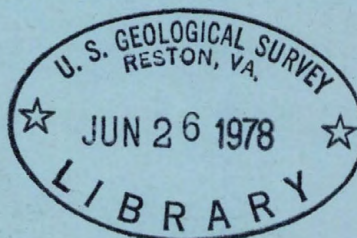


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Mass. and  
Rhode Island

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# Water Resources Data for Massachusetts and Rhode Island Water Year 1977



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-77-1

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



# CALENDAR FOR WATER YEAR 1977

1976

## OCTOBER

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    |    |    | 1  | 2  |
| 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 |    |    |    |    |    |    |

## NOVEMBER

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    | 1  | 2  | 3  | 4  | 5  | 6  |
| 7  | 8  | 9  | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 |    |    |    |    |

## DECEMBER

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    | 1  | 2  | 3  | 4  |
| 5  | 6  | 7  | 8  | 9  | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 |    |

1977

## JANUARY

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    |    |    |    | 1  |
| 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 |    |    |    |    |    |

## FEBRUARY

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    | 1  | 2  | 3  | 4  | 5  |
| 6  | 7  | 8  | 9  | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 |    |    |    |    |    |

## MARCH

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    | 1  | 2  | 3  | 4  | 5  |
| 6  | 7  | 8  | 9  | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 |    |    |

## APRIL

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    |    |    | 1  | 2  |
| 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

## MAY

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  |
| 8  | 9  | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 |    |    |    |    |

## JUNE

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    | 1  | 2  | 3  | 4  |
| 5  | 6  | 7  | 8  | 9  | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 |    |    |

## JULY

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    |    |    | 1  | 2  |
| 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 |    |    |    |    |    |    |

## AUGUST

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    | 1  | 2  | 3  | 4  | 5  | 6  |
| 7  | 8  | 9  | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 |    |    |    |

## SEPTEMBER

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
|    |    |    |    | 1  | 2  | 3  |
| 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 |    |



# **Water Resources Data for Massachusetts and Rhode Island Water Year 1977**



**U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-77-1**

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



UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

For additional information write to  
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U.S. Geological Survey  
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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 under the supervision of J. A. Baker, District Chief, and J. T. Callahan, Regional Hydrologist, succeeded by F. T. Schaefer, Acting Regional Hydrologist, Northeast Region. It was done in cooperation with the States of Massachusetts and Rhode Island, and with other agencies.

This report is one of a series issued by State. The general direction for the series is by J. S. Cragwall, Jr., Chief Hydrologist, and by G. W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                        |                                                                      |                              |
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| 16. Abstracts Water resources data for the 1977 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 109 gaging stations, monthend contents for 15 lakes and reservoirs, water quality for 23 gaging stations, and water levels for 110 observation wells. Also included are data for 22 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. 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 operated by the U.S. Geological Survey and cooperating State and Federal agencies in <u>Massachusetts and Rhode Island.</u> |                                                                                        |                                                                      |                              |
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FOR WHICH RECORDS ARE PUBLISHED

[Letters after station name designate type of data;  
(d), discharge, (l), lake; (c) chemical; (b) biological; (t), water temperature]

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## INTRODUCTION

Water-resources data for the 1977 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 109 gaging stations, monthend contents for 15 lakes and reservoirs, water quality for 23 gaging stations, and water levels for 110 observation wells. Also included are data for 22 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 operated 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 Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202.

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-77-1." 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, Richard E. Kendall and David B. Standley, 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, John J. Carroll, commissioner, F. W. Holden, research and materials engineer, and Robert T. Tierney, chief engineer of Division of Highways; Metropolitan District Commission, John F. Snedeker, commissioner, James J. Matera, director of Water Division and chief water-supply engineer, and F. T. Bergin, chief engineer of Construction Division.

Rhode Island: State Department of Natural Resources, Dennis J. Murphy, director, C. B. Dunwoody, chief of Division of Planning and Development; State Water Resources Board, A. A. DiMartino, chairman, city of Providence, Department of Public Works, L. P. McGarry, director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, in collecting records for 18 gaging stations published in this report.

Organizations supplying data are acknowledged in the station descriptions.

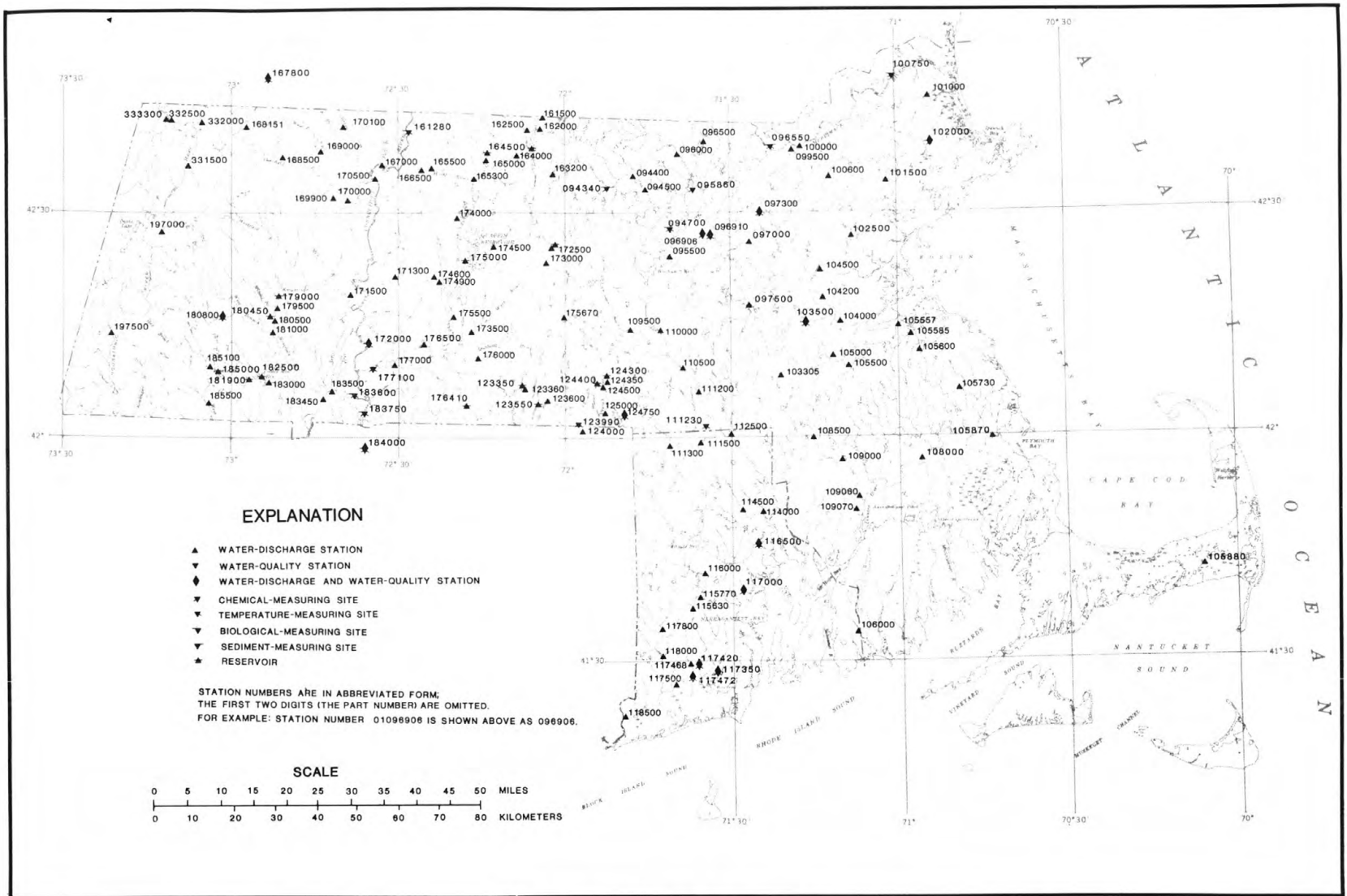
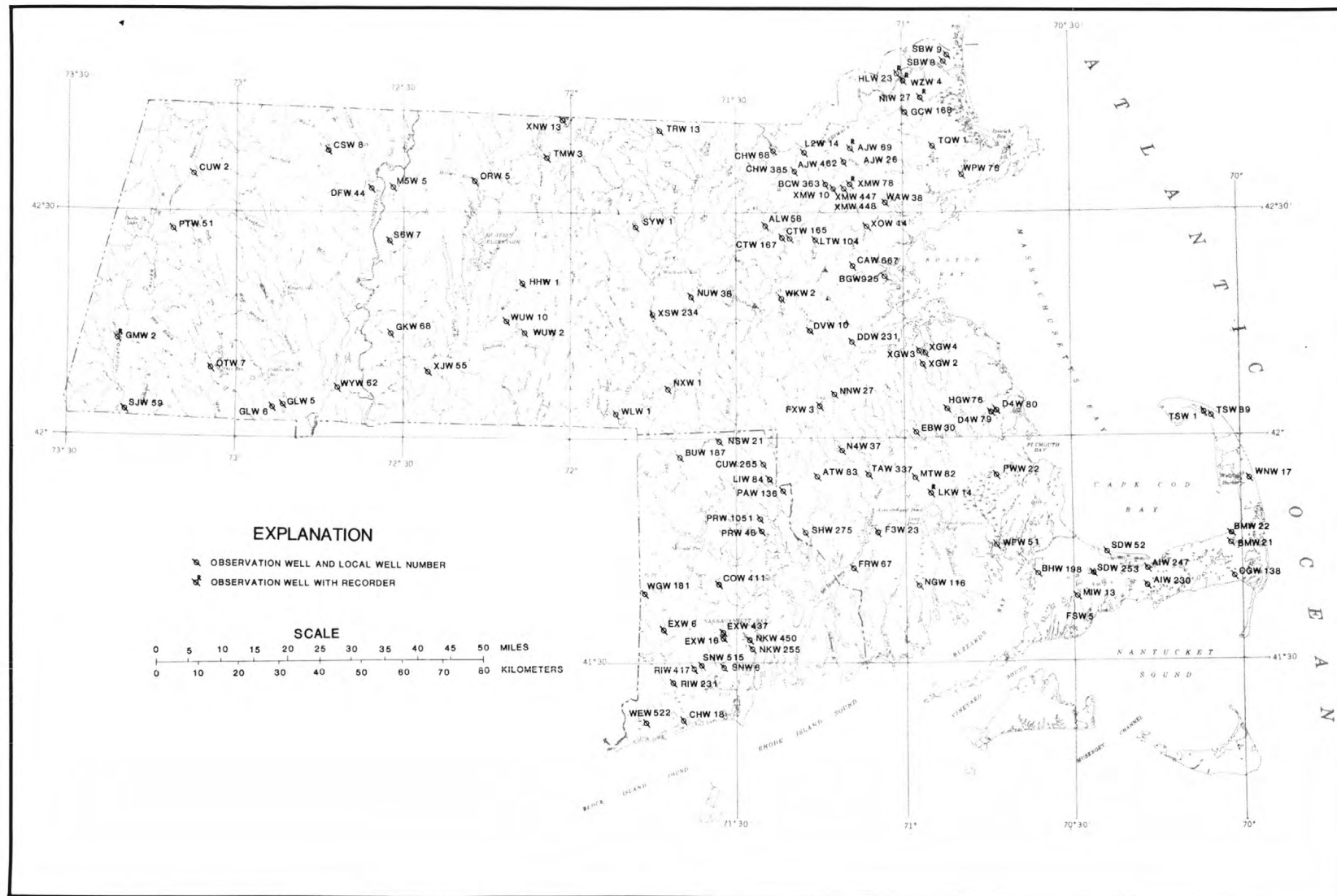


FIGURE 1. LOCATION OF GAGING STATIONS







## HYDROLOGIC CONDITIONS

At the beginning of the water year, streamflow was in the normal range throughout Massachusetts and Rhode Island.

Runoff at index stations was deficient (in the lower quartile of record) or in the low-normal range November through February and was excessive (in the upper quartile of record) in March. Cumulative runoff for October to March was in the normal range.

At index station, Ware River at Coldbrook, MA (January 1928-), a new minimum daily discharge for December occurred Dec. 6 and runoff for the month was the fourth lowest for December for period of record. Also at this station, runoff was the second lowest for both January and February for period of record. At index station, West Branch Westfield River at Huntington, MA (September 1935-), runoff was the lowest and second lowest for January and February, respectively, for period of record. Also at this station, runoff was the second highest for March for period of record and the highest for this month since March 1936. At index station, Branch River at Forestdale, RI (January 1940-), runoff was the third highest for March for period of record. Spring peak discharges were moderate and only the usual lowland flooding occurred.

Cumulative runoff for April to September and also for the water year was in the normal range.

At the end of the water year, streamflow was excessive throughout Massachusetts and Rhode Island.

Figure 4 on page 6, for which records of three long-term index gaging stations were used shows a comparison of the monthly and yearly mean discharge for the 1977 water year with the median discharge for the period 1941-70.

## DEFINITION OF TERMS

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

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 that are 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  $\pm$  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  $\pm$  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  $\pm$  1.0°C on M-enterococcus medium (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.

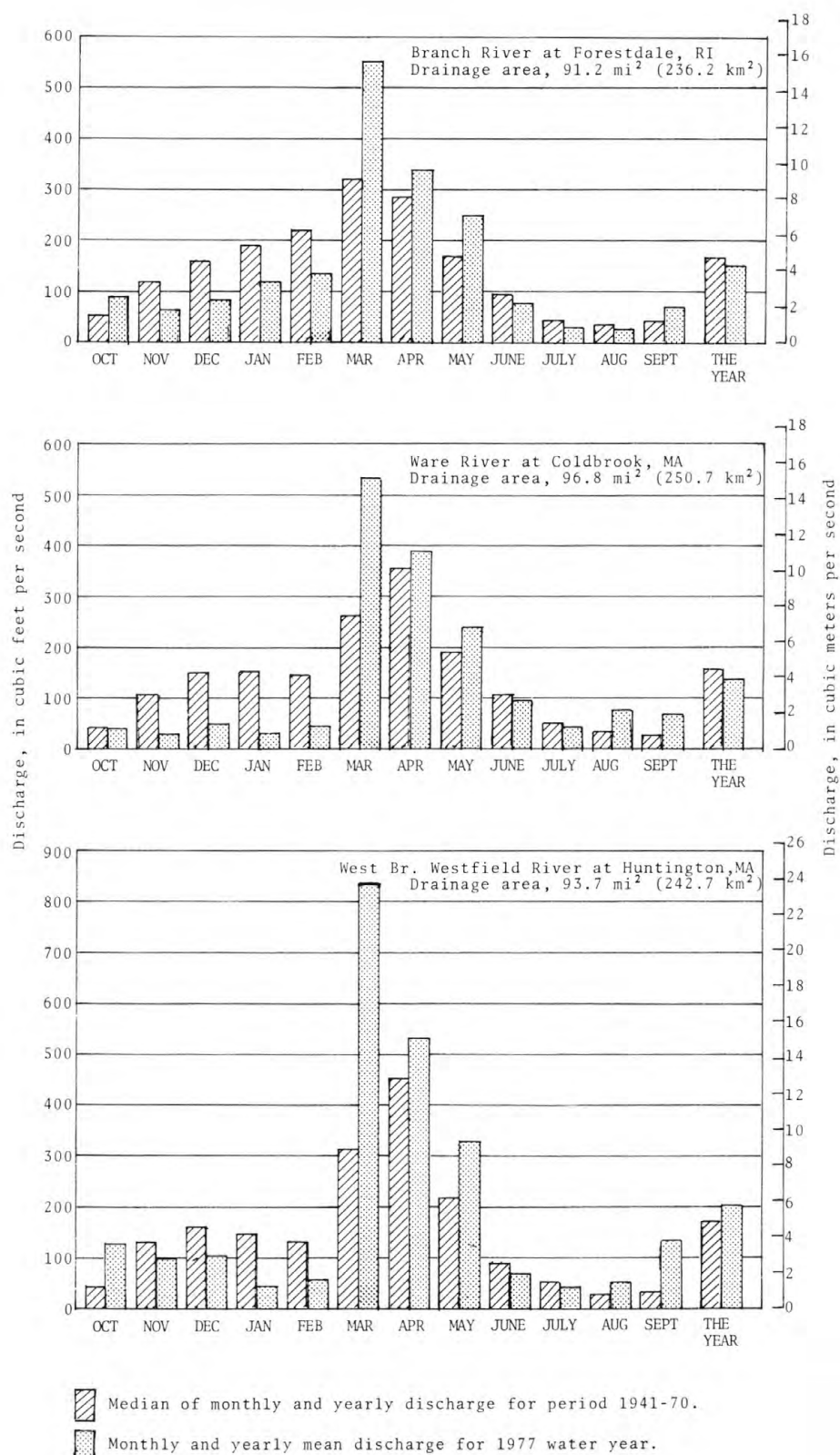


Figure 4.--Comparison of discharge at three long-term index gaging stations during 1977 water year with median discharge for period 1941-70.



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. The ash-mass values of zooplankton and phytoplankton are expressed in g/m<sup>3</sup> (grams per cubic meter), and the 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.

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 the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and, thus, may include some very small (colloidal) suspended particles. Analyses reported as dissolved (with the exception of gases) are performed on filtered samples.

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

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

Where  $n_i$  is the number of individuals per taxon,  $n$  is the total number of individuals, and  $s$  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 ( $\text{CaCO}_3$ ).

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 gram (ug/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (gram) 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.

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 ( $\text{m}^2$ ). 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 (PC, 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, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the 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 the flow of a canal, the word "streamflow" uniquely describes the 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.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The 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, the 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) refers to the amount of a substance that is present both in solution and in suspension.

WRD is used as an abbreviation for "Water-Resources Data" 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 the 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 the wells or other sites within a 1-second grid. See figure 5 on the following page.



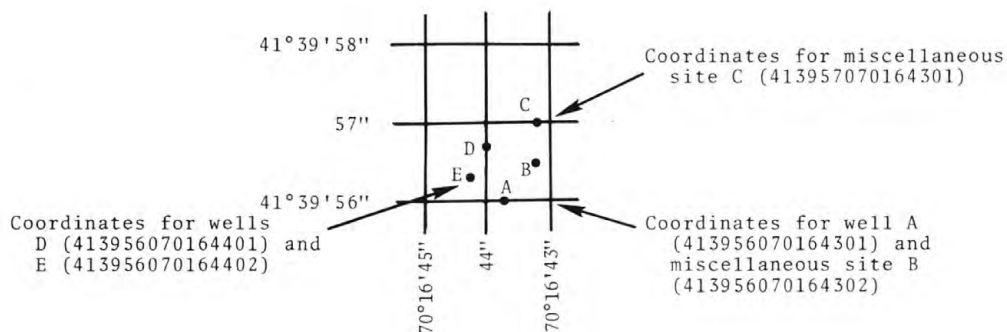


Figure 5.--System for numbering wells and miscellaneous sites (latitude and longitude)

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 above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "National Geodetic Vertical Datum of 1929" as used by the Topographic Division of the Geological Survey, unless otherwise qualified.

Information pertaining to the accuracy of the discharge records and to conditions that affect the natural flow at the gaging station is given under "REMARKS."

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, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the 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, the minimum is the instantaneous minimum unless otherwise qualified. For some stations, 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. The 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. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the 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 daily discharges for the calendar and water years.

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate 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. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

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

#### Accuracy of Field Data and Computed Results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the 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 the adjustments for changes in reservoir contents. Even at those stations where adjustments are made, large errors in computed runoff may occur if 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 observations of water temperatures, 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. The 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 the 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 of the water-quality stations. In addition, water temperatures are taken at time of most discharge measurements for surface-water stations. Large streams have a small diel 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 44 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 the land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below the 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 (eom); and water levels in wells not equipped with recording gages are reported for the end of each month.

## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four 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. The material is grouped under major subject headings called books and is 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. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office). Prices are effective January 1978 but are subject to change.

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages. \$1.60.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages. \$0.85.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages. \$1.90.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages. \$1.75.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages. \$1.00.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages. \$0.35.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages. \$0.40.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages. \$1.00.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages. \$0.35.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages. \$1.00.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages. \$1.40.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages. \$1.25.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages. \$1.20.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson Jr.: USGS--TWRI 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: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages. \$0.70.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages. \$2.50.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages. \$0.65.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages. \$2.50.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages. \$2.10.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4 Chapter A1. 1968. 39 pages. \$1.60.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages. \$0.35.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages. \$0.65.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages. \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages. \$0.65.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages. \$1.10.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 pages. \$2.40.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages. \$0.80.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages. \$0.90.
- 5-A4.\* *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P.E. Greeson, T.A. Ehlike, G.A. Irwin, B.W. Lium, and K.V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages. \$20.00.
- 5-A5.\* *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. \$16.00.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. \$2.10.
- 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: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages. \$2.30.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages. \$0.70.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages. \$1.10.

\*These publications are available ONLY from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. They are in looseleaf format and are subscription items. Additional supplements will be issued to subscribers at no extra cost. Checks should be made payable to Superintendent of Documents. Requester should emphasize to Superintendent of Documents that this is a subscription item.





## GAGING STATION RECORDS

17

## NORTH ATLANTIC SLOPE BASINS

## MERRIMACK RIVER BASIN

01094340 WHITMAN RIVER NEAR WESTMINSTER, MA

LOCATION.--Lat 42°33'35", long 71°52'02", Worcester County, Hydrologic Unit 01070004, on upstream side of bridge on State Highway 2A, 1.3 mi (2.1 km) downstream from Crocker Pond, and 2.5 mi (4.0 km) northeast of Westminster, MA.

DRAINAGE AREA.--21.7 mi<sup>2</sup> (34.9 km<sup>2</sup>).

