 m) west of Mary Dunn Road at Hyannis Airport and 0.3 mi (0.5 km) north of intersection of Willow Street and State Highway 28 in Barnstable.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 35.8 ft (10.9 m), screened 32.8 to 35.8 ft (10.0 to 10.9 m).

DATUM.--Land-surface datum is 43.23 ft (13.18 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, at land surface datum.

PERIOD OF RECORD.--January 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.05 ft (6.42 m) below land-surface datum, May 12, 1973; lowest, 26.22 ft (7.99 m) below land-surface datum, Oct. 25, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 25.64       | FEB 23, 1981 | 25.14       | MAY 22, 1981 | 24.44       | AUG 25, 1981 | 25.15       |
| NOV 24       | 25.64       | MAR 23       | 24.05       | JUN 23       | 24.26       | SEP 23       | 25.73       |
| DEC 22       | 25.49       | APR 22       | 24.34       | JUL 27       | 24.34       |              |             |

414154070165001. Barnstable well A1W 247.

LOCATION.--Lat 41°41'54", long 70°16'50", Hydrologic Unit 01090002, 30 ft (9.1 m) east of Mary Dunn Road and 0.2 mi (0.33 km) south of State Highway 6A in Barnstable.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 52 ft (15.8 m), screened 49 to 52 ft (14.9 to 15.8 m).

DATUM.--Land-surface datum is 44.52 ft (13.57 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.0 ft (0.6 m) above land-surface datum.

PERIOD OF RECORD.--November 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.97 ft (6.39 m) below land-surface datum, May 25, 1973; lowest measured, 28.64 ft (8.73 m) below land-surface datum, Oct. 25, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 26.02       | JAN 26, 1981 | 26.71       | APR 27, 1981 | 25.80       | JUL 27, 1981 | 26.00       |
| NOV 24       | 26.32       | FEB 25       | 26.59       | MAY 23       | 25.88       | AUG 25       | 26.28       |
| DEC 20       | 26.53       | MAR 23       | 25.80       | JUN 23       | 26.04       | SEP 23       | 26.57       |

414129070361401. Bourne well BHW 198.

LOCATION.--Lat 41°41'29", long 70°36'14", Hydrologic Unit 01090002, 50 ft (15.2 m) west of County Road and 0.3 mi (0.48 km) south of Pocasset Road in Bourne.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 50 ft (15.2 m), screened 47 to 50 ft (14.3 to 15.2 m).

DATUM.--Land-surface datum is 55.56 ft (16.93 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 5.0 ft (1.5 m) above land-surface datum.

PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.43 ft (9.28 m) below land-surface datum, Dec. 27, 1972; lowest measured, 36.17 ft (11.02 m) below land-surface datum, Oct. 25, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 35.20       | JAN 22, 1981 | 34.50       | APR 23, 1981 | 33.06       | JUL 24, 1981 | 34.03       |
| NOV 24       | 34.75       | FEB 21       | 34.22       | MAY 21       | 33.41       | AUG 24       | 34.40       |
| DEC 20       | 34.53       | MAR 23       | 32.81       | JUN 23       | 33.79       | SEP 22       | 34.77       |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## BARNSTABLE COUNTY--Continued

414518070020301. Brewster well BMW 21.

LOCATION.--Lat 41°45'18", long 70°02'03", Hydrologic Unit 01090002, about 50 ft (15 m) north of Nook Road, 0.1 mi (0.2 km) south of Cliff Pond, 0.3 mi (0.5 km) east of Silas Road, and at Nickerson State Park in Brewster.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.5 in (0.06 m), depth 25 ft (7.6 m), screened 22 to 25 ft (6.7 to 7.6 m).

DATUM.--Land-surface datum is 36.97 ft (11.27 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.40 ft (0.73 m) above land-surface datum.

PERIOD OF RECORD.--October 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.90 ft (2.10 m) below land-surface datum, Apr. 25, 1974; lowest measured, 13.34 ft (4.07 m) below land-surface datum, Oct. 25, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 26, 1980 | 11.15       | JAN 23, 1981 | 11.82       | APR 22, 1981 | 11.86       | JUL 28, 1981 | 12.19       |
| NOV 25       | 11.40       | FEB 24       | 11.93       | MAY 26       | 12.00       | AUG 25       | 12.44       |
| DEC 22       | 11.63       | MAR 24       | 11.79       | JUN 25       | 11.99       | SEP 25       | 12.67       |

414630070014901. Brewster well BMW 22.

LOCATION.--Lat 41°46'30", long 70°01'49", Hydrologic Unit 01090002, 50 ft (15.2 m) east of entrance to Nickerson State Park and 50 ft (15.2 m) south of State Highway 6A in Brewster.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 52 ft (15.8 m) screened 49 to 52 ft (14.9 to 15.8 m).

DATUM.--Land-surface datum is 50.45 ft (15.38 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.62 ft (8.72 m) below land-surface datum, June 27, 1973; lowest measured, 33.60 ft (10.24 m) below land-surface datum, Jan. 31, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 26, 1980 | 32.31       | FEB 24, 1981 | 32.98       | MAY 26, 1981 | 32.47       | AUG 25, 1981 | 32.94       |
| NOV 25       | 32.58       | MAR 24       | 32.29       | JUN 25       | 32.57       | SEP 25       | 33.20       |
| DEC 22       | 32.77       | APR 22       | 32.35       | JUL 28       | 32.71       |              |             |

414100070011101. Chatham well CGW 138.

LOCATION.--Lat 41°41'00", long 70°01'11", Hydrologic Unit 01090002, 50 ft (15.2 m) east of State Highway 137 and 300 ft (91 m) north of State Highway 28 in Chatham.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 44 ft (13.4 m), screened 41 to 44 ft (12.5 to 13.4 m).

DATUM.--Land-surface datum is 35.28 ft (10.75 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.77 ft (1.45 m) above land-surface datum; prior to June 1980, 3.80 ft (1.16 m) above land-surface datum.

PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.13 ft (6.44 m) below land-surface datum, June 27, 1967; lowest measured, 26.22 ft (7.99 m) below land-surface datum, Jan. 31, 1966.

REVISIONS.--Revised figures of water level for water year 1980, in feet below land-surface datum, superseding those published in WDR MA-RI-80-1, are given herewith.

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| JUN 24, 1980 | 24.16       | JUL 24, 1980 | 24.56       | AUG 26, 1980 | 25.05       | SEP 25, 1980 | 25.41       |

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 26, 1980 | 25.49       | JAN 23, 1981 | 25.70       | APR 27, 1981 | 24.88       | JUL 27, 1981 | 24.78       |
| NOV 25       | 25.61       | FEB 24       | 25.59       | MAY 24       | 24.92       | AUG 25       | 25.36       |
| DEC 21       | 25.64       | MAR 26       | 24.90       | JUN 25       | 24.70       | SEP 25       | 25.63       |

## BARNSTABLE COUNTY--Continued

414418070241601. Sandwich well SDW 252.

LOCATION.--Lat 41°44'18", long 70°24'16", Hydrologic Unit 01090002, 0.5 mi (0.8 km) north of State Highway 6A and 15 ft (4.6 m) east of Private Road in Sandwich.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 57 ft (17.4 m), screened 55 to 57 ft (16.8 to 17.4 m).

DATUM.--Land-surface datum is 53.47 ft (16.30 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.0 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.97 ft (14.01 m) below land-surface datum, Feb. 27, 1978; lowest measured, 48.23 ft (14.70 m) below land-surface datum, Oct. 25, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 47.84       | JAN 22, 1981 | 48.00       | APR 28, 1981 | 47.50       | JUL 24, 1981 | 47.65       |
| NOV 24       | 47.72       | FEB 21       | 48.18       | MAY 21       | 47.46       | AUG 24       | 47.82       |
| DEC 20       | 47.89       | MAR 23       | 47.28       | JUN 23       | 47.55       | SEP 22       | 47.76       |

414124070265901. Sandwich well SDW 253.

LOCATION.--Lat 41°41'24", long 70°26'59", Hydrologic Unit 01090002, 800 ft (240 m) west of Stowe Road and 50 ft (15.2 m) south of Farmersville Road in Sandwich.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 70 ft (21.3 m), screened 67 to 70 ft (20.4 to 21.3 m).

DATUM.--Land-surface datum is 111.20 ft (33.89 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.78 ft (13.95 m), below land-surface datum, July 30, 1973; lowest measured, 55.05 ft (16.78 m) below land-surface datum, Feb. 28, 1967.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 51.15       | JAN 22, 1981 | 51.76       | APR 23, 1981 | 50.90       | JUL 24, 1981 | 51.42       |
| NOV 24       | 51.40       | FEB 21       | 51.77       | MAY 21       | 50.97       | AUG 24       | 51.78       |
| DEC 20       | 51.55       | MAR 23       | 51.04       | JUN 23       | 51.13       | SEP 22       | 52.06       |

420239070062001. Truro well TSW 1.

LOCATION.--Lat 42°02'39", long 70°06'20", Hydrologic Unit 01090002, near old pumping station about 200 ft (60 m) north of State Highway 6A and 1.2 mi (1.9 km) northwest of North Truro.

Owner: Town of Provincetown.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in (0.03 m), depth 68 ft (20.7 m), cased to 68 ft (20.7 m), open end.

DATUM.--Land-surface datum is 16.80 ft (5.12 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.50 ft (1.07 m) above land-surface datum.

REMARKS.--Water levels affected by pumping, barometric pressure, and tide.

PERIOD OF RECORD.--August 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.73 ft (2.97 m) below land-surface datum, Dec. 27, 1972; lowest measured, 12.1 ft (3.69 m) below land-surface datum, Sept. 11, 1954.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 27, 1980 | 10.85       | JAN 26, 1981 | 11.34       | APR 22, 1981 | 10.99       | JUL 28, 1981 | 11.09       |
| NOV 23       | 10.69       | FEB 24       | 11.43       | MAY 26       | 11.08       | AUG 26       | 11.02       |
| DEC 21       | 10.85       | MAR 24       | 10.42       | JUN 25       | 11.26       | SEP 25       | 10.73       |



## GROUND-WATER LEVELS IN MASSACHUSETTS

## BARNSTABLE COUNTY--Continued

420206070045901. Truro well TSW 89.

LOCATION.--Lat 42°02'06", long 70°04'59", Hydrologic Unit 01090002, 300 ft (91.4 m) west of U.S. Highway 6 and 50 ft (15.2 m) north of Highland Road in Truro.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 27.7 ft (8.4 m), screened 24.7 to 27.7 ft (7.5 to 8.4 m).

DATUM.--Land-surface datum is 16.60 ft (4.88 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.7 ft (0.5 m) above land-surface datum.

PERIOD OF RECORD.--September 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.36 ft (3.16 m) below land-surface datum, Feb. 27, 1978; lowest measured, 12.96 ft (3.95 m) below land-surface datum, Sept. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 08, 1980 | 12.85       | DEC 21, 1980 | 12.45       | MAR 24, 1981 | 11.65       | AUG 26, 1981 | 12.68       |
| 27           | 12.70       | JAN 26, 1981 | 12.68       | APR 22       | 11.95       | SEP 25       | 12.59       |
| NOV 13       | 12.78       | FEB 04       | 12.75       | MAY 26       | 12.11       |              |             |
| 23           | 12.60       | 24           | 12.62       | JUN 25       | 12.20       |              |             |
| DEC 17       | 12.55       | MAR 18       | 11.78       | JUL 28       | 12.52       |              |             |

415353069585401. Wellfleet well WNW 17.

LOCATION.--Lat 41°53'53", long 69°58'54", Hydrologic Unit 01090002, about 150 ft (45.7 m) east of old pumping station and 45 ft (13.7 m) west of road to the public beach at Cape Cod National Seashore in Wellfleet.

Owner: Cape Cod National Seashore.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in (0.06 m), depth 42 ft (12.8 m), screen information not available.

DATUM.--Land-surface datum is 19.10 ft (5.82 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.13 ft (0.34 m) above land-surface datum.

PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.27 ft (2.22 m) below land-surface datum, June 27, 1967; lowest measured, 12.75 ft (3.89 m) below land-surface datum, Jan. 31, 1967.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 27, 1980 | 12.02       | JAN 26, 1981 | 12.08       | APR 22, 1981 | 10.65       | JUL 28, 1981 | 11.47       |
| NOV 23       | 12.16       | FEB 24       | 11.89       | MAY 26       | 10.88       | AUG 26       | 11.71       |
| DEC 21       | 12.19       | MAR 24       | 10.70       | JUN 25       | 11.10       | SEP 25       | 11.91       |

## BERKSHIRE COUNTY

423503073075401. Cheshire well CJW 2.

LOCATION.--Lat 42°35'03", long 73°07'54", Hydrologic Unit 02020003, at intersection of Wells and Jenks Roads 2.3 mi (3.7 km) northeast of Cheshire.

Owner: John Jayko.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 22 ft (6.7 m), cased with stone to 22 ft (6.7 m), open end.

DATUM.--Altitude of land-surface datum is 1,210 ft (369 m). Measuring point: Inside rim of concrete well top, 1.0 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--October 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.09 ft (0.03 m) below land-surface datum, Jan. 19, 1952; lowest measured, 14.03 ft (4.28 m) below land-surface datum, Nov. 20, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 21, 1980 | 12.56       | JAN 26, 1981 | 10.53       | APR 26, 1981 | 4.06        | JUL 26, 1981 | 6.60        |
| NOV 21       | 12.25       | FEB 21       | 13.10       | MAY 22       | 4.25        | AUG 25       | 6.88        |
| DEC 21       | 9.70        | MAR 23       | 7.78        | JUN 23       | 5.66        | SEP 23       | 8.72        |

## BERKSHIRE COUNTY--Continued

421316073212801. Great Barrington well GMW 2.

LOCATION.--Lat 42°13'16", long 73°21'28", Hydrologic Unit 01100005, 30 ft (9 m) west of State Highway 41 and 1.5 mi (2.4 km) north of intersection of State Highway 41 and U.S. Highway 7 in Great Barrington.

Owner: Mr. Jacobson.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in (0.91 m), depth 15 ft (4.6 m), cased with stone to 15 ft (4.6 m), open end.

DATUM.--Altitude of land-surface datum is 732 ft (223 m). Measuring point: Top of stone curbing, east side of well 0.33 ft (0.10 m) above land-surface datum. Prior to July 25, 1978, measured at land surface datum.

REMARKS.--Water level affected by stream.

PERIOD OF RECORD.--June 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.02 ft (1.23 m) below land-surface datum, Feb. 12, 1970; lowest, 14.97 ft (4.56 m) below land-surface datum, Nov. 20, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 05, 1980 | 13.04          | DEC 25, 1980 | 11.16          | MAY 05, 1981 | 9.13           | JUL 25, 1981 | 12.62          |
| 10           | 13.06          | JAN 31, 1981 | 12.74          | 10           | 10.22          | 31           | 12.66          |
| 15           | 13.06          | FEB 05       | 10.49          | 15           | 6.40           | AUG 05       | 12.69          |
| 20           | 13.02          | 10           | 11.24          | 20           | 7.75           | 10           | 12.72          |
| 25           | 13.02          | 15           | 9.74           | 25           | 9.68           | 15           | 12.73          |
| 31           | 12.95          | 20           | 8.86           | 31           | 10.70          | 20           | 12.74          |
| NOV 05       | 12.94          | 25           | 6.07           | JUN 05       | 10.97          | 25           | 12.75          |
| 10           | 12.94          | 28           | 5.84           | 10           | 11.44          | 31           | 12.79          |
| 15           | 12.94          | MAR 05       | 7.32           | 15           | 11.68          | SEP 05       | 12.84          |
| 20           | 12.96          | 10           | 7.79           | 20           | 11.56          | 10           | 12.85          |
| 25           | 12.92          | 15           | 8.44           | 25           | 12.00          | 15           | 12.88          |
| 30           | 12.62          | 20           | 9.57           | 30           | 12.32          | 20           | 12.88          |
| DEC 05       | 11.37          | 25           | 10.33          | JUL 05       | 12.46          | 25           | 12.92          |
| 10           | 12.05          | 31           | 10.72          | 10           | 12.50          | 30           | 12.94          |
| 15           | 12.27          | APR 05       | 9.08           | 15           | 12.55          |              |                |
| 20           | 12.38          | 30           | 8.02           | 20           | 12.58          |              |                |

WTR YEAR 1981 MAX 5.81 FEB 27, 1981 MIN 13.08 OCT 18, 1980

a Estimated.

420912073043001. Otis well OTW 7.

LOCATION.--Lat 42°09'12", long 73°04'30", Hydrologic Unit 01080207, about 400 ft (126 m) south of Hawley Road and 15 ft (4.6 m) west of State Highway 8 in Otis.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 17.5 ft (5.3 m), screened 15.5 to 17.5 ft (4.7 to 5.3 m).

DATUM.--Altitude of land-surface datum is 1,145 ft (349 m). Measuring point: Top of casing, 3.5 ft (1.1 m) above land-surface datum.