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

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L) | COD IN BOTTOM MATERIAL (MG/KG) | IMMEDIATE COLIFORM (COL. PER 100 ML) | FECAL COLIFORM (COL. / 100 ML) |
|-----------|------|-------------------------------|----------------------------------|------------|-------------------------|---------------------|-----------------|-------------------------|-------------------------------------------|--------------------------------|--------------------------------------|--------------------------------|
| OCT 07... | 1300 | --                            | 83                               | 6.9        | 16.5                    | 9.5                 | 1               | 11.4                    | <10                                       | --                             | 81100                                | 140                            |
| NOV 10... | 1330 | --                            | 140                              | 7.1        | .0                      | .5                  | 1               | 11.8                    | 13                                        | 11000                          | 32                                   | 812                            |
| APR 12... | 1330 | --                            | 98                               | 7.4        | 10.5                    | 4.0                 | 4               | 14.7                    | 40                                        | 42000                          | --                                   | --                             |
| JUL 06... | 1300 | --                            | 84                               | --         | 22.5                    | 19.0                | 1               | 6.8                     | 30                                        | 6500                           | 540                                  | 80                             |
| SEP 20... | 0900 | 19                            | 99                               | 6.3        | 11.0                    | 14.0                | 1               | 9.3                     | 20                                        | --                             | 1400                                 | 290                            |
| 28...     | 0900 | 13                            | 98                               | 6.2        | 15.5                    | 13.0                | 1               | 9.1                     | 20                                        | 38000                          | 8000                                 | 35                             |

| DATE      | FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML) | TOTAL CALCIUM (CA) (MG/L) | TOTAL MAGNESIUM (MG) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) | TOTAL RESIDUE (MG/L) | LOSS ON IGNITION IN BOTTOM MATERIAL (MG/KG) |
|-----------|----------------------------------------------|---------------------------|----------------------|---------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------------|----------------------|---------------------------------------------|
| OCT 07... | 844                                          | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 4                                   | 48                   | --                                          |
| NOV 10... | 84                                           | 4.3                       | .3                   | 16                        | 0                      | 13                         | 2.0                         | 13                             | 15                             | 2                                   | 16                   | 8500                                        |
| APR 12... | --                                           | 4.4                       | .4                   | 9                         | 0                      | 7                          | .6                          | 7.6                            | 12                             | 7                                   | 54                   | 4900                                        |
| JUL 06... | 80                                           | 5.3                       | .9                   | 6                         | --                     | 5                          | --                          | 7.4                            | 17                             | 4                                   | 40                   | 7200                                        |
| SEP 20... | 850                                          | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 1                                   | 64                   | --                                          |
| 28...     | 210                                          | 5.9                       | 1.2                  | 10                        | 0                      | 8                          | 10                          | 8.2                            | 20                             | 7                                   | 94                   | 16900                                       |

| DATE      | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | PHENOLS (UG/L) | OIL AND GREASE (MG/L) | CHLOROPHYLL A (UG/L) | CHLOROPHYLL B (UG/L) |
|-----------|--------------------------|--------------------------|---------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|---------------------------|-----------------------------|----------------|-----------------------|----------------------|----------------------|
| OCT 07... | .05                      | .01                      | .06                                   | .03                               | .12                               | .15                                | .21                       | .02                         | --             | 0                     | .000                 | .000                 |
| NOV 10... | .05                      | .01                      | .06                                   | .01                               | .14                               | .15                                | .21                       | .03                         | 2              | 1                     | .000                 | .000                 |
| APR 12... | .03                      | .00                      | .03                                   | .00                               | .44                               | .44                                | .47                       | .01                         | 0              | --                    | --                   | --                   |
| JUL 06... | .03                      | .00                      | .03                                   | .02                               | 1.8                               | 1.8                                | 1.8                       | .09                         | 0              | 0                     | 2.60                 | 1.61                 |
| SEP 20... | .04                      | .00                      | .04                                   | .01                               | .29                               | .30                                | .34                       | .05                         | --             | 0                     | 1.61                 | .000                 |
| 28...     | .05                      | .00                      | .05                                   | .03                               | .30                               | .33                                | .38                       | .02                         | 0              | 0                     | 1.02                 | .882                 |

B, NON-IDEAL COLONY COUNT.

## MERRIMACK RIVER BASIN

01094340 WHITMAN RIVER NEAR WESTMINSTER, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ALUMINUM IN BOTTOM MATERIAL (UG/G) | TOTAL BARIUM (BA) (UG/L) | TOTAL BARIUM IN BOTTOM MATERIAL (UG/G) | TOTAL BERYLLIUM (BE) (UG/L) | TOTAL BERYLLIUM IN BOTTOM MATERIAL (UG/G) | TOTAL BISMUTH (BI) (UG/L) | TOTAL BORON (B) (UG/L) | TOTAL BORON IN BOTTOM MATERIAL (UG/G) | TOTAL CADMIUM (CD) (UG/L) |
|-----------|----------------------------|------------------------------------------|--------------------------|----------------------------------------|-----------------------------|-------------------------------------------|---------------------------|------------------------|---------------------------------------|---------------------------|
| NOV 10... | 50                         | >72                                      | 6                        | 5                                      | <0                          | <0                                        | <0                        | 30                     | <0                                    | <10                       |

| DATE      | TOTAL CADMIUM IN BOTTOM MATERIAL (UG/G) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL CHROMIUM IN BOTTOM MATERIAL (UG/G) | TOTAL COBALT (CO) (UG/L) | TOTAL COBALT IN BOTTOM MATERIAL (UG/G) | TOTAL COPPER (CU) (UG/L) | TOTAL COPPER IN BOTTOM MATERIAL (UG/G) | TOTAL GALLIUM (GA) (UG/L) | TOTAL GERMANIUM (GE) (UG/L) | TOTAL IRON (FE) (UG/L) |
|-----------|-----------------------------------------|----------------------------|------------------------------------------|--------------------------|----------------------------------------|--------------------------|----------------------------------------|---------------------------|-----------------------------|------------------------|
| NOV 10... | 1                                       | 1                          | 2                                        | 1                        | 2                                      | 1                        | 7                                      | <0                        | <1                          | >160                   |

| DATE      | TOTAL IRON IN BOTTOM MATERIAL (UG/G) | TOTAL LEAD (PB) (UG/L) | TOTAL LEAD IN BOTTOM MATERIAL (UG/G) | TOTAL MANGANESE (MN) (UG/L) | TOTAL MANGANESE IN BOTTOM MATERIAL (UG/G) | TOTAL MOLYBDENUM (MO) (UG/L) | TOTAL MOLYBDENUM IN BOTTOM MATERIAL (UG/G) | TOTAL NICKEL (NI) (UG/L) | TOTAL NICKEL IN BOTTOM MATERIAL (UG/G) | TOTAL SILVER (AG) (UG/L) |
|-----------|--------------------------------------|------------------------|--------------------------------------|-----------------------------|-------------------------------------------|------------------------------|--------------------------------------------|--------------------------|----------------------------------------|--------------------------|
| NOV 10... | >72                                  | 4                      | 9                                    | 70                          | >72                                       | <0                           | <0                                         | 5                        | 3                                      | 0                        |

| DATE      | TOTAL SILVER IN BOTTOM MATERIAL (UG/G) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL STRONTIUM IN BOTTOM MATERIAL (UG/G) | TOTAL TIN (SN) (UG/L) | TOTAL TITANIUM (TI) (UG/L) | TOTAL TITANIUM IN BOTTOM MATERIAL (UG/G) | TOTAL VANADIUM (V) (UG/L) | TOTAL VANADIUM IN BOTTOM MATERIAL (UG/G) | TOTAL ZINC IN BOTTOM MATERIAL (UG/G) | TOTAL ZIRCONIUM (ZR) (UG/L) |
|-----------|----------------------------------------|-----------------------------|-------------------------------------------|-----------------------|----------------------------|------------------------------------------|---------------------------|------------------------------------------|--------------------------------------|-----------------------------|
| NOV 10... | 0                                      | 30                          | 2                                         | <0                    | 5                          | 43                                       | <.6                       | 5.0                                      | 16                                   | <1                          |

| DATE      | TOTAL PCB (UG/L) | POLY-CHLORINATED NAPHTHALENES (UG/L) | TOTAL ALDRIN (UG/L) | TOTAL CHLORDANE (UG/L) | TOTAL DDD (UG/L) | TOTAL DDE (UG/L) | TOTAL DDT (UG/L) |
|-----------|------------------|--------------------------------------|---------------------|------------------------|------------------|------------------|------------------|
| NOV 10... | .0               | .00                                  | .00                 | .0                     | .00              | .00              | .00              |
| SEP 28... | .0               | .00                                  | .00                 | .0                     | .00              | .00              | .00              |

| DATE      | TOTAL DIELDRIN (UG/L) | TOTAL ENDOSULFAN (UG/L) | TOTAL ENDRIN (UG/L) | TOTAL HEPTACHLOR (UG/L) | TOTAL HEPTACHLOR EPOXIDE (UG/L) | TOTAL LINDANE (UG/L) | TOTAL TOXAPHENE (UG/L) |
|-----------|-----------------------|-------------------------|---------------------|-------------------------|---------------------------------|----------------------|------------------------|
| NOV 10... | .00                   | --                      | .00                 | .00                     | .00                             | .00                  | 0                      |
| SEP 28... | .00                   | .00                     | .00                 | .00                     | .00                             | .00                  | 0                      |

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 except those for winter period and period of doubtful gage-height record, which are fair. 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.--5 years, 127 ft<sup>3</sup>/s (3.597 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, 9.4 ft<sup>3</sup>/s (0.27 m<sup>3</sup>/s) July 31, 1977; minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) July 31, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft<sup>3</sup>/s (19.8 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 0100 | *2080 58.9                                            | *6.23 1.899             | Apr. 25 | 0400 | 830 23.5                                              | 4.40 1.341              |
| Mar. 29 | 2015 | 804 22.8                                              | 4.36 1.329              | Aug. 1  | 1900 | 858 24.3                                              | 4.45 1.356              |

Minimum discharge, 9.4 ft<sup>3</sup>/s (0.27 m<sup>3</sup>/s) July 31; minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) July 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC       | JAN      | FEB    | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|-----------|----------|--------|-------|------|------|------|------|------|------|
| 1           | 34    | 72    | 45        | 33       | 34     | 111   | 428  | 120  | 35   | 44   | 268  | 31   |
| 2           | 35    | 60    | 42        | 33       | 33     | 93    | 310  | 109  | 75   | 107  | 336  | 34   |
| 3           | 41    | 55    | 41        | 34       | 32     | 84    | 293  | 105  | 59   | 36   | 156  | 29   |
| 4           | 38    | 42    | 38        | 34       | 33     | 86    | 245  | 95   | 49   | 27   | 116  | 20   |
| 5           | 34    | 54    | 36        | 33       | 32     | 190   | 373  | 91   | 44   | 36   | 97   | 29   |
| 6           | 35    | 59    | 35        | 32       | 30     | 187   | 428  | 89   | 40   | 39   | 89   | 31   |
| 7           | 35    | 47    | 170       | 35       | 32     | 137   | 297  | 84   | 43   | 38   | 79   | 31   |
| 8           | 34    | 44    | 150       | 41       | 33     | 122   | 242  | 77   | 65   | 37   | 74   | 28   |
| 9           | 86    | 45    | 100       | 39       | 32     | 159   | 200  | 103  | 56   | 36   | 69   | 27   |
| 10          | 72    | 42    | 75        | 47       | 33     | 301   | 171  | 392  | 65   | 30   | 65   | 26   |
| 11          | 51    | 41    | 62        | 55       | 35     | 402   | 148  | 354  | 82   | 23   | 63   | 24   |
| 12          | 54    | 38    | 55        | 44       | 38     | 449   | 140  | 264  | 79   | 36   | 60   | 21   |
| 13          | 42    | 41    | 46        | 40       | 41     | 1010  | 137  | 200  | 68   | 41   | 58   | 25   |
| 14          | 43    | 41    | 44        | 39       | 43     | 1550  | 122  | 151  | 60   | 37   | 56   | 35   |
| 15          | 41    | 42    | 47        | 42       | 42     | 898   | 111  | 125  | 55   | 27   | 48   | 44   |
| 16          | 40    | 47    | 48        | 39       | 39     | 644   | 103  | 105  | 49   | 33   | 42   | 44   |
| 17          | 36    | 49    | 50        | 37       | 37     | 477   | 97   | 93   | 44   | 20   | 49   | 31   |
| 18          | 29    | 45    | 50        | 39       | 37     | 341   | 93   | 99   | 51   | 44   | 48   | 26   |
| 19          | 38    | 48    | 44        | 39       | 35     | 288   | 86   | 125  | 69   | 41   | 40   | 29   |
| 20          | 56    | 50    | 47        | 39       | 35     | 238   | 65   | 107  | 55   | 36   | 35   | 91   |
| 21          | 156   | 48    | 55        | 38       | 37     | 220   | 71   | 93   | 54   | 39   | 26   | 65   |
| 22          | 79    | 43    | 47        | 37       | 37     | 220   | 72   | 80   | 50   | 45   | 53   | 43   |
| 23          | 68    | 45    | 44        | 33       | 36     | 231   | 107  | 71   | 44   | 37   | 35   | 37   |
| 24          | 55    | 42    | 42        | 35       | 36     | 204   | 359  | 65   | 40   | 31   | 36   | 47   |
| 25          | 60    | 43    | 39        | 37       | 140    | 171   | 690  | 59   | 42   | 75   | 31   | 51   |
| 26          | 74    | 31    | 40        | 38       | 159    | 159   | 397  | 54   | 77   | 72   | 31   | 101  |
| 27          | 59    | 29    | 41        | 37       | 137    | 197   | 272  | 48   | 50   | 44   | 32   | 91   |
| 28          | 50    | 35    | 37        | 36       | 137    | 245   | 210  | 44   | 41   | 37   | 24   | 60   |
| 29          | 53    | 44    | 40        | 35       | ---    | 618   | 162  | 37   | 51   | 30   | 26   | 54   |
| 30          | 54    | 48    | 40        | 33       | ---    | 684   | 137  | 38   | 55   | 33   | 32   | 45   |
| 31          | 74    | ---   | 37        | 35       | ---    | 594   | ---  | 36   | ---  | 16   | 30   | ---  |
| TOTAL       | 1656  | 1370  | 1687      | 1168     | 1425   | 11310 | 6566 | 3513 | 1647 | 1227 | 2204 | 1250 |
| MEAN        | 53.4  | 45.7  | 54.4      | 37.7     | 50.9   | 365   | 219  | 113  | 54.9 | 39.6 | 71.1 | 41.7 |
| MAX         | 156   | 72    | 170       | 55       | 159    | 1550  | 690  | 392  | 82   | 107  | 336  | 101  |
| MIN         | 29    | 29    | 35        | 32       | 30     | 84    | 65   | 36   | 35   | 16   | 24   | 20   |
| CAL YR 1976 | TOTAL | 39522 | MEAN 108  | MAX 1240 | MIN 18 |       |      |      |      |      |      |      |
| WTR YR 1977 | TOTAL | 35023 | MEAN 96.0 | MAX 1550 | MIN 16 |       |      |      |      |      |      |      |

NOTE.--Doubtful gage-height record Aug. 10 to Sept. 11.

## 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 South Branch 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.--MA, NH, RI, VT, 1973: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 270.04 ft (82.308 m) above mean sea level.

REMARKS.--Records good except those for period of backwater from debris, 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 the Southeast Well Field since 1958. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 192 ft<sup>3</sup>/s (5.437 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 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 (31.2 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 0400 | a*3160 89.5                                           | *7.56 2.304             | Apr. 25 | 0615 | 1340 37.9                                             | 4.90 1.494              |
| Mar. 30 | 0015 | 1120 31.7                                             | 4.48 1.366              |         |      |                                                       |                         |

a From rating curve extended above 780 ft<sup>3</sup>/s (22.1 m<sup>3</sup>/s).

Minimum, 28 ft<sup>3</sup>/s (0.79 m<sup>3</sup>/s) Jan. 10; minimum daily, 39 ft<sup>3</sup>/s (1.10 m<sup>3</sup>/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR   | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1     | 51   | 120  | 60   | 56   | 57   | 200   | 612   | 229  | 76   | 82   | 259  | 50   |
| 2     | 53   | 101  | 62   | 56   | 56   | 154   | 471   | 212  | 173  | 126  | 387  | 50   |
| 3     | 57   | 85   | 62   | 58   | 56   | 140   | 454   | 198  | 117  | 71   | 151  | 51   |
| 4     | 55   | 78   | 55   | 62   | 60   | 137   | 384   | 179  | 97   | 50   | 107  | 47   |
| 5     | 54   | 84   | 48   | 60   | 57   | 356   | 588   | 172  | 82   | 68   | 89   | 39   |
| 6     | 53   | 97   | 57   | 58   | 51   | 354   | 679   | 172  | 76   | 68   | 82   | 44   |
| 7     | 53   | 75   | 300  | 60   | 54   | 258   | 488   | 158  | 89   | 65   | 68   | 50   |
| 8     | 54   | 71   | 240  | 73   | 57   | 225   | 399   | 142  | 126  | 71   | 66   | 48   |
| 9     | 172  | 71   | 160  | 68   | 54   | 272   | 335   | 189  | 103  | 66   | 65   | 47   |
| 10    | 147  | 71   | 120  | 56   | 57   | 485   | 295   | 658  | 126  | 54   | 62   | 50   |
| 11    | 93   | 68   | 100  | 93   | 60   | 601   | 269   | 615  | 163  | 50   | 68   | 44   |
| 12    | 84   | 65   | 90   | 86   | 68   | 619   | 254   | 461  | 135  | 64   | 65   | 40   |
| 13    | 70   | 65   | 85   | 75   | 66   | 1100  | 245   | 356  | 113  | 75   | 62   | 48   |
| 14    | 66   | 63   | 89   | 71   | 75   | 2380  | 217   | 278  | 105  | 70   | 56   | 58   |
| 15    | 63   | 65   | 86   | 71   | 76   | 1110  | 198   | 231  | 95   | 54   | 57   | 70   |
| 16    | 60   | 70   | 84   | 65   | 70   | 800   | 186   | 204  | 82   | 56   | 56   | 70   |
| 17    | 54   | 71   | 91   | 58   | 63   | 633   | 177   | 185  | 76   | 47   | 62   | 73   |
| 18    | 50   | 71   | 86   | 65   | 62   | 488   | 170   | 180  | 109  | 84   | 66   | 52   |
| 19    | 53   | 70   | 75   | 65   | 58   | 428   | 163   | 261  | 133  | 66   | 58   | 58   |
| 20    | 62   | 70   | 78   | 63   | 56   | 363   | 133   | 210  | 99   | 60   | 54   | 229  |
| 21    | 350  | 65   | 111  | 63   | 62   | 352   | 135   | 177  | 97   | 72   | 48   | 135  |
| 22    | 158  | 63   | 84   | 57   | 63   | 368   | 140   | 156  | 86   | 76   | 86   | 86   |
| 23    | 107  | 65   | 76   | 54   | 62   | 418   | 197   | 137  | 76   | 60   | 66   | 71   |
| 24    | 89   | 63   | 71   | 54   | 62   | 374   | 588   | 125  | 71   | 51   | 62   | 91   |
| 25    | 103  | 60   | 63   | 63   | 318  | 320   | 1140  | 115  | 70   | 121  | 63   | 99   |
| 26    | 126  | 62   | 66   | 58   | 278  | 306   | 676   | 105  | 121  | 126  | 56   | 260  |
| 27    | 109  | 47   | 70   | 62   | 225  | 356   | 471   | 93   | 99   | 75   | 56   | 212  |
| 28    | 87   | 57   | 63   | 58   | 247  | 431   | 368   | 84   | 80   | 63   | 50   | 117  |
| 29    | 84   | 68   | 66   | 58   | ---  | 852   | 297   | 76   | 93   | 57   | 44   | 99   |
| 30    | 84   | 73   | 68   | 47   | ---  | 949   | 253   | 78   | 97   | 60   | 48   | 86   |
| 31    | 109  | ---  | 62   | 63   | ---  | 796   | ---   | 75   | ---  | 42   | 51   | ---  |
| TOTAL | 2810 | 2155 | 2828 | 1956 | 2530 | 16630 | 10982 | 6511 | 3065 | 2150 | 2570 | 2474 |
| MEAN  | 90.6 | 71.8 | 91.2 | 63.1 | 90.4 | 536   | 366   | 210  | 102  | 69.4 | 82.9 | 82.5 |
| MAX   | 350  | 120  | 300  | 93   | 318  | 2380  | 1140  | 658  | 173  | 126  | 387  | 260  |
| MIN   | 50   | 47   | 48   | 47   | 51   | 137   | 133   | 75   | 70   | 42   | 44   | 39   |

CAL YR 1976 TOTAL 62693 MEAN 171 MAX 1600 MIN 36  
WTR YR 1977 TOTAL 56661 MEAN 155 MAX 2380 MIN 39

NOTE.--Backwater from debris Dec. 18 to Mar. 13.

## MERRIMACK RIVER BASIN

21

01095500 SOUTH BRANCH 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.  
Water-quality records: Water year 1957.

REVISED RECORDS.--WSP 1051: 1928.

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.--81 years, 188 ft<sup>3</sup>/s (5.324 m<sup>3</sup>/s), 23.71 in/yr (602 mm/yr), adjusted to present drainage area.

## MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

|                         | Mean  | Per square mile | Runoff in inches | Rainfall in inches |
|-------------------------|-------|-----------------|------------------|--------------------|
| October.....            | -6.62 | -0.06           | -0.07            | 5.33               |
| November.....           | -30.3 | -.28            | -.31             | .86                |
| December.....           | -2.79 | -.03            | -.03             | 3.35               |
| Calendar year 1976..... | 131   | 1.22            | 16.51            | 39.72              |
| January.....            | 27.1  | .25             | .29              | 2.93               |
| February.....           | 6.01  | .06             | .06              | 3.34               |
| March.....              | 559   | 5.19            | 5.98             | 7.13               |
| April.....              | 437   | 4.06            | 4.53             | 5.29               |
| May.....                | 259   | 2.41            | 2.78             | 2.95               |
| June.....               | 67.9  | .63             | .70              | 4.37               |
| July.....               | 15.8  | .15             | .17              | 3.66               |
| August.....             | 66.3  | .62             | .71              | 5.21               |
| September.....          | 51.3  | .48             | .53              | 6.50               |
| Water year 1977.....    | 122   | 1.13            | 15.34            | 50.92              |

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



## MERRIMACK RIVER BASIN

01095860 NASHUA RIVER AT FORT DEVENS, MA

LOCATION.--Lat 42°33'10", long 71°37'11", Worcester County, Hydrologic Unit 01070004, 500 ft (152 m) downstream from bridge on Ayer Road, 0.6 mi (0.97 km) downstream from Trout Brook, and at Fort Devens, MA.