REMARKS.--Water levels affected by Minor Brook and Farmington River.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.54 ft (1.69 m) below land-surface datum, Dec. 27, 1973; lowest measured, 9.93 ft (3.03 m) below land-surface datum, Aug. 23, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 22, 1980 | 9.68           | JAN 26, 1981 | 9.43           | APR 26, 1981 | 8.22           | JUL 23, 1981 | 9.37           |
| NOV 22       | 9.27           | FEB 21       | 6.73           | MAY 22       | 8.30           | AUG 25       | 9.82           |
| DEC 21       | 8.85           | MAR 23       | 7.84           | JUN 23       | 9.00           | SEP 22       | 9.85           |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## BERKSHIRE COUNTY--Continued

422745073112001. Pittsfield well PTW 51.  
 LOCATION.--Lat 42°27'45", long 73°11'20", Hydrologic Unit 01100005, 30 ft (9.1 m) east of Hubbard Ave. and about 100 ft (30 m) north of Barton Brook in Pittsfield.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Glacial sand and gravel of Pleistocene age.  
 WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 ft (0.03 m), depth 31.5 ft (9.6 m), screened 29.5 to 31.5 ft (9 to 9.6 m).  
 DATUM.--Altitude of land-surface datum is 1,050 ft (320 m). Measuring point: Top of casing, 2.5 ft (0.8 m) above land-surface datum.  
 PERIOD OF RECORD.--August 1963 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.30 ft (3.75 m) below land-surface datum, Apr. 25, 1969; lowest measured, 27.57 ft (8.40 m) below land-surface datum, Dec. 22, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 21, 1980 | 23.09       | JAN 26, 1981 | 22.80       | APR 26, 1981 | 15.18       | JUL 26, 1981 | 18.42       |
| NOV 21       | 23.92       | FEB 21       | 22.43       | MAY 22       | 14.83       | AUG 25       | 19.96       |
| DEC 21       | 21.72       | MAR 23       | 16.45       | JUN 23       | 16.17       | SEP 23       | 21.19       |

420351073193601. Sheffield well SJW 59.  
 LOCATION.--Lat 42°03'51", long 73°19'36", Hydrologic Unit 01100005, about 200 ft (61 m) east of U.S. Highway 7 and 30 ft (9.1 m) north of Hewins Road in Sheffield.  
 Owner: U.S. Geological Survey.  
 WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 ft (0.03 m), depth 24 ft (7.3 m), screened 22 to 24 ft (6.7 to 7.3 m).  
 DATUM.--Altitude of land-surface datum is 680 ft (210 m). Measuring point: Top of casing, 3.70 ft (1.13 m) above land-surface datum.  
 PERIOD OF RECORD.--November 1963 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.19 ft (2.80 m) below land-surface datum, Mar. 28, 1978; lowest measured, 19.69 ft (6.00 m) below land-surface datum, Jan. 25, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 14.96       | JAN 26, 1981 | 15.89       | APR 26, 1981 | 15.13       | JUL 26, 1981 | 15.57       |
| NOV 22       | 15.43       | FEB 21       | 14.62       | MAY 22       | 15.32       | AUG 25       | 15.89       |
| DEC 21       | 15.70       | MAR 23       | 14.67       | JUN 23       | 15.33       | SEP 23       | 16.32       |

## BRISTOL COUNTY

415447071155301. Attleboro well ATW 83.  
 LOCATION.--Lat 41°54'47", long 71°15'53", Hydrologic Unit 01090004, about 150 ft (46 m) north of parking lot and 200 ft (61 m) west of dirt road at Bristol County Nursing Home in Attleboro.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Glacial sand and gravel of Pleistocene age.  
 WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 20.6 ft (6.3 m), screened 18.6 to 20.6 ft (5.7 to 6.3 m).  
 DATUM.--Altitude of land-surface datum is 145 ft (44 m). Measuring point: Top of casing, 2.5 ft (0.8 m) above land-surface datum.  
 PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.98 ft (0.60 m) below land-surface datum, Jan. 27, 1978; lowest measured, 5.23 ft (1.59 m) below land-surface datum, Aug. 26, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 4.84        | JAN 27, 1981 | 4.31        | APR 23, 1981 | 3.79        | JUL 25, 1981 | 4.72        |
| NOV 24       | 4.13        | FEB 23       | 3.58        | MAY 21       | 3.80        | AUG 22       | 5.20        |
| DEC 23       | 4.14        | MAR 25       | 3.85        | JUN 23       | 4.22        | SEP 26       | 4.53        |

## BRISTOL COUNTY--Continued

414228071091401. Fall River well FRW 67.

LOCATION.--Lat 41°42'28", long 71°09'14", Hydrologic Unit 01090004, about 200 ft (61 m) east of Main Street and 50 ft (15.2 m) north of Walnut Street at Bristol County Court in Fall River.

Owner: Bristol County Court.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 12.0 ft (3.7 m), cased with stone to 12.0 ft (3.7 m), open end.

DATUM.--Altitude of land-surface datum is 135 ft (41 m). Measuring point: Top of stone casing, at land-surface datum.

PERIOD OF RECORD.--May 1948 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.77 ft (1.45 m) below land-surface datum, Mar. 22, 1972; dry, Oct. 30, 1950, Sept. 30 to Nov. 25, 1957, Sept. 27, 1965 to Jan. 29, 1966, Aug. 23 and Oct. 25, 1974.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 29, 1980 | 9.37        | JAN 26, 1981 | 9.10        | APR 30, 1981 | 8.23        | JUL 28, 1981 | 9.05        |
| NOV 26       | 9.10        | FEB 23       | 8.60        | MAY 22       | 8.33        | AUG 26       | 8.99        |
| DEC 24       | 9.04        | MAR 30       | 8.33        | JUN 24       | 8.60        |              |             |

414705071045301. Freetown well F3W 23.

LOCATION.--Lat 41°47'05", long 71°04'53", Hydrologic Unit 01090004, about 300 ft (91.4 m) west of State Highway 24 and 200 ft (61 m) north of State Highway 79 in Freetown.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 42 ft (12.8 m), screened 40 to 42 ft (12.2 to 12.8 m).

DATUM.--Altitude of land-surface datum is 38 ft (12 m). Measuring point: Top of casing, 2.0 ft (0.6 m) above land-surface datum.

REMARKS.--Water level affected by tide.

PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.82 ft (2.99 m) below land-surface datum, Jan. 29, 1979; lowest measured, 15.70 ft (4.79 m) below land-surface datum, Jan. 29, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 14.98       | JAN 27, 1981 | 15.33       | APR 26, 1981 | 14.58       | JUL 23, 1981 | 14.72       |
| NOV 24       | 14.90       | FEB 23       | 15.08       | MAY 21       | 14.50       | AUG 25       | 14.69       |
| DEC 23       | 15.04       | MAR 25       | 14.42       | JUN 23       | 14.47       | SEP 25       | 15.04       |

414025070572801. New Bedford well NGW 116.

LOCATION.--Lat 41°40'25", long 70°57'28", Hydrologic Unit 01090002, New Bedford Municipal Airport, 30 ft (9 m) east of control tower building in New Bedford.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in (0.05 m), depth 27.3 ft (8.3 m), screened 25.3 to 27.3 ft (7.7 to 8.3 m).

DATUM.--Altitude of land-surface datum is 65 ft (20 m). Measuring point: Top of casing, 1.0 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.31 ft (0.70 m) below land-surface datum, Mar. 26, 1969; lowest measured, 5.20 ft (1.58 m) below land-surface datum, July 24, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 4.81        | JAN 27, 1981 | 4.27        | APR 26, 1981 | 3.81        | JUL 23, 1981 | 4.02        |
| NOV 24       | 4.00        | FEB 23       | 3.45        | MAY 21       | 4.11        | AUG 22       | 4.43        |
| DEC 23       | 3.99        | MAR 25       | 4.15        | JUN 23       | 3.93        | SEP 26       | 4.42        |



## GROUND-WATER LEVELS IN MASSACHUSETTS

## BRISTOL COUNTY--Continued

415812071111101. Norton well N4W 37.

LOCATION.--Lat 41°58'12", long 71°11'11", Hydrologic Unit 01090004, at Wheaton College, 250 ft (76 m) northeast of observatory in Norton.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 19.4 ft (5.9 m), screened 17.4 to 19.4 ft (5.3 to 5.9 m).

DATUM.--Altitude of land-surface datum is 105 ft (32 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.35 ft (0.72 m) below land-surface datum, Dec. 29, 1969; lowest measured, 11.24 ft (3.43 m) below land-surface datum, Oct. 23, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 11.24       | JAN 27, 1981 | 9.46        | APR 23, 1981 | 7.18        | JUL 25, 1981 | 10.02       |
| NOV 24       | 10.03       | FEB 23       | 6.61        | MAY 21       | 8.04        | AUG 22       | 10.53       |
| DEC 23       | 8.75        | MAR 25       | 6.70        | JUN 23       | 9.25        | SEP 26       | 10.49       |

414714071175901. Seekonk well SHW 275.

LOCATION.--Lat 41°47'14", long 71°17'59", Hydrologic Unit 01090004, middle of median strip of Interstate Highway 195 and 1.1 mi (1.77 km) west of Palmer River in Seekonk.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 14.4 ft (4.39 m), screened 12.4 to 14.4 ft (3.78 to 4.39 m).

DATUM.--Altitude of land-surface datum is 21 ft (9 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.33 ft (1.62 m) below land-surface datum, May 24, 1979; lowest measured, 8.02 ft (2.44 m) below land-surface datum, Sept. 26, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 7.99        | JAN 27, 1981 | 7.19        | APR 22, 1981 | 6.82        | JUL 23, 1981 | 7.13        |
| NOV 24       | 7.16        | FEB 23       | 6.44        | MAY 21       | 6.86        | AUG 25       | 7.52        |
| DEC 23       | 7.14        | MAR 25       | 6.90        | JUN 23       | 7.01        | SEP 25       | 7.34        |

414420071084401. Somerset well SPW 161.

LOCATION.--Lat 41°44'20", long 71°08'44", Hydrologic Unit 01090004, 110 ft (34 m) east of Riverside Avenue and 335 ft (102 m) south of the Johnson Street and Riverside Avenue intersection in Somerset.

Owner: Montaup Electric.

AQUIFER.--Sandstone interbedded with shale and conglomerate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 3 in (0.08 m), depth 1,500 ft (457 m), cased to 26 ft

(7.9 m), open hole.

DATUM.--Altitude of land-surface datum is 40 ft (12 m). Measuring point: Top of casing, 1.0 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--March 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.87 ft (1.79 m) below land-surface datum, Jan. 29, 1979; lowest measured, 22.09 ft (6.73 m) below land-surface datum, Oct. 23, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 22.09       | JAN 27, 1981 | 17.91       | APR 23, 1981 | 13.52       | JUL 23, 1981 | 17.70       |
| NOV 24       | 21.18       | FEB 23       | 16.32       | MAY 21       | 14.56       | AUG 25       | 18.71       |
| DEC 23       | 18.67       | MAR 25       | 13.27       | JUN 23       | 16.37       | SEP 25       | 19.62       |



## BRISTOL COUNTY--Continued

415454071061801. Taunton well TAW 258.

LOCATION.--Lat 41°54'54", long 71°06'18", Hydrologic Unit 01090004, 420 ft (128 m) northwest of Danforth Street and 520 ft (158 m) southwest of Chester Street in Taunton.

Owner: Joseph Mozzone.

AQUIFER.--Sandstone interbedded with shale and conglomerate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 3.0 in (0.08 m), depth 1,006.0 ft (306.6 m), cased to 10.0 ft (3.0 m), open hole.

DATUM.--Altitude of land-surface datum is 60 ft (18 m). Measuring point: Top of casing, 1.0 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--November 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.10 ft (3.08 m) below land-surface datum, Jan. 27, 1978; lowest measured, 15.85 ft (4.83 m) below land-surface datum, Sept. 26, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 15.82       | JAN 27, 1981 | 15.02       | APR 23, 1981 | 12.98       | JUL 25, 1981 | 15.16       |
| NOV 24       | 15.50       | FEB 23       | 13.67       | MAY 21       | 13.36       | AUG 22       | 15.58       |
| DEC 23       | 14.83       | MAR 25       | 13.09       | JUN 23       | 14.39       | SEP 26       | 15.85       |

415457071060101. Taunton well TAW 337.

LOCATION.--Lat 41°54'57", long 71°06'01", Hydrologic Unit 01090004, Taunton State Hospital, about 200 ft (61 m) west of Mill River and about 300 ft (91 m) east of Danforth Street in Taunton.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 20 ft (6.1 m), screened 18 to 20 ft (5.5 to 6.1 m).

DATUM.--Altitude of land-surface datum is 50 ft (15 m). Measuring point: Top of casing, 2.5 ft (0.8 m) above land-surface datum.

REMARKS.--Water levels affected by Mill River.

PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.96 ft (1.82 m) below land-surface datum, Dec. 29, 1969; lowest measured, 10.33 ft (3.15 m) below land-surface datum, Sept. 26, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 9.98        | JAN 27, 1981 | 10.09       | APR 23, 1981 | 9.27        | JUL 25, 1981 | 10.05       |
| NOV 24       | 9.96        | FEB 23       | 9.47        | MAY 21       | 9.40        | AUG 22       | 10.21       |
| DEC 23       | 9.90        | MAR 25       | 9.14        | JUN 23       | 9.81        | SEP 26       | 10.33       |

## DUKES COUNTY

412346070353403. Edgartown well ENW 52.

LOCATION.--Lat 41°23'46", long 70°35'34", Hydrologic Unit 01090002, 0.5 mi (0.80 km) west of Airport Road and 0.6 mi (0.97 km) north of West Tisbury Road in Edgartown.

Owner: Martha's Vineyard State Forest.

AQUIFER.--Glacial sand, gravel and cobbles of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in (0.05 m), depth 64.02 ft (19.51 m), screened 61.02 to 64.02 ft (18.60 to 19.51 m).

DATUM.--Altitude of land-surface datum is 34 ft (10 m). Measuring point: Top of casing, 0.02 ft (0.01 m) below land-surface datum.

PERIOD OF RECORD.--December 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.17 ft (4.32 m) below land-surface datum, July 28, 1979; lowest measured, 20.51 ft (6.25 m) below land-surface datum, Feb. 26, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 18.92       | JAN 24, 1981 | 20.47       | APR 21, 1981 | 19.79       | JUL 25, 1981 | 18.64       |
| NOV 23       | 19.38       | FEB 26       | 20.51       | MAY 25       | 19.60       | AUG 23       | 18.61       |
| DEC 23       | 19.79       | MAR 22       | 20.15       | JUN 21       | 19.53       |              |             |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## ESSEX COUNTY

423734071080901. Andover well AJW 26.

LOCATION.--Lat 42°37'34", long 71°08'09", Hydrologic Unit 01070002, 90 ft (27.4 m) north of Ballardvale Road and 30 ft (9.1 m) west of Sunset Rock Road in Andover.

Owner: Harry K. Jenkins.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 25 in (0.64 m), depth 15 ft (4.6 m), cased with stone to 15 ft (4.6 m), open end.

DATUM.--Altitude of land-surface datum is 189 ft (58 m). Measuring point: Upper edge of brick lip in corner of opening, 2.5 ft (0.8 m) above land-surface datum.

PERIOD OF RECORD.--June 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.47 ft (1.06 m) below land-surface datum, Mar. 26, 1969; lowest measured, 13.44 ft (4.10 m) below land-surface datum, Nov. 21, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 12.60       | JAN 22, 1981 | 12.19       | APR 25, 1981 | 9.72        | JUL 26, 1981 | 12.26       |
| NOV 21       | 12.32       | FEB 23       | 11.73       | MAY 23       | 10.77       | AUG 25       | 12.48       |
| DEC 22       | 11.84       | MAR 23       | 8.71        | JUN 21       | 11.90       | SEP 26       | 12.55       |

423641071102501. Andover well AJW 462.

LOCATION.--Lat 42°36'41", long 71°10'25", Hydrologic Unit 01070002, about 1,200 ft (366 m) south of Shawsheen River, and 30 ft (9.1 m) west of Interstate Highway 93 in Andover.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 32.5 ft (9.9 m), screened 30.5 to 32.5 ft (9.3 to 9.9 m).

DATUM.--Altitude of land-surface datum is 110 ft (34 m). Measuring point: Top of casing, 2.0 ft (0.6 m) above land-surface datum.

PERIOD OF RECORD.--November 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.77 ft (3.89 m) below land-surface datum, June 23, 1972, Jan. 29, 1979; lowest measured, 15.80 ft (4.82 m) below land-surface datum, Oct. 23, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 15.80       | JAN 22, 1981 | 15.55       | APR 25, 1981 | 14.58       | JUL 26, 1981 | 14.99       |
| NOV 21       | 15.69       | FEB 23       | 15.18       | MAY 23       | 14.68       | AUG 25       | 15.25       |
| DEC 23       | 15.39       | MAR 23       | 14.43       | JUN 21       | 15.06       | SEP 26       | 15.22       |

424322070592401. Georgetown well GCW 168.

LOCATION.--Lat 42°43'22", long 70°59'24", Hydrologic Unit 01090001, 18 ft (5.5 m) south of State Highway 133 and 25 ft (7.6 m) east of Winter Street at Murca Park in Georgetown.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 21 ft (6.4 m), screened 19 to 21 ft (5.8 to 6.4 m).

DATUM.--Altitude of land-surface datum is 80 ft (24 m). Measuring point: Top of casing, 2.0 ft (0.6 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.42 ft (0.74 m) below land-surface datum, Mar. 27, 1969; lowest measured, 6.65 ft (2.03 m) below land-surface datum, Sept. 22, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 5.81        | JAN 23, 1981 | 5.56        | APR 25, 1981 | 4.11        | JUL 26, 1981 | 5.50        |
| NOV 23       | 5.26        | FEB 24       | 4.34        | MAY 23       | 4.72        | AUG 23       | 5.87        |
| DEC 22       | 5.15        | MAR 24       | 4.10        | JUN 21       | 5.29        | SEP 23       | 5.60        |

## ESSEX COUNTY--Continued

424841071004101. Haverhill well HLW 23.

LOCATION.--Lat 42°48'41", long 71°00'41", Hydrologic Unit 01070002, about 50 ft (15 m) north of Amesbury Line Road and 0.9 mi (1.4 km) south of State Highway 110 in Haverhill.

Owner: Mrs. Benjamin Hamm.

AQUIFER.--Glacial sand of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 12 in (0.3 m), depth 15.1 ft (4.6 m), cased with tile to 15.1 ft (4.6 m), open end.