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

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L) | COD IN BOTTOM MATERIAL (MG/KG) | IMMEDIATE COLIFORM (COL./100 ML) | FECAL COLIFORM (COL./100 ML) | FECAL STREPTOCOCCI KF AGAR (COL./100 ML) |
|-----------|------|----------------------------------|------------|-------------------------|---------------------|-----------------|-------------------------|-------------------------------------------|--------------------------------|----------------------------------|------------------------------|------------------------------------------|
| OCT 07... | 0800 | 255                              | 7.6        | 15.5                    | 10.5                | 4               | 6.2                     | 12                                        | --                             | 1300                             | 500                          | 48                                       |
| NOV 10... | 0900 | 250                              | 6.7        | .0                      | .5                  | 3               | 9.1                     | 11                                        | 190000                         | 1900                             | 420                          | 8140                                     |
| APR 12... | 0900 | 210                              | 6.9        | 9.0                     | 5.5                 | 2               | 9.5                     | 20                                        | --                             | --                               | --                           | --                                       |
| JUL 06... | 0830 | 175                              | 6.8        | 22.0                    | 21.5                | 1               | 3.4                     | 35                                        | 300000                         | 4100                             | 750                          | 500                                      |
| SEP 20... | 1230 | 243                              | 5.4        | 10.5                    | 14.5                | 6               | 5.1                     | 25                                        | --                             | 7500                             | 430                          | 150                                      |
| 27...     | 1700 | 112                              | 6.7        | 18.0                    | 15.5                | 8               | 7.2                     | 30                                        | 280000                         | 27000                            | 82600                        | 82900                                    |

| DATE      | TOTAL CALCIUM (CA) (MG/L) | TOTAL MAGNESIUM (MG) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) | TOTAL RESIDUE (MG/L) | LOSS ON IGNITION IN BOTTOM MATERIAL (MG/KG) | TOTAL NITRATE (N) (MG/L) |
|-----------|---------------------------|----------------------|---------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------------|----------------------|---------------------------------------------|--------------------------|
| OCT 07... | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 4                                   | 172                  | --                                          | .45                      |
| NOV 10... | 11                        | 1.3                  | 23                        | 0                      | 19                         | 7.3                         | 25                             | 23                             | 2                                   | 112                  | 219000                                      | .70                      |
| APR 12... | 10                        | 1.5                  | 21                        | 0                      | 17                         | 3.8                         | 18                             | 26                             | 0                                   | 101                  | 231000                                      | .53                      |
| JUL 06... | 8.3                       | 1.1                  | 27                        | 0                      | 22                         | 6.8                         | 15                             | 28                             | 7                                   | 73                   | 223000                                      | .78                      |
| SEP 20... | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 3                                   | 152                  | --                                          | 1.6                      |
| 27...     | 5.9                       | 1.2                  | 12                        | 0                      | 10                         | 3.8                         | 12                             | 15                             | 0                                   | 70                   | 209000                                      | .92                      |

| DATE      | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | PHENOLS (UG/L) | OIL AND GREASE (MG/L) | CHLORO-PHYLL A (UG/L) | CHLORO-PHYLL B (UG/L) |
|-----------|--------------------------|---------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|---------------------------|-----------------------------|----------------|-----------------------|-----------------------|-----------------------|
| OCT 07... | .05                      | .50                                   | 1.1                               | .40                               | 1.5                                | 2.0                       | .60                         | --             | 1                     | .000                  | .000                  |
| NOV 10... | .04                      | .74                                   | 1.0                               | .30                               | 1.3                                | 2.0                       | .44                         | 1              | 0                     | .000                  | .000                  |
| APR 12... | .07                      | .60                                   | .47                               | .83                               | 1.3                                | 1.9                       | .25                         | 0              | 0                     | --                    | --                    |
| JUL 06... | .09                      | .87                                   | .49                               | .81                               | 1.3                                | 2.2                       | .44                         | 0              | 0                     | 10.0                  | 4.91                  |
| SEP 20... | .09                      | 1.7                                   | .73                               | 1.1                               | 1.8                                | 3.5                       | .84                         | --             | 1                     | 1.85                  | .000                  |
| 27...     | .01                      | .93                                   | .18                               | .68                               | .86                                | 1.8                       | .29                         | 0              | 0                     | 2.98                  | 3.15                  |

| DATE      | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ALUMINUM IN BOTTOM MATERIAL (UG/G) | TOTAL BARIUM (BA) (UG/L) | TOTAL BARIUM IN BOTTOM MATERIAL (UG/G) | TOTAL BERYLLIUM (BE) (UG/L) | TOTAL BERYLLIUM IN BOTTOM MATERIAL (UG/G) | TOTAL BISMUTH (BI) (UG/L) | TOTAL BORON (B) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CADMIUM IN BOTTOM MATERIAL (UG/G) | TOTAL CHROMIUM (CR) (UG/L) |
|-----------|----------------------------|------------------------------------------|--------------------------|----------------------------------------|-----------------------------|-------------------------------------------|---------------------------|------------------------|---------------------------|-----------------------------------------|----------------------------|
| NOV 10... | 0                          | >300                                     | 20                       | 5                                      | <0                          | 0                                         | <1                        | 60                     | --                        | 6500                                    | 7                          |
| APR 12... | --                         | --                                       | --                       | --                                     | --                          | --                                        | --                        | --                     | 0                         | --                                      | --                         |

B, NON-IDEAL COLONY COUNT.

01095860 NASHUA RIVER AT FORT DEVENS, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TOTAL CHROMIUM IN BOTTOM MATERIAL (UG/G) | TOTAL COBALT (CO) (UG/L) | TOTAL COBALT IN BOTTOM MATERIAL (UG/G) | TOTAL COPPER (CU) (UG/L) | TOTAL COPPER IN BOTTOM MATERIAL (UG/G) | TOTAL GALLIUM (GA) (UG/L) | TOTAL GERMANIUM (GE) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL IRON IN BOTTOM MATERIAL (UG/G) | TOTAL LEAD (PB) (UG/L) |
|-----------|------------------------------------------|--------------------------|----------------------------------------|--------------------------|----------------------------------------|---------------------------|-----------------------------|------------------------|--------------------------------------|------------------------|
| NOV 10... | >3                                       | <1                       | 1                                      | 8                        | 30                                     | <1                        | <2                          | 0                      | >300                                 | 9                      |
| APR 12... | --                                       | --                       | --                                     | --                       | --                                     | --                        | --                          | --                     | --                                   | --                     |

| DATE      | TOTAL LEAD IN BOTTOM MATERIAL (UG/G) | TOTAL LITHIUM (LI) (UG/L) | TOTAL MANGANESE IN BOTTOM MATERIAL (UG/G) | TOTAL MANGANESE (MN) (UG/L) | TOTAL MOLYBDENUM IN BOTTOM MATERIAL (UG/G) | TOTAL MOLYBDENUM (MO) (UG/L) | TOTAL NICKEL IN BOTTOM MATERIAL (UG/G) | TOTAL NICKEL (NI) (UG/L) | TOTAL SILVER IN BOTTOM MATERIAL (UG/G) | TOTAL SILVER (AG) (UG/L) |
|-----------|--------------------------------------|---------------------------|-------------------------------------------|-----------------------------|--------------------------------------------|------------------------------|----------------------------------------|--------------------------|----------------------------------------|--------------------------|
| NOV 10... | 1                                    | --                        | 0                                         | 8                           | <1                                         | 1                            | 44                                     | >3                       | <0                                     | 3                        |
| APR 12... | --                                   | 0                         | --                                        | --                          | --                                         | --                           | --                                     | --                       | --                                     | --                       |

| DATE      | TOTAL STRONTIUM (SR) (UG/L) | TOTAL STRONTIUM IN BOTTOM MATERIAL (UG/G) | TOTAL TITANIUM (TI) (UG/L) | TOTAL TITANIUM IN BOTTOM MATERIAL (UG/G) | TOTAL VANADIUM (V) (UG/L) | TOTAL VANADIUM IN BOTTOM MATERIAL (UG/G) | TOTAL ZINC (ZN) (UG/L) | TOTAL ZINC IN BOTTOM MATERIAL (UG/G) | TOTAL ZIRCONIUM (ZR) (UG/L) |
|-----------|-----------------------------|-------------------------------------------|----------------------------|------------------------------------------|---------------------------|------------------------------------------|------------------------|--------------------------------------|-----------------------------|
| NOV 10... | 60                          | 1                                         | 3                          | 3                                        | >3                        | <1.5                                     | 3.6                    | --                                   | 780                         |
| APR 12... | --                          | --                                        | --                         | --                                       | --                        | --                                       | 100                    | --                                   | --                          |

| DATE      | TOTAL PCB (UG/L) | POLY-CHLORINATED NAPHTHALENES (UG/L) | TOTAL ALDRIN (UG/L) | TOTAL CHLORDANE (UG/L) | TOTAL DDD (UG/L) | TOTAL DDE (UG/L) | TOTAL DDT (UG/L) |
|-----------|------------------|--------------------------------------|---------------------|------------------------|------------------|------------------|------------------|
| SEP 27... | .0               | .00                                  | .00                 | .0                     | .00              | .00              | .00              |

| DATE      | TOTAL DIELDRIN (UG/L) | TOTAL ENDOSULFAN (UG/L) | TOTAL ENDRIN (UG/L) | TOTAL HEPTACHLOR (UG/L) | TOTAL HEPTACHLOR EPOXIDE (UG/L) | TOTAL LINDANE (UG/L) | TOTAL TOXAPHENE (UG/L) |
|-----------|-----------------------|-------------------------|---------------------|-------------------------|---------------------------------|----------------------|------------------------|
| SEP 27... | .00                   | .00                     | .00                 | .00                     | .00                             | .00                  | 0                      |

## MERRIMACK RIVER BASIN

01096000 SOUANNACOOK 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) above mean sea level.

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, 1967-77. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--28 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 (62.3 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 (19.8 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) | Discharge<br>(m <sup>3</sup> /s) | Gage height<br>(ft) | Gage height<br>(m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) | Discharge<br>(m <sup>3</sup> /s) | Gage height<br>(ft) | Gage height<br>(m) |
|---------|------|-----------------------------------|----------------------------------|---------------------|--------------------|---------|------|-----------------------------------|----------------------------------|---------------------|--------------------|
| Mar. 14 | 1230 | *2760                             | 78.2                             | *7.22               | 2.201              | Apr. 25 | 1830 | 1100                              | 31.2                             | 5.56                | 1.695              |
| Mar. 30 | 1100 | 788                               | 22.3                             | 5.05                | 1.539              |         |      |                                   |                                  |                     |                    |

Minimum daily discharge, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Sept. 10-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 1     | 18   | 55   | 30   | 30   | 31   | 172   | 453  | 170  | 41   | 55   | 21   | 16   |
| 2     | 18   | 60   | 27   | 29   | 30   | 153   | 326  | 157  | 51   | 45   | 64   | 16   |
| 3     | 18   | 43   | 27   | 28   | 30   | 129   | 288  | 147  | 62   | 39   | 54   | 16   |
| 4     | 17   | 38   | 24   | 29   | 31   | 116   | 268  | 134  | 53   | 35   | 36   | 16   |
| 5     | 16   | 35   | 23   | 29   | 30   | 154   | 295  | 125  | 45   | 32   | 28   | 15   |
| 6     | 17   | 37   | 23   | 28   | 31   | 247   | 494  | 121  | 41   | 30   | 24   | 15   |
| 7     | 17   | 40   | 34   | 31   | 29   | 222   | 377  | 116  | 42   | 28   | 23   | 15   |
| 8     | 17   | 39   | 150  | 32   | 28   | 183   | 276  | 104  | 54   | 28   | 23   | 15   |
| 9     | 20   | 35   | 125  | 33   | 29   | 178   | 233  | 104  | 59   | 32   | 24   | 15   |
| 10    | 58   | 33   | 79   | 35   | 29   | 269   | 206  | 271  | 56   | 33   | 23   | 14   |
| 11    | 56   | 33   | 65   | 36   | 29   | 451   | 190  | 445  | 73   | 30   | 23   | 14   |
| 12    | 38   | 32   | 57   | 38   | 31   | 523   | 177  | 288  | 88   | 28   | 23   | 14   |
| 13    | 30   | 31   | 53   | 37   | 36   | 600   | 165  | 205  | 71   | 29   | 22   | 14   |
| 14    | 29   | 31   | 43   | 36   | 38   | 2170  | 153  | 160  | 56   | 30   | 21   | 14   |
| 15    | 26   | 31   | 39   | 36   | 39   | 1230  | 139  | 136  | 49   | 27   | 21   | 14   |
| 16    | 24   | 31   | 39   | 35   | 36   | 696   | 131  | 125  | 43   | 24   | 20   | 14   |
| 17    | 21   | 30   | 39   | 32   | 34   | 533   | 124  | 124  | 39   | 25   | 20   | 16   |
| 18    | 20   | 31   | 39   | 33   | 33   | 397   | 118  | 103  | 37   | 28   | 20   | 17   |
| 19    | 19   | 31   | 36   | 36   | 32   | 301   | 111  | 125  | 66   | 24   | 20   | 18   |
| 20    | 19   | 31   | 37   | 35   | 32   | 287   | 104  | 138  | 83   | 23   | 20   | 26   |
| 21    | 73   | 31   | 39   | 33   | 32   | 261   | 100  | 112  | 61   | 22   | 19   | 53   |
| 22    | 133  | 30   | 37   | 32   | 32   | 264   | 96   | 97   | 60   | 21   | 20   | 46   |
| 23    | 76   | 29   | 36   | 31   | 31   | 291   | 108  | 81   | 49   | 20   | 23   | 34   |
| 24    | 50   | 26   | 33   | 31   | 32   | 301   | 303  | 71   | 44   | 20   | 22   | 29   |
| 25    | 42   | 27   | 30   | 33   | 61   | 258   | 900  | 63   | 39   | 20   | 21   | 31   |
| 26    | 48   | 27   | 31   | 33   | 118  | 229   | 665  | 57   | 43   | 24   | 20   | 40   |
| 27    | 53   | 27   | 31   | 32   | 174  | 248   | 374  | 52   | 90   | 24   | 19   | 90   |
| 28    | 48   | 27   | 30   | 31   | 178  | 314   | 276  | 50   | 77   | 23   | 18   | 69   |
| 29    | 41   | 31   | 31   | 31   | ---  | 482   | 225  | 48   | 57   | 22   | 17   | 45   |
| 30    | 37   | 31   | 30   | 31   | ---  | 731   | 192  | 46   | 66   | 21   | 17   | 35   |
| 31    | 37   | ---  | 30   | 31   | ---  | 595   | ---  | 44   | ---  | 20   | 16   | ---  |
| TOTAL | 1136 | 1015 | 1347 | 1007 | 1296 | 12985 | 7867 | 4019 | 1695 | 862  | 742  | 786  |
| MEAN  | 36.6 | 33.8 | 43.5 | 32.5 | 46.3 | 419   | 262  | 130  | 56.5 | 27.8 | 23.9 | 26.2 |
| MAX   | 133  | 60   | 150  | 38   | 178  | 2170  | 900  | 445  | 90   | 55   | 64   | 90   |
| MIN   | 16   | 27   | 23   | 28   | 28   | 116   | 96   | 44   | 37   | 20   | 16   | 14   |
| CFSM  | .58  | .54  | .69  | .52  | .74  | 6.67  | 4.17 | 2.07 | .90  | .44  | .38  | .42  |
| IN.   | .67  | .60  | .80  | .60  | .77  | 7.69  | 4.66 | 2.38 | 1.00 | .51  | .44  | .47  |

| CAL YR 1976 | TOTAL | 35965 | MEAN 92.3 | MAX 836  | MIN 13 | CFSM 1.57 | IN 21.30 |
|-------------|-------|-------|-----------|----------|--------|-----------|----------|
| WTR YR 1977 | TOTAL | 34757 | MEAN 95.2 | MAX 2170 | MIN 14 | CFSM 1.52 | IN 20.59 |

## 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 Pepperell Paper 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) above mean sea level.

REMARKS.--Records good. Extremes and daily discharge include water released while diverting flow of South Branch 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 Pepperell Paper Co. (see table below for figures of diversion and released water). Flow regulated by powerplant immediately upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 557 ft<sup>3</sup>/s (15.77 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, 5,640 ft<sup>3</sup>/s (160 m<sup>3</sup>/s) Mar. 15, gage height, 9.85 ft (3.002 m); minimum daily, 2.0 ft<sup>3</sup>/s (0.057 m<sup>3</sup>/s) Dec. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT      | NOV    | DEC    | JAN    | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG    | SEP   |
|-------------------|----------|--------|--------|--------|-------|-------|-------|-------|-------|-------|--------|-------|
| 1                 | 9.0      | 451    | 191    | 7.2    | 191   | 668   | 2240  | 754   | 348   | 348   | 77     | 184   |
| 2                 | 5.1      | 541    | 300    | 8.0    | 186   | 587   | 1730  | 816   | 292   | 117   | 503    | 184   |
| 3                 | 5.4      | 352    | 165    | 168    | 178   | 557   | 1410  | 655   | 258   | 14    | 689    | 71    |
| 4                 | 159      | 256    | 2.0    | 231    | 174   | 545   | 1280  | 656   | 157   | 44    | 447    | 11    |
| 5                 | 209      | 82     | 12     | 187    | 56    | 426   | 1320  | 653   | 19    | 273   | 342    | 12    |
| 6                 | 207      | 15     | 209    | 72     | 15    | 888   | 1840  | 628   | 335   | 314   | 131    | 136   |
| 7                 | 50       | 70     | 316    | 12     | 185   | 1020  | 1840  | 369   | 227   | 296   | 155    | 184   |
| 8                 | 8.0      | 400    | 364    | 9.7    | 252   | 839   | 1410  | 336   | 261   | 292   | 318    | 181   |
| 9                 | 5.5      | 371    | 462    | 26     | 84    | 793   | 1160  | 588   | 369   | 111   | 311    | 85    |
| 10                | 57       | 279    | 350    | 257    | 22    | 1030  | 961   | 1090  | 369   | 15    | 273    | 15    |
| 11                | 330      | 246    | 200    | 292    | 215   | 1590  | 863   | 1900  | 279   | 15    | 212    | 11    |
| 12                | 287      | 238    | 161    | 286    | 102   | 1870  | 788   | 1720  | 258   | 16    | 210    | 128   |
| 13                | 271      | 64     | 327    | 119    | 20    | 2390  | 742   | 1150  | 373   | 83    | 137    | 185   |
| 14                | 271      | 6.3    | 302    | 84     | 192   | 4270  | 690   | 896   | 369   | 157   | 13     | 184   |
| 15                | 212      | 139    | 282    | 82     | 252   | 5520  | 628   | 720   | 365   | 152   | 173    | 68    |
| 16                | 39       | 225    | 259    | 13     | 249   | 4960  | 577   | 771   | 355   | 133   | 164    | 16    |
| 17                | 5.6      | 237    | 79     | 206    | 233   | 3430  | 518   | 667   | 295   | 126   | 203    | 11    |
| 18                | 221      | 82     | 8.9    | 248    | 74    | 2270  | 535   | 648   | 138   | 149   | 178    | 11    |
| 19                | 282      | 9.3    | 11     | 197    | 17    | 1700  | 586   | 644   | 23    | 236   | 178    | 131   |
| 20                | 249      | 6.6    | 250    | 181    | 21    | 1440  | 567   | 643   | 345   | 290   | 69     | 285   |
| 21                | 271      | 7.2    | 326    | 180    | 152   | 1220  | 450   | 359   | 355   | 261   | 12     | 445   |
| 22                | 485      | 150    | 135    | 95     | 206   | 1190  | 448   | 399   | 312   | 258   | 127    | 546   |
| 23                | 314      | 256    | 111    | 11     | 223   | 1460  | 264   | 605   | 331   | 160   | 187    | 296   |
| 24                | 293      | 184    | 178    | 138    | 207   | 1640  | 534   | 441   | 346   | 11    | 187    | 81    |
| 25                | 390      | 7.1    | 8.9    | 221    | 272   | 1410  | 2460  | 365   | 120   | 178   | 184    | 25    |
| 26                | 432      | 75     | 33     | 191    | 339   | 1210  | 3020  | 364   | 14    | 227   | 153    | 264   |
| 27                | 373      | 8.1    | 229    | 180    | 529   | 1190  | 2220  | 360   | 252   | 227   | 15     | 682   |
| 28                | 466      | 65     | 283    | 177    | 705   | 1320  | 1510  | 273   | 355   | 227   | 9.6    | 506   |
| 29                | 232      | 119    | 276    | 57     | ---   | 1740  | 1170  | 236   | 352   | 223   | 136    | 358   |
| 30                | 15       | 143    | 238    | 12     | ---   | 2460  | 819   | 236   | 348   | 86    | 213    | 364   |
| 31                | 126      | ---    | 136    | 123    | ---   | 2620  | ---   | 289   | ---   | 11    | 198    | ---   |
| TOTAL             | 6283.6   | 5084.6 | 6204.8 | 4070.9 | 5351  | 54253 | 34580 | 20231 | 8220  | 5050  | 6204.6 | 5660  |
| MEAN              | 203      | 169    | 200    | 131    | 191   | 1750  | 1153  | 653   | 274   | 163   | 200    | 189   |
| MAX               | 485      | 541    | 462    | 292    | 705   | 5520  | 3020  | 1900  | 373   | 348   | 689    | 682   |
| MIN               | 5.1      | 6.3    | 2.0    | 7.2    | 15    | 426   | 264   | 236   | 14    | 11    | 9.6    | 11    |
| (†)               | -12.7    | -16.0  | -15.2  | -7.74  | -7.90 | -7.61 | -7.61 | -7.88 | -7.92 | -7.71 | -8.05  | -7.94 |
| CAL YR 1976 TOTAL | 181931.8 |        |        |        |       |       |       |       |       |       |        |       |
| WTR YR 1977 TOTAL | 161193.5 |        |        |        |       |       |       |       |       |       |        |       |
| MEAN 503          |          |        |        |        |       |       |       |       |       |       |        |       |
| MAX 3570          |          |        |        |        |       |       |       |       |       |       |        |       |
| MIN 2.0           |          |        |        |        |       |       |       |       |       |       |        |       |

† Diversion and released water, in cubic feet per second; diversion into basin from Ware River for municipal supply of Fitchburg, and water released while diverting flow of South Branch Nashua River for use of Boston metropolitan district. Records of diversion furnished by city of Fitchburg, and records of released water furnished by Water Division of Metropolitan District Commission.