DATUM.--Altitude of land-surface datum is 105 ft (32 m). Measuring point: Top of hole in base of wooden recorder shelter, 1 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--October 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.08 ft (2.46 m) below land-surface datum, Apr. 19, 1961; lowest, 15.02 ft (5.48 m) below land-surface datum, Feb. 2, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 05, 1980 | 14.24       | JAN 25, 1981 | 14.01       | APR 30, 1981 | 11.06       | JUL 20, 1981 | 12.64       |
| 10           | 14.27       | 31           | 14.04       | MAY 05       | 11.02       | 25           | 12.76       |
| 15           | 14.26       | FEB 05       | 13.72       | 10           | 11.05       | 31           | 12.88       |
| 20           | 14.30       | 10           | 13.49       | 15           | 11.14       | AUG 05       | 12.99       |
| 25           | 14.37       | 15           | 13.31       | 20           | 11.24       | 10           | 13.11       |
| 31           | 14.02       | 20           | 13.32       | 25           | 11.36       | 15           | 13.23       |
| NOV 05       | 14.05       | 25           | 13.04       | 31           | 11.50       | 20           | 13.34       |
| 10           | 14.12       | 28           | 11.70       | JUN 05       | 11.70       | 25           | 13.44       |
| 15           | 14.18       | MAR 05       | 11.44       | 10           | 11.84       | 31           | 13.55       |
| 20           | 14.25       | 25           | 11.35       | 15           | 11.97       | SEP 05       | 13.64       |
| 25           | 14.29       | 31           | 11.36       | 20           | 12.12       | 10           | 13.74       |
| 30           | 14.07       | APR 05       | 11.33       | 25           | 12.21       | 15           | 13.83       |
| DEC 05       | 13.71       | 10           | 11.17       | 30           | 12.26       | 20           | 13.92       |
| 10           | 13.63       | 15           | 11.07       | JUL 05       | 12.42       | 25           | 13.87       |
| 15           | 13.61       | 20           | 11.02       | 10           | 12.36       | 30           | 13.95       |
| 20           | 13.65       | 25           | 11.05       | 15           | 12.50       |              |             |

WTR YEAR 1981 MAX 11.00 MAY 6, 1981 MIN 14.38 OCT 25, 1980

424520070562401. Newbury well NIW 27.

LOCATION.--Lat 42°45'20", long 70°56'24", Hydrologic Unit 01090001, about 300 ft (91 m) east of Interstate Highway 95 and 100 ft (30 m) north of Central Street in Newbury.

Owner: Mrs. George Brown.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 31 in (0.79 in), depth 19.8 ft (6.0 m), cased with tile to 19.8 ft (6.0 m), open end.

DATUM.--Altitude of land-surface datum is 55 ft (17 m). Measuring point: Top of hole in base of wooden recorder shelter, 1.95 ft (0.59 m) above land-surface datum. Prior to October 1978, 2.0 ft (0.6 m) above land-surface datum.

PERIOD OF RECORD.--February 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.15 ft (0.96 m) below land-surface datum, Mar. 25, 1969; lowest, 12.68 ft (3.86 m) below land-surface datum, Nov. 24, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 05, 1980 | 11.51       | JAN 05, 1981 | 9.48        | APR 05, 1981 | 6.10        | JUL 05, 1981 | 9.47        |
| 10           | 11.55       | 10           | 9.67        | 10           | 5.79        | 10           | 9.54        |
| 15           | 11.44       | 15           | 9.84        | 15           | 5.96        | 15           | 9.76        |
| 20           | 11.49       | 20           | 10.00       | 20           | 6.15        | 20           | 10.00       |
| 25           | 11.50       | 25           | a10.15      | 25           | 6.24        | 25           | a10.13      |
| 31           | 10.63       | 31           | 10.29       | 30           | 5.86        | 31           | 10.34       |
| NOV 05       | 10.65       | FEB 05       | 9.80        | MAY 05       | 5.93        | AUG 05       | 10.52       |
| 10           | 10.70       | 10           | 9.61        | 10           | 6.22        | 10           | 10.58       |
| 15           | 10.73       | 15           | 9.30        | 15           | 6.54        | 15           | 10.75       |
| 20           | 10.74       | 20           | 9.28        | 20           | 6.79        | 20           | 10.94       |
| 25           | 10.34       | 25           | 5.60        | 25           | 7.18        | 25           | 11.12       |
| 30           | 8.57        | 28           | 4.44        | 31           | 7.63        | 31           | 11.32       |
| DEC 05       | 8.24        | MAR 05       | 4.86        | JUN 05       | 7.96        | SEP 05       | 11.49       |
| 10           | 8.59        | 10           | 5.02        | 10           | 8.26        | 10           | 11.64       |
| 15           | 8.87        | 15           | 5.22        | 15           | 8.62        | 15           | 11.76       |
| 20           | 9.10        | 20           | 5.46        | 20           | 8.90        | 20           | 11.78       |
| 25           | 9.22        | 25           | 5.78        | 25           | 9.13        | 25           | 11.48       |
| 31           | 9.41        | 31           | 6.05        | 30           | 9.26        | 30           | 11.46       |

WTR YEAR 1981 MAX 4.23 FEB 27, 1981 MIN 11.82 SEPT 19, 1981

a Estimated.

## GROUND-WATER LEVELS IN MASSACHUSETTS

## ESSEX COUNTY--Continued

425103070513401. Salisbury well SBW 9.

LOCATION.--Lat 42°51'03", long 70°51'34", Hydrologic Unit 01070002, at intersection of Gerrish and Seabrook Roads 0.6 mi (1.0 km) north of Salisbury.

Owner: Eugene G. Folsum.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 11 ft (3.4 m), cased with tile to 11 ft (3.4 m), open end.

DATUM.--Altitude of land-surface datum is 35 ft (11 m). Measuring point: Top inside lip of tile casing, 1.60 ft (0.49 m) above land-surface datum.

PERIOD OF RECORD.--August 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.06 ft (0.93 m) below land-surface datum, Mar. 27, 1969; lowest measured, 8.20 ft (2.50 m) below land-surface datum, Sept. 25, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 6.56        | JAN 23, 1981 | 6.32        | APR 25, 1981 | 4.32        | JUL 26, 1981 | 6.26        |
| NOV 24       | 5.92        | FEB 24       | 3.90        | MAY 23       | 5.13        | AUG 23       | 6.83        |
| DEC 22       | 5.68        | MAR 24       | 4.56        | JUN 21       | 6.23        | SEP 23       | 7.16        |

423845070542501. Topsfield well TQW 1.

LOCATION.--Lat 42°38'45", long 70°54'25", Hydrologic Unit 01090001, 0.7 mi (1.2 km) south of Ipswich Road and 120 ft (36.6 m) west of Hamilton Road in Topsfield.

Owner: Mr. Sullivan.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 22.0 ft (6.7 m), cased with stone to 22.0 ft (6.7 m), open end.

DATUM.--Altitude of land-surface datum is 130 ft (40 m). Measuring point: Top edge of steel rim in concrete cover, 0.6 ft (0.2 m) above land-surface datum.

PERIOD OF RECORD.--February 1936 to October 1947, April 1957 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.64 ft (1.72 m) below land-surface datum, Jan. 27, 1958; lowest measured, 17.52 ft (5.34 m) below land-surface datum, Jan. 27, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 15.81       | JAN 23, 1981 | 15.79       | APR 25, 1981 | 9.82        | JUL 26, 1981 | 13.13       |
| NOV 23       | 15.97       | FEB 24       | 14.78       | MAY 23       | 10.42       | AUG 23       | 14.05       |
| DEC 22       | 16.13       | MAR 24       | 9.15        | JUN 21       | 11.89       | SEP 26       | 14.87       |

423505070491702. Wenham well WPW 76.

LOCATION.--Lat 42°35'05", long 70°49'17", Hydrologic Unit 01090001, 45 ft (13.7 m) west of State Highway 128 and 120 ft (36.6 m) of Grapevine Road in Wenham.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 22.0 ft (6.7 m), screened 20.0 to 22.0 ft (6.1 to 6.7 m).

DATUM.--Altitude of land-surface datum is 60 ft (18 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.39 ft (0.12 m) below land-surface datum, Jan. 26, 1978; lowest measured, 4.36 ft (1.33 m) below land-surface datum, Sept. 28, 1971.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 3.44        | JAN 26, 1981 | 3.11        | APR 25, 1981 | 2.31        | JUL 26, 1981 | 3.38        |
| NOV 25       | 2.66        | FEB 23       | 2.21        | MAY 23       | 2.62        | AUG 23       | 3.84        |
| DEC 22       | 2.96        | MAR 23       | 3.40        | JUN 21       | 3.25        | SEP 26       | 3.69        |



## FRANKLIN COUNTY

423809072435601. Colrain well CSW 8.

LOCATION.--Lat 42°38'09", long 72°43'56", Hydrologic Unit 01080203, 15 ft (4.6 m) east of State Highway 112 and 100 ft (30.5 m) north of North River Bridge in Colrain.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 32.3 ft (9.8 m), screened 30.3 to 32.3 ft (9.2 to 9.8 m).

DATUM.--Altitude of land-surface datum is 460 ft (140 m). Measuring point: Top of casing, 1.5 ft (0.5 m) above land-surface datum.

REMARKS.--Water levels affected by North River.

PERIOD OF RECORD.--December 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.62 ft (4.46 m) below land-surface datum, Apr. 24, 1969; lowest measured, 23.48 ft (7.16 m) below land-surface datum, Jan. 31, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 22.21       | JAN 26, 1981 | 22.64       | APR 26, 1981 | 18.90       | JUL 24, 1981 | 20.94       |
| NOV 23       | 22.40       | FEB 22       | 20.45       | MAY 22       | 19.40       | AUG 25       | 21.71       |
| DEC 23       | 22.62       | MAR 24       | 18.98       | JUN 22       | 20.25       | SEP 21       | 22.10       |

423310072355801. Deerfield well DFW 44.

LOCATION.--Lat 42°33'10", long 72°35'58", Hydrologic Unit 01080203, 1.2 mi (1.93 km) south of Deerfield River Bridge and 15 ft (4.6 m) east of U.S. Highway 5 in Deerfield.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 27.6 ft (8.4 m), screened 25.6 to 27.6 ft (7.8 to 8.4 m).

DATUM.--Altitude of land-surface datum is 140 ft (43 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--December 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.42 ft (0.43 m) below land-surface datum, May 29, 1979; lowest measured, 6.16 ft (1.88 m) below land-surface datum, Sept. 25, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 5.48        | JAN 26, 1981 | 5.33        | APR 26, 1981 | 2.62        | JUL 22, 1981 | 4.02        |
| NOV 23       | 4.42        | FEB 24       | 1.82        | MAY 22       | 2.62        | AUG 24       | 5.28        |
| DEC 23       | 3.69        | MAR 24       | 2.72        | JUN 22       | 3.82        | SEP 23       | 3.95        |

423305072320301. Montague well M5W 5.

LOCATION.--Lat 42°33'05", long 72°32'03", Hydrologic Unit 01080201, about 15 ft (5 m) west of Montague Road, 0.2 mi (0.3 km) north of Old Northfield Road, and 1.0 mi (1.6 km) north of Montague.

Owner: Thomas C. Kurtyka.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in (0.03 m), depth 12 ft (3.6 m), screened 9 to 12 ft (2.7 to 3.6 m).

DATUM.--Altitude of land-surface datum is 240 ft (73 m). Measuring point: Top of casing, 1.75 ft (0.69 m) above land-surface datum.

PERIOD OF RECORD.--January 1936 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.41 ft (0.11 m) below land-surface datum, Feb. 26, 1976; lowest measured, 8.00 ft (2.44 m) below land-surface datum, Dec. 28, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 4.99        | JAN 26, 1981 | 5.30        | APR 27, 1981 | 2.98        | JUL 22, 1981 | 5.30        |
| NOV 23       | 4.84        | FEB 24       | 3.24        | MAY 23       | 3.33        | AUG 24       | 5.85        |
| DEC 23       | 4.63        | MAR 24       | 2.55        | JUN 22       | 4.61        | SEP 21       | 5.85        |



## GROUND-WATER LEVELS IN MASSACHUSETTS

## FRANKLIN COUNTY--Continued

423424072170301. Orange well ORW 5.

LOCATION.--Lat 42°34'24", long 72°17'03", Hydrologic Unit 01080202, Orange Airport, 300 ft (91 m) east of main building and 600 ft (182 m) southwest of East River Street in Orange.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 20.6 ft (6.3 m), screened 18.6 to 20.6 ft (5.7 to 6.3 m).

DATUM.--Altitude of land-surface datum is 530 ft (162 m). Measuring point: Top of casing, 2.40 ft (0.73 m) above land-surface datum.

PERIOD OF RECORD.--January 1958 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.22 ft (1.29 m) below land-surface datum, Feb. 26, 1976; lowest measured, 7.56 ft (2.30 m) below land-surface datum, Sept. 27, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 6.74        | JAN 26, 1981 | 7.04        | APR 26, 1981 | 5.60        | JUL 22, 1981 | 5.88        |
| NOV 23       | 6.72        | FEB 22       | 6.02        | MAY 22       | 5.48        | AUG 24       | 6.38        |
| DEC 23       | 6.55        | MAR 24       | 5.59        | JUN 22       | 5.92        | SEP 21       | 6.64        |

422607072324401. Sunderland well S6W 7.

LOCATION.--Lat 42°26'07", long 72°32'44", Hydrologic Unit 01080201, about 100 ft (30 m) east of State Highway 116 and 30 ft (10 m) north of Russellville Brook in Sunderland.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in (0.06 m), depth 54 ft (16.5 m), cased to 54 ft (16.5 m), open end.

DATUM.--Altitude of land-surface datum is 210 ft (64 m). Measuring point: Top of casing, at land-surface datum.

REMARKS.--Water level affected by pumping and nearby Russellville Brook.

PERIOD OF RECORD.--November 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.85 ft (2.09 m) below land-surface datum, Apr. 25, 1973; lowest measured, 23.26 ft (7.09 m) below land-surface datum, Feb. 24, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 16.72       | JAN 26, 1981 | 19.30       | APR 27, 1981 | 19.02       | JUL 22, 1981 | 18.87       |
| NOV 23       | 16.95       | FEB 24       | 18.90       | MAY 23       | 18.74       | AUG 24       | 18.88       |
| DEC 23       | 17.15       | MAR 24       | 18.43       | JUN 22       | 18.35       | SEP 21       | 19.52       |

## HAMPDEN COUNTY

420357072511601. Granville well GLW 5.

LOCATION.--Lat 42°03'57", long 72°51'16", Hydrologic Unit 01080206, near Granville Public School, 275 ft (83.8 m) south of State Highway 57 and 0.2 mi (0.32 km) west of Sodom Street in Granville.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 67.7 ft (20.6 m), screened 65.7 to 67.7 ft (20.2 to 20.6 m).

DATUM.--Altitude of land-surface datum is 675 ft (236 m). Measuring point: Top of casing, 2.0 ft (0.6 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.28 ft (8.92 m) below land-surface datum, July 27, 1972; lowest, 37.20 ft (11.34 m) below land-surface datum, Jan. 24, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 33.52       | JAN 26, 1981 | 34.38       | APR 26, 1981 | 33.08       | JUL 23, 1981 | 33.53       |
| NOV 22       | 33.96       | FEB 21       | 34.18       | MAY 23       | 33.12       | AUG 25       | 33.99       |
| DEC 21       | 34.14       | MAR 24       | 33.20       | JUN 23       | 33.29       | SEP 22       | 34.26       |

## HAMPDEN COUNTY--Continued

420259072581701. Granville well GLW 6.

LOCATION.--Lat 42°02'59", long 72°58'17", Hydrologic Unit 01080207, at Granville State Forest, 20 ft (6.1 m) west of West Hartland Road and 0.9 mi (1.4 km) north of state boundary in Granville.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 20.8 ft (6.3 m), screened 18.8 to 20.8 ft (5.7 to 6.3 m).

DATUM.--Altitude of land-surface datum is 1,160 ft (353 m). Measuring point: Top of casing, 2.5 ft (0.8 m) above land-surface datum.

REMARKS.--Water levels affected by Halfway Brook.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.49 ft (0.76 m) below land-surface datum, Apr. 26, 1972; lowest measured, 8.42 ft (2.57 m) below land-surface datum, Aug. 25, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 8.01        | JAN 26, 1981 | 7.23        | APR 26, 1981 | 4.65        | JUL 23, 1981 | 7.08        |
| NOV 22       | 7.10        | FEB 21       | 2.78        | MAY 22       | 5.20        | AUG 25       | 8.42        |
| DEC 21       | 6.52        | MAR 23       | 4.94        | JUN 23       | 6.34        | SEP 22       | 7.75        |

420646072420101. Westfield well WVW 62.

LOCATION.--Lat 42°06'46", long 72°42'01", Hydrologic Unit 01080206, at Western Massachusetts Hospital about 200 ft (60 m) east of East Mountain Road and 0.4 mi (0.6 km) north of U.S. Highway 20 in Westfield.

Owner: Commonwealth of Massachusetts.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in (0.06 m), depth 25 ft (7.6 m), casing information not available.

DATUM.--Altitude of land-surface datum is 210 ft (64 m). Measuring point: Top of casing, 3.5 ft (1.1 m) above land-surface datum.

REMARKS.--Water level affected by pumping.

PERIOD OF RECORD.--August 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.70 ft (1.13 m) below land-surface datum, Oct. 29, 1975; lowest measured, 11.18 ft (3.41 m) below land-surface datum, Sept. 5, 1957, Nov. 21, 1978.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 9.48        | JAN 26, 1981 | 9.32        | APR 26, 1981 | 7.15        | JUL 23, 1981 | 7.92        |
| NOV 22       | 9.41        | FEB 22       | 8.54        | MAY 22       | 7.35        | AUG 24       | 8.30        |
| DEC 22       | 9.60        | MAR 24       | 7.29        | JUN 22       | 9.70        | SEP 21       | 8.72        |

420905072254001. Wilbraham well XJW 55.

LOCATION.--Lat 42°09'05", long 72°25'40", Hydrologic Unit 01080204, 45 ft (13.7 m) south of U.S. Highway 20 and 0.1 mi (0.16 km) west of North Main Street in Wilbraham.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 62.5 ft (19.1 m), screened 60.5 to 62.5 ft (18.5 to 19.1 m).

DATUM.--Altitude of land-surface datum is 255 ft (78 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.56 ft (9.31 m) below land-surface datum, Mar. 28, 1979; lowest measured, 45.44 ft (13.85 m) below land-surface datum, Jan. 24, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 44.28       | JAN 26, 1981 | 45.42       | APR 27, 1981 | 42.50       | JUL 24, 1981 | 42.52       |
| NOV 22       | 44.85       | FEB 24       | 44.64       | MAY 23       | 41.64       | AUG 24       | 43.50       |
| DEC 22       | 45.02       | MAR 27       | 43.09       | JUN 22       | 41.83       | SEP 22       | 44.20       |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## HAMPSHIRE COUNTY

421355072322001. Granby well GWK 68.

LOCATION.--Lat 42°13'55", long 72°32'20", Hydrologic Unit 01080201, about 15 ft (5 m) east of Morgan Street, 0.3 mi (0.5 km) south of East Street, and 2.0 mi (3.2 km) southwest of Granby.

Owner: Holyoke Water Power Co.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in (0.03 m), depth 18 ft (5.5 m), screened 16 to 18 ft (4.9 to 5.5 m).

DATUM.--Land-surface datum is 239.17 ft (72.90 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--April 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.99 ft (1.52 m) below land-surface datum, Aug. 22, Nov. 15, 1955; lowest measured, 11.17 ft (3.40 m) below land-surface datum, Nov. 25, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 10.32       | JAN 26, 1981 | 10.19       | APR 27, 1981 | 7.53        | JUL 22, 1981 | 8.87        |
| NOV 23       | 10.45       | FEB 24       | 8.93        | MAY 23       | 7.59        | AUG 24       | 9.62        |
| DEC 23       | 9.64        | MAR 27       | 7.43        | JUN 22       | 8.50        | SEP 21       | 9.93        |

421627072201701. Ware well WEW 43.

LOCATION.--Lat 42°16'27", long 72°20'17", Hydrologic Unit 01080204, 30 ft (9.1 m) north of State Highway 9 and 200 ft (61 m) east of Swift River in Ware.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 27.2 ft (8.3 m), screened 25.2 to 27.2 ft (7.7 to 8.3 m).

DATUM.--Altitude of land-surface datum is 380 ft (116 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

REMARKS.--Water levels affected by Swift River.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1975, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.78 ft (2.07 m) below land-surface datum, Feb. 25, 1976; lowest measured, 10.34 ft (3.15 m) below land-surface datum, Jan. 26, 1971.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 9.22        | JAN 26, 1981 | 10.05       | APR 27, 1981 | 9.73        | JUL 22, 1981 | 9.75        |
| NOV 23       | 9.84        | FEB 24       | 9.85        | MAY 23       | 9.68        | AUG 24       | 9.66        |
| DEC 23       | 9.89        | MAR 27       | 9.70        | JUN 22       | 9.72        | SEP 22       | 9.86        |

## MIDDLESEX COUNTY

422812071244401. Acton well ACW 158.

LOCATION.--Lat 42°28'12", long 71°24'44", Hydrologic Unit 01070005, 30 ft (9.1 m) north of State Highway 2 and 150 ft (45.7 m) east of Wetherbee Street in Acton.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 33.8 ft (10.3 m), screened 31.8 to 33.8 ft (9.7 to 10.3 m).

DATUM.--Altitude of land-surface datum is 153 (47 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.32 ft (4.97 m) below land-surface datum, Apr. 24, 1970; lowest measured, 21.86 ft (6.66 m) below land-surface datum, Jan. 26, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 20.64       | JAN 22, 1981 | 20.80       | APR 23, 1981 | 19.09       | JUL 23, 1981 | 19.84       |
| NOV 21       | 20.83       | FEB 23       | 20.69       | MAY 21       | 19.22       | AUG 22       | 20.10       |
| DEC 23       | 20.59       | MAR 23       | 19.31       | JUN 21       | 19.62       | SEP 22       | 20.49       |

## MIDDLESEX COUNTY--Continued

423349071134101. Billerica well BCW 363.

LOCATION.--Lat 42°33'49", long 71°13'41", Hydrologic Unit 01070002, 20 ft (6.1 m) south of Baldwin Road and 50 ft (15.2 m) west of Westminster Road in Billerica.

Owner: Robert M. Young.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 15.5 ft (4.7 m), cased with stone to 15.5 ft (4.7 m), open end.

DATUM.--Altitude of land-surface datum is 166 ft (51 m). Measuring point: Top of hole in wooden cover, 2.35 ft (0.72 m) above land-surface datum.

PERIOD OF RECORD.--June 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.75 ft (0.53 m) below land-surface datum, Mar. 24, 1972; lowest measured, 13.11 ft (4.00 m) below land-surface datum, Oct. 27, 1978.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| DEC 23, 1980 | 10.29       | APR 25, 1981 | 5.66        | JUN 21, 1981 | 7.67        | AUG 25, 1981 | 10.02       |
| JAN 23, 1981 | 11.08       | MAY 23       | 5.90        | JUL 26       | 8.69        | SEP 24       | 11.28       |
| MAR 24       | 5.33        |              |             |              |             |              |             |

423845071231401. Chelmsford well CHW 68.

LOCATION.--Lat 42°38'45", long 71°23'14", Hydrologic Unit 01070002, 1,300 ft (400 m) north of intersection of Wharton Lane and B &amp; M Railroad, 400 ft (640 m) east of Middlesex Street, and 0.5 mi (0.8 km) north of Vinal Square in North Chelmsford.

Owner: Wellman Realty Company.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in (0.15 m), depth 50 ft (15.2 m), cased to 50 ft (15.2 m), open end.

DATUM.--Land-surface datum is 100.83 ft (30.73 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of hole in cap on casing, 1.40 ft (0.43 m) below land-surface datum.

PERIOD OF RECORD.--August 1939 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.25 ft (1.60 m) below land-surface datum; Apr. 25, 1969; lowest measured, 12.24 ft (3.73 m) below land-surface datum, Sept. 28, 1957.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 10.26       | JAN 23, 1981 | 9.61        | APR 25, 1981 | 8.48        | JUL 26, 1981 | 9.30        |
| NOV 24       | 9.80        | FEB 24       | 8.09        | MAY 23       | 8.31        | AUG 23       | 9.41        |
| DEC 22       | 8.70        | MAR 24       | 7.68        | JUN 21       | 9.37        | SEP 26       | 9.20        |

423546071190702. Chelmsford well CHW 385.

LOCATION.--Lat 42°35'46", long 71°19'07", Hydrologic Unit 01070002, 15 ft (4.6 m) east of U.S. Highway 3 and 0.4 mi (0.64 km) north of State Highway 129 in Chelmsford.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 42.8 ft (13.0 m), screened 40.8 to 42.8 ft (12.4 to 13.0 m).

DATUM.--Land-surface datum is 123.30 ft (37.58 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.5 ft (0.5 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.85 ft (4.53 m) below land-surface datum, Feb. 23, 1976; lowest measured, 19.04 ft (5.80 m) below land-surface datum, Nov. 21, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 18.32       | JAN 23, 1981 | 18.02       | APR 25, 1981 | 16.02       | JUL 26, 1981 | 16.99       |
| NOV 24       | 18.13       | FEB 24       | 17.42       | MAY 23       | 16.07       | AUG 23       | 17.33       |
| DEC 22       | 17.73       | MAR 24       | 16.73       | JUN 21       | 16.68       | SEP 26       | 17.32       |



## GROUND-WATER LEVELS IN MASSACHUSETTS

## MIDDLESEX COUNTY--Continued

422637071202701. Concord well CTW 165.

LOCATION.--Lat 42°26'37", long 71°20'27", Hydrologic Unit 01070005, 30 ft (9.1 m) south of State Highway 2 and 0.1 mi (0.3 km) west of State Highway 126 in Concord.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 66.7 ft (20.3 m), screened 64.7 to 66.7 ft (19.7 to 20.3 m).

DATUM.--Land-surface datum is 201.12 ft (61.30 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.0 ft (0.6 m) above land-surface datum.

PERIOD OF RECORD.--February 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.19 ft (11.64 m) below land-surface datum, July 25, 1973; lowest measured, 47.10 ft (14.36 m) below land-surface datum, Feb. 28, 1967.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 41.96       | JAN 22, 1981 | 41.75       | APR 23, 1981 | 42.59       | JUL 23, 1981 | 42.88       |
| NOV 21       | 42.13       | FEB 23       | 43.09       | MAY 21       | 42.64       | AUG 22       | 43.11       |
| DEC 23       | 42.45       | MAR 23       | 42.77       | JUN 21       | 42.76       | SEP 22       | 43.32       |

422650071214402. Concord well CTW 167.

LOCATION.--Lat 42°26'50", long 71°21'44", Hydrologic Unit 01070005, 10 ft (0.3 m) south of State Highway 2 and 10 ft (0.3 m) west of Sudbury Road in Concord.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 24.8 ft (7.5 m), screened 21.8 to 24.8 ft (6.6 to 7.5 m).

DATUM.--Altitude of land-surface datum is 135 ft (41 m). Measuring point: Top of casing, 3.30 ft (1.01 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.67 ft (1.40 m) below land-surface datum, Mar. 24, 1971; lowest measured, 10.59 ft (3.23 m) below land-surface datum, Sept. 27, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 9.55        | JAN 22, 1981 | 8.85        | APR 23, 1981 | 7.06        | JUL 23, 1981 | 8.04        |
| NOV 21       | 9.00        | FEB 23       | 8.07        | MAY 21       | 7.29        | AUG 22       | 8.57        |
| DEC 23       | 8.23        | MAR 23       | 6.83        | JUN 21       | 8.13        | SEP 22       | 9.08        |

422627071154002. Lexington well LTW 104.

LOCATION.--Lat 42°26'27", long 71°15'40", Hydrologic Unit 01090001, at The Commonwealth of Massachusetts Department of Public Works maintenance depot, 0.2 mi (0.32 km) west of State Highway 128 and 500 ft (152 m) south of State Highway 2A in Lexington.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 20.7 ft (6.3 m), screened 18.7 to 20.7 ft (5.7 to 6.3 m).

DATUM.--Altitude of land-surface datum is 180 ft (55 m). Measuring point: Top of casing, 4.5 ft (1.4 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.44 ft (0.44 m) below land-surface datum, Jan. 27, 1978; lowest measured, 4.35 ft (1.32 m) below land-surface datum, Aug. 26, 1975.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 3.16        | FEB 23, 1981 | 2.27        | MAY 21, 1981 | 2.76        | AUG 25, 1981 | 3.29        |
| NOV 21       | 2.84        | MAR 23       | 2.52        | JUN 22       | 3.03        | SEP 23       | 2.73        |
| JAN 22, 1981 | 3.04        | APR 23       | 2.64        | JUL 23       | 2.73        |              |             |



## MIDDLESEX COUNTY--Continued

423812071174801. Lowell well L2W 14.

LOCATION.--Lat 42°38'12", long 71°17'48", Hydrologic Unit, 01070005, at YWCA (formerly Rogers Hall School), about 50 ft (15 m) north of Rogers Street, and 800 ft (240 m) northwest of intersection of Rogers Street and State Highway 38 in Lowell.

Owner: Y.W.C.A.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 30 ft (9.1 m), cased with stone to 30 ft (9.1 m), open end.

DATUM.--Land-surface datum is 157.78 ft (48.09 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of stone slab under wooden cover, 0.20 ft (0.06 m) below land-surface datum.

PERIOD OF RECORD.--May 1939 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.79 ft (2.37 m) below land-surface datum, Mar. 27, 1958; lowest measured, 19.79 ft (6.03 m) below land-surface datum, Dec. 29, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 16.92       | JAN 23, 1981 | 16.15       | APR 25, 1981 | 11.50       | JUL 26, 1981 | 14.36       |
| NOV 24       | 17.28       | FEB 24       | 15.23       | MAY 23       | 11.64       | AUG 23       | 15.35       |
| DEC 22       | 15.19       | MAR 24       | 11.97       | JUN 21       | 13.03       | SEP 26       | 16.37       |

424055071435301. Townsend well TRW 13.

LOCATION.--Lat 42°40'55", long 71°43'53", Hydrologic Unit 01070004, 15 ft (4.6 m) south of Dudley Road and 15 ft (4.6 m) north of Turnpike Road in Townsend.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 32.9 ft (10.0 m), screened 30.9 to 32.9 ft (9.4 to 10.0 m).

DATUM.--Altitude of land-surface datum is 313 ft (95 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.95 ft (3.03 m) below land-surface datum, Apr. 25, 1973; lowest measured, 17.41 ft (5.31 m) below land-surface datum, Jan. 26, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 15.14       | JAN 26, 1981 | 15.92       | APR 23, 1981 | 14.45       | JUL 21, 1981 | 13.95       |
| NOV 24       | 15.51       | FEB 24       | 15.85       | MAY 27       | 14.03       | AUG 25       | 14.14       |
| DEC 24       | 15.63       | MAR 25       | 14.86       | JUN 24       | 14.02       | SEP 24       | 14.44       |

423115071032001. Wakefield well WAW 38.

LOCATION.--Lat 42°31'15", long 71°03'20", Hydrologic Unit 01090001, 75 ft (22.9 m) north of State Highway 128 and 0.4 mi (0.7 km) southeast of Saugus River in Wakefield.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 25.5 ft (7.8 m), screened 23.5 to 25.5 ft (7.2 to 7.8 m).

DATUM.--Altitude of land-surface datum is 80 ft (24 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.51 ft (1.37 m) below land-surface datum, Mar. 27, 1969; lowest measured, 9.99 ft (3.04 m) below land-surface datum, Sept. 22, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 22, 1980 | 9.40        | JAN 26, 1981 | 8.75        | APR 25, 1981 | 6.71        | JUL 26, 1981 | 8.32        |
| NOV 25       | 8.37        | FEB 25       | 6.37        | MAY 23       | 7.18        | AUG 25       | 8.86        |
| DEC 22       | 8.18        | MAR 23       | 6.55        | JUN 21       | 8.00        | SEP 26       | 9.12        |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## MIDDLESEX COUNTY--Continued

421852071220501. Wayland well WKW 2.

LOCATION.--Lat 42°18'52", long 71°22'05", Hydrologic Unit 01070005, 0.25 mi (0.40 km) west of State Highway 27 and 100 ft (30.5 m) south of State Highway 30, at Cochituate State Park in Wayland.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 33.0 ft (10.0 m), screened 31.0 to 33.0 ft (9.4 to 10.0 m).

DATUM.--Land-surface datum is 157.75 ft (48.08 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 4.0 ft (1.2 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.96 ft (4.26 m) below land-surface datum, Mar. 27, 1972; lowest measured, 17.47 ft (5.32 m) below land-surface datum, Jan. 22, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 17.23       | JAN 22, 1981 | 17.47       | APR 26, 1981 | 16.12       | JUL 25, 1981 | 16.90       |
| NOV 21       | 16.94       | FEB 23       | 17.10       | MAY 23       | 16.34       | AUG 22       | 17.19       |
| DEC 23       | 16.40       | MAR 23       | 16.24       | JUN 21       | 16.68       | SEP 22       | 17.46       |

423401071093801. Wilmington well XMW 78.

LOCATION.--Lat 42°34'01", long 71°09'38", Hydrologic Unit 01090001, at Whitefield Public School in Wilmington, about 30 ft (9 m) west of State Highway 62, and 0.3 mi (0.5 km) north of Concord Street.

Owner: Town of Wilmington.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 42 in (1.07 m), depth 12 ft (3.7 m) cased with stone to 12 ft (3.7 m), open end.

DATUM.--Altitude of land-surface datum is 95 ft (29 m). Measuring point: Hole in base of wooden recorder shelter, 0.33 ft (0.10 m) above land-surface datum.

PERIOD OF RECORD.--July 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.46 ft (1.36 m) above land-surface datum, Feb. 27, 1976; lowest, 11.27 ft (3.44 m) below land-surface datum, Oct. 30, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE          | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|---------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 05, 1980  | 9.70        | JAN 05, 1981 | 8.45        | APR 05, 1981 | 7.08        | JUL 05, 1981 | 7.67        |
| 10            | 9.73        | 10           | 8.54        | 10           | 7.04        | 10           | 8.23        |
| 15            | 9.53        | 15           | 8.57        | 15           | 7.20        | 15           | 8.35        |
| 20            | 9.49        | 20           | 8.70        | 20           | 7.30        | 20           | 8.51        |
| 25            | 8.94        | 25           | 8.79        | 25           | 7.35        | 25           | 8.50        |
| 31            | 9.00        | 31           | 8.86        | 30           | 7.26        | 31           | 8.60        |
| NOV 05        | 8.91        | FEB 05       | 8.55        | MAY 05       | 7.35        | AUG 05       | 8.50        |
| 10            | 8.86        | 10           | 8.39        | 10           | 7.46        | 10           | 8.70        |
| 15            | 8.85        | 15           | 8.27        | 15           | 7.57        | 15           | 8.87        |
| 20            | 8.87        | 20           | 8.19        | 20           | 7.59        | 20           | 8.87        |
| 25            | 8.75        | 25           | 7.51        | 25           | 7.70        | 25           | 9.00        |
| 30            | 8.37        | 28           | 6.54        | 31           | 7.84        | 31           | 9.15        |
| DEC 05        | 8.13        | MAR 05       | 6.35        | JUN 05       | 7.92        | SEP 05       | 9.26        |
| 10            | 8.09        | 10           | 6.46        | 10           | 8.04        | 10           | 9.36        |
| 15            | 8.18        | 15           | 6.57        | 15           | 8.17        | 15           | 9.48        |
| 20            | 8.28        | 20           | 6.74        | 20           | 7.28        | 20           | 9.54        |
| 25            | 8.34        | 25           | 6.95        | 25           | 8.24        | 25           | 9.32        |
| 31            | 8.34        | 31           | 7.12        | 30           | 8.35        | 30           | 9.28        |
| WTR YEAR 1981 | MAX 6.35    | MAR 5, 1981  | MIN 9.83    | OCT 3, 1981  |             |              |             |

422819071065701. Winchester well XOW 14.

LOCATION.--Lat 42°28'19", long 71°06'57", Hydrologic Unit 01090001, at 220 Forest Street and 100 ft (30.5 m) north of Forest Street in Winchester.

Owner: J. E. Sharkey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in (0.91 m), depth 17.0 ft (5.2 m), cased with stone to 17.0 ft (5.2 m), open end.

DATUM.--Land-surface datum is 116.29 ft (35.45 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of angle iron, at land-surface datum.

PERIOD OF RECORD.--July 1940 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.03 ft (1.23 m) below land-surface datum, Mar. 26, 1969; lowest measured, 15.60 ft (4.75 m) below land-surface datum, Oct. 31, 1957.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 14.18       | JAN 22, 1981 | 11.44       | APR 25, 1981 | 9.56        | JUL 23, 1981 | 12.74       |
| NOV 21       | 12.55       | FEB 23       | 9.86        | MAY 23       | 10.25       | AUG 25       | 12.68       |
| DEC 22       | 10.18       | MAR 23       | 8.66        | JUN 21       | 11.93       | SEP 24       | 13.70       |

## NANTUCKET COUNTY

411555070021901. Nantucket well NBW 228.

LOCATION.--Lat 41°15'55", long 70°02'19", Hydrologic Unit 01090002, 165 ft (50 m) south of Milestone Road and 300 ft (91 m) east of Madequeham Valley Brook in Nantucket.