## 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 1976 TO SEPTEMBER 1977

| DATE      | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | OXYGEN DEMAND CHEM 0.025N DICHR-OMATE (MG/L) | OXYGEN DEMAND T IN BM DRY WT (MG/KG) | IMMEDIATE COLIFORM (COL. PER 100 ML) | FECAL COLIFORM (COL. / 100 ML) |
|-----------|------|-------------------------------|-----------------------------------|------------|-------------------------|---------------------|-----------------|-------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|
| OCT 05... | 0900 | 3900                          | 92                                | 7.8        | 12.5                    | 10.0                | 2               | 11.6                    | <10                                          | --                                   | 814000                               | B600                           |
| NOV 12... | 1100 | 3900                          | 106                               | 6.9        | 2.0                     | 1.0                 | 2               | 10.3                    | 13                                           | 28000                                | 37000                                | 1800                           |
| MAR 01... | 0830 | 6960                          | 130                               | 6.2        | 4.0                     | 2.0                 | --              | 13.2                    | --                                           | --                                   | 6600                                 | 900                            |
| APR 13... | 0900 | 13600                         | 48                                | 7.0        | 8.5                     | 5.0                 | 1               | 11.8                    | 40                                           | --                                   | --                                   | --                             |
| JUL 07... | 0945 | 2820                          | 117                               | 7.1        | 21.0                    | 23.5                | 1               | 7.4                     | 35                                           | 13000                                | 14000                                | 8120                           |
| SEP 21... | 1300 | 2960                          | 103                               | 6.3        | 12.5                    | 18.0                | 3               | 6.1                     | 51                                           | --                                   | 45000                                | 1100                           |
| 28...     | 1430 | 6300                          | 98                                | 6.8        | 23.5                    | 16.5                | 3               | 8.2                     | 25                                           | 6700                                 | 150000                               | 570                            |

| DATE      | FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CAC03 (MG/L) | CARBON DIOXIDE DISSOLVED (MG/L) |
|-----------|----------------------------------------------|-------------------------|-------------------------------|-------------------------------|---------------------------------|------------------------------|--------------------------------|---------------------------|------------------------|----------------------------|---------------------------------|
| OCT 05... | B70                                          | --                      | --                            | --                            | --                              | --                           | --                             | --                        | --                     | --                         | --                              |
| NOV 12... | B450                                         | 16                      | 2                             | 5.0                           | .9                              | 8.3                          | 1.0                            | 17                        | 0                      | 14                         | 3.4                             |
| MAR 01... | 390                                          | --                      | --                            | --                            | --                              | --                           | --                             | --                        | --                     | --                         | --                              |
| APR 13... | --                                           | 14                      | 6                             | 4.0                           | 1.0                             | 5.5                          | .7                             | 10                        | 0                      | 8                          | 1.4                             |
| JUL 07... | B360                                         | 24                      | 5                             | 7.6                           | 1.3                             | 9.0                          | .8                             | 23                        | --                     | 19                         | 2.9                             |
| SEP 21... | 340                                          | --                      | --                            | --                            | --                              | --                           | --                             | --                        | --                     | --                         | --                              |
| 28...     | 94                                           | 19                      | 8                             | 5.7                           | 1.1                             | 10                           | 1.6                            | 13                        | 0                      | 11                         | 3.3                             |

| DATE      | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SI02) (MG/L) | SOLIDS RESIDUE ON EVAP AT 180C DISSOLVED (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | SOLIDS RESIDUE AT 105C SUSPENDED (MG/L) | SOLIDS RESIDUE ON EVAP AT 105C TOTAL (MG/L) | LOSS ON IGNITION IN BOTTOM MATERIAL (MG/KG) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) |
|-----------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------------------------|-----------------------------------------------|-----------------------------------------|---------------------------------------------|---------------------------------------------|--------------------------|--------------------------|
| OCT 05... | --                             | --                             | --                            | --                             | --                                              | --                                            | 6                                       | 29                                          | --                                          | 1.1                      | .01                      |
| NOV 12... | 8.2                            | 12                             | .1                            | 6.5                            | 61                                              | 51                                            | 2                                       | 76                                          | 23800                                       | .21                      | .01                      |
| MAR 01... | --                             | --                             | --                            | --                             | --                                              | --                                            | --                                      | --                                          | --                                          | --                       | --                       |
| APR 13... | 7.1                            | 9.0                            | .1                            | 3.2                            | 41                                              | 36                                            | 9                                       | 47                                          | --                                          | .16                      | .01                      |
| JUL 07... | 9.7                            | 17                             | .1                            | 4.6                            | 81                                              | 62                                            | 6                                       | 84                                          | 8160                                        | .34                      | .01                      |
| SEP 21... | --                             | --                             | --                            | --                             | --                                              | --                                            | 10                                      | 73                                          | --                                          | .30                      | .01                      |
| 28...     | 11                             | 14                             | .1                            | 5.2                            | 50                                              | 55                                            | 2                                       | 82                                          | 9500                                        | .29                      | .01                      |

B NON-IDEAL COLONY COUNT.



## MERRIMACK RIVER BASIN

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01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TOTAL<br>NITRITE<br>PLUS<br>NITRATE<br>(N)<br>(MG/L) | TOTAL<br>AMMONIA<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>ORGANIC<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | NITRO-<br>GEN<br>AMMONIA<br>ORGANIC<br>TOTAL<br>AS N<br>(MG/L) | TOTAL<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>PHOS-<br>PHORUS<br>(P)<br>(MG/L) | PHENOLS<br>(UG/L) | TOTAL<br>ORGANIC<br>CARBON<br>(C)<br>(MG/L) | OIL<br>AND<br>GREASE<br>(MG/L) | CHLORO-<br>PHYLL A<br>(UG/L) | CHLORO-<br>PHYLL B<br>(UG/L) |
|-----------|------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------|-----------------------------------------|-------------------------------------------|-------------------|---------------------------------------------|--------------------------------|------------------------------|------------------------------|
| OCT 05... | 1.1                                                  | .00                                                | .90                                                | .90                                                            | 2.0                                     | .13                                       | --                | --                                          | 1                              | .000                         | .000                         |
| NOV 12... | .22                                                  | .30                                                | .25                                                | .55                                                            | .77                                     | .09                                       | 0                 | 6.1                                         | 1                              | --                           | --                           |
| MAR 01... | .33                                                  | --                                                 | --                                                 | 1.1                                                            | 1.4                                     | .15                                       | --                | --                                          | --                             | --                           | --                           |
| APR 13... | .17                                                  | .06                                                | .44                                                | .50                                                            | .67                                     | .04                                       | 1                 | 3.8                                         | 1                              | 7.25                         | .219                         |
| JUL 07... | .35                                                  | .21                                                | .59                                                | .80                                                            | 1.2                                     | .11                                       | 0                 | --                                          | 5                              | 9.04                         | 2.92                         |
| SEP 21... | .31                                                  | .42                                                | .36                                                | .78                                                            | 1.1                                     | .22                                       | --                | --                                          | --                             | 2.02                         | 1.81                         |
| 28...     | .30                                                  | .21                                                | .44                                                | .65                                                            | .95                                     | .14                                       | 0                 | 4.3                                         | 0                              | --                           | --                           |

| DATE      | TOTAL<br>ALUM-<br>INUM<br>(AL)<br>(UG/L) | TOTAL<br>ALUMI-<br>NUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>ARSENIC<br>(AS)<br>(UG/L) | SUS-<br>PENED<br>ARSENIC<br>(AS)<br>(UG/L) | DIS-<br>SOLVED<br>ARSENIC<br>(AS)<br>(UG/L) | TOTAL<br>BARIUM<br>(BA)<br>(UG/L) | TOTAL<br>BARIUM<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>BERYL-<br>LIUM<br>(BE)<br>(UG/L) | TOTAL<br>BERYL-<br>LIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>BISMUTH<br>(BI)<br>(UG/L) | TOTAL<br>BORON<br>(B)<br>(UG/L) |
|-----------|------------------------------------------|----------------------------------------------------------------|------------------------------------|--------------------------------------------|---------------------------------------------|-----------------------------------|------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------|------------------------------------|---------------------------------|
| NOV 12... | --                                       | --                                                             | 1                                  | 0                                          | 1                                           | --                                | --                                                         | --                                        | --                                                              | --                                 | --                              |
| 12...     | >1200                                    | >1800                                                          | --                                 | --                                         | --                                          | 9                                 | 11                                                         | 1                                         | 2                                                               | <0                                 | 2                               |
| APR 13... | --                                       | --                                                             | 1                                  | 0                                          | 1                                           | --                                | --                                                         | --                                        | --                                                              | --                                 | --                              |
| JUL 07... | --                                       | --                                                             | 3                                  | 1                                          | 2                                           | --                                | --                                                         | --                                        | --                                                              | --                                 | --                              |
| SEP 28... | --                                       | --                                                             | 1                                  | 0                                          | 1                                           | --                                | --                                                         | --                                        | --                                                              | --                                 | --                              |

| DATE      | TOTAL<br>BORON<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>CAD-<br>MIUM<br>(CD)<br>(UG/L) | SUS-<br>PENED<br>CAD-<br>MIUM<br>(CD)<br>(UG/L) | DIS-<br>SOLVED<br>CAD-<br>MIUM<br>(CD)<br>(UG/L) | TOTAL<br>CADMIUM<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | SUS-<br>PENED<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | DIS-<br>SOLVED<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | TOTAL<br>CHRO-<br>MIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>COBALT<br>(CO)<br>(UG/L) | SUS-<br>PENED<br>COBALT<br>(CO)<br>(UG/L) |
|-----------|-----------------------------------------------------------|-----------------------------------------|-------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|------------------------------------------|--------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------|-----------------------------------|-------------------------------------------|
| NOV 12... | --                                                        | 0                                       | 0                                               | 1                                                | --                                                          | 20                                       | 0                                                | 20                                                | --                                                             | 0                                 | 0                                         |
| 12...     | 4                                                         | <10                                     | --                                              | --                                               | <1                                                          | >12                                      | --                                               | --                                                | >18                                                            | 2                                 | --                                        |
| APR 13... | --                                                        | 0                                       | 0                                               | 0                                                | --                                                          | 10                                       | 7                                                | 3                                                 | --                                                             | 0                                 | 0                                         |
| JUL 07... | --                                                        | 0                                       | 0                                               | 0                                                | --                                                          | 20                                       | 11                                               | 9                                                 | --                                                             | 0                                 | 0                                         |
| SEP 28... | --                                                        | 0                                       | 0                                               | 1                                                | --                                                          | <10                                      | <8                                               | 2                                                 | --                                                             | 0                                 | 0                                         |

| DATE      | DIS-<br>SOLVED<br>COBALT<br>(CO)<br>(UG/L) | TOTAL<br>COBALT<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>COPPER<br>(CU)<br>(UG/L) | SUS-<br>PENED<br>COPPER<br>(CU)<br>(UG/L) | DIS-<br>SOLVED<br>COPPER<br>(CU)<br>(UG/L) | TOTAL<br>COPPER<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>GALLIUM<br>(GA)<br>(UG/L) | TOTAL<br>GER-<br>MANIUM<br>(GE)<br>(UG/L) | TOTAL<br>IRON<br>(FE)<br>(UG/L) | DIS-<br>SOLVED<br>IRON<br>(FE)<br>(UG/L) | TOTAL<br>IRON<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) |
|-----------|--------------------------------------------|------------------------------------------------------------|-----------------------------------|-------------------------------------------|--------------------------------------------|------------------------------------------------------------|------------------------------------|-------------------------------------------|---------------------------------|------------------------------------------|----------------------------------------------------------|
| NOV 12... | 0                                          | --                                                         | 10                                | 0                                         | 10                                         | --                                                         | --                                 | --                                        | 350                             | 160                                      | --                                                       |
| 12...     | --                                         | 3                                                          | 1                                 | --                                        | --                                         | 22                                                         | <1                                 | 10                                        | >1200                           | --                                       | >1800                                                    |
| APR 13... | 0                                          | --                                                         | 9                                 | 0                                         | 15                                         | --                                                         | --                                 | --                                        | 500                             | 100                                      | --                                                       |
| JUL 07... | 0                                          | --                                                         | 19                                | 3                                         | 16                                         | --                                                         | --                                 | --                                        | 1000                            | 170                                      | --                                                       |
| SEP 28... | 0                                          | --                                                         | 6                                 | 0                                         | 8                                          | --                                                         | --                                 | --                                        | 490                             | 180                                      | --                                                       |

## MERRIMACK RIVER BASIN

01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE         | TOTAL<br>LEAD<br>(PB)<br>(UG/L) | SUS-<br>PENDE<br>D LEAD<br>(PB)<br>(UG/L) | DIS-<br>SOLVED<br>LEAD<br>(PB)<br>(UG/L) | TOTAL<br>LEAD<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>MAN-<br>GANESE<br>(MN)<br>(UG/L) | SUS-<br>PENDE<br>D MAN-<br>GANESE<br>(MN)<br>(UG/L) | DIS-<br>SOLVED<br>MAN-<br>GANESE<br>(MN)<br>(UG/L) | TOTAL<br>MANGA-<br>NESE IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>MERCURY<br>(HG)<br>(UG/L) | SUS-<br>PENDE<br>D MERCURY<br>(HG)<br>(UG/L) | DIS-<br>SOLVED<br>MERCURY<br>(HG)<br>(UG/L) |
|--------------|---------------------------------|-------------------------------------------|------------------------------------------|----------------------------------------------------------|-------------------------------------------|-----------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------|------------------------------------|----------------------------------------------|---------------------------------------------|
| NOV<br>12... | 6                               | 0                                         | 9                                        | --                                                       | 40                                        | 0                                                   | 40                                                 | --                                                              | <.5                                | .0                                           | <.5                                         |
| 12...        | >120                            | --                                        | --                                       | >180                                                     | >1200                                     | --                                                  | --                                                 | >1800                                                           | --                                 | --                                           | --                                          |
| APR<br>13... | 9                               | 0                                         | 10                                       | --                                                       | 50                                        | 20                                                  | 30                                                 | --                                                              | .0                                 | .0                                           | .0                                          |
| JUL<br>07... | 21                              | 18                                        | 3                                        | --                                                       | 80                                        | 70                                                  | 10                                                 | --                                                              | .0                                 | .0                                           | .0                                          |
| SEP<br>28... | 8                               | 2                                         | 6                                        | --                                                       | 70                                        | 20                                                  | 50                                                 | --                                                              | <.5                                | .0                                           | <.5                                         |

| DATE         | TOTAL<br>MOLYB-<br>DENUM<br>(MO)<br>(UG/L) | TOTAL<br>MOLYB-<br>DENUM<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | TOTAL<br>NICKEL<br>(NI)<br>(UG/L) | TOTAL<br>NICKEL<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>SELE-<br>NIUM<br>(SE)<br>(UG/L) | SUS-<br>PENDE<br>D SELE-<br>NIUM<br>(SE)<br>(UG/L) | DIS-<br>SOLVED<br>SELE-<br>NIUM<br>(SE)<br>(UG/L) | TOTAL<br>SILVER<br>(AG)<br>(UG/L) | TOTAL<br>SILVER<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>STRON-<br>TIUM<br>(SR)<br>(UG/L) | TOTAL<br>STRON-<br>TIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) |
|--------------|--------------------------------------------|--------------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|------------------------------------------|----------------------------------------------------|---------------------------------------------------|-----------------------------------|------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------|
| NOV<br>12... | --                                         | --                                                                 | --                                | --                                                         | 0                                        | 0                                                  | 0                                                 | --                                | --                                                         | --                                        | --                                                              |
| 12...        | <0                                         | <0                                                                 | >12                               | >18                                                        | --                                       | --                                                 | --                                                | 0                                 | 0                                                          | 10                                        | 12                                                              |
| APR<br>13... | --                                         | --                                                                 | --                                | --                                                         | 0                                        | 0                                                  | 0                                                 | --                                | --                                                         | --                                        | --                                                              |
| JUL<br>07... | --                                         | --                                                                 | --                                | --                                                         | 0                                        | 0                                                  | 0                                                 | --                                | --                                                         | --                                        | --                                                              |
| SEP<br>28... | --                                         | --                                                                 | --                                | --                                                         | 0                                        | 0                                                  | 0                                                 | --                                | --                                                         | --                                        | --                                                              |

| DATE         | TOTAL<br>TIN<br>(SN)<br>(UG/L) | TOTAL<br>TITANIUM<br>(TI)<br>(UG/L) | TOTAL<br>TITANIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>VANADIUM<br>(V)<br>(UG/L) | TOTAL<br>VANADIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>ZINC<br>(ZN)<br>(UG/L) | TOTAL<br>ZINC IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | SUS-<br>PENDE<br>D ZINC<br>(ZN)<br>(UG/L) | DIS-<br>SOLVED<br>ZINC<br>(ZN)<br>(UG/L) | TOTAL<br>ZIRCONIUM<br>(ZR)<br>(UG/L) |
|--------------|--------------------------------|-------------------------------------|-----------------------------------------------------------|------------------------------------|-----------------------------------------------------------|---------------------------------|-------------------------------------------------------|-------------------------------------------|------------------------------------------|--------------------------------------|
| NOV<br>12... | --                             | --                                  | --                                                        | --                                 | --                                                        | 10                              | --                                                    | 0                                         | 40                                       | --                                   |
| 12...        | <0                             | >120                                | >180                                                      | 8.8                                | 18                                                        | --                              | 78                                                    | --                                        | --                                       | 10                                   |
| APR<br>13... | --                             | --                                  | --                                                        | --                                 | --                                                        | 110                             | --                                                    | 90                                        | 20                                       | --                                   |
| JUL<br>07... | --                             | --                                  | --                                                        | --                                 | --                                                        | 190                             | --                                                    | 170                                       | 20                                       | --                                   |
| SEP<br>28... | --                             | --                                  | --                                                        | --                                 | --                                                        | 0                               | --                                                    | 0                                         | 20                                       | --                                   |

| DATE         | TOTAL<br>PCB<br>(UG/L) | POLY-<br>CHLOR-<br>INATED<br>NAPH-<br>THA-<br>LENES<br>(UG/L) | TOTAL<br>ALDRIN<br>(UG/L) | ALDRIN<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>ATRA-<br>ZINE<br>(UG/L) | TOTAL<br>CHLOR-<br>DANE<br>(UG/L) | CHLOR-<br>DANE<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>DDD<br>(UG/L) | DDD<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>DDE<br>(UG/L) | DDE<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>DDT<br>(UG/L) |
|--------------|------------------------|---------------------------------------------------------------|---------------------------|----------------------------------------------------|----------------------------------|-----------------------------------|------------------------------------------------------------|------------------------|-------------------------------------------------|------------------------|-------------------------------------------------|------------------------|
| NOV<br>12... | --                     | --                                                            | ND                        | ND                                                 | ND                               | ND                                | ND                                                         | ND                     | ND                                              | ND                     | ND                                              | ND                     |
| MAR<br>01... | .0                     | .00                                                           | ND                        | --                                                 | ND                               | ND                                | --                                                         | ND                     | --                                              | ND                     | --                                              | ND                     |
| JUL<br>07... | --                     | --                                                            | ND                        | --                                                 | --                               | ND                                | --                                                         | ND                     | --                                              | ND                     | --                                              | ND                     |
| SEP<br>21... | --                     | --                                                            | ND                        | --                                                 | --                               | ND                                | --                                                         | ND                     | --                                              | ND                     | --                                              | ND                     |
| 28...        | .0                     | .00                                                           | .00                       | --                                                 | --                               | .0                                | --                                                         | .00                    | --                                              | .00                    | --                                              | .00                    |

ND, NOT DETECTED.