Owner: Nantucket Conservation Foundation.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 35.6 ft (10.9 m), screened 32.6 to 35.6 ft (9.9 to 10.9 m).

DATUM.--Altitude of land-surface datum is 39 ft (12 m). Measuring point: Top of casing, 0.7 ft (0.2 m) above land-surface datum.

PERIOD OF RECORD.--March 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.45 ft (6.54 m) below land-surface datum, Apr. 21, 1978; lowest measured, 27.90 ft (8.50 m) below land-surface datum, Feb. 23, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 28, 1980 | 24.86       | JAN 30, 1981 | 27.01       | MAR 28, 1981 | 27.60       | JUN 28, 1981 | 26.35       |
| NOV 24       | 26.19       | FEB 23       | 27.90       | MAY 28       | 26.40       | JUL 29       | 26.38       |
| DEC 24       | 26.54       |              |             |              |             |              |             |

## NORFOLK COUNTY

421250071090901. Dedham well DDW 231.

LOCATION.--Lat 42°12'50", long 71°09'09", Hydrologic Unit 01090001, 50 ft (15.2 m) south of State Highway 128 and 0.3 mi (0.48 km) west of University Avenue in Dedham.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 21.9 ft (6.7 m), screened 19.9 to 21.9 ft (6.1 to 6.7 m).

DATUM.--Altitude of land-surface datum is 65 ft (20 m). Measuring point: Top of casing, 2.3 ft (0.7 m) above land-surface datum. Prior to July 17, 1978, 1.5 ft (0.5 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.45 ft (0.75 m) below land-surface datum, Mar. 28, 1978; lowest measured, 13.81 ft (4.21 m) below land-surface datum, Sept. 27, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 13.05       | JAN 26, 1981 | 10.11       | APR 23, 1981 | 5.70        | JUL 25, 1981 | 10.27       |
| NOV 24       | 11.65       | FEB 24       | 5.57        | MAY 21       | 6.50        | AUG 22       | 11.47       |
| DEC 24       | 9.83        | MAR 25       | 5.22        | JUN 22       | 8.97        | SEP 23       | 12.34       |

421435071165701. Dover well DVW 10.

LOCATION.--Lat 42°14'35", long 71°16'57", Hydrologic Unit 01090001, at Dover Public School about 400 ft (120 m) southwest of and about 400 ft (120 m) west of Center Street in Dover.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in (0.05 m), depth 54 ft (16.5 m), screened 52 to 54 ft (15.8 to 16.5 m).

DATUM.--Altitude of land-surface datum is 160 ft (49 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.25 ft (9.22 m) below land-surface datum, Feb. 20, 1970; lowest measured, 36.87 ft (11.24 m) below land-surface datum, Jan. 21, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 35.28       | JAN 27, 1981 | 36.10       | APR 25, 1981 | 33.76       | JUL 25, 1981 | 34.34       |
| NOV 24       | 35.65       | FEB 23       | 36.00       | MAY 24       | 33.60       | AUG 22       | 34.77       |
| DEC 23       | 35.84       | MAR 25       | 34.29       | JUN 22       | 33.84       | SEP 23       | 35.38       |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## NORFOLK COUNTY--Continued

420432071151201. Foxborough well FXW 3.

LOCATION.--Lat 42°04'32", long 71°15'12", Hydrologic Unit 01090004, at Foxborough State Hospital, near railroad tracks, 100 ft (30 m) east of driveway, and 250 ft (76 m) north of Chestnut Street in Foxborough.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in (0.05 m), depth 32 ft (9.8 m), screened 30 to 32 ft (9.2 to 9.8 m).

DATUM.--Altitude of land-surface datum is 290 ft (88 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.24 ft (4.95 m) below land-surface datum, Mar. 25, 1968; lowest measured, 21.42 ft (6.53 m) below land-surface datum, Dec. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 20.98       | JAN 27, 1981 | 20.94       | APR 23, 1981 | 19.25       | JUL 25, 1981 | 20.19       |
| NOV 24       | 20.94       | FEB 23       | 20.32       | MAY 21       | 19.38       | AUG 22       | 20.64       |
| DEC 23       | 20.77       | MAR 25       | 19.11       | JUN 23       | 19.82       | SEP 26       | 20.83       |

420545071174001. Norfolk well NNW 27.

LOCATION.--Lat 42°05'45", long 71°17'40", Hydrologic Unit 01090001, 15 ft (4.8 m) northwest of State Highway 1A and 0.1 mi (0.16 km) northeast of Valley Street in Norfolk.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 18.4 ft (5.6 m), screened 16.4 to 18.4 ft (5.0 to 5.6 m).

DATUM.--Altitude of land-surface datum is 160 ft (49 m). Measuring point: Top of casing, 1.7 ft (0.5 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.73 ft (1.44 m) below land-surface datum, Sept. 26, 1975; lowest measured, 7.97 ft (2.43 m) below land-surface datum, Sept. 24, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 7.16        | JAN 27, 1981 | 7.16        | APR 23, 1981 | 6.34        | JUL 25, 1981 | 7.43        |
| NOV 24       | 6.79        | FEB 23       | 6.20        | MAY 21       | 6.33        | AUG 22       | 7.84        |
| DEC 23       | 6.76        | MAR 25       | 6.26        | JUN 23       | 7.01        | SEP 26       | 7.45        |

420954070564501. Weymouth well XGW 2.

LOCATION.--Lat 42°09'54", long 70°56'45", Hydrologic Unit 01090001, 40 ft (12 m) south of main gate guard house at U.S. Naval Air Station at Weymouth.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in (0.05 m), depth 30 ft (9.1 m), screened 28 to 30 ft (8.5 to 9.1 m).

DATUM.--Altitude of land-surface datum is 180 ft (55 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.25 ft (1.60 m) below land-surface datum, Jan. 28, 1970; lowest measured, 22.63 ft (6.90 m) below land-surface datum, Nov. 21, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 22.41       | JAN 26, 1981 | 22.41       | APR 26, 1981 | 11.91       | JUL 25, 1981 | 16.71       |
| NOV 21       | 22.63       | FEB 24       | 19.99       | MAY 24       | 12.57       | AUG 22       | 18.40       |
| DEC 24       | 22.08       | MAR 26       | 12.68       | JUN 24       | 15.28       | SEP 26       | 20.08       |



## NORFOLK COUNTY--Continued

421147070571901. Weymouth well XGW 3.

LOCATION.--Lat 42°11'47", long 70°57'19", Hydrologic Unit 01090001, about 100 ft (30 m) east of State Highway 18 and about 600 ft (183 m) off State Highway 3 in Weymouth.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in (0.05 m), depth 22.3 ft (6.8 m), screened 20.3 to 22.3 ft (6.2 to 6.8 m).

DATUM.--Altitude of land-surface datum is 90 ft (27 m). Measuring point: Top of casing, 2.5 ft (0.8 m) above land-surface datum.

REMARKS.--Water level affected by pumping.

PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.91 ft (0.89 m) below land-surface datum, Jan. 27, 1978; lowest, 18.10 ft (5.52 m) below land-surface datum, Sept. 27, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 15.23       | JAN 26, 1981 | 14.40       | APR 26, 1981 | 5.08        | JUL 25, 1981 | 6.46        |
| NOV 21       | 14.68       | FEB 24       | 7.14        | MAY 24       | 5.39        | AUG 22       | 7.77        |
| DEC 24       | 13.03       | MAR 26       | 5.20        | JUN 24       | 7.22        | SEP 26       | 8.56        |

421120070562801. Weymouth well XGW 4.

LOCATION.--Lat 42°11'20", long 70°56'28", Hydrologic Unit 01090001, at median strip of State Highway 3 and 0.8 mi (1.3 km) south of State Highway 18 in Weymouth.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in (0.05 m), depth 22.6 ft (6.9 m), screened 20.6 to 22.6 ft (6.3 to 6.9 m).

DATUM.--Altitude of land-surface datum is 90 ft (27 m). Measuring point: Top of casing, 2.5 ft (0.8 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.77 ft (1.45 m) below land-surface datum, Mar. 26, 1969; lowest measured, 10.45 ft (3.19 m) below land-surface datum, Sept. 27, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 9.01        | JAN 26, 1981 | 8.64        | APR 26, 1981 | 6.89        | JUL 25, 1981 | 7.54        |
| NOV 21       | 7.73        | FEB 24       | 6.64        | MAY 24       | 7.32        | AUG 22       | 8.21        |
| DEC 24       | 8.12        | MAR 26       | 7.06        | JUN 24       | 7.77        | SEP 26       | 7.73        |

## PLYMOUTH COUNTY

420321070433502. Duxbury well D4W 79.

LOCATION.--Lat 42°03'21", long 70°43'35", Hydrologic Unit 01090002, 30 ft (9.1 m) west of State Highway 3 and about 300 ft (91 m) north of State Highway 14 in Duxbury.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and silty clay of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 23.5 ft (7.2 m), screened 21.5 to 23.5 ft (6.6 to 7.2 m).

DATUM.--Altitude of land-surface datum is 55 ft (17 m). Measuring point: Top of casing, 1.5 ft (0.5 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.10 ft (1.86 m) below land-surface datum, Jan. 26, 1978; lowest measured, 10.68 ft (3.26 m) below land-surface datum, Sept. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 10.22       | JAN 26, 1981 | 8.76        | APR 26, 1981 | 8.33        | JUL 25, 1981 | 9.50        |
| NOV 21       | 9.11        | FEB 24       | 8.06        | MAY 24       | 8.74        | AUG 22       | 10.25       |
| DEC 24       | 8.87        | MAR 26       | 8.44        | JUN 23       | 9.00        | SEP 26       | 9.82        |



## GROUND-WATER LEVELS IN MASSACHUSETTS

## PLYMOUTH COUNTY--Continued

420317070432901. Duxbury well D4W 80.

LOCATION.--Lat 42°03'17", long 70°43'29", Hydrologic Unit 01090002, 78 ft (23.8 m) south of State Highway 14 and 250 ft (76.2 m) east of State Highway 3 in Duxbury.

Owner: The Commonwealth of Massachusetts Department of Public Works.

AQUIFER.--Bedrock.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6.0 in (0.15 m), depth 181 ft (54.6 m), cased to 59 ft (18.0 m), open hole.

DATUM.--Altitude of land-surface datum is 65 ft (20 m). Measuring point: Top of hole in concrete cover, at land-surface datum.

PERIOD OF RECORD.--April 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.53 ft (5.95 m) below land-surface datum, Jan. 26, 1978; lowest measured, 24.02 ft (7.32 m) below land-surface datum, Sept. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 23.30       | JAN 26, 1981 | 21.87       | APR 26, 1981 | 22.01       | JUL 25, 1981 | 22.94       |
| NOV 21       | 22.40       | FEB 24       | 21.42       | MAY 24       | 22.32       | AUG 22       | 23.50       |
| DEC 24       | 22.23       | MAR 26       | 21.91       | JUN 23       | 22.60       | SEP 26       | 23.19       |

420056070575701. East Bridgewater well EBW 30.

LOCATION.--Lat 42°00'56", long 70°57'57", Hydrologic Unit 01090004, about 100 ft (30.5 m) north of State Highway 106 and 800 ft (244 m) west of State Highway 18 in East Bridgewater.

Owner: East Bridgewater Medical Center.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in (0.91 m), depth 24 ft (7.3 m), cased with stone to 24 ft (7.3 m), open end.

DATUM.--Altitude of land-surface datum is 85 ft (26 m). Measuring point: Top of stone casing curb, 2.6 ft (0.8 m) above land-surface datum.

PERIOD OF RECORD.--July 1958 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.40 ft (0.73 m) below land-surface datum, Mar. 27, 1969; lowest measured, 17.83 ft (5.43 m) below land-surface datum, Dec. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 16.53       | JAN 26, 1981 | 15.47       | APR 26, 1981 | 8.08        | JUL 25, 1981 | 12.44       |
| NOV 21       | 16.92       | FEB 24       | 14.78       | MAY 23       | 8.83        | AUG 22       | 14.03       |
| DEC 24       | 15.74       | MAR 26       | 9.00        | JUN 24       | 10.68       | SEP 26       | 15.98       |

415820070522801. Halifax well HBW 97.

LOCATION.--Lat 41°58'20", long 70°52'28", Hydrologic Unit 01090004, 1,950 ft (594 m) west of South Street and 130 ft (39.6 m) south of River Street in Halifax.

Owner: Richard W. Green.

AQUIFER.--Sandstone interbedded with shale and conglomerate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 3.0 in (0.08 m), depth 945 ft (288.0 m), cased to 90 ft (27.4 m), open hole.

DATUM.--Altitude of land-surface datum is 35 ft (11 m). Measuring point: Top of casing, 0.5 ft (0.2 m) above land-surface datum.

PERIOD OF RECORD.--April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.30 ft (0.70 m) below land-surface datum, Jan. 26, 1978; lowest measured, 5.82 ft (1.77 m) below land-surface datum, Oct. 24, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 5.82        | JAN 26, 1981 | 4.86        | APR 26, 1981 | 3.94        | JUL 25, 1981 | 5.00        |
| NOV 21       | 5.18        | FEB 24       | 4.10        | MAY 24       | 4.18        | AUG 22       | 5.55        |
| DEC 24       | 4.91        | MAR 26       | 3.93        | JUN 24       | 4.53        | SEP 26       | 5.66        |

## GROUND-WATER LEVELS IN MASSACHUSETTS

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## PLYMOUTH COUNTY--Continued

420353070520301. Hanson well HGW 76.

LOCATION.--Lat 42°03'53", long 70°52'03", Hydrologic Unit 01090002, 100 ft (30.5 m) south of State Highway 14 and 150 ft (46 m) west of town hall in Hanson.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 26.6 ft (8.1 m), screened 24.6 to 26.6 ft (7.5 to 8.1 m).

DATUM.--Altitude of land-surface datum is 71 ft (22 m). Measuring point: Top of casing, 1.5 ft (0.5 m) above land-surface datum.

REMARKS.--Water level affected by Wampatuck Pond.

PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.50 ft (0.76 m) below land-surface datum, Mar. 26, 1969; lowest measured, 6.53 ft (1.99 m) below land-surface datum, Sept. 25, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 6.14        | JAN 26, 1981 | 5.63        | APR 26, 1981 | 4.62        | JUL 25, 1981 | 5.18        |
| NOV 21       | 5.14        | FEB 24       | 4.48        | MAY 24       | 4.86        | AUG 22       | 5.95        |
| DEC 24       | 5.43        | MAR 26       | 4.56        | JUN 24       | 5.06        | SEP 26       | 6.07        |

415228070554601. Lakeville well LKW 14.

LOCATION.--Lat 41°52'28", long 70°55'46", Hydrologic Unit 01090004, 30 ft (9 m) west of parking lot at Lakeville State Hospital in Lakeville.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in (0.05 m), depth 41 ft (12.5 m), screened 39 to 41 ft (11.9 to 12.5 m).

DATUM.--Altitude of land-surface datum is 105 ft (32 m). Measuring point: Top of casing, 1.5 ft (0.5 m) above land-surface datum.

PERIOD OF RECORD.--June 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.84 ft (3.00 m) below land-surface datum, May 29, 1979; lowest, 23.59 ft (7.19 m) below land-surface datum, Oct. 26, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 05, 1980 | 19.80       | DEC 10, 1980 | 20.31       | MAR 15, 1981 | 18.24       | JUN 10, 1981 | 19.02       |
| 10           | 19.88       | 15           | 20.29       | 20           | a18.20      | 15           | 19.20       |
| 15           | 20.07       | 20           | 20.32       | 25           | a18.19      | 20           | 19.39       |
| 20           | 20.18       | JAN 25, 1981 | 20.76       | 31           | 18.12       | 25           | 19.56       |
| 25           | 20.28       | 31           | 20.81       | APR 15       | b18.15      | JUL 25       | b20.71      |
| 31           | 20.37       | FEB 05       | 20.81       | 30           | 18.22       | AUG 25       | b21.73      |
| NOV 05       | 20.42       | 10           | 20.68       | MAY 05       | 18.28       | SEP 15       | 22.30       |
| 10           | 20.46       | 15           | 20.51       | 10           | 18.36       | 20           | 22.39       |
| 15           | a20.52      | 20           | 20.35       | 15           | 18.43       | 25           | 22.48       |
| 20           | a20.62      | 25           | a19.48      | 20           | 18.51       | 30           | 22.56       |
| 25           | 20.61       | 28           | 19.07       | 25           | 18.62       |              |             |
| 30           | 20.54       | MAR 05       | 18.60       | 31           | 18.75       |              |             |
| DEC 05       | 20.40       | 10           | 18.32       | JUN 05       | 18.87       |              |             |

WTR YEAR 1981 MAX 18.11 ABOUT APR 4, 1981 MIN 22.58 SEPT 30, 1981

a Estimated.  
b Observed.

## GROUND-WATER LEVELS IN MASSACHUSETTS

## PLYMOUTH COUNTY--Continued

415433070583302. Middleborough well MTW 82.

LOCATION.--Lat 41°54'33", long 70°58'33", Hydrologic Unit 01090004, 15 ft (4.6 m) southeast of southbound side of State Highway 25 and 435 ft (133 m) southeast of Puddingshear Brook in Middleborough.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 26.5 ft (8.1 m), screened 24.5 to 26.5 ft (7.5 to 8.1 m).

DATUM.--Altitude of land-surface datum is 45 ft (14 m). Measuring point: Top of casing, 3.5 ft (1.1 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.57 ft (0.48 m) below land-surface datum, Dec. 29, 1969; lowest measured, 17.58 ft (5.36 m) below land-surface datum, Oct. 24, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 17.58       | JAN 27, 1981 | 15.67       | APR 28, 1981 | 8.05        | JUL 23, 1981 | 15.00       |
| NOV 21       | 17.35       | FEB 24       | 11.80       | MAY 21       | 9.69        | AUG 25       | 16.50       |
| DEC 24       | 16.08       | MAR 26       | 6.52        | JUN 23       | 12.77       | SEP 25       | 17.06       |

415453070434901. Plymouth well PWV 22.

LOCATION.--Lat 41°54'53", long 70°43'49", Hydrologic Unit 01090004, 10 ft (3 m) from northeast corner of main building at Plymouth Airport.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in (0.03 m), depth 42 ft (12.8 m) screened 40 to 42 ft (12.2 to 12.8 m).