01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE         | DDT<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>DI-<br>AZINON<br>(UG/L) | DI-<br>AZINON<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>DI-<br>ELDRIN<br>(UG/L) | DI-<br>ELDRIN<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>ENDO-<br>SULFAN<br>(UG/L) | TOTAL<br>ENDRIN<br>(UG/L) | ENDRIN<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>ETHION<br>(UG/L) | ETHION<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>HEPTA-<br>CHLOR<br>(UG/L) | HEPTA-<br>CHLOR<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) |
|--------------|-------------------------------------------------|----------------------------------|-----------------------------------------------------------|----------------------------------|-----------------------------------------------------------|------------------------------------|---------------------------|----------------------------------------------------|---------------------------|----------------------------------------------------|------------------------------------|-------------------------------------------------------------|
| NOV<br>12... | ND                                              | ND                               | ND                                                        | ND                               | ND                                                        | --                                 | ND                        | ND                                                 | ND                        | ND                                                 | ND                                 | ND                                                          |
| MAR<br>01... | --                                              | ND                               | --                                                        | ND                               | --                                                        | --                                 | ND                        | --                                                 | ND                        | --                                                 | ND                                 | --                                                          |
| JUL<br>07... | --                                              | ND                               | --                                                        | ND                               | --                                                        | --                                 | ND                        | --                                                 | ND                        | --                                                 | ND                                 | --                                                          |
| SEP<br>21... | --                                              | ND                               | --                                                        | ND                               | --                                                        | --                                 | ND                        | --                                                 | ND                        | --                                                 | ND                                 | --                                                          |
| 28...        | --                                              | --                               | --                                                        | .00                              | --                                                        | .00                                | .00                       | --                                                 | --                        | --                                                 | .00                                | --                                                          |

| DATE         | TOTAL<br>HEPTA-<br>CHLOR<br>EPOXIDE<br>(UG/L) | HEPTA-<br>CHLOR<br>EPOXIDE<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>LINDANE<br>(UG/L) | LINDANE<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>MALA-<br>THION<br>(UG/L) | MALA-<br>THION<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>METH-<br>OXY-<br>CHLOR<br>(UG/L) | METHOX-<br>YCHLOR<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>METHYL<br>PARA-<br>THION<br>(UG/L) | METHYL<br>PARA-<br>THION<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>METHYL<br>TRI-<br>THION<br>(UG/L) | METHYL<br>TRI-<br>THION<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/KG) |
|--------------|-----------------------------------------------|-----------------------------------------------------------------------|----------------------------|-----------------------------------------------------|-----------------------------------|------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|
| NOV<br>12... | ND                                            | ND                                                                    | ND                         | ND                                                  | ND                                | ND                                                         | ND                                        | ND                                                           | ND                                          | ND                                                                  | ND                                         | ND                                                                 |
| MAR<br>01... | ND                                            | --                                                                    | ND                         | --                                                  | ND                                | --                                                         | ND                                        | --                                                           | ND                                          | --                                                                  | ND                                         | --                                                                 |
| JUL<br>07... | ND                                            | --                                                                    | ND                         | --                                                  | ND                                | --                                                         | ND                                        | --                                                           | ND                                          | --                                                                  | ND                                         | --                                                                 |
| SEP<br>21... | ND                                            | --                                                                    | ND                         | --                                                  | ND                                | --                                                         | ND                                        | --                                                           | ND                                          | --                                                                  | ND                                         | --                                                                 |
| 28...        | .00                                           | --                                                                    | .00                        | --                                                  | --                                | --                                                         | --                                        | --                                                           | --                                          | --                                                                  | --                                         | --                                                                 |

| DATE         | TOTAL<br>PARA-<br>THION<br>(UG/L) | PARA-<br>THION<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>TRI-<br>THION<br>(UG/L) | TRI-<br>THION<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>TOX-<br>APHENE<br>(UG/L) | TOX-<br>APHENE<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>2,4-D<br>(UG/L) | 2,4-D<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>2,4,5-T<br>(UG/L) | 2,4,5-T<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) | TOTAL<br>SILVEX<br>(UG/L) | SILVEX<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/KG) |
|--------------|-----------------------------------|------------------------------------------------------------|----------------------------------|-----------------------------------------------------------|-----------------------------------|------------------------------------------------------------|--------------------------|---------------------------------------------------|----------------------------|-----------------------------------------------------|---------------------------|----------------------------------------------------|
| NOV<br>12... | ND                                | ND                                                         | ND                               | ND                                                        | ND                                | ND                                                         | ND                       | ND                                                | ND                         | ND                                                  | ND                        | ND                                                 |
| MAR<br>01... | ND                                | --                                                         | ND                               | --                                                        | ND                                | --                                                         | ND                       | --                                                | ND                         | --                                                  | ND                        | --                                                 |
| JUL<br>07... | ND                                | --                                                         | ND                               | --                                                        | ND                                | --                                                         | --                       | --                                                | --                         | --                                                  | --                        | --                                                 |
| SEP<br>21... | ND                                | --                                                         | ND                               | --                                                        | ND                                | --                                                         | --                       | --                                                | --                         | --                                                  | --                        | --                                                 |
| 28...        | --                                | --                                                         | --                               | --                                                        | 0                                 | --                                                         | --                       | --                                                | --                         | --                                                  | --                        | --                                                 |

ND, NOT DETECTED.

## MERRIMACK RIVER BASIN

01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1976 TO JULY 1977

## PHYTOPLANKTON

| DATE<br>TIME        | OCT 5,76<br>0900 | NOV 12,76<br>1130 | MAR 1,77<br>0830 | APR 13,77<br>0900 | JUL 7,77<br>0945 |
|---------------------|------------------|-------------------|------------------|-------------------|------------------|
| TOTAL CELLS/ML      | 4600             | 620               | 600              | 940               | 45000            |
| DIVERSITY: DIVISION | 1.1              | 1.4               | 1.1              | 1.5               | 1.1              |
| ..CLASS             | 1.1              | 1.8               | 1.1              | 1.5               | 1.2              |
| ...ORDER            | 1.5              | 2.4               | 1.7              | 2.1               | 1.8              |
| ...FAMILY           | 2.7              | 2.9               | 2.6              | 2.6               | 2.3              |
| ....GENUS           | 3.5              | 3.3               | 2.9              | 2.8               | 2.5              |

| 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         |              |              |              |              |              |              |              |              |              |              |
| ....CHARACIACEAE          |              |              |              |              |              |              |              |              |              |              |
| ....SCHROEDERIA           | --           | -            | --           | -            | --           | -            | --           | -            | *            | 0            |
| ...COELASTRACEAE          |              |              |              |              |              |              |              |              |              |              |
| ....COELASTRUM            | 130          | 3            | --           | -            | --           | -            | 45           | 5            | --           | -            |
| ...HYDRODICTYACEAE        |              |              |              |              |              |              |              |              |              |              |
| ....PEDIASTRUM            | 320          | 7            | --           | -            | --           | -            | --           | -            | *            | 0            |
| ...MICRACTINIACEAE        |              |              |              |              |              |              |              |              |              |              |
| ....GOLENKINIA            | *            | 0            | --           | -            | --           | -            | --           | -            | 310          | 1            |
| ....MICRACTINIUM          | --           | -            | --           | -            | --           | -            | --           | -            | 3900         | 9            |
| ...OOCYSTACEAE            |              |              |              |              |              |              |              |              |              |              |
| ....ANKISTRODESMUS        | 280          | 6            | 9            | 1            | 15           | 2            | 14           | 2            | 1500         | 3            |
| ....DICTYOSPHAERIUM       | 650          | 14           | --           | -            | --           | -            | --           | -            | 310          | 1            |
| ...OOCYSTIS               | --           | -            | --           | -            | --           | -            | --           | -            | 310          | 1            |
| ....SELENASTRUM           | 170          | 4            | --           | -            | --           | -            | --           | -            | 310          | 1            |
| ....TETRAEDRON            | --           | -            | --           | -            | --           | -            | --           | -            | 230          | 1            |
| ...SCENEDESMACEAE         |              |              |              |              |              |              |              |              |              |              |
| ....ACTINASTRUM           | 85           | 2            | --           | -            | --           | -            | --           | -            | 540          | 1            |
| ....CRUCIGENIA            | 210          | 5            | 12           | 2            | --           | -            | --           | -            | --           | -            |
| ...SCENEDESMUS            | 1200#        | 27           | 87           | 14           | *            | 0            | 85           | 9            | 3400         | 8            |
| ....TETRASTRUM            | 53           | 1            | --           | -            | --           | -            | --           | -            | --           | -            |
| ..TETRASPORALES           |              |              |              |              |              |              |              |              |              |              |
| ...COCCOMYXACEAE          |              |              |              |              |              |              |              |              |              |              |
| ....ELAKATOTHRIX          | --           | -            | --           | -            | --           | -            | --           | -            | *            | 0            |
| ...PALMELLACEAE           |              |              |              |              |              |              |              |              |              |              |
| ....SPHAEROCYSTIS         | 230          | 5            | --           | -            | --           | -            | --           | -            | --           | -            |
| ..VOLVOCALES              |              |              |              |              |              |              |              |              |              |              |
| ...CHLAMYDOMONADACEAE     |              |              |              |              |              |              |              |              |              |              |
| ....CHLAMYDOMONAS         | *            | 0            | --           | -            | --           | -            | --           | -            | 610          | 1            |
| ...VOLVOCAEEAE            |              |              |              |              |              |              |              |              |              |              |
| ....GONIUM                | --           | -            | --           | -            | --           | -            | --           | -            | 310          | 1            |
| ....PANDORINA             | *            | 0            | --           | -            | --           | -            | --           | -            | --           | -            |
| ..ZYGNETATALES            |              |              |              |              |              |              |              |              |              |              |
| ...DESMIDIACEAE           |              |              |              |              |              |              |              |              |              |              |
| ....CLOSTERIUM            | *            | 0            | --           | -            | --           | -            | --           | -            | --           | -            |
| ....COSMARIUM             | *            | 0            | --           | -            | --           | -            | --           | -            | --           | -            |
| ....SPONDYLIOSIUM         | --           | -            | 12           | 2            | --           | -            | --           | -            | --           | -            |
| ....STAUSTRUM             | *            | 0            | --           | -            | --           | -            | --           | -            | --           | -            |

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

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%  
USED DEPTH-INTEGRATED SAMPLING METHOD.

01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1976 TO JULY 1977--Continued

## PHYTOPLANKTON

| DATE<br>TIME                  | OCT 5,76<br>0900 |              | NOV 12,76<br>1130 |              | MAR 1,77<br>0830 |              | APR 13,77<br>0900 |              | JUL 7,77<br>0945 |              |
|-------------------------------|------------------|--------------|-------------------|--------------|------------------|--------------|-------------------|--------------|------------------|--------------|
| 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 |
| CHRYSTOPHYTA                  |                  |              |                   |              |                  |              |                   |              |                  |              |
| ..BACILLARIOPHYCEAE           |                  |              |                   |              |                  |              |                   |              |                  |              |
| ..CENTRALES                   |                  |              |                   |              |                  |              |                   |              |                  |              |
| ...COSCINODISCACEAE           |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....CYCLOTELLA                | 32               | 1            | 63                | 10           | 11               | 2            | 9                 | 1            | 920              | 2            |
| ....MELOSIRA                  | *                | 0            | 110#              | 17           | 7                | 1            | 79                | 8            | 230              | 1            |
| ..PENNALES                    |                  |              |                   |              |                  |              |                   |              |                  |              |
| ...ACHNANTHACEAE              |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....ACHNANTHES                | *                | 0            | *                 | 0            | 7                | 1            | *                 | 0            | --               | --           |
| ....COCCONEIS                 | *                | 0            | --                | --           | --               | --           | --                | --           | --               | --           |
| ...CYMBELLACEAE               |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....CYMBELLA                  | 64               | 1            | --                | --           | 4                | 1            | --                | --           | *                | 0            |
| ...DIATOMACEAE                |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....DIATOMA                   | --               | --           | 18                | 3            | --               | --           | --                | --           | --               | --           |
| ...FRAGILARIACEAE             |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....ASTERIONELLA              | *                | 0            | 30                | 5            | 78               | 13           | 45                | 5            | *                | 0            |
| ....FRAGILARIA                | *                | 0            | 15                | 2            | --               | --           | 260#              | 28           | --               | --           |
| ....SYNEDRA                   | --               | --           | 6                 | 1            | 110#             | 19           | *                 | 0            | *                | 0            |
| ...GOMPHONEMACEAE             |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....GOMPHONEMA                | *                | 0            | --                | --           | 15               | 2            | 6                 | 1            | --               | --           |
| ...MERIDIONACEAE              |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....MERIDION                  | --               | --           | --                | --           | *                | 0            | --                | --           | --               | --           |
| ...NAVICULACEAE               |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....FRUSTULIA                 | --               | --           | --                | --           | --               | --           | *                 | 0            | --               | --           |
| ....NAVICULA                  | 110              | 2            | 45                | 7            | 26               | 4            | 6                 | 1            | 230              | 1            |
| ....NEIDIUM                   | *                | 0            | --                | --           | --               | --           | *                 | 0            | --               | --           |
| ....PINNULARIA                | *                | 0            | *                 | 0            | --               | --           | *                 | 0            | --               | --           |
| ...NITZSCHACEAE               |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....NITZSCHIA                 | 53               | 1            | 21                | 3            | 71               | 12           | 28                | 3            | 310              | 1            |
| ...SURIPELLACEAE              |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....CYMATOPLEURA              | *                | 0            | --                | --           | --               | --           | --                | --           | --               | --           |
| ....SURIPELLA                 | *                | 0            | --                | --           | --               | --           | --                | --           | --               | --           |
| ...TABELLARIACEAE             |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....TABELLARIA                | --               | --           | --                | --           | *                | 0            | --                | --           | --               | --           |
| ..CHRYSTOPHYCEAE              |                  |              |                   |              |                  |              |                   |              |                  |              |
| ...CHRYSONOMADACEAE           |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....CHROMULINACEAE            |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....CHRYSOCOCCLUS             | *                | 0            | --                | --           | --               | --           | --                | --           | --               | --           |
| ...MALLONADACEAE              |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....MALLONAS                  | --               | --           | --                | --           | --               | --           | --                | --           | 610              | 1            |
| ...OCHROMONADACEAE            |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....DINOBYRON                 | --               | --           | 51                | 8            | --               | --           | --                | --           | --               | --           |
| ..XANTHOPHYCEAE               |                  |              |                   |              |                  |              |                   |              |                  |              |
| ...HETEROCOCCALES             |                  |              |                   |              |                  |              |                   |              |                  |              |
| ...CHLOROTHECIACEAE           |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....PHIOCIYTIUM               | *                | 0            | --                | --           | --               | --           | --                | --           | *                | 0            |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                  |              |                   |              |                  |              |                   |              |                  |              |
| ..CYANOPHYCEAE                |                  |              |                   |              |                  |              |                   |              |                  |              |
| ...CHROCOCCALES               |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....CHROCOCCACEAE             |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....ANACYSTIS                 | 760#             | 17           | --                | --           | 130#             | 22           | 57                | 6            | 7400#            | 17           |
| ...HORMOGONALES               |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....OSCILLATORIA              | --               | --           | --                | --           | --               | --           | 280#              | 30           | --               | --           |
| ....LYNGBYA                   | --               | --           | 140#              | 22           | 120#             | 20           | --                | --           | 23000#           | 52           |
| ...SCYTONEACEAE               |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....PLECTONEMA                | --               | --           | --                | --           | --               | --           | --                | --           | *                | 0            |
| EUGLENOPHYTA (EUGLENOIDS)     |                  |              |                   |              |                  |              |                   |              |                  |              |
| ..EUGLENOPHYCEAE              |                  |              |                   |              |                  |              |                   |              |                  |              |
| ...EUGLENALES                 |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....EUGLENACEAE               |                  |              |                   |              |                  |              |                   |              |                  |              |
| ....TRACHELOMONAS             | 42               | 1            | *                 | 0            | --               | --           | *                 | 0            | --               | --           |

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%  
 \* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%  
 USED DEPTH-INTEGRATED SAMPLING METHOD.



## MERRIMACK RIVER BASIN

01096906 BOULDER BROOK NEAR EAST BOLTON, MA

LOCATION.--Lat 42°27'10", long 71°34'52", Worcester County, Hydrologic Unit 01070005, at culvert on Brown Road, 400 ft (122 m) upstream from Interstate Highway 495, 0.3 mi (0.5 km) upstream from gaging station, and 1.1 mi (1.8 km) west of East Bolton.

DRAINAGE AREA.--1.32 mi<sup>2</sup> (3.42 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 300 ft (91 m), from topographic map.

REMARKS.--Records good except those below 1.0 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) and those for period of no gage-height record, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68 ft<sup>3</sup>/s (1.93 m<sup>3</sup>/s) Mar. 13, 1977, gage height, 2.67 ft (0.814 m), from rating curve extended above 18 ft<sup>3</sup>/s (0.51 m<sup>3</sup>/s); no flow Aug. 25-30, Sept. 1-4, 6-16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 18 ft<sup>3</sup>/s (0.51 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 2030 | a*68 1.93                                             | *2.67 0.814             | Aug. 1 | 2215 | 31 .88                                                | 1.99 .607               |
| Apr. 24 | 2145 | 22 .62                                                | 1.80 .549               |        |      |                                                       |                         |

a From rating curve extended as explained above.

No flow Aug. 25-30, Sept. 1-4, 6-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC   | JAN   | FEB   | MAR   | APR   | MAY    | JUN   | JUL  | AUG   | SEP  |
|-------|------|------|-------|-------|-------|-------|-------|--------|-------|------|-------|------|
| 1     | .02  | .05  | .21   | .07   | .21   | 2.4   | 7.6   | 4.1    | .85   | .03  | 5.1   | .00  |
| 2     | .02  | .05  | .21   | .07   | .21   | 2.3   | 6.6   | 4.1    | .76   | .03  | 5.0   | .00  |
| 3     | .02  | .04  | .21   | .07   | .21   | 2.2   | 8.5   | 3.7    | .72   | .03  | .53   | .00  |
| 4     | .02  | .04  | .10   | .07   | .21   | 2.6   | 6.6   | 3.3    | .77   | .03  | .19   | .00  |
| 5     | .02  | .04  | .07   | .07   | .21   | 5.2   | 10    | 3.3    | .21   | .03  | .12   | .01  |
| 6     | .02  | .04  | .07   | .12   | .21   | 4.6   | 9.5   | 3.3    | .21   | .03  | .12   | .00  |
| 7     | .01  | .04  | 2.0   | .18   | .21   | 3.7   | 7.6   | 2.9    | .66   | .02  | .06   | .00  |
| 8     | .01  | .04  | 1.6   | .35   | .21   | 4.0   | 6.6   | 2.6    | 1.2   | .02  | .01   | .00  |
| 9     | .63  | .04  | .81   | .35   | .21   | 5.9   | 6.4   | 4.3    | .97   | .03  | .03   | .00  |
| 10    | .13  | .04  | .52   | .94   | .21   | 9.1   | 5.9   | 11     | .97   | .03  | .02   | .00  |
| 11    | .05  | .04  | .52   | .85   | .21   | 11    | 5.2   | 8.8    | 1.6   | .03  | .02   | .00  |
| 12    | .02  | .04  | .52   | 1.6   | .21   | 11    | 5.0   | 6.9    | 1.8   | .03  | .02   | .00  |
| 13    | .02  | .04  | .46   | 2.1   | .52   | 22    | 4.5   | 5.4    | 1.1   | .02  | .01   | .00  |
| 14    | .02  | .04  | .35   | 1.5   | .83   | 26    | 4.0   | 4.5    | .83   | .02  | .01   | .00  |
| 15    | .02  | .04  | .35   | 1.1   | .83   | 16    | 3.7   | 4.0    | .73   | .02  | .01   | .00  |
| 16    | .02  | .04  | .35   | .71   | .83   | 10    | 3.7   | 3.6    | .46   | .02  | .01   | .00  |
| 17    | .02  | .04  | .35   | .68   | .83   | 9.2   | 3.5   | 3.3    | .21   | .02  | .01   | .01  |
| 18    | .02  | .04  | .35   | .44   | .83   | 8.5   | 3.2   | 3.2    | .36   | .02  | .03   | .01  |
| 19    | .02  | .04  | .35   | .21   | .83   | 8.1   | 2.8   | 4.1    | 1.2   | .02  | .01   | .01  |
| 20    | .09  | .04  | .35   | .21   | .68   | 7.7   | 2.3   | 3.3    | .44   | .01  | .01   | .94  |
| 21    | 3.8  | .04  | .35   | .21   | .35   | 7.5   | 2.3   | 2.7    | .07   | .01  | .01   | .21  |
| 22    | .43  | .04  | .35   | .21   | .35   | 9.0   | 2.3   | 2.2    | .07   | .01  | .01   | .04  |
| 23    | .20  | .04  | .35   | .21   | .35   | 14    | 5.0   | 2.1    | .07   | .01  | .01   | .04  |
| 24    | .12  | .04  | .14   | .21   | .52   | 10    | 15    | 2.0    | .07   | .01  | .01   | .04  |
| 25    | .12  | .04  | .07   | .21   | 2.5   | 8.0   | 13    | 1.7    | .07   | .02  | .00   | .04  |
| 26    | .43  | .04  | .07   | .21   | 2.5   | 7.4   | 7.5   | 1.4    | .18   | .02  | .00   | 4.1  |
| 27    | .41  | .04  | .07   | .21   | 2.2   | 8.2   | 6.7   | 1.4    | .42   | .02  | .00   | 1.7  |
| 28    | .35  | .05  | .07   | .21   | 2.7   | 10    | 5.9   | 1.3    | .12   | .02  | .00   | .48  |
| 29    | .13  | .11  | .07   | .68   | ---   | 14    | 4.9   | .83    | .29   | .02  | .00   | .12  |
| 30    | .07  | .21  | .07   | .68   | ---   | 11    | 4.6   | .83    | .47   | .02  | .00   | .09  |
| 31    | .05  | ---  | .07   | .52   | ---   | 9.0   | ---   | .83    | ---   | .02  | .01   | ---  |
| TOTAL | 7.31 | 1.47 | 11.43 | 15.25 | 20.17 | 279.6 | 180.4 | 106.99 | 17.88 | .67  | 11.37 | 7.84 |
| MEAN  | .24  | .049 | .37   | .49   | .72   | 9.02  | 6.01  | 3.45   | .60   | .022 | .37   | .26  |
| MAX   | 3.8  | .21  | 2.0   | 2.1   | 2.7   | 26    | 15    | 11     | 1.8   | .03  | 5.1   | 4.1  |
| MIN   | .01  | .04  | .07   | .07   | .21   | 2.2   | 2.3   | .83    | .07   | .01  | .00   | .00  |
| CFSM  | .18  | .04  | .28   | .37   | .55   | 6.83  | 4.55  | 2.61   | .46   | .02  | .28   | .20  |
| IN.   | .21  | .04  | .32   | .43   | .57   | 7.87  | 5.08  | 3.01   | .50   | .02  | .32   | .22  |

CAL YR 1976 TOTAL 577.64 MEAN 1.58 MAX 14 MIN .01 CFSM 1.20 IN 16.28  
WTR YR 1977 TOTAL 660.38 MEAN 1.81 MAX 26 MIN .00 CFSM 1.37 IN 18.60

NOTE.--No gage-height record Mar. 15 to Apr. 14.

01096906 BOULDER BROOK NEAR EAST BOLTON, MA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1971 to current year.

WATER TEMPERATURES: June 1971 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1971.

REMARKS.--Figures of daily discharge, computed on basis of records for gaging station 0.3 mi (0.5 km) downstream, are available at district office. Interruptions in the record due to malfunctions of the instrument. Recording air-temperature gage located at station since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 383 micromhos Aug. 22, 23, 1977; minimum recorded, 30 micromhos Dec. 24, 25, 1975, Jan. 5, 6, 9, 11, Feb. 6, 7, Mar. 18, July 21, Aug. 7, 1976.

WATER TEMPERATURES: Maximum, 29.0°C July 17, 18, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 383 micromhos Aug. 22, 23; minimum recorded, 32 micromhos Oct. 28.

WATER TEMPERATURES: Maximum, 23.0°C July 14, 22, 24, Aug. 1; minimum, 0.0°C on many days during winter period.

REVISIONS.--Revised figures for specific conductance for the water year 1976, superseding those published in report for 1976, are given herein.

EXTREMES FOR 1976 WATER YEAR.--Maximum, 344 micromhos Aug. 15; minimum recorded, 30 micromhos Dec 24, 25, Jan. 5, 6, 9, 11, Feb. 6, 7, Mar. 18, July 21, Aug. 7.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 98  | 95  | 97       | 90  | 69  | 83       | 79  | 70  | 76      | 88  | 62  | 82   |
| 2       | 99  | 91  | 97       | 91  | 88  | 90       | 79  | 71  | 77      | 87  | 42  | 67   |
| 3       | 99  | 93  | 97       | 91  | 89  | 90       | 80  | 74  | 77      | 88  | 76  | 85   |
| 4       | 100 | 94  | 97       | 91  | 89  | 90       | 81  | 52  | 72      | 88  | 54  | 79   |
| 5       | 98  | 87  | 94       | 93  | 89  | 91       | 84  | 45  | 70      | 79  | 30  | 54   |
| 6       | 94  | 86  | 91       | 93  | 83  | 91       | 81  | 76  | 78      | 98  | 30  | 57   |
| 7       | 91  | 82  | 88       | 92  | 84  | 90       | 81  | 67  | 77      | 97  | 53  | 85   |
| 8       | 94  | 83  | 90       | 92  | 85  | 89       | 81  | 62  | 74      | 88  | 58  | 78   |
| 9       | 93  | 85  | 88       | 93  | 90  | 91       | 83  | 72  | 81      | 93  | 30  | 59   |
| 10      | 92  | 82  | 89       | 91  | 79  | 88       | 70  | 61  | 67      | 87  | 31  | 59   |
| 11      | 96  | 67  | 87       | 86  | 80  | 84       | 74  | 69  | 72      | 77  | 30  | 51   |
| 12      | 96  | 68  | 81       | 87  | 51  | 82       | 75  | 73  | 74      | 85  | 35  | 52   |
| 13      | 90  | 79  | 86       | 52  | 42  | 49       | 76  | 74  | 74      | 99  | 32  | 76   |
| 14      | 88  | 79  | 84       | 64  | 50  | 57       | 76  | 73  | 75      | 133 | 62  | 100  |
| 15      | 91  | 85  | 90       | 68  | 63  | 65       | 77  | 73  | 75      | 95  | 68  | 87   |
| 16      | 91  | 88  | 91       | 71  | 67  | 69       | 80  | 63  | 77      | 98  | 69  | 86   |
| 17      | 91  | 87  | 89       | 72  | 67  | 70       | 81  | 50  | 71      | 96  | 51  | 78   |
| 18      | 94  | 63  | 73       | 74  | 70  | 72       | 80  | 53  | 74      | 85  | 42  | 51   |
| 19      | 80  | 74  | 78       | 73  | 67  | 72       | 90  | 36  | 58      | 106 | 37  | 52   |
| 20      | 89  | 80  | 85       | 76  | 66  | 74       | 66  | 38  | 56      | 104 | 39  | 85   |
| 21      | 93  | 86  | 90       | 77  | 59  | 70       | 85  | 59  | 73      | 104 | 70  | 95   |
| 22      | 93  | 87  | 91       | 69  | 63  | 66       | 88  | 79  | 84      | 100 | 31  | 76   |
| 23      | 97  | 93  | 95       | 71  | 55  | 66       | 92  | 43  | 76      | 81  | 31  | 49   |
| 24      | 95  | 91  | 94       | 72  | 67  | 70       | 77  | 30  | 42      | 65  | 47  | 56   |
| 25      | 94  | 78  | 90       | 71  | 68  | 70       | 87  | 30  | 59      | 100 | 60  | 86   |
| 26      | 89  | 81  | 87       | 74  | 70  | 73       | 94  | 55  | 73      | 100 | 95  | 98   |
| 27      | 89  | 81  | 87       | 77  | 57  | 68       | 82  | 71  | 79      | 148 | 85  | 108  |
| 28      | 90  | 83  | 87       | 71  | 63  | 67       | 84  | 56  | 77      | 84  | 70  | 78   |
| 29      | 88  | 80  | 87       | 72  | 68  | 70       | 85  | 43  | 64      | 84  | 81  | 82   |
| 30      | 87  | 79  | 83       | 76  | 73  | 74       | 87  | 43  | 72      | 84  | 71  | 80   |
| 31      | 89  | 74  | 86       | --- | --- | ---      | 85  | 73  | 79      | 84  | 50  | 74   |
| MONTH   | 100 | 63  | 88       | 93  | 42  | 76       | 94  | 30  | 72      | 148 | 30  | 74   |

01096906 BOULDER BROOK NEAR EAST BOLTON, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1        | 82  | 70  | 80   | 69    | 66  | 68   | 74     | 54  | 65   | ---       | --- | ---  |
| 2        | 63  | 40  | 49   | 71    | 53  | 63   | 69     | 63  | 66   | ---       | --- | ---  |
| 3        | 73  | 45  | 60   | 74    | 52  | 60   | 73     | 66  | 70   | ---       | --- | ---  |
| 4        | 79  | 52  | 70   | 67    | 63  | 65   | 75     | 61  | 71   | ---       | --- | ---  |
| 5        | 76  | 49  | 65   | 69    | 60  | 66   | 75     | 66  | 73   | ---       | --- | ---  |
| 6        | 74  | 30  | 56   | 69    | 60  | 66   | 81     | 61  | 77   | 79        | 70  | 77   |
| 7        | 74  | 30  | 56   | 70    | 56  | 66   | 79     | 66  | 77   | 79        | 66  | 73   |
| 8        | 74  | 44  | 64   | 71    | 65  | 68   | 80     | 63  | 73   | 71        | 60  | 68   |
| 9        | 72  | 38  | 59   | 74    | 36  | 60   | 79     | 71  | 77   | 75        | 67  | 72   |
| 10       | 76  | 42  | 67   | 72    | 66  | 69   | 76     | 68  | 74   | 80        | 73  | 77   |
| 11       | 79  | 66  | 71   | 74    | 59  | 70   | 77     | 63  | 73   | 82        | 78  | 80   |
| 12       | 73  | 68  | 71   | 76    | 48  | 67   | 75     | 47  | 68   | 82        | 64  | 75   |
| 13       | 72  | 62  | 69   | 77    | 60  | 68   | 75     | 53  | 71   | 82        | 75  | 78   |
| 14       | 71  | 48  | 66   | 73    | 65  | 71   | 78     | 72  | 76   | 84        | 80  | 78   |
| 15       | 77  | 40  | 67   | 75    | 59  | 69   | 78     | 74  | 76   | 87        | 82  | 84   |
| 16       | 76  | 61  | 68   | 74    | 52  | 68   | 86     | 77  | 81   | 87        | 83  | 85   |
| 17       | 88  | 57  | 72   | 71    | 46  | 58   | 90     | 84  | 87   | 88        | 77  | 83   |
| 18       | 69  | 63  | 67   | 74    | 30  | 55   | 92     | 86  | 89   | 87        | 71  | 81   |
| 19       | --- | --- | ---  | 71    | 31  | 52   | 93     | 87  | 90   | 84        | 77  | 80   |
| 20       | --- | --- | ---  | 75    | 59  | 68   | 93     | 89  | 91   | 82        | 79  | 80   |
| 21       | --- | --- | ---  | 69    | 62  | 66   | 94     | 86  | 90   | 83        | 68  | 77   |
| 22       | --- | --- | ---  | 70    | 65  | 68   | 93     | 80  | 89   | 81        | 76  | 79   |
| 23       | --- | --- | ---  | 75    | 35  | 64   | 96     | 88  | 92   | 85        | 78  | 81   |
| 24       | --- | --- | ---  | 77    | 60  | 72   | 91     | 85  | 88   | 86        | 81  | 83   |
| 25       | 67  | 50  | 65   | 78    | 72  | 76   | 89     | 70  | 82   | 85        | 80  | 82   |
| 26       | 64  | 58  | 62   | 79    | 66  | 75   | 81     | 70  | 76   | 84        | 81  | 82   |
| 27       | 66  | 52  | 64   | 77    | 57  | 72   | 81     | 78  | 79   | 90        | 80  | 84   |
| 28       | 67  | 53  | 62   | 78    | 68  | 75   | 80     | 75  | 78   | 92        | 85  | 88   |
| 29       | 68  | 43  | 60   | 77    | 55  | 73   | ---    | --- | ---  | 93        | 84  | 89   |
| 30       | --- | --- | ---  | 77    | 63  | 74   | ---    | --- | ---  | 91        | 87  | 89   |
| 31       | --- | --- | ---  | 77    | 53  | 75   | ---    | --- | ---  | 95        | 86  | 90   |
| MONTH    | 88  | 30  | 64   | 79    | 30  | 67   | 96     | 47  | 78   | 95        | 60  | 79   |
| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
| JUNE     |     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1        | 94  | 87  | 89   | 79    | 36  | 45   | 152    | 39  | 60   | 276       | 168 | 241  |
| 2        | 92  | 82  | 87   | 72    | 48  | 59   | 158    | 50  | 81   | 127       | 47  | 70   |
| 3        | 95  | 67  | 85   | 94    | 56  | 75   | 163    | 107 | 140  | 218       | 69  | 128  |
| 4        | 93  | 85  | 89   | 113   | 73  | 94   | 180    | 144 | 160  | 253       | 106 | 206  |
| 5        | 95  | 84  | 89   | 122   | 81  | 104  | 188    | 139 | 159  | 259       | 118 | 184  |
| 6        | 95  | 84  | 89   | 128   | 74  | 110  | 185    | 145 | 174  | 202       | 115 | 154  |
| 7        | 92  | 84  | 88   | 134   | 101 | 119  | 108    | 30  | 50   | 271       | 106 | 176  |
| 8        | 95  | 69  | 87   | 132   | 110 | 124  | 50     | 31  | 42   | 243       | 113 | 172  |
| 9        | 93  | 83  | 86   | 128   | 107 | 117  | 50     | 33  | 42   | 202       | 156 | 185  |

01096906 BOULDER BROOK NEAR EAST BOLTON, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 133 | 125 | 129      | 102 | 69  | 86       | --- | --- | ---     | 102 | 76  | 84   |
| 2       | 166 | 129 | 139      | 103 | 71  | 83       | --- | --- | ---     | 107 | 79  | 89   |
| 3       | 163 | 134 | 146      | 101 | 80  | 91       | --- | --- | ---     | 105 | 75  | 88   |
| 4       | 149 | 137 | 143      | 100 | 81  | 89       | --- | --- | ---     | 105 | 78  | 92   |
| 5       | 167 | 142 | 156      | 101 | 82  | 94       | --- | --- | ---     | 107 | 74  | 88   |
| 6       | 181 | 155 | 168      | 100 | 81  | 93       | --- | --- | ---     | 109 | 87  | 98   |
| 7       | 189 | 163 | 171      | 102 | 80  | 89       | --- | --- | ---     | 117 | 86  | 97   |
| 8       | 216 | 50  | 165      | 90  | 78  | 84       | --- | --- | ---     | 106 | 81  | 92   |
| 9       | 179 | 59  | 82       | 92  | 71  | 82       | --- | --- | ---     | 98  | 76  | 86   |
| 10      | 134 | 85  | 100      | --- | --- | ---      | --- | --- | ---     | 123 | 83  | 99   |
| 11      | 142 | 97  | 115      | --- | --- | ---      | --- | --- | ---     | 84  | 58  | 65   |
| 12      | --- | --- | ---      | --- | --- | ---      | --- | --- | ---     | 72  | 54  | 62   |
| 13      | --- | --- | ---      | --- | --- | ---      | --- | --- | ---     | 83  | 59  | 70   |
| 14      | --- | --- | ---      | --- | --- | ---      | --- | --- | ---     | 84  | 71  | 78   |
| 15      | --- | --- | ---      | --- | --- | ---      | 101 | 69  | 84      | 93  | 73  | 80   |
| 16      | --- | --- | ---      | --- | --- | ---      | 150 | 70  | 84      | 93  | 72  | 81   |
| 17      | --- | --- | ---      | --- | --- | ---      | 93  | 71  | 80      | 91  | 75  | 80   |
| 18      | --- | --- | ---      | --- | --- | ---      | 99  | 73  | 81      | 89  | 73  | 81   |
| 19      | --- | --- | ---      | --- | --- | ---      | 107 | 77  | 89      | 101 | 83  | 89   |
| 20      | 169 | 116 | 128      | --- | --- | ---      | 104 | 82  | 87      | 111 | 84  | 96   |
| 21      | 154 | 77  | 113      | --- | --- | ---      | 84  | 70  | 77      | 108 | 84  | 93   |
| 22      | 142 | 62  | 105      | --- | --- | ---      | 113 | 83  | 99      | 96  | 79  | 87   |
| 23      | 129 | 40  | 92       | --- | --- | ---      | 111 | 88  | 100     | 110 | 83  | 93   |
| 24      | 117 | 37  | 87       | --- | --- | ---      | 105 | 86  | 96      | 114 | 85  | 99   |
| 25      | 107 | 92  | 98       | --- | --- | ---      | 121 | 93  | 100     | 103 | 87  | 101  |
| 26      | 106 | 71  | 90       | --- | --- | ---      | 96  | 76  | 86      | 112 | 78  | 94   |
| 27      | 115 | 39  | 75       | --- | --- | ---      | 87  | 71  | 78      | 110 | 78  | 89   |
| 28      | 103 | 32  | 74       | --- | --- | ---      | 95  | 75  | 87      | 110 | 74  | 92   |
| 29      | 110 | 70  | 91       | --- | --- | ---      | 93  | 83  | 89      | 92  | 76  | 84   |
| 30      | 106 | 76  | 94       | --- | --- | ---      | 94  | 71  | 83      | 105 | 79  | 91   |
| 31      | 105 | 83  | 92       | --- | --- | ---      | 91  | 75  | 80      | 112 | 93  | 103  |
| MONTH   | --- | --- | ---      | --- | --- | ---      | --- | --- | ---     | 123 | 54  | 87   |

| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN  | MAX | MIN | MEAN | MAX | MIN | MEAN |
|----------|-----|-----|-------|-----|-----|-------|-----|-----|------|-----|-----|------|
| FEBRUARY |     |     | MARCH |     |     | APRIL |     |     | MAY  |     |     |      |
| 1        | 119 | 103 | 110   | 127 | 102 | 109   | 82  | 73  | 78   | 77  | 72  | 75   |
| 2        | 115 | 93  | 103   | 123 | 103 | 111   | 83  | 72  | 78   | 77  | 73  | 76   |
| 3        | 119 | 91  | 103   | 124 | 103 | 113   | 80  | 74  | 78   | 78  | 76  | 77   |
| 4        | 126 | 110 | 115   | 108 | 102 | 105   | 80  | 71  | 76   | --- | --- | ---  |
| 5        | 115 | 109 | 112   | 106 | 80  | 91    | 79  | 66  | 70   | --- | --- | ---  |
| 6        | 110 | 94  | 102   | 107 | 84  | 97    | 74  | 67  | 71   | --- | --- | ---  |
| 7        | 110 | 88  | 97    | 104 | 89  | 96    | 77  | 64  | 70   | --- | --- | ---  |
| 8        | 108 | 83  | 93    | 104 | 80  | 93    | 77  | 64  | 72   | --- | --- | ---  |
| 9        | 109 | 83  | 97    | 101 | 82  | 89    | 78  | 64  | 72   | 93  | 76  | 81   |
| 10       | 112 | 90  | 101   | 90  | 72  | 84    | 81  | 68  | 74   | 90  | 78  | 82   |
| 11       | 113 | 89  | 102   | 85  | 65  | 78    | 80  | 67  | 76   | 91  | 78  | 86   |
| 12       | 109 | 87  | 100   | 83  | 71  | 77    | 80  | 77  | 79   | 90  | 82  | 86   |
| 13       | 107 | 92  | 100   | 80  | 45  | 70    | 82  | 80  | 81   | 93  | 85  | 92   |
| 14       | 109 | 87  | 98    | 66  | 58  | 63    | 81  | 75  | 78   | 96  | 86  | 90   |
| 15       | 109 | 88  | 97    | 75  | 64  | 69    | 96  | 70  | 83   | 95  | 87  | 92   |
| 16       | 103 | 85  | 94    | 75  | 70  | 72    | 90  | 80  | 85   | 103 | 87  | 95   |
| 17       | 107 | 80  | 95    | 78  | 67  | 75    | 90  | 75  | 84   | 94  | 93  | 94   |
| 18       | 110 | 89  | 98    | 77  | 66  | 71    | 90  | 81  | 86   | 97  | 82  | 95   |
| 19       | 113 | 84  | 99    | 78  | 64  | 72    | 87  | 75  | 82   | 99  | 94  | 96   |
| 20       | 100 | 91  | 96    | 78  | 61  | 71    | 87  | 79  | 83   | 98  | 95  | 96   |
| 21       | 108 | 87  | 97    | 75  | 66  | 73    | 91  | 81  | 85   | 100 | 97  | 99   |
| 22       | 111 | 77  | 94    | 75  | 64  | 71    | 92  | 86  | 89   | 96  | 86  | 90   |
| 23       | 116 | 92  | 100   | 70  | 64  | 67    | 172 | 78  | 101  | 90  | 85  | 86   |
| 24       | 101 | 87  | 92    | 74  | 69  | 72    | 203 | 69  | 160  | 90  | 88  | 89   |
| 25       | 103 | 62  | 77    | 75  | 72  | 71    | 174 | 54  | 64   | 94  | 91  | 93   |
| 26       | 134 | 69  | 87    | 82  | 66  | 75    | 68  | 61  | 66   | 96  | 94  | 95   |
| 27       | 126 | 93  | 109   | 80  | 72  | 77    | 71  | 66  | 69   | 94  | 91  | 92   |
| 28       | 113 | 98  | 106   | 103 | 73  | 80    | 74  | 67  | 71   | 95  | 92  | 94   |
| 29       | --- | --- | ---   | 75  | 69  | 72    | 73  | 69  | 71   | 98  | 95  | 97   |
| 30       | --- | --- | ---   | 78  | 72  | 75    | 76  | 70  | 74   | 98  | 95  | 97   |
| 31       | --- | --- | ---   | 79  | 76  | 78    | --- | --- | ---  | 95  | 92  | 94   |
| MONTH    | 134 | 62  | 99    | 127 | 45  | 81    | 203 | 54  | 80   | 103 | 72  | 89   |

## MERRIMACK RIVER BASIN

01096906 BOULDER BROOK NEAR EAST BOLTON, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX | MIN  | MEAN | MAX | MIN  | MEAN | MAX | MIN    | MEAN | MAX | MIN       | MEAN |
|-------|-----|------|------|-----|------|------|-----|--------|------|-----|-----------|------|
|       |     | JUNE |      |     | JULY |      |     | AUGUST |      |     | SEPTEMBER |      |
| 1     | 96  | 91   | 93   | 120 | 112  | 116  | 158 | 105    | 137  | --- | ---       | ---  |
| 2     | 98  | 96   | 97   | 160 | 115  | 122  | 142 | 108    | 125  | --- | ---       | ---  |
| 3     | 99  | 92   | 96   | 158 | 121  | 132  | 143 | 131    | 137  | --- | ---       | ---  |
| 4     | 94  | 91   | 93   | --- | ---  | ---  | 138 | 122    | 129  | --- | ---       | ---  |
| 5     | 95  | 94   | 95   | --- | ---  | ---  | 131 | 121    | 125  | --- | ---       | ---  |
| 6     | 96  | 92   | 94   | --- | ---  | ---  | 126 | 114    | 119  | --- | ---       | ---  |
| 7     | 91  | 86   | 88   | --- | ---  | ---  | 172 | 118    | 131  | --- | ---       | ---  |
| 8     | 100 | 90   | 95   | --- | ---  | ---  | 302 | 125    | 302  | --- | ---       | ---  |
| 9     | 101 | 97   | 89   | --- | ---  | ---  | 304 | 127    | 225  | --- | ---       | ---  |
| 10    | 100 | 95   | 98   | --- | ---  | ---  | 304 | 123    | 272  | --- | ---       | ---  |
| 11    | 96  | 77   | 90   | 216 | 140  | 182  | 295 | 127    | 204  | --- | ---       | ---  |
| 12    | 93  | 81   | 89   | 213 | 151  | 184  | 302 | 156    | 247  | --- | ---       | ---  |
| 13    | 98  | 93   | 95   | --- | ---  | ---  | 248 | 126    | 173  | --- | ---       | ---  |
| 14    | 100 | 96   | 98   | --- | ---  | ---  | 298 | 258    | 289  | --- | ---       | ---  |
| 15    | 103 | 97   | 99   | 253 | 165  | 215  | 323 | 185    | 299  | --- | ---       | ---  |
| 16    | 105 | 100  | 102  | 266 | 221  | 238  | 340 | 323    | 330  | --- | ---       | ---  |
| 17    | 105 | 99   | 102  | 234 | 192  | 219  | 358 | 228    | 340  | 166 | 118       | 133  |
| 18    | 105 | 90   | 102  | 281 | 212  | 250  | 249 | 149    | 208  | 292 | 202       | 251  |
| 19    | 107 | 85   | 100  | 284 | 219  | 259  | 365 | 271    | 295  | 289 | 106       | 153  |
| 20    | 108 | 104  | 106  | 319 | 242  | 279  | 346 | 251    | 307  | 252 | 79        | 136  |
| 21    | 108 | 102  | 105  | 339 | 205  | 285  | 378 | 264    | 340  | 141 | 103       | 130  |
| 22    | 108 | 102  | 105  | 354 | 108  | 239  | 383 | 341    | 366  | 143 | 129       | 134  |
| 23    | 111 | 105  | 108  | 200 | 92   | 131  | 383 | 281    | 332  | 135 | 124       | 129  |
| 24    | 113 | 106  | 109  | --- | ---  | ---  | 371 | 148    | 336  | 133 | 100       | 121  |
| 25    | 113 | 107  | 110  | --- | ---  | ---  | --- | ---    | ---  | 115 | 102       | 107  |
| 26    | 107 | 92   | 101  | --- | ---  | ---  | --- | ---    | ---  | 120 | 66        | 103  |
| 27    | 113 | 97   | 109  | --- | ---  | ---  | --- | ---    | ---  | 132 | 114       | 122  |
| 28    | 114 | 108  | 111  | --- | ---  | ---  | --- | ---    | ---  | 128 | 121       | 124  |
| 29    | 117 | 96   | 107  | --- | ---  | ---  | --- | ---    | ---  | 129 | 121       | 125  |
| 30    | 119 | 104  | 112  | --- | ---  | ---  | --- | ---    | ---  | 130 | 122       | 126  |
| 31    | --- | ---  | ---  | --- | ---  | ---  | --- | ---    | ---  | --- | ---       | ---  |
| MONTH | 119 | 77   | 99   | --- | ---  | ---  | --- | ---    | ---  | --- | ---       | ---  |
| YEAR  | 383 | 32   | 112  |     |      |      |     |        |      |     |           |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