DATUM.--Altitude of land-surface datum is 145 ft (44 m). Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--November 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.82 ft (6.04 m) below land-surface datum, May 26, 1958; lowest measured, 28.99 ft (8.84 m) below land-surface datum, Jan. 28, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 26.49       | JAN 27, 1981 | 27.72       | APR 26, 1981 | 26.23       | JUL 25, 1981 | 26.59       |
| NOV 21       | 26.88       | FEB 23       | 27.55       | MAY 24       | 26.36       | AUG 22       | 26.74       |
| DEC 24       | 27.55       | MAR 26       | 26.27       | JUN 23       | 26.36       | SEP 26       | 27.16       |

414518070435701. Wareham well WFW 51.

LOCATION.--Lat 41°45'18", long 70°43'57", Hydrologic Unit 01090002, 50 ft (15 m) east of U.S. Highway 6 and 100 ft (30 m) north of Exxon service station in Wareham.

Owner: Thomas B. Rogers.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 9.65 ft (2.94 m), cased with tile to 9.65 ft (2.94 m), open end. Prior to September 1980, well depth was 12.5 ft (3.8 m).

DATUM.--Altitude of land-surface datum is 21 ft (6 m). Measuring point: Top edge of tile casing, 2.5 ft (0.8 m) above land-surface datum.

PERIOD OF RECORD.--July 1959 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.34 ft (1.02 m) below land-surface datum, Jan. 26, 1978; lowest measured, 10.98 ft (3.35 m) below land-surface datum, Dec. 28, 1965; well dry Sept. 25, Oct. 23, Nov. 24, Dec. 24, 1980, Jan. 27, Sept. 26, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | DRY         | JAN 27, 1981 | DRY         | APR 26, 1981 | 7.97        | JUL 23, 1981 | 8.82        |
| NOV 24       | DRY         | FEB 23       | 8.95        | MAY 21       | 8.06        | AUG 22       | 9.23        |
| DEC 24       | DRY         | MAR 25       | 8.11        | JUN 23       | 8.53        | SEP 26       | DRY         |

## SUFFOLK COUNTY

422133071033801. Boston well BGW 925.

LOCATION.--Lat 42°21'33", long 71°03'38", Hydrologic Unit 01090001, in basement room at Scollay Building, intersection of Court and Tremont Streets in Boston.

Owner: United States Trust.

AQUIFER.--Cambridge slate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8.0 in (0.20 m), depth 624 ft (190.2 m), cased to 90 ft (27.4 m), open hole.

DATUM.--Altitude of land-surface datum is 35 ft (11 m). Measuring point: Top of casing, 15 ft (4.6 m) below land-surface datum.

REMARKS.--Water levels affected by tide and barometric pressure.

PERIOD OF RECORD.--February 1960 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 18.61 ft (5.67 m) below measuring point, Oct. 31, 1975; lowest measured, 26.20 ft (7.99 m) below measuring point, Oct. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 05, 1980 | 23.35          | JAN 05, 1981 | a23.00         | APR 05, 1981 | 22.88          | JUL 05, 1981 | 22.62          |
| 10           | 23.33          | 10           | a22.29         | 10           | 22.93          | 10           | 22.67          |
| 15           | 23.40          | 15           | a22.32         | 15           | 22.86          | 15           | 22.62          |
| 20           | 23.26          | 20           | a22.24         | 20           | 22.97          | 20           | 22.62          |
| 25           | 22.90          | 31           | 22.94          | 25           | 22.84          | 25           | 22.73          |
| 31           | 23.22          | FEB 05       | 22.94          | 30           | 23.01          | 31           | 22.68          |
| NOV 05       | 23.20          | 10           | 23.05          | MAY 05       | 23.11          | AUG 05       | 22.64          |
| 10           | 23.26          | 15           | 22.98          | 10           | 23.12          | 10           | 22.76          |
| 15           | 23.37          | 20           | 22.83          | 15           | 23.10          | 15           | 22.73          |
| 20           | 23.17          | 25           | 22.81          | 20           | 23.09          | 20           | 22.87          |
| 25           | 22.98          | 28           | 22.85          | 25           | 23.11          | 25           | 22.93          |
| 30           | 23.06          | MAR 05       | 22.76          | 31           | 23.08          | 31           | 22.97          |
| DEC 05       | 23.14          | 10           | 22.86          | JUN 05       | 22.94          | SEP 05       | 23.01          |
| 10           | 23.09          | 15           | 22.77          | 10           | 22.85          | 10           | 23.08          |
| 15           | 23.20          | 20           | 22.80          | 15           | 22.84          | 15           | 23.21          |
| 20           | 23.25          | 25           | 22.83          | 20           | 22.76          | 20           | 23.11          |
| 25           | a22.89         | 31           | 22.75          | 25           | 22.63          | 25           | 23.35          |
| 31           | a22.99         |              |                | 30           | 22.75          | 30           | 23.31          |

WTR YEAR 1981 MAX 22.14 JAN 22, 1981 MIN 23.54 OCT 24, 1980

a Estimated.

## WORCESTER COUNTY

422058072085501. Hardwick well HHW 1.

LOCATION.--Lat 42°20'58", long 72°08'55", Hydrologic Unit 01080204, 30 ft (9.1 m) southeast of State Highway 32 and 0.6 mi (0.96 km) southwest of Hardwick Road in Hardwick.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 33.2 ft (10.1 m), screened 31.2 to 33.2 ft (9.5 to 10.1 m).

DATUM.--Altitude of land-surface datum is 580 ft (177 m). Measuring point: Top of casing, 3.5 ft (1.1 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts

Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.23 ft (2.81 m) below land-surface datum, Apr. 25, 1969; lowest measured, 17.77 ft (5.42 m) below land-surface datum, Nov. 22, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 23, 1980 | 17.23          | JAN 26, 1981 | 17.29          | APR 23, 1981 | 14.30          | JUL 22, 1981 | 15.85          |
| NOV 23       | 17.28          | FEB 24       | 16.38          | MAY 24       | 14.12          | AUG 26       | 16.50          |
| DEC 26       | 16.89          | MAR 27       | 14.86          | JUN 23       | 15.69          | SEP 22       | 16.53          |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## WORCESTER COUNTY--Continued

421837071380901. Northborough well NUW 38.

LOCATION.--Lat 42°18'37", long 71°38'09", Hydrologic Unit 01070005, 0.7 mi (1.13 km) south of U.S. Highway 20 and about 400 ft (122 m) west of School Street in Northborough.

Owner: Eric MacLean.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 14 ft (4.3 m), cased with concrete to 14 ft (4.3 m), open end.

DATUM.--Altitude of land-surface datum is 285 ft (87 m). Measuring point: Top edge of concrete casing, 1.0 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--August 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.96 ft (0.29 m) below land-surface datum, Mar. 25, 1969; lowest measured, 13.30 ft (4.05 m) below land-surface datum, Sept. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 10.60       | JAN 26, 1981 | 6.68        | APR 23, 1981 | 5.02        | JUL 21, 1981 | 5.60        |
| NOV 24       | 8.10        | FEB 25       | 4.46        | MAY 27       | 5.36        | AUG 26       | 7.90        |
| DEC 26       | 6.06        | MAR 25       | 5.00        | JUN 24       | 6.04        | SEP 24       | 8.12        |

420610071421401. Northbridge well NXW 1.

LOCATION.--Lat 42°06'10", long 71°42'14", Hydrologic Unit 01090003, about 100 ft (30 m) northeast of the intersection of State Highway 146 and Main Street in Northbridge.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in (0.05 m), depth 12 ft (3.7 m), screened 10 to 12 ft (3.0 to 3.7 m).

DATUM.--Altitude of land-surface datum is 370 ft (113 m). Measuring point: Top of casing, 2.0 ft (0.6 m) above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.88 ft (0.57 m) below land-surface datum, Mar. 27, 1978; lowest measured, 4.75 ft (1.45 m) below land-surface datum, Nov. 22, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 3.62        | JAN 26, 1981 | 3.62        | APR 23, 1981 | 2.96        | JUL 23, 1981 | 3.21        |
| NOV 24       | 3.43        | FEB 25       | 2.92        | MAY 27       | 2.83        | AUG 26       | 3.68        |
| DEC 26       | 3.22        | MAR 25       | 2.83        | JUN 24       | 3.13        | SEP 24       | 3.61        |

422805071480801. Sterling well SYW 1.

LOCATION.--Lat 42°28'05", long 71°48'08", Hydrologic Unit 01070004, 45 ft (14 m) northeast of Justice Hill Road and 0.8 mi (1.3 km) west of South Nelson Road in Sterling.

Owner: N. Lanciani.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 15 ft (4.5 m), cased with stone to 15 ft (4.5 m), open end.

DATUM.--Altitude of land-surface datum is 710 ft (220 m). Measuring point: Top edge of angle iron, at land-surface datum.

PERIOD OF RECORD.--May 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.66 ft (0.51 m) below land-surface datum, Mar. 26, 1969; dry, Nov. 28, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 14.06       | JAN 26, 1981 | 6.73        | APR 23, 1981 | 3.22        | JUL 21, 1981 | 3.17        |
| NOV 24       | 13.82       | FEB 25       | 2.96        | MAY 27       | 3.63        | AUG 26       | 7.60        |
| DEC 26       | 6.58        | MAR 25       | 3.17        | JUN 24       | 3.10        | SEP 24       | 9.03        |



## WORCESTER COUNTY--Continued

423717072043101. Templeton well TMW 3.

LOCATION.--Lat 42°37'17", long 72°04'31", Hydrologic Unit 01080202, 60 ft (18.3 m) east of U.S. Highway 202 and 0.2 mi (0.32 km) south of Winchendon town line in Templeton.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 14 ft (4.3 m), screened 12 to 14 ft (3.7 to 4.3 m).

DATUM.--Altitude of land-surface datum is 900 ft (270 m). Measuring point: Top of casing, 4.2 ft (1.2 m) above land-surface datum.

PERIOD OF RECORD.--December 1957 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.46 ft (0.75 m) below land-surface datum, Mar. 26, 1969; lowest measured, 5.10 ft (1.55 m) below land-surface datum, Sept. 29, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 4.13        | JAN 26, 1981 | 4.08        | APR 24, 1981 | 3.53        | JUL 22, 1981 | 3.68        |
| NOV 24       | 3.95        | FEB 24       | 2.76        | MAY 24       | 3.46        | AUG 26       | 4.08        |
| DEC 24       | 3.78        | MAR 26       | 3.59        | JUN 25       | 3.83        | SEP 22       | 3.99        |

421410072081301. West Brookfield well WUW 2.

LOCATION.--Lat 42°14'10", long 72°08'13", Hydrologic Unit 01080204, about 50 ft (15 m) north of State Highway 9 and about 500 ft (150 m) south of State Highway 67 in West Brookfield.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in (0.03 m), depth 43.0 ft (13.1 m), screened 40 to 43 ft (12.2 to 13.1 m).

DATUM.--Altitude of land-surface datum is 630 ft (192 m). Measuring point: Top of casing, 1.0 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--October 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.17 ft (5.23 m) below land-surface datum, Apr. 24, 1973; lowest measured, 23.63 ft (7.20 m) below land-surface datum, Feb. 21, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 19.58       | JAN 26, 1981 | 20.16       | APR 23, 1981 | 19.19       | JUL 22, 1981 | 19.32       |
| NOV 23       | 19.85       | FEB 24       | 19.98       | MAY 24       | 19.02       | AUG 26       | 19.70       |
| DEC 26       | 19.90       | MAR 27       | 19.37       | JUN 23       | 19.05       | SEP 22       | 19.98       |

421522072113401. West Brookfield well WUW 10.

LOCATION.--Lat 42°15'22", long 72°11'34", Hydrologic Unit 01080204, 15 ft (4.6 m) east of Coy Hill Road and 1,850 ft (569 m) south of State Highway 9 in West Brookfield.

Owner: The Commonwealth of Massachusetts Department of Public Works.

AQUIFER.--Brimfield schist.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.5 in (0.06 m), depth 64.5 ft (19.6 m), cased to 40 ft (12.2 m), open hole.

DATUM.--Land-surface datum is 833.23 ft (253.99 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.85 ft (0.87 m) above land-surface datum.

PERIOD OF RECORD.--October 1970 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.57 ft (0.48 m) below land-surface datum, Feb. 2, 1976; lowest measured, 12.12 ft (3.69 m) below land-surface datum, Oct. 27, 1976.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 12.04       | JAN 26, 1981 | 10.80       | APR 23, 1981 | 3.48        | JUL 22, 1981 | 6.57        |
| NOV 23       | 11.91       | FEB 24       | 6.03        | MAY 24       | 3.90        | AUG 26       | 9.25        |
| DEC 26       | 9.77        | MAR 27       | 4.18        | JUN 23       | 5.96        | SEP 22       | 9.75        |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## WORCESTER COUNTY--Continued

423430072015201. Winchendon well XNW 13.

LOCATION.--Lat 42°42'04", long 72°01'52", Hydrologic Unit 01080202, about 50 ft (15 m) east of Forristall Road, 0.2 mi (0.3 km) north of Elmwood Road, and 1.6 mi (2.6 km) northeast of Winchendon.

Owner: W. B. Hart.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 12 ft (3.7 m), cased with stone to 12 ft (3.7 m), open end.

DATUM.--Land-surface datum is 1,209.36 ft (368.61 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of extension pipe, 3.8 ft (1.2 m) above land-surface datum.

PERIOD OF RECORD.--October 1939 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.86 ft (0.57 m) below land-surface datum, Mar. 20, 1948; lowest measured, 13.36 ft (4.07 m) below land-surface datum, Dec. 24, 1964.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 23, 1980 | 12.19       | JAN 27, 1981 | 10.10       | APR 24, 1981 | 3.08        | JUL 22, 1981 | 5.28        |
| NOV 24       | 12.65       | FEB 24       | 4.50        | MAY 24       | 3.62        | AUG 25       | 8.02        |
| DEC 24       | 10.42       | MAR 26       | 4.12        | JUN 25       | 5.33        | SEP 22       | 9.27        |

421538071451301. Worcester well XSW 274.

LOCATION.--Lat 42°15'38", long 71°45'13", Hydrologic Unit 01090003, about 300 ft (91.4 m) north of Hamilton Street and about 300 ft (91.4 m) east of North Lake Avenue in Worcester.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in (0.05 m), depth 54.6 ft (16.6 m), screened 52.6 to 54.6 ft (16.0 to 16.6 m).

DATUM.--Altitude of land-surface datum is 400 ft (122 m). Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.

REMARKS.--Water levels affected by Lake Quinsigamond.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.23 ft (6.76 m) below land-surface datum, Mar. 27, 1972; lowest measured, 24.62 ft (7.50 m) below land-surface datum, Oct. 25, 1968.

REVISIONS.--Revised figures of water level for water year 1980, in feet below land-surface datum, superseding those published in WDR MA-RI-80-1, are given herewith.

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| APR 21, 1980 | 23.66       | JUN 24, 1980 | 23.89       | AUG 25, 1980 | 23.86       | SEP 24, 1980 | 24.01       |
| MAY 21       | 23.60       | JUL 24       | 23.90       |              |             |              |             |

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 24, 1980 | 23.30       | JAN 26, 1981 | 23.93       | APR 23, 1981 | 23.10       | JUL 21, 1981 | 23.48       |
| NOV 24       | 23.32       | FEB 23       | 22.75       | MAY 27       | 23.10       | AUG 26       | 23.97       |
| DEC 26       | 23.33       | MAR 25       | 23.14       | JUN 24       | 23.66       | SEP 24       | 23.44       |

## KENT COUNTY

414022071332801. Coventry well COW 411.

LOCATION.--Lat 41°40'22", long 71°33'28", Hydrologic Unit 01090004, town of Coventry, about 75 ft (23 m) west of house on Powhattan Avenue, 1.3 mi (2.1 km) southeast of Washington.

Owner: Robert Card.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 26 ft (7.9 m), cased with concrete to 26 ft (7.9 m), open end.

DATUM.--Altitude of land-surface datum is 260 ft (79 m). Measuring point: Hole in top of wooden cover, 1.98 ft (0.60 m) above land-surface datum.

PERIOD OF RECORD.--October 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.77 ft (5.11 m) below land-surface datum, Jan. 27, 1979; lowest measured, 23.73 ft (7.23 m) below land-surface datum, Jan. 29, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 23.72       | JAN 24, 1981 | 23.69       | APR 25, 1981 | 22.66       | JUL 27, 1981 | 23.14       |
| NOV 22       | 23.65       | FEB 21       | 23.50       | MAY 23       | 22.62       | AUG 22       | 23.29       |
| DEC 27       | 23.51       | MAR 28       | 22.78       | JUN 27       | 22.89       | SEP 26       | 23.54       |

413907071465001. West Greenwich well WGW 181.

LOCATION.--Lat 41°39'07", long 71°46'50", Hydrologic Unit 01090005, town of West Greenwich, about 50 ft (15 m) from southeast corner of a house 1.3 mi (2.1 km) north of intersection of Hazard and Muddy Brook Roads, and 1.8 mi (2.9 km) northwest of West Greenwich Center.

Owner: E. Lambert.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 18.5 ft (5.64 m), lined with stone to 18.5 ft (5.64 m), shored.

DATUM.--Altitude of land-surface datum is 380 ft (116 m). Measuring point: Edge of shelter floor, 2.19 ft (0.67 m) above land-surface datum.

PERIOD OF RECORD.--January 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.15 ft (3.70 m) below land-surface datum, Jan. 27, 1979; lowest measured, 17.68 ft (5.39 m) below land-surface datum, Sept. 28, 1974.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 17.24       | JAN 24, 1981 | 16.56       | APR 25, 1981 | 15.58       | JUL 27, 1981 | 16.68       |
| NOV 22       | 16.93       | FEB 21       | 15.78       | MAY 23       | 15.82       | AUG 22       | 16.65       |
| DEC 27       | 16.50       | MAR 28       | 15.59       | JUN 27       | 16.36       | SEP 26       | 16.89       |

## PROVIDENCE COUNTY

415710071402201. Burrillville well BUW 187.

LOCATION.--Lat 41°57'10", long 71°40'22", Hydrologic Unit 01090003, town of Burrillville, 25 ft (8 m) east of road and 75 ft (23 m) southwest of a house 0.6 mi (1.0 km) north of intersection of Harrisville and Lapham Farm Roads, and 0.9 mi (1.4 km) south of Harrisville.