| DAY   | MAX  | MIN     | MEAN | MAX  | MIN      | MEAN | MAX | MIN      | MEAN | MAX | MIN     | MEAN |
|-------|------|---------|------|------|----------|------|-----|----------|------|-----|---------|------|
|       |      | OCTOBER |      |      | NOVEMBER |      |     | DECEMBER |      |     | JANUARY |      |
| 1     | 15.5 | 13.4    | 14.5 | 8.1  | 5.2      | 6.7  | 8.9 | 4.7      | 7.4  | 1.6 | 0.7     | 1.1  |
| 2     | 14.6 | 12.8    | 14.2 | 10.4 | 7.8      | 9.0  | 4.6 | 3.3      | 4.0  | 0.7 | 0.7     | 0.7  |
| 3     | 12.5 | 10.7    | 11.6 | 11.5 | 9.1      | 10.3 | 3.7 | 1.9      | 3.0  | 1.1 | 0.7     | 0.9  |
| 4     | 13.3 | 11.1    | 12.1 | 12.6 | 10.7     | 11.5 | 2.5 | 1.0      | 1.7  | 1.1 | 0.6     | 0.7  |
| 5     | 12.8 | 10.3    | 11.6 | 11.0 | 9.5      | 10.3 | 2.6 | 0.9      | 1.7  | 0.6 | 0.6     | 0.6  |
| 6     | 14.4 | 12.1    | 13.1 | 9.9  | 7.4      | 8.9  | 4.9 | 2.4      | 3.7  | 0.6 | 0.6     | 0.6  |
| 7     | 13.0 | 11.4    | 12.1 | 11.1 | 8.0      | 9.6  | 4.5 | 1.2      | 2.6  | 0.6 | 0.6     | 0.6  |
| 8     | 12.5 | 9.8     | 11.3 | 13.5 | 11.1     | 12.4 | 1.4 | 0.9      | 1.2  | 0.6 | 0.6     | 0.6  |
| 9     | 12.1 | 10.5    | 11.4 | 13.4 | 11.3     | 12.4 | 3.1 | 1.4      | 2.1  | 0.6 | 0.6     | 0.6  |
| 10    | 11.5 | 9.3     | 10.5 | 12.1 | 11.0     | 11.4 | 4.9 | 3.2      | 4.1  | 0.6 | 0.6     | 0.6  |
| 11    | 11.8 | 10.7    | 11.2 | 11.5 | 9.0      | 10.3 | 4.3 | 2.8      | 3.7  | 0.6 | 0.6     | 0.6  |
| 12    | 11.9 | 11.3    | 11.7 | 9.8  | 7.3      | 8.9  | 3.0 | 2.1      | 2.5  | 0.6 | 0.6     | 0.6  |
| 13    | 12.6 | 10.8    | 11.7 | 9.6  | 8.9      | 9.3  | 2.6 | 2.3      | 2.5  | 0.6 | 0.6     | 0.6  |
| 14    | 13.8 | 11.8    | 12.7 | 9.6  | 7.1      | 8.8  | 5.2 | 2.6      | 4.0  | 0.6 | 0.6     | 0.6  |
| 15    | 15.1 | 12.4    | 13.8 | 7.2  | 5.7      | 6.4  | 7.2 | 4.6      | 6.0  | 0.6 | 0.6     | 0.6  |
| 16    | 14.8 | 12.7    | 13.9 | 6.9  | 5.0      | 6.0  | 7.0 | 3.0      | 5.5  | 0.6 | 0.6     | 0.6  |
| 17    | 12.9 | 11.2    | 12.1 | 7.5  | 5.0      | 6.3  | 2.7 | 1.2      | 2.2  | 0.5 | 0.5     | 0.5  |
| 18    | 11.8 | 10.8    | 11.4 | 9.0  | 6.4      | 7.5  | 2.8 | 0.8      | 2.0  | 0.5 | 0.0     | 0.5  |
| 19    | 10.6 | 10.0    | 10.3 | 7.6  | 5.3      | 6.5  | 0.8 | 0.8      | 0.8  | 0.5 | 0.0     | 0.5  |
| 20    | 10.6 | 10.2    | 10.4 | 9.0  | 6.5      | 7.8  | 0.8 | 0.8      | 0.8  | 0.5 | 0.5     | 0.5  |
| 21    | 12.0 | 9.7     | 10.8 | 10.1 | 7.8      | 8.8  | 0.8 | 0.8      | 0.8  | 0.5 | 0.0     | 0.5  |
| 22    | 12.8 | 10.8    | 11.7 | 9.5  | 5.7      | 7.8  | 0.7 | 0.7      | 0.7  | 0.2 | 0.0     | 0.0  |
| 23    | 12.6 | 10.4    | 11.5 | 6.0  | 3.9      | 5.1  | 0.7 | 0.7      | 0.7  | 0.0 | 0.0     | 0.0  |
| 24    | 12.5 | 10.0    | 11.2 | 4.5  | 3.3      | 4.0  | 0.7 | 0.0      | 0.5  | 0.0 | 0.0     | 0.0  |
| 25    | 12.5 | 10.7    | 11.5 | 5.1  | 3.3      | 4.2  | 0.7 | 0.0      | 0.5  | 0.3 | 0.0     | 0.1  |
| 26    | 12.6 | 10.9    | 12.0 | 5.7  | 4.3      | 4.9  | 0.7 | 0.7      | 0.7  | 0.5 | 0.0     | 0.2  |
| 27    | 11.4 | 9.2     | 10.3 | 6.0  | 4.7      | 5.2  | 0.7 | 0.7      | 0.7  | 0.7 | 0.1     | 0.4  |
| 28    | 11.2 | 8.3     | 9.8  | 6.0  | 4.4      | 5.2  | 1.1 | 0.7      | 0.8  | 0.8 | 0.0     | 0.4  |
| 29    | 12.5 | 9.5     | 11.0 | 4.8  | 3.5      | 4.1  | 0.9 | 0.7      | 0.7  | 1.1 | 0.0     | 0.7  |
| 30    | 11.7 | 7.7     | 9.7  | 7.1  | 3.6      | 5.0  | 0.7 | 0.7      | 0.7  | 1.4 | 0.0     | 0.6  |
| 31    | 7.8  | 6.0     | 6.9  | ---  | ---      | ---  | 1.9 | 0.7      | 1.3  | 0.8 | 0.0     | 0.2  |
| MONTH | 15.5 | 6.0     | 11.5 | 13.5 | 3.3      | 7.8  | 8.9 | 0.0      | 2.2  | 1.6 | 0.0     | 0.5  |



TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

| DAY   | MAX  | FEBRUARY |      |      | MARCH |      |      | APRIL |      |      | MAY  |      |  |
|-------|------|----------|------|------|-------|------|------|-------|------|------|------|------|--|
|       |      | MIN      | MEAN | MAX  | MIN   | MEAN | MAX  | MIN   | MEAN | MAX  | MIN  | MEAN |  |
| 1     | 1.6  | 0.4      | 1.2  | 5.0  | 4.0   | 4.7  | 7.7  | 6.0   | 6.7  | ---  | ---  | ---  |  |
| 2     | 1.3  | 0.0      | 0.2  | 3.9  | 0.4   | 1.8  | 9.9  | 4.8   | 7.5  | ---  | ---  | ---  |  |
| 3     | 0.3  | 0.0      | 0.0  | 0.7  | 0.5   | 0.6  | 10.1 | 5.6   | 8.0  | ---  | ---  | ---  |  |
| 4     | 0.9  | 0.0      | 0.4  | 2.3  | 0.7   | 1.6  | 9.6  | 5.1   | 7.2  | ---  | ---  | ---  |  |
| 5     | 0.7  | 0.0      | 0.2  | 7.4  | 2.1   | 4.9  | 9.4  | 4.3   | 6.8  | ---  | ---  | ---  |  |
| 6     | 0.6  | 0.0      | 0.2  | 7.0  | 3.6   | 5.5  | 10.4 | 5.8   | 8.1  | 16.5 | 12.9 | 15.4 |  |
| 7     | 0.4  | 0.0      | 0.0  | 4.4  | 1.7   | 3.0  | 9.7  | 5.8   | 7.7  | 14.6 | 10.2 | 11.8 |  |
| 8     | 1.0  | 0.1      | 0.5  | 3.8  | 0.5   | 2.1  | 8.3  | 4.5   | 6.5  | 12.3 | 9.2  | 10.6 |  |
| 9     | 1.4  | 0.0      | 0.6  | 2.1  | 0.0   | 0.9  | 7.7  | 4.1   | 5.9  | 12.2 | 8.4  | 10.4 |  |
| 10    | 1.7  | 0.1      | 1.1  | 2.5  | 0.3   | 1.4  | 9.1  | 3.6   | 6.4  | 14.7 | 9.5  | 12.3 |  |
| 11    | 2.0  | 0.8      | 1.4  | 4.4  | 1.2   | 2.5  | 7.6  | 4.2   | 6.5  | 15.1 | 11.5 | 13.4 |  |
| 12    | 2.2  | 0.4      | 1.3  | 3.3  | 0.0   | 1.6  | 6.4  | 1.4   | 3.9  | 14.1 | 11.7 | 13.0 |  |
| 13    | 3.0  | 1.4      | 2.2  | 5.5  | 0.4   | 2.9  | 9.4  | 2.3   | 5.8  | 13.5 | 9.3  | 11.7 |  |
| 14    | 2.5  | 0.2      | 1.5  | 5.7  | 1.8   | 3.5  | 11.9 | 5.6   | 8.7  | 15.1 | 10.8 | 13.1 |  |
| 15    | 1.9  | 0.2      | 1.1  | 5.1  | 1.1   | 3.0  | 11.9 | 7.1   | 9.7  | 16.5 | 14.0 | 15.1 |  |
| 16    | 3.9  | 2.0      | 2.9  | 2.1  | 0.0   | 0.7  | 16.4 | 10.0  | 13.0 | 15.2 | 12.2 | 13.8 |  |
| 17    | 2.8  | 2.0      | 2.4  | 0.4  | 0.0   | 0.0  | 18.3 | 12.3  | 15.2 | 15.5 | 12.9 | 14.1 |  |
| 18    | 2.3  | 1.4      | 2.0  | 0.6  | 0.0   | 0.0  | 19.1 | 13.3  | 16.1 | 15.1 | 14.2 | 14.6 |  |
| 19    | ---  | ---      | ---  | 2.0  | 0.0   | 1.0  | 19.4 | 14.0  | 16.7 | 14.2 | 10.0 | 12.3 |  |
| 20    | ---  | ---      | ---  | 5.7  | 0.0   | 3.5  | 18.6 | 14.4  | 16.5 | 10.8 | 9.4  | 10.1 |  |
| 21    | ---  | ---      | ---  | 8.5  | 3.8   | 6.1  | 16.7 | 12.9  | 14.6 | 11.9 | 9.0  | 10.8 |  |
| 22    | ---  | ---      | ---  | 6.1  | 3.1   | 4.5  | 13.2 | 11.5  | 11.9 | 11.9 | 9.8  | 10.9 |  |
| 23    | ---  | ---      | ---  | 6.0  | 0.9   | 3.5  | 15.4 | 11.3  | 12.9 | 12.7 | 9.5  | 11.1 |  |
| 24    | ---  | ---      | ---  | 8.3  | 2.4   | 5.4  | 12.6 | 9.4   | 11.2 | 12.5 | 10.6 | 11.7 |  |
| 25    | 6.7  | 2.3      | 2.6  | 8.6  | 4.8   | 6.8  | 11.5 | 8.3   | 9.8  | 11.5 | 9.9  | 10.7 |  |
| 26    | 6.1  | 3.1      | 4.8  | 10.0 | 5.0   | 7.5  | 8.2  | 7.6   | 8.0  | 10.8 | 9.7  | 10.3 |  |
| 27    | 7.7  | 4.3      | 5.9  | 10.5 | 5.0   | 7.9  | 9.1  | 6.5   | 7.9  | 13.0 | 9.7  | 11.3 |  |
| 28    | 7.1  | 3.2      | 4.8  | 9.8  | 6.4   | 8.7  | 9.1  | 7.3   | 8.0  | 15.9 | 11.4 | 13.6 |  |
| 29    | 5.3  | 1.5      | 3.7  | 9.8  | 4.5   | 7.0  | ---  | ---   | ---  | 15.6 | 12.7 | 14.3 |  |
| 30    | ---  | ---      | ---  | 8.2  | 5.5   | 6.7  | ---  | ---   | ---  | 14.9 | 13.7 | 14.3 |  |
| 31    | ---  | ---      | ---  | 7.2  | 5.6   | 6.4  | ---  | ---   | ---  | 16.1 | 12.8 | 14.6 |  |
| MONTH | 7.7  | 0.0      | 1.7  | 10.5 | 0.0   | 3.7  | 19.4 | 1.4   | 9.5  | 16.5 | 8.4  | 12.5 |  |
| DAY   | MAX  | MIN      | MEAN | MAX  | MIN   | MEAN | MAX  | MIN   | MEAN | MAX  | MIN  | MEAN |  |
| JUNE  |      |          |      |      |       |      |      |       |      |      |      |      |  |
| 1     | 15.7 | 13.3     | 14.8 | 21.7 | 19.4  | 20.2 | 21.1 | 18.5  | 19.1 | 16.7 | 16.1 | 16.5 |  |
| 2     | 13.9 | 12.1     | 12.9 | 22.5 | 19.4  | 20.6 | 22.1 | 17.7  | 19.5 | 15.8 | 14.0 | 14.7 |  |
| 3     | 14.6 | 10.9     | 12.5 | 22.9 | 18.9  | 20.4 | 22.1 | 19.4  | 20.9 | 15.4 | 14.3 | 15.0 |  |
| 4     | 14.1 | 11.1     | 12.7 | 23.5 | 18.9  | 20.9 | 23.9 | 20.9  | 22.2 | 16.0 | 15.4 | 15.6 |  |
| 5     | 15.0 | 10.7     | 12.9 | 24.9 | 19.7  | 21.6 | 23.9 | 21.3  | 22.2 | 16.0 | 15.0 | 15.5 |  |
| 6     | 13.9 | 12.4     | 13.1 | 25.3 | 20.2  | 22.0 | 23.5 | 21.9  | 22.6 | 15.6 | 14.0 | 14.9 |  |
| 7     | 13.7 | 11.8     | 12.7 | 23.8 | 20.1  | 21.9 | 21.8 | 17.3  | 18.6 | 15.3 | 13.5 | 14.7 |  |
| 8     | 17.3 | 13.6     | 15.3 | 24.3 | 21.2  | 22.7 | 17.6 | 17.1  | 17.3 | 15.1 | 14.0 | 14.6 |  |
| 9     | 17.9 | 14.7     | 16.6 | 26.3 | 21.8  | 23.5 | 19.2 | 17.6  | 18.1 | 15.3 | 14.6 | 15.0 |  |
| 10    | 19.1 | 15.4     | 17.4 | 24.0 | 21.0  | 22.4 | 20.4 | 18.6  | 19.3 | 15.2 | 13.7 | 14.4 |  |
| 11    | 20.1 | 17.2     | 18.6 | 24.0 | 21.5  | 22.4 | 21.6 | 18.5  | 20.1 | 14.7 | 14.0 | 14.4 |  |
| 12    | 18.8 | 15.6     | 17.3 | 23.1 | 20.5  | 21.6 | 21.5 | 18.9  | 19.8 | 14.4 | 12.8 | 13.8 |  |
| 13    | 17.0 | 13.1     | 15.1 | 23.2 | 21.4  | 22.2 | 21.1 | 18.8  | 19.2 | 14.9 | 13.1 | 14.4 |  |
| 14    | 18.2 | 15.1     | 16.5 | 23.4 | 21.4  | 22.1 | 19.8 | 18.5  | 19.1 | 15.3 | 14.3 | 14.9 |  |
| 15    | 20.7 | 16.5     | 18.3 | 23.9 | 21.6  | 22.5 | 21.8 | 18.6  | 20.1 | 15.4 | 14.5 | 15.1 |  |
| 16    | 22.4 | 17.9     | 19.7 | 23.1 | 21.1  | 22.3 | 20.9 | 18.2  | 19.8 | 15.0 | 14.7 | 14.8 |  |
| 17    | 20.7 | 17.2     | 19.5 | 25.0 | 22.2  | 23.2 | 19.1 | 17.1  | 18.1 | 14.8 | 14.1 | 14.5 |  |
| 18    | 21.5 | 18.4     | 20.0 | 23.3 | 20.8  | 21.7 | 18.7 | 17.1  | 17.8 | 14.7 | 14.4 | 14.6 |  |
| 19    | 21.4 | 18.7     | 19.9 | 23.1 | 19.9  | 21.3 | 18.2 | 16.6  | 17.3 | 15.2 | 14.0 | 14.6 |  |
| 20    | 21.1 | 18.5     | 19.7 | 25.1 | 21.2  | 22.5 | 18.9 | 16.3  | 17.4 | 15.2 | 14.5 | 14.8 |  |
| 21    | 22.2 | 18.1     | 20.0 | 23.0 | 20.8  | 22.1 | 19.8 | 16.8  | 18.1 | 14.5 | 13.3 | 13.9 |  |
| 22    | 22.7 | 17.5     | 19.6 | 25.0 | 20.4  | 22.2 | 18.7 | 17.1  | 17.9 | 13.2 | 12.1 | 12.7 |  |
| 23    | 21.7 | 17.2     | 18.8 | 24.7 | 21.1  | 22.4 | 19.3 | 17.3  | 18.3 | 13.1 | 11.7 | 12.6 |  |
| 24    | 20.8 | 17.3     | 18.8 | 24.6 | 21.0  | 22.7 | 19.5 | 16.7  | 18.1 | 12.1 | 10.6 | 11.4 |  |
| 25    | 20.7 | 17.6     | 18.7 | 24.7 | 21.9  | 23.0 | 19.7 | 17.4  | 18.5 | 12.4 | 10.6 | 11.5 |  |
| 26    | 22.5 | 17.8     | 19.5 | 24.0 | 20.7  | 22.1 | 19.1 | 17.5  | 18.1 | 13.2 | 12.3 | 12.9 |  |
| 27    | 20.5 | 18.5     | 19.1 | 24.2 | 21.9  | 22.9 | 18.4 | 17.7  | 18.1 | 13.3 | 12.0 | 12.9 |  |
| 28    | 20.8 | 18.0     | 19.2 | 24.2 | 22.0  | 22.8 | 19.6 | 16.2  | 18.6 | 11.7 | 10.1 | 10.8 |  |
| 29    | 22.2 | 18.8     | 19.9 | 22.2 | 20.4  | 21.4 | 19.7 | 16.5  | 18.3 | 11.9 | 10.0 | 11.0 |  |
| 30    | 20.7 | 19.0     | 19.6 | 21.2 | 19.6  | 20.2 | 17.8 | 16.0  | 17.0 | 12.3 | 11.5 | 11.8 |  |
| 31    | ---  | ---      | ---  | 21.7 | 19.9  | 21.0 | 16.9 | 15.6  | 16.4 | ---  | ---  | ---  |  |
| MONTH | 22.7 | 10.7     | 17.2 | 26.3 | 18.9  | 21.9 | 23.9 | 15.6  | 18.9 | 16.7 | 10.0 | 13.9 |  |
| YEAR  | 26.3 | 0.0      | 10.2 |      |       |      |      |       |      |      |      |      |  |