Owner: Brothers of the Sacred Heart.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 19.8 ft (6.04 m), lined with stone to 19.8 ft (6.04 m), shored.

DATUM.--Altitude of land-surface datum is 462 ft (141 m). Measuring point: Hole in base of shelter, 0.59 ft (0.18 m) above land-surface datum.

PERIOD OF RECORD.--January 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.15 ft (3.71 m) below land-surface datum, Apr. 9, 1970; lowest, 18.83 (5.74 m) below land-surface datum, Nov. 3, 1970.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 17.91       | JAN 24, 1981 | 17.59       | APR 25, 1981 | 15.08       | JUL 27, 1981 | 16.61       |
| NOV 21       | 17.89       | FEB 21       | 17.27       | MAY 23       | 15.03       | AUG 22       | 17.52       |
| DEC 27       | 16.98       | MAR 28       | 15.34       | JUN 27       | 16.06       | SEP 26       | 18.43       |

## GROUND-WATER LEVELS IN RHODE ISLAND

## PROVIDENCE COUNTY--Continued

415626071254601. Cumberland well CUW 265.

LOCATION.--Lat 41°56'26", long 71°25'46", Hydrologic Unit 01090003, town of Cumberland, at 27 Scott Street, 900 ft (270 m) northeast of intersection of Scott Street and Mendon Road in Ashton.

Owner: Francis J. Varone.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 20 ft (6.1 m), lined with stone to 20 ft (6.1 m), shored.

DATUM.--Altitude of land-surface datum is 130 ft (40 m). Measuring point: Hole in wooden cover, 0.06 ft (0.02 m) above land-surface datum.

PERIOD OF RECORD.--August 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.20 ft (2.80 m) below land-surface datum, Jan. 27, 1979; lowest measured, 17.20 (5.24 m) below land-surface datum, Sept. 29, 1949.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 15.99       | JAN 24, 1981 | 13.86       | APR 25, 1981 | 12.01       | JUL 27, 1981 | 15.14       |
| NOV 21       | 15.31       | FEB 21       | 12.02       | MAY 23       | 12.10       | AUG 22       | 15.86       |
| DEC 27       | 13.14       | MAR 28       | 12.13       | JUN 27       | 13.77       | SEP 26       | 16.21       |

415437071242201. Lincoln well LIW 84.

LOCATION.--Lat 41°54'37", long 71°24'22", Hydrologic Unit 01090003, town of Lincoln, at north side of Maplehurst Farms building, and 800 ft (240 m) west of Blackstone River bridge in Lonsdale.

Owner: Maplehurst Farm, Inc.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 107 ft (32.6 m), cased to 107 ft (32.6 m), open end.

DATUM.--Altitude of land-surface datum is 60 ft (18 m). Measuring point: Inside lower lip of 8-in (0.20 m) pipe, 3.32 ft (1.01 m) above land-surface datum.

REMARKS.--Water level affected by Blackstone River floods.

PERIOD OF RECORD.--June 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.97 ft (0.30 m) above land-surface datum, Jan. 28, 1976, revised; lowest measured, 7.30 ft (2.23 m) below land-surface datum, Aug. 24, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 6.12        | JAN 24, 1981 | 6.59        | APR 25, 1981 | 5.11        | JUL 27, 1981 | 5.78        |
| NOV 21       | 6.18        | FEB 21       | 5.17        | MAY 23       | 4.68        | AUG 22       | 6.34        |
| DEC 27       | 6.21        | MAR 28       | 5.84        | JUN 27       | 5.23        | SEP 26       | 5.99        |

415948071325001. North Smithfield well NSW 21.

LOCATION.--Lat 41°59'48", long 71°32'50", Hydrologic Unit 01090003, town of North Smithfield, 500 ft (152 m) southwest of State Highway 146A, 900 ft (270 m) west of intersection of State Highway 146A and Harkness Road at Branch Village.

Owner: Thomas E. Esty.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug domestic water-table well, diameter 24 in (0.61 m), depth 16 ft (4.9 m), cased with tile to 16 ft (4.9 m), open end.

DATUM.--Land-surface datum is 238.68 ft (72.77 m) National Geodetic Vertical Datum of 1929. Measuring point: Hole in wooden cover at top of tile casing, 2.08 ft (0.63 m) below land-surface datum.

REMARKS.--Well used for domestic supply. Water levels affected by pumping.

PERIOD OF RECORD.--May 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.67 ft (1.12 m) below land-surface datum, Mar. 26, 1969; lowest measured, 11.71 ft (3.57 m) below land-surface datum, Oct. 28, 1957.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 11.05       | JAN 24, 1981 | 10.33       | APR 25, 1981 | 7.17        | JUL 27, 1981 | 9.55        |
| NOV 21       | 10.90       | FEB 21       | 8.36        | MAY 23       | 7.44        | AUG 22       | 10.30       |
| DEC 27       | 9.75        | MAR 28       | 7.50        | JUN 27       | 8.73        | SEP 26       | 10.32       |



## PROVIDENCE COUNTY--Continued

415318071220401. Pawtucket well PAW 136.

LOCATION.--Lat 41°53'18", long 71°22'04", Hydrologic Unit 01090004, city of Pawtucket, at 314 Woodbine Street, and 1,500 ft (457 m) northeast of intersection of Cottage Street and Central Avenue.

Owner: Greenhalgh Mills, Inc.

AQUIFER.--Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in (0.05 m), depth 43 ft (13.11 m), cased to about 40 ft (12.2 m), screened about 40 to 43 ft (12.2 to 13.1 m).

DATUM.--Altitude of land-surface datum is 86 ft (26 m). Measuring point: Top of casing, 3.15 ft (0.96 m) above land-surface datum.

PERIOD OF RECORD.--January 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.32 ft (0.71 m) below land-surface datum, Dec. 27, 1972; lowest measured, 7.28 ft (2.22 m) below land-surface datum, Jan. 29, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 5.91        | JAN 24, 1981 | 6.18        | APR 25, 1981 | 5.55        | JUL 27, 1981 | 5.91        |
| NOV 21       | 5.92        | FEB 21       | 6.01        | MAY 23       | 5.64        | AUG 22       | 6.26        |
| DEC 27       | 5.99        | MAR 28       | 5.57        | JUN 27       | 5.73        | SEP 26       | 6.34        |

414746071255601. Providence well PRW 48.

LOCATION.--Lat 41°47'46", long 71°25'56", Hydrologic Unit 01090004, city of Providence, at 333 Adelaide Avenue, and 800 ft (240 m) northwest of Adelaide and 800 ft (240 m) west of Narragansett Avenues.

Owner: Gorham Division of Textron.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 8 in (0.20 m), depth 124 ft (37.8 m), cased to 116 ft (35.4 m), screened 116 to 124 ft (35.4 to 37.8 m).

DATUM.--Land-surface datum is 45.79 ft (13.96 m), National Geodetic Vertical Datum of 1929. Measuring point: Top edge of hole in center of steel cover, 0.48 ft (0.15 m) below land-surface datum.

REMARKS.--Water-level affected by pumping from one or more nearby wells.

PERIOD OF RECORD.--December 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.31 ft (1.31 m) below land-surface datum, Jan. 27, 1979; lowest, 10.22 ft (3.12 m) below land-surface datum, Oct. 20, 1947.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 6.72        | JAN 24, 1981 | 7.06        | APR 25, 1981 | 6.91        | JUL 27, 1981 | 7.01        |
| NOV 21       | 6.80        | FEB 21       | 6.82        | MAY 23       | 6.75        | AUG 22       | 7.00        |
| DEC 29       | 7.00        | MAR 28       | 6.99        | JUN 27       | 6.91        | SEP 26       | 6.85        |

414939071260801. Providence well PRW 1051.

LOCATION.--Lat 41°49'39", long 71°26'08", Hydrologic Unit 01090004, city of Providence, at 10 Eagle Street, and 200 ft (60 m) south of Valley and 300 ft (690 m) east of Eagle Streets.

Owner: Licht Industries.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 10 in (0.25 m), depth 82 ft (25.0 m), cased to 82 ft (25.0 m), open end.

DATUM.--Altitude of land-surface datum is 10 ft (3 m). Measuring point: Floor of recorder shelter, 1.65 ft (0.50 m) above land-surface datum.

REMARKS.--Water level affected by pumping from one or more nearby wells. Since October 1971, reduced pumping has resulted in higher water levels.

PERIOD OF RECORD.--January 1948 to current year. January 1948 to March 1949, weekly water level measurements.

April 1949 to February 1976, water level recorder (published water levels were monthly lows). Since April 1976, water levels measured near end of month.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, observed flowing at times in 1978-80; lowest measured, 16.10 ft (4.91 m) below land-surface datum, Jan. 16, 1948.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 1.34        | JAN 24, 1981 | 1.41        | APR 25, 1981 | 1.04        | JUL 27, 1981 | 0.85        |
| NOV 21       | 1.30        | FEB 21       | 1.07        | MAY 23       | 1.03        | AUG 22       | 1.28        |
| DEC 27       | 0.93        | MAR 28       | 1.14        | JUN 27       | 1.07        | SEP 26       | 1.08        |



## GROUND-WATER LEVELS IN RHODE ISLAND

## WASHINGTON COUNTY

412214071394001. Charlestown well CHW 18.

LOCATION.--Lat 41°22'14", long 71°39'40", Hydrologic Unit 01090005, town of Charlestown, 1,900 ft (579 m) southeast of U.S. Highway 1, at former U.S. Navy Auxiliary Air Station.

Owner: U.S. General Services Administration.

AQUIFER.--Sand and clay of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table, diameter 8 in (0.20 m), depth 32 ft (9.8 m), cased to 32 ft (9.8 m), open end.

DATUM.--Altitude of land-surface datum is 26 ft (8 m). Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.89 ft (3.62 m) below land-surface datum, Jan. 27, 1979; lowest measured, 21.63 ft (6.59 m) below land-surface datum, Dec. 29, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 21.13       | JAN 24, 1981 | 21.21       | APR 25, 1981 | 18.97       | JUL 27, 1981 | 19.45       |
| NOV 22       | 21.17       | FEB 21       | 20.68       | MAY 23       | 18.24       | AUG 22       | 20.09       |
| DEC 27       | 20.89       | MAR 28       | 19.07       | JUN 27       | 19.25       | SEP 26       | 20.92       |

413423071431901. Exeter well EXW 6.

LOCATION.--Lat 41°34'23", long 71°43'19", Hydrologic Unit 01090005, town of Exeter, in Arcadia State Forest, 150 ft (46 m) west of Wood River, 250 ft (76 m) south of Ten Rod Road, and 2.0 mi (3.2 m) west of Millville.

Owner: State Dept. of Natural Resources.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 10 ft (3.0 m), cased with concrete to 10 ft (3.0 m), open end.

DATUM.--Land-surface datum is 132.80 ft (40.48 m) National Geodetic Vertical Datum of 1929. Measuring point: Hole on east side of concrete cover, at land-surface datum.

REMARKS.--Water level affected by stage of nearby Wood River.

PERIOD OF RECORD.--December 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.34 ft (0.71 m) below land-surface datum, Jan. 27, 1979; lowest measured, 7.97 ft (2.43 m) below land-surface datum, Sept. 26, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 7.11        | JAN 24, 1981 | 6.77        | APR 25, 1981 | 5.57        | JUL 27, 1981 | 6.20        |
| NOV 22       | 6.80        | FEB 21       | 5.07        | MAY 23       | 5.87        | AUG 22       | 6.82        |
| DEC 27       | 6.78        | MAR 28       | 5.75        | JUN 27       | 6.31        | SEP 26       | 7.97        |

413307071323601. Exeter well EXW 16.

LOCATION.--Lat 41°33'07", long 71°32'36", Hydrologic Unit 01090005, town of Exeter, about 25 ft (8 m) southwest of fire station at Exeter State (Dr. Joseph H. Ladd) School.

Owner: State Dept. of Public Welfare.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in (0.06 m), depth 27 ft (8.2 m), cased to 27 ft (8.2 m), open end.

DATUM.--Land-surface datum is 154.47 ft (47.09 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.78 ft (0.54 m) above land-surface datum.

REMARKS.--Nearby well either being pumped or pumped recently.

PERIOD OF RECORD.--July 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.38 ft (2.25 m) below land-surface datum, Apr. 15, 1953; lowest measured, 15.40 ft (4.69 m) below land-surface datum, Oct. 30, 1957.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 13.07       | JAN 24, 1981 | 13.30       | MAY 23, 1981 | 11.92       | AUG 22, 1981 | 12.82       |
| NOV 25       | 13.94       | FEB 21       | 13.04       | JUN 27       | 12.11       | SEP 26       | 12.67       |
| DEC 29       | 13.27       | MAR 28       | 12.29       | JUL 27       | 12.54       |              |             |

## WASHINGTON COUNTY--Continued

413358071433801. Exeter well EXW 475.

LOCATION.--Lat 41°33'58", long 71°43'38", Hydrologic Unit 01090005, town of Exeter, 70 ft (21 m) east of Mt. Tom Road, 50 ft (15 m) north of Blitzkrieg Trail, and 2.4 mi (3.9 km) northwest of Barberville.

Owner: State Department of Environmental Management.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 40 ft (12.2 m), cased to 38 ft (11.6 m), screened 38 to 40 ft (11.6 to 12.2 m).

DATUM.--Land-surface datum is 146.40 ft (44.62 m), National Geodetic Vertical Datum of 1929. Measuring point: floor of recorder shelter, 3.48 ft (1.06 m) above land-surface datum.

PERIOD OF RECORD.--March 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.45 ft (4.40 m) below land-surface datum, Apr. 30, 1981; lowest, 16.67 ft (5.08 m) below land-surface datum, Sept. 30, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| MAR 31, 1981 | 14.74          | MAY 15, 1981 | 14.55          | JUL 05, 1981 | 15.38          | AUG 20, 1981 | a16.17         |
| APR 05       | 14.68          | 20           | 14.60          | 10           | 15.45          | 25           | 16.25          |
| 10           | 14.58          | 25           | 14.68          | 15           | 15.56          | 31           | 16.45          |
| 15           | 14.51          | 31           | 14.77          | 20           | a15.65         | SEP 05       | 16.54          |
| 20           | 14.47          | JUN 05       | 14.86          | 25           | a15.74         | 10           | a16.61         |
| 25           | 14.46          | 10           | 14.94          | 31           | a15.84         | 15           | a16.66         |
| 30           | 14.45          | 15           | 15.05          | AUG 05       | a15.92         | 30           | 16.67          |
| MAY 05       | 14.50          | 20           | 15.15          | 10           | a16.00         |              |                |
| 10           | 14.57          | 30           | 15.30          | 15           | a16.08         |              |                |

WTR YEAR 1981 MAX 14.45 APR 30, 1981 MIN 16.67 SEPT 30, 1981

a Estimated.

413148071281601. North Kingstown well NKW 255.

LOCATION.--Lat 41°31'48", long 71°28'16", Hydrologic Unit 01090004, town of North Kingstown, 100 ft (30 m) east of Pendar Road, 0.6 mi (0.9 km) south of intersection of Pendar and Tower Hill Roads, and 1.0 mi (1.6 km) south of Allenton.

Owner: Carlton Cook.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 14 ft (4.3 m), cased with concrete to 14 ft (4.3 m), open end.

DATUM.--Altitude of land-surface datum is 50 ft (15 m). Measuring point: Top edge of casing on west rim of well, at land-surface datum.

PERIOD OF RECORD.--August 1954 to December 1963, January 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.81 ft (1.16 m) below land-surface datum, Mar. 26, 1968; lowest measured, 12.93 ft (3.94 m) below land-surface datum, Sept. 26, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 25, 1980 | 10.67          | JAN 24, 1981 | 11.02          | APR 25, 1981 | 10.21          | JUL 27, 1981 | 11.84          |
| NOV 22       | 10.49          | FEB 21       | 11.01          | MAY 23       | 10.61          | AUG 22       | 12.36          |
| DEC 27       | 10.58          | MAR 28       | 10.60          | JUN 27       | 11.10          | SEP 26       | 12.93          |

413308071280501. North Kingstown well NKW 450.

LOCATION.--Lat 41°33'08", long 71°28'05", Hydrologic Unit 01090004, town of North Kingstown, at 890 Tower Hill Road in Belleville, and 0.35 mi (0.56 km) north of intersection of alternate U.S. Highway 1 and West Allenton Road.

Owner: Richard S. Bannister.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in (0.61 m), depth 17 ft (5.2 m), cased with concrete to 17 ft (5.2 m), open end.

DATUM.--Altitude of land-surface datum is 60 ft (18 m). Measuring point: Hole in top of wooden base, 2.80 ft (0.85 m) above land-surface datum.

PERIOD OF RECORD.--October 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.69 ft (2.65 m) below land-surface datum, Jan. 28, 1978; lowest measured, well dry, Oct. 25, Nov. 22, Dec. 27, 1980; Jan. 24, July 27, Aug. 22, Sept. 26, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 25, 1980 | DRY            | JAN 24, 1981 | DRY            | APR 25, 1981 | 14.57          | JUL 27, 1981 | DRY            |
| NOV 22       | DRY            | FEB 21       | 15.46          | MAY 23       | 14.60          | AUG 22       | DRY            |
| DEC 27       | DRY            | MAR 28       | 15.00          | JUN 27       | 14.88          | SEP 26       | DRY            |

## WASHINGTON COUNTY--Continued

412717071415301. Richmond well RIW 231.

LOCATION.--Lat 41°27'17", long 71°41'53", Hydrologic Unit 01090005, town of Richmond, about 50 ft (15 m) west of Narragansett Trail, and 1.2 mi (1.9 km) north of Wood River Junction.

Owner: N. D. MacLeod.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 29 ft (8.8 m), lined with stone to 29 ft (8.8 m), shored.

DATUM.--Altitude of land-surface datum is 84 ft (26 m). Measuring point: Hole in top of wooden cover, 0.36 ft (0.11 m) above land-surface datum.

PERIOD OF RECORD.--May 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.65 ft (6.29 m) below land-surface datum, May 23, 1958. Dry several times in 1965-67, 1977, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 25, 1980 | 26.98       | JAN 24, 1981 | DRY         | APR 25, 1981 | DRY         | JUL 27, 1981 | DRY         |
| NOV 22       | 27.61       | FEB 21       | DRY         | MAY 23       | DRY         | AUG 22       | DRY         |
| DEC 27       | 28.13       | MAR 28       | DRY         | JUN 27       | 27.89       | SEP 26       | DRY         |

412932071374302. Richmond well RIW 417.

LOCATION.--Lat 41°29'32", long 71°37'43", Hydrologic Unit 01090005, town of Richmond, about 50 ft (15 m) south of State Highway 138, about 75 ft (228 m) west of Beaver River, and 3.3 mi (5.3 km) north of Kenyon.

Owner: State Department of Transportation.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in (0.15 m), depth 40 ft (12.2 m), cased to 37 ft (11.3 m), screened 37 to 40 ft (11.3 to 12.2 m).

DATUM.--Land-surface datum is 115.56 ft (35.22 m), National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 0.65 ft (0.20 m) above land-surface datum.

REMARKS.--Water level affected by stage of nearby Beaver River.

PERIOD OF RECORD.--December 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.83 ft (1.47 m) below land-surface datum, Jan. 22, 1979; lowest, 8.02 ft (2.44 m) below land-surface datum, Oct. 3, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL | DATE         | WATER LEVEL |
|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| OCT 05, 1980 | 7.88        | DEC 31, 1981 | 7.69        | MAR 25, 1981 | 7.16        | JUL 15, 1981 | 7.46        |
| 10           | 7.99        | JAN 05       | 7.69        | 31           | 7.15        | 20           | 7.37        |
| 15           | 7.93        | 10           | 7.69        | APR 05       | 6.99        | 25           | 7.48        |
| 20           | 7.89        | 15           | 7.69        | 10           | 6.94        | 31           | 7.55        |
| 25           | 7.79        | 20           | 7.62        | 15           | 6.85        | AUG 05       | 7.61        |
| 31           | 7.79        | 25           | 7.63        | 20           | 6.86        | 10           | 7.65        |
| NOV 05       | 7.82        | 31           | 7.66        | 25           | 6.82        | 15           | 7.70        |
| 10           | 7.85        | FEB 05       | 7.26        | 31           | 6.84        | 20           | 7.71        |
| 15           | 7.87        | 10           | 7.15        | MAY 25       | 6.96        | 25           | 7.76        |
| 20           | 7.82        | 15           | 7.47        | 31           | 7.00        | 31           | 7.80        |
| 25           | 7.75        | 20           | 7.37        | JUN 05       | 7.07        | SEP 05       | 7.82        |
| 30           | 7.71        | 25           | 6.96        | 10           | 7.15        | 10           | 7.84        |
| DEC 05       | 7.71        | 28           | 6.92        | 15           | 7.22        | 15           | 7.82        |
| 10           | 7.71        | MAR 05       | 6.98        | 20           | 7.09        | 20           | 7.80        |
| 15           | 7.72        | 10           | 7.03        | 30           | 7.27        | 30           | 7.91        |
| 20           | 7.76        | 15           | 7.09        | JUL 05       | 7.29        |              |             |
| 31           | 7.69        | 20           | 7.12        | 10           | 7.38        |              |             |

WTR YEAR 1981 MAX 6.80 APR 27, 1981 MIN 8.02 OCT 3, 1980

## WASHINGTON COUNTY--Continued

412844071422802. Richmond well RIW 600.

LOCATION.--Lat 41°28'44", long 71°42'28", Hydrologic Unit 01090005, town of Richmond, about 50 ft (15 m) west of Hope Valley Road, and 1.5 mi (2.4 km) northeast of Woodville.

Owner: State Department of Transportation.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.20 m), depth 54 ft (16.4 m), cased to 49 ft (14.9 m), screened 49 to 54 ft (14.9 to 16.4 m).

DATUM.--Land-surface datum is 100.17 ft (30.53 m), National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 2.68 ft (0.82 m) above land-surface datum.

PERIOD OF RECORD.--September 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.21 ft (9.82 m) below land-surface datum, Feb. 1, 1979; lowest, 35.94 ft (10.95 m) below land-surface datum, Feb. 2, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 05, 1980 | 35.38          | JAN 15, 1981 | 35.73          | MAR 25, 1981 | 34.52          | JUL 31, 1981 | 34.70          |
| 10           | 35.44          | 20           | 35.79          | 31           | 34.47          | AUG 05       | 34.77          |
| 15           | 35.48          | 25           | 35.86          | APR 05       | 34.40          | 10           | 34.85          |
| 20           | 35.52          | 31           | 35.91          | 10           | 34.31          | 15           | 34.93          |
| 25           | 35.57          | FEB 05       | 35.90          | 15           | 34.25          | 20           | a34.99         |
| NOV 25       | 35.55          | 10           | 35.88          | 20           | 34.17          | 25           | 35.07          |
| 30           | 35.44          | 15           | 35.85          | 25           | 34.13          | 31           | 35.18          |
| DEC 05       | 35.37          | 20           | 35.80          | MAY 25       | 34.15          | SEP 05       | 35.27          |
| 10           | 35.41          | 25           | 35.46          | 31           | 34.20          | 10           | a35.34         |
| 15           | 35.46          | 28           | 35.21          | JUN 05       | 34.24          | 15           | a35.40         |
| 20           | 35.51          | MAR 05       | 34.88          | 10           | 34.28          | 30           | 35.58          |
| 31           | 35.60          | 10           | 34.71          | 15           | 34.35          |              |                |
| JAN 05, 1981 | 35.64          | 15           | 34.59          | 20           | 34.38          |              |                |
| 10           | 35.68          | 20           | 34.54          | 27           | 34.41          |              |                |

WTR YEAR 1981 MAX 34.13 APR 24, 1981 MIN 35.94 FEB 2, 1981

a Estimated.

412918071321001. South Kingstown well SNW 6.

LOCATION.--Lat 41°29'18", long 71°32'10", Hydrologic Unit 01090005, town of South Kingstown, at northwest corner of Mead Field at University of Rhode Island, and 0.9 mi (1.4 km) northwest of Kingston.

Owner: University of Rhode Island.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water table well, diameter 10 in (0.25 m), depth 34 ft (10.4 m), cased to 34 ft (10.4 m), open end.

DATUM.--Land-surface datum is 111.89 ft (34.11 m) National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 0.57 ft (0.17 m) above land-surface datum (since July 12, 1973).

RECORD OF PERIOD.--November to December 1947, February 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.92 ft (2.41 m) below land-surface datum, Apr. 12, 13, 1958; lowest, 15.06 ft (4.59 m) below land-surface datum, Dec. 29, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981  
HIGH FOR DAY

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 25, 1980 | 14.65          | JAN 31, 1981 | 14.78          | MAY 15, 1981 | 13.42          | JUL 31, 1981 | a13.86         |
| NOV 25       | 14.78          | FEB 05       | 14.70          | 20           | 13.41          | AUG 05       | a13.93         |
| 30           | 14.60          | 10           | 14.61          | 25           | 13.45          | 10           | 13.99          |
| DEC 05       | 14.54          | 15           | 14.54          | 31           | 13.54          | 15           | 14.04          |
| 10           | 14.60          | 20           | 14.54          | JUN 05       | 13.60          | 20           | 14.06          |
| 15           | 14.69          | MAR 31       | 13.88          | 10           | 13.65          | 25           | 14.15          |
| 20           | 14.75          | APR 05       | 13.88          | 15           | 13.72          | 31           | 14.27          |
| 25           | 14.79          | 10           | 13.74          | 20           | 13.39          | SEP 05       | 14.35          |
| 31           | 14.74          | 15           | 13.66          | 30           | 13.46          | 10           | 14.47          |
| JAN 05, 1981 | 14.75          | 20           | 13.56          | JUL 05       | 13.52          | 15           | 14.54          |
| 10           | 14.82          | 25           | 13.47          | 10           | 13.57          | 20           | 14.50          |
| 15           | 14.86          | 30           | 13.34          | 15           | 13.66          | 30           | 14.58          |
| 20           | 14.80          | MAY 05       | 13.34          | 20           | 13.77          |              |                |
| 25           | 14.82          | 10           | 13.39          | 25           | 13.79          |              |                |

WTR YEAR 1981 MAX 13.28 JUN 23, 1981 MIN 14.89 JAN 17, 1981

a Estimated.

## GROUND-WATER LEVELS IN RHODE ISLAND

## WASHINGTON COUNTY--Continued

412923071361601. South Kingstown well SNW 515.

LOCATION.--Lat 41°29'23", long 71°36'16", Hydrologic Unit 01090005, town of South Kingstown, at Laurel Lane Golf Course, 2.7 mi (4.3 km) west of West Kingston.

Owner: R. R. Holley.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in (0.91 m), depth 30 ft (9.15 m), lined with stone to 30 ft (9.15 m), shored.

DATUM.--Land-surface datum is 127.84 ft (38.97 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of concrete casing on south rim of well, 2.11 ft (0.64 m) above land-surface datum. Dec. 27, 1975, to Apr. 25, 1981, measuring point 1.61 ft (0.49 m) lower.

PERIOD OF RECORD.--May 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.38 ft (7.43 m) below land-surface datum, Apr. 18, 1958, Mar. 26, 1968. Dry several times in 1978, 1980-81.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 25, 1980 | DRY            | JAN 24, 1981 | DRY            | APR 25, 1981 | 27.99          | JUL 27, 1981 | 29.14          |
| NOV 22       | DRY            | FEB 21       | 28.50          | MAY 23       | 27.98          | AUG 22       | DRY            |
| DEC 27       | DRY            | MAR 28       | 27.64          | JUN 27       | 28.61          | SEP 26       | DRY            |

412154071462901. Westerly well WEW 522.

LOCATION.--Lat 41°21'54", long 71°46'29", Hydrologic Unit 01090005, town of Westerly, 350 ft (107 m) northwest of intersection of Pound and Old Shore Roads and 1.0 mi (1.6 km) north of Dunn Corner.

Owner: S. Panciera.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 16 ft (4.88 m), lined with stone to 16 ft (4.88 m), shored.

DATUM.--Altitude of land-surface datum is 45 ft (14 m). Measuring point: Southwest corner of stone casing, 0.91 ft (0.28 m) above land-surface datum.

PERIOD OF RECORD.--January 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.38 ft (2.86 m) below land-surface datum, Feb. 21, 1976; lowest measured, 14.61 ft (4.45 m) below land-surface datum, Sept. 24, 1980.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL | DATE         | WATER<br>LEVEL |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| OCT 25, 1980 | 14.49          | JAN 24, 1981 | 13.59          | APR 25, 1981 | 12.23          | JUL 27, 1981 | 13.15          |
| NOV 22       | 13.81          | FEB 21       | 13.07          | MAY 23       | 12.61          | AUG 22       | 13.85          |
| DEC 27       | 13.44          | MAR 28       | 12.45          | JUN 27       | 12.55          | SEP 26       | 14.14          |



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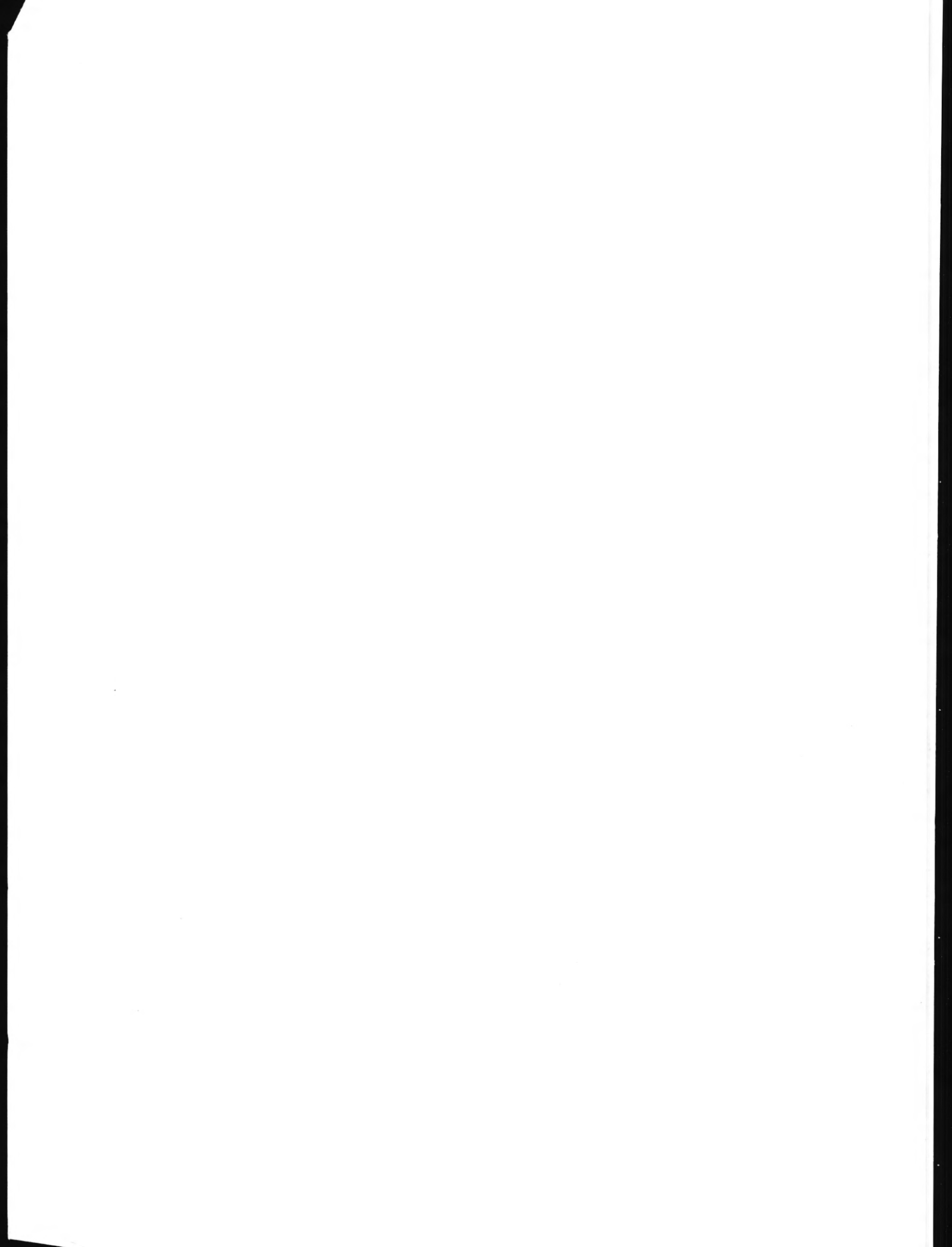
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- N O T E S -

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October 1, 1978

## FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

| Multiply inch-pound units                  | By                     | To obtain SI units                               |
|--------------------------------------------|------------------------|--------------------------------------------------|
| <i>Length</i>                              |                        |                                                  |
| inches (in)                                | $2.54 \times 10^1$     | millimeters (mm)                                 |
|                                            | $2.54 \times 10^{-2}$  | meters (m)                                       |
| feet (ft)                                  | $3.048 \times 10^{-1}$ | meters (m)                                       |
| miles (mi)                                 | $1.609 \times 10^0$    | kilometers (km)                                  |
| <i>Area</i>                                |                        |                                                  |
| acres                                      | $4.047 \times 10^3$    | square meters (m <sup>2</sup> )                  |
|                                            | $4.047 \times 10^{-1}$ | square hectometers (hm <sup>2</sup> )            |
|                                            | $4.047 \times 10^{-3}$ | square kilometers (km <sup>2</sup> )             |
| square miles (mi <sup>2</sup> )            | $2.590 \times 10^0$    | square kilometers (km <sup>2</sup> )             |
| <i>Volume</i>                              |                        |                                                  |
| gallons (gal)                              | $3.785 \times 10^0$    | liters (L)                                       |
|                                            | $3.785 \times 10^0$    | cubic decimeters (dm <sup>3</sup> )              |
|                                            | $3.785 \times 10^{-3}$ | cubic meters (m <sup>3</sup> )                   |
| million gallons                            | $3.785 \times 10^3$    | cubic meters (m <sup>3</sup> )                   |
|                                            | $3.785 \times 10^{-3}$ | cubic hectometers (hm <sup>3</sup> )             |
| cubic feet (ft <sup>3</sup> )              | $2.832 \times 10^1$    | cubic decimeters (dm <sup>3</sup> )              |
|                                            | $2.832 \times 10^{-2}$ | cubic meters (m <sup>3</sup> )                   |
| cfs-days                                   | $2.447 \times 10^3$    | cubic meters (m <sup>3</sup> )                   |
|                                            | $2.447 \times 10^{-3}$ | cubic hectometers (hm <sup>3</sup> )             |
| acre-feet (acre-ft)                        | $1.233 \times 10^3$    | cubic meters (m <sup>3</sup> )                   |
|                                            | $1.233 \times 10^{-3}$ | cubic hectometers (hm <sup>3</sup> )             |
|                                            | $1.233 \times 10^{-6}$ | cubic kilometers (km <sup>3</sup> )              |
| <i>Flow</i>                                |                        |                                                  |
| cubic feet per second (ft <sup>3</sup> /s) | $2.832 \times 10^1$    | liters per second (L/s)                          |
|                                            | $2.832 \times 10^1$    | cubic decimeters per second (dm <sup>3</sup> /s) |
|                                            | $2.832 \times 10^{-2}$ | cubic meters per second (m <sup>3</sup> /s)      |
| gallons per minute (gal/min)               | $6.309 \times 10^{-2}$ | liters per second (L/s)                          |
|                                            | $6.309 \times 10^{-2}$ | cubic decimeters per second (dm <sup>3</sup> /s) |
|                                            | $6.309 \times 10^{-5}$ | cubic meters per second (m <sup>3</sup> /s)      |
| million gallons per day                    | $4.381 \times 10^1$    | cubic decimeters per second (dm <sup>3</sup> /s) |
|                                            | $4.381 \times 10^{-2}$ | cubic meters per second (m <sup>3</sup> /s)      |
| <i>Mass</i>                                |                        |                                                  |
| tons (short)                               | $9.072 \times 10^{-1}$ | megagrams (Mg) or metric tons                    |

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