## MERRIMACK RIVER BASIN

01096906 BOULDER BROOK NEAR EAST BOLTON, MA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY      | MAX  | MIN  | MEAN     | MAX  | MIN | MEAN     | MAX  | MIN  | MEAN    | MAX  | MIN  | MEAN |
|----------|------|------|----------|------|-----|----------|------|------|---------|------|------|------|
| OCTOBER  |      |      | NOVEMBER |      |     | DECEMBER |      |      | JANUARY |      |      |      |
| 1        | 11.5 | 11.0 | 11.5     | 6.0  | 3.0 | 4.5      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 2        | 12.0 | 11.0 | 11.5     | 4.5  | 1.5 | 3.0      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 3        | 11.5 | 10.5 | 11.0     | 5.5  | 2.5 | 4.0      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 4        | 12.0 | 10.5 | 11.0     | 7.0  | 4.5 | 5.5      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 5        | 12.5 | 11.5 | 12.0     | 6.0  | 4.5 | 5.0      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 6        | 13.0 | 12.0 | 12.5     | 6.0  | 4.0 | 5.0      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 7        | 13.0 | 12.5 | 12.5     | 5.5  | 3.5 | 4.5      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 8        | 13.0 | 12.5 | 13.0     | 4.0  | 1.5 | 3.0      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 9        | 12.5 | 8.5  | 10.0     | ---  | --- | ---      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 10       | 9.0  | 7.5  | 8.0      | ---  | --- | ---      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 11       | ---  | ---  | ---      | ---  | --- | ---      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 12       | ---  | ---  | ---      | ---  | --- | ---      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 13       | ---  | ---  | ---      | ---  | --- | ---      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 14       | ---  | ---  | ---      | ---  | --- | ---      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| 15       | ---  | ---  | ---      | ---  | --- | ---      | 1.0  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 16       | ---  | ---  | ---      | ---  | --- | ---      | 0.5  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 17       | ---  | ---  | ---      | ---  | --- | ---      | 0.5  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 18       | ---  | ---  | ---      | ---  | --- | ---      | 0.5  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 19       | ---  | ---  | ---      | ---  | --- | ---      | 0.5  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 20       | 7.0  | 5.0  | 6.0      | ---  | --- | ---      | 0.0  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 21       | 8.0  | 5.0  | 7.0      | ---  | --- | ---      | 0.0  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 22       | 6.0  | 3.5  | 5.0      | ---  | --- | ---      | 0.5  | 0.0  | 0.5     | 0.0  | 0.0  | 0.0  |
| 23       | 6.0  | 3.0  | 4.5      | ---  | --- | ---      | 1.0  | 0.0  | 0.5     | 0.0  | 0.0  | 0.0  |
| 24       | 5.0  | 3.0  | 3.5      | ---  | --- | ---      | 1.5  | 0.0  | 0.5     | 0.0  | 0.0  | 0.0  |
| 25       | 6.0  | 4.5  | 5.5      | ---  | --- | ---      | 1.5  | 0.0  | 0.5     | 0.0  | 0.0  | 0.0  |
| 26       | 6.0  | 2.5  | 5.0      | ---  | --- | ---      | 0.5  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 27       | 4.0  | 1.0  | 2.5      | ---  | --- | ---      | 0.0  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 28       | 4.0  | 1.0  | 2.5      | ---  | --- | ---      | 0.0  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 29       | 5.5  | 1.5  | 3.5      | ---  | --- | ---      | 0.0  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 30       | 6.5  | 2.5  | 4.5      | ---  | --- | ---      | 0.0  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| 31       | 6.5  | 5.0  | 5.5      | ---  | --- | ---      | 0.0  | 0.0  | 0.0     | 0.0  | 0.0  | 0.0  |
| MONTH    | ---  | ---  | ---      | ---  | --- | ---      | ---  | ---  | ---     | 0.0  | 0.0  | 0.0  |
| DAY      | MAX  | MIN  | MEAN     | MAX  | MIN | MEAN     | MAX  | MIN  | MEAN    | MAX  | MIN  | MEAN |
| FEBRUARY |      |      | MARCH    |      |     | APRIL    |      |      | MAY     |      |      |      |
| 1        | 0.0  | 0.0  | 0.0      | 1.5  | 0.0 | 0.5      | 9.5  | 5.5  | 7.5     | 14.5 | 8.5  | 11.5 |
| 2        | 0.0  | 0.0  | 0.0      | 1.0  | 0.0 | 0.5      | 6.0  | 4.5  | 5.0     | 12.5 | 10.0 | 11.5 |
| 3        | 0.0  | 0.0  | 0.0      | 2.0  | 0.0 | 0.5      | 11.0 | 4.5  | 8.0     | ---  | ---  | ---  |
| 4        | 0.0  | 0.0  | 0.0      | 0.5  | 0.0 | 0.5      | 7.5  | 5.0  | 6.0     | ---  | ---  | ---  |
| 5        | 0.0  | 0.0  | 0.0      | 2.0  | 0.0 | 0.5      | 6.0  | 4.0  | 4.5     | ---  | ---  | ---  |
| 6        | 0.0  | 0.0  | 0.0      | 2.0  | 0.0 | 0.5      | 7.0  | 4.0  | 5.5     | ---  | ---  | ---  |
| 7        | 0.0  | 0.0  | 0.0      | 1.5  | 0.5 | 0.5      | 7.0  | 3.0  | 5.0     | ---  | ---  | ---  |
| 8        | 0.5  | 0.0  | 0.0      | 3.0  | 0.0 | 1.0      | 7.0  | 3.0  | 4.5     | ---  | ---  | ---  |
| 9        | 0.0  | 0.0  | 0.0      | 3.5  | 0.0 | 1.5      | 6.0  | 1.0  | 3.5     | ---  | ---  | ---  |
| 10       | 0.5  | 0.0  | 0.0      | 3.5  | 1.0 | 2.0      | 7.5  | 2.0  | 4.5     | ---  | ---  | ---  |
| 11       | 0.5  | 0.0  | 0.0      | 6.0  | 1.0 | 3.5      | 8.5  | 3.0  | 5.5     | ---  | ---  | ---  |
| 12       | 0.5  | 0.0  | 0.0      | 7.0  | 2.5 | 4.5      | 13.0 | 5.0  | 9.0     | ---  | ---  | ---  |
| 13       | 0.0  | 0.0  | 0.0      | 6.0  | 4.5 | 5.0      | 10.0 | 8.5  | 11.5    | ---  | ---  | ---  |
| 14       | 0.5  | 0.0  | 0.0      | 6.5  | 5.5 | 6.0      | 13.0 | 9.0  | 11.0    | ---  | ---  | ---  |
| 15       | 0.5  | 0.0  | 0.0      | 5.5  | 5.0 | 5.0      | 11.5 | 6.5  | 9.0     | ---  | ---  | ---  |
| 16       | 0.0  | 0.0  | 0.0      | 6.5  | 4.0 | 5.5      | 11.5 | 6.0  | 9.0     | ---  | ---  | ---  |
| 17       | 0.0  | 0.0  | 0.0      | 5.0  | 2.5 | 3.5      | 12.5 | 7.0  | 9.5     | ---  | ---  | ---  |
| 18       | 0.0  | 0.0  | 0.0      | 2.5  | 0.5 | 1.5      | 13.5 | 7.5  | 10.5    | ---  | ---  | ---  |
| 19       | 0.0  | 0.0  | 0.0      | 3.0  | 0.5 | 1.5      | 13.5 | 8.5  | 11.0    | ---  | ---  | ---  |
| 20       | 0.0  | 0.0  | 0.0      | 4.5  | 0.0 | 2.5      | 13.5 | 7.5  | 10.5    | ---  | ---  | ---  |
| 21       | 0.0  | 0.0  | 0.0      | 6.0  | 2.0 | 4.0      | 14.5 | 9.5  | 12.5    | ---  | ---  | ---  |
| 22       | 0.0  | 0.0  | 0.0      | 3.5  | 0.0 | 2.0      | 16.5 | 11.0 | 14.0    | ---  | ---  | ---  |
| 23       | 0.0  | 0.0  | 0.0      | 1.5  | 0.0 | 1.0      | 14.5 | 10.0 | 12.0    | ---  | ---  | ---  |
| 24       | 0.0  | 0.0  | 0.0      | 3.5  | 0.5 | 2.0      | ---  | ---  | ---     | ---  | ---  | ---  |
| 25       | 0.0  | 0.0  | 0.0      | 4.5  | 0.5 | 2.5      | 8.5  | 6.5  | 7.5     | 15.0 | 14.0 | 14.5 |
| 26       | 0.0  | 0.0  | 0.0      | 7.0  | 1.0 | 4.0      | 10.0 | 7.0  | 8.5     | 14.0 | 13.5 | 14.0 |
| 27       | 0.0  | 0.0  | 0.0      | 8.5  | 2.0 | 5.0      | 11.5 | 8.0  | 9.5     | 15.5 | 13.5 | 14.5 |
| 28       | 1.0  | 0.0  | 0.5      | ---  | --- | ---      | 11.5 | 8.0  | 9.5     | 16.0 | 15.5 | 15.5 |
| 29       | ---  | ---  | ---      | 12.0 | 6.0 | 9.5      | 11.5 | 6.5  | 9.0     | 15.5 | 14.5 | 15.0 |
| 30       | ---  | ---  | ---      | 14.5 | 8.0 | 11.0     | 13.5 | 7.0  | 10.0    | 14.5 | 13.0 | 13.5 |
| 31       | ---  | ---  | ---      | 11.5 | 8.0 | 10.5     | ---  | ---  | ---     | 15.0 | 13.0 | 14.0 |
| MONTH    | 1.0  | 0.0  | 0.0      | 14.5 | 0.0 | 3.5      | 16.5 | 1.0  | 8.5     | ---  | ---  | ---  |



## MERRIMACK RIVER BASIN

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>).

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD MA, NH, RI, VT, 1974: Drainage area.

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

REMARKS.--Records fair.

AVERAGE DISCHARGE.--6 years, 2.89 ft<sup>3</sup>/s (0.082 m<sup>3</sup>/s), 25.48 in/yr (647 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75 ft<sup>3</sup>/s (2.12 m<sup>3</sup>/s) Mar. 13, 1977, gage height, 2.78 ft (0.847 m), from rating curve extended above 19 ft<sup>3</sup>/s (0.54 m<sup>3</sup>/s); 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 28 ft<sup>3</sup>/s (0.79 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) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 2015 | a*75 2.12                                             | *2.78 0.847             |      |      |                                                       |                         |

a From rating curve extended as explained above.

Minimum discharge, 0.05 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 8-14, 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL  | AUG   | SEP   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| 1     | .08   | .55   | .36   | .31   | .46   | 3.3   | 7.5   | 4.4   | 1.2   | .57  | 3.3   | .09   |
| 2     | .08   | .54   | .34   | .31   | .42   | 3.0   | 6.6   | 4.2   | 1.2   | .44  | 5.8   | .09   |
| 3     | .08   | .50   | .32   | .31   | .42   | 2.9   | 7.8   | 3.8   | 1.2   | .38  | 1.7   | .09   |
| 4     | .08   | .50   | .23   | .31   | .42   | 2.9   | 6.3   | 3.6   | 1.1   | .38  | .68   | .09   |
| 5     | .08   | .50   | .22   | .31   | .42   | 6.6   | 8.9   | 3.6   | .97   | .38  | .40   | .06   |
| 6     | .08   | .50   | .22   | .31   | .42   | 6.4   | 9.2   | 3.6   | .96   | .38  | .38   | .06   |
| 7     | .08   | .47   | 1.6   | .70   | .42   | 5.7   | 7.4   | 3.2   | .96   | .33  | .33   | .06   |
| 8     | .08   | .42   | 1.7   | .53   | .42   | 5.3   | 6.4   | 2.6   | 1.3   | .25  | .25   | .06   |
| 9     | .90   | .40   | .77   | .38   | .42   | 6.5   | 6.3   | 3.3   | 1.3   | .25  | .25   | .05   |
| 10    | .46   | .38   | .55   | .46   | .42   | 9.1   | 5.8   | 7.6   | 1.2   | .22  | .19   | .05   |
| 11    | .20   | .38   | .55   | 2.1   | .43   | 9.5   | 5.1   | 7.9   | 1.4   | .22  | .17   | .05   |
| 12    | .15   | .38   | .55   | .72   | .48   | 9.0   | 5.0   | 7.1   | 2.1   | .22  | .19   | .05   |
| 13    | .15   | .38   | .53   | .55   | .55   | 22    | 4.6   | 5.6   | 1.6   | .22  | .21   | .05   |
| 14    | .17   | .38   | .40   | .55   | .55   | 25    | 4.3   | 4.4   | 1.4   | .22  | .17   | .07   |
| 15    | .17   | .38   | .38   | .55   | .55   | 11    | 3.8   | 4.0   | 1.2   | .22  | .15   | .06   |
| 16    | .17   | .38   | .38   | .55   | .55   | 9.8   | 3.5   | 3.9   | .95   | .19  | .13   | .05   |
| 17    | .13   | .38   | .38   | .47   | .55   | 9.1   | 3.4   | 3.4   | .79   | .15  | .17   | .08   |
| 18    | .13   | .38   | .38   | .46   | .55   | 8.4   | 3.1   | 3.4   | .71   | .13  | .20   | .09   |
| 19    | .13   | .38   | .38   | .46   | .55   | 8.1   | 2.9   | 3.6   | 1.3   | .13  | .13   | .14   |
| 20    | .19   | .38   | .38   | .46   | .55   | 7.6   | 2.6   | 3.6   | 1.1   | .13  | .11   | 1.0   |
| 21    | 3.2   | .38   | .45   | .46   | .55   | 7.3   | 2.5   | 3.3   | .99   | .13  | .10   | .77   |
| 22    | .93   | .35   | .45   | .46   | .55   | 8.5   | 2.3   | 2.9   | .83   | .12  | .10   | .42   |
| 23    | .57   | .34   | .38   | .42   | .55   | 12    | 3.8   | 2.6   | .70   | .10  | .10   | .28   |
| 24    | .47   | .34   | .35   | .42   | .57   | 8.4   | 8.6   | 2.5   | .54   | .10  | .11   | .25   |
| 25    | .54   | .34   | .31   | .42   | 3.5   | 7.3   | 14    | 2.4   | .50   | .28  | .13   | .38   |
| 26    | .75   | .34   | .31   | .42   | 3.6   | 7.2   | 8.1   | 2.1   | .47   | .39  | .10   | 2.1   |
| 27    | .77   | .34   | .31   | .38   | 3.0   | 8.2   | 6.5   | 1.8   | .79   | .23  | .09   | 3.2   |
| 28    | .62   | .34   | .31   | .39   | 3.3   | 8.8   | 6.2   | 1.7   | .90   | .17  | .09   | 1.8   |
| 29    | .60   | .37   | .31   | .55   | ---   | 13    | 5.0   | 1.5   | .56   | .17  | .09   | .65   |
| 30    | .55   | .42   | .31   | .55   | ---   | 9.6   | 4.6   | 1.5   | .60   | .17  | .09   | .65   |
| 31    | .55   | ---   | .31   | .51   | ---   | 8.9   | ---   | 1.5   | ---   | .16  | .09   | ---   |
| TOTAL | 13.14 | 12.12 | 14.42 | 15.78 | 25.17 | 270.4 | 172.1 | 110.6 | 30.82 | 7.43 | 16.00 | 12.84 |
| MEAN  | .42   | .40   | .47   | .51   | .90   | 8.72  | 5.74  | 3.57  | 1.03  | .24  | .52   | .43   |
| MAX   | 3.2   | .55   | 1.7   | 2.1   | 3.6   | 25    | 14    | 7.9   | 2.1   | .57  | 5.8   | 3.2   |
| MIN   | .08   | .34   | .22   | .31   | .42   | 2.9   | 2.3   | 1.5   | .47   | .10  | .09   | .05   |
| CFSM  | .27   | .26   | .31   | .33   | .58   | 5.66  | 3.73  | 2.32  | .67   | .16  | .34   | .28   |
| IN.   | .32   | .29   | .35   | .38   | .61   | 6.53  | 4.15  | 2.67  | .74   | .18  | .39   | .31   |

CAL YR 1976 TOTAL 923.20 MEAN 2.52 MAX 24 MIN .01 CFSM 1.64 IN 22.30  
WTR YR 1977 TOTAL 700.82 MEAN 1.92 MAX 25 MIN .05 CFSM 1.25 IN 16.92

01096910 BOULDER BROOK AT EAST BOLTON, MA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1971 to current year.

WATER TEMPERATURES: June 1971 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1971.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 785 micromhos Dec. 7, 1976; minimum, 68 micromhos June 27, 1973, Mar. 21, Sept. 29, 1974.

WATER TEMPERATURES: Maximum, 28.0°C June 30, 1971, June 23, 24, Aug. 2, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 985 micromhos Dec. 7; minimum recorded, 79 micromhos Mar. 13, but may have been less during period of no record.

WATER TEMPERATURES: Maximum not determined, probably occurred during period of missing record in July; minimum not determined, probably 0.0°C on many days during winter period.

REVISIONS.--Revised figures of specific conductance for the water year 1976, superseding those published in the report for 1976, are given herein.

EXTREMES FOR 1976 WATER YEAR.--Maximum, 444 micromhos July 21; minimum, 80 micromhos Nov. 13.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 225     | 209 | 214  | 159      | 155 | 157  | 142      | 133 | 138  | 126     | 120 | 124  |
| 2     | 227     | 225 | 226  | 162      | 158 | 160  | 141      | 137 | 139  | 137     | 127 | 131  |
| 3     | 238     | 227 | 230  | 172      | 159 | 161  | 143      | 141 | 142  | 135     | 130 | 132  |
| 4     | 246     | 236 | 241  | 196      | 161 | 167  | 146      | 140 | 144  | 136     | 128 | 131  |
| 5     | 249     | 244 | 246  | 165      | 158 | 161  | 145      | 143 | 144  | 148     | 134 | 140  |
| 6     | 252     | 245 | 248  | 171      | 165 | 168  | 142      | 135 | 139  | 150     | 140 | 145  |
| 7     | 257     | 251 | 254  | 172      | 165 | 167  | 146      | 138 | 142  | 143     | 133 | 139  |
| 8     | 315     | 257 | 266  | 173      | 152 | 164  | 149      | 146 | 148  | 149     | 109 | 122  |
| 9     | 346     | 267 | 276  | 166      | 158 | 161  | 150      | 130 | 147  | 137     | 127 | 133  |
| 10    | 273     | 268 | 270  | 171      | 151 | 167  | 123      | 95  | 108  | 146     | 137 | 142  |
| 11    | 275     | 179 | 261  | 149      | 139 | 144  | 135      | 123 | 130  | 152     | 144 | 147  |
| 12    | 157     | 130 | 143  | 164      | 138 | 153  | 130      | 125 | 128  | 147     | 139 | 142  |
| 13    | 166     | 130 | 152  | 108      | 80  | 92   | 132      | 128 | 130  | 142     | 136 | 139  |
| 14    | 170     | 151 | 161  | 120      | 95  | 109  | 133      | 128 | 130  | 256     | 110 | 142  |
| 15    | 188     | 171 | 180  | 130      | 122 | 127  | 135      | 131 | 133  | 137     | 123 | 129  |
| 16    | 199     | 189 | 194  | 135      | 130 | 132  | 137      | 134 | 135  | 138     | 131 | 134  |
| 17    | 206     | 198 | 200  | 161      | 131 | 137  | 139      | 133 | 137  | 146     | 133 | 137  |
| 18    | 208     | 107 | 137  | 159      | 130 | 136  | 138      | 130 | 134  | 147     | 138 | 143  |
| 19    | 132     | 115 | 123  | 140      | 131 | 135  | 156      | 142 | 148  | 152     | 142 | 147  |
| 20    | 137     | 120 | 129  | 142      | 138 | 139  | 159      | 148 | 155  | 146     | 138 | 142  |
| 21    | 151     | 136 | 146  | 143      | 97  | 134  | 151      | 140 | 145  | 143     | 137 | 140  |
| 22    | 157     | 151 | 154  | 126      | 94  | 114  | 151      | 136 | 141  | 142     | 135 | 138  |
| 23    | 175     | 156 | 163  | 135      | 126 | 131  | 137      | 131 | 134  | 145     | 141 | 143  |
| 24    | 186     | 160 | 165  | 139      | 129 | 135  | 141      | 134 | 139  | 141     | 138 | 139  |
| 25    | 167     | 127 | 156  | 136      | 130 | 134  | 144      | 138 | 140  | 140     | 136 | 138  |
| 26    | 154     | 128 | 141  | 140      | 132 | 136  | 140      | 89  | 123  | 235     | 136 | 154  |
| 27    | 158     | 151 | 154  | 140      | 95  | 120  | 109      | 97  | 105  | 237     | 123 | 164  |
| 28    | 158     | 154 | 156  | 129      | 110 | 122  | 120      | 110 | 116  | 120     | 97  | 107  |
| 29    | 171     | 154 | 157  | 136      | 129 | 133  | 130      | 120 | 125  | 126     | 118 | 124  |
| 30    | 159     | 141 | 148  | 140      | 136 | 138  | 133      | 125 | 130  | 128     | 126 | 127  |
| 31    | 156     | 148 | 153  | ---      | --- | ---  | 134      | 108 | 117  | 139     | 123 | 131  |
| MONTH | 346     | 107 | 188  | 196      | 80  | 141  | 159      | 89  | 134  | 256     | 97  | 136  |



01096910 BOULDER BROOK AT EAST BOLTON, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX   | MIN | MEAN | MAX | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|-------|-----|------|-----|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL |     |      | MAY |     |      |
| 1        | 136 | 129 | 131  | 121   | 116 | 118  | 137   | 84  | 113  | 416 | 135 | 149  |
| 2        | 129 | 88  | 104  | 125   | 118 | 121  | 123   | 103 | 115  | 144 | 140 | 142  |
| 3        | 128 | 116 | 124  | 122   | 119 | 120  | 133   | 124 | 128  | --- | --- | ---  |
| 4        | 133 | 124 | 128  | 125   | 118 | 122  | 136   | 131 | 133  | --- | --- | ---  |
| 5        | 133 | 123 | 129  | 120   | 110 | 113  | 140   | 134 | 136  | --- | --- | ---  |
| 6        | 133 | 128 | 132  | 123   | 112 | 119  | 142   | 137 | 139  | 141 | 134 | 138  |
| 7        | 140 | 128 | 135  | 131   | 122 | 125  | 142   | 139 | 140  | 143 | 137 | 139  |
| 8        | 136 | 130 | 134  | 132   | 127 | 129  | 142   | 138 | 140  | 139 | 125 | 130  |
| 9        | 135 | 130 | 132  | 141   | 129 | 133  | 143   | 139 | 141  | 144 | 135 | 139  |
| 10       | 134 | 130 | 132  | 133   | 128 | 130  | 144   | 141 | 143  | 148 | 143 | 144  |
| 11       | 133 | 117 | 126  | 134   | 120 | 127  | 144   | 142 | 143  | 157 | 148 | 152  |
| 12       | 134 | 126 | 131  | 142   | 127 | 132  | 148   | 141 | 144  | 159 | 122 | 140  |
| 13       | 135 | 118 | 129  | 132   | 102 | 115  | 147   | 142 | 145  | 151 | 139 | 147  |
| 14       | 135 | 124 | 131  | 131   | 117 | 123  | 147   | 143 | 145  | 161 | 149 | 155  |
| 15       | 150 | 127 | 138  | 135   | 129 | 132  | 148   | 144 | 146  | 170 | 160 | 166  |
| 16       | 126 | 113 | 120  | 155   | 132 | 139  | 151   | 146 | 148  | 175 | 163 | 168  |
| 17       | 124 | 106 | 118  | 143   | 120 | 130  | 155   | 147 | 150  | 175 | 151 | 159  |
| 18       | 123 | 117 | 121  | 139   | 128 | 133  | 158   | 149 | 153  | 164 | 139 | 150  |
| 19       | 120 | 108 | 113  | 137   | 120 | 132  | 161   | 152 | 156  | 151 | 127 | 145  |
| 20       | 139 | 111 | 117  | 128   | 92  | 114  | 161   | 154 | 157  | 156 | 149 | 152  |
| 21       | 122 | 114 | 118  | 119   | 103 | 113  | 160   | 152 | 157  | 158 | 121 | 147  |
| 22       | 114 | 94  | 102  | 127   | 118 | 123  | 160   | 140 | 154  | 158 | 143 | 151  |
| 23       | 112 | 99  | 107  | 130   | 124 | 127  | 147   | 137 | 141  | 170 | 155 | 162  |
| 24       | 114 | 109 | 112  | 132   | 127 | 129  | 152   | 129 | 142  | 173 | 164 | 168  |
| 25       | 113 | 106 | 110  | 132   | 128 | 130  | 140   | 131 | 136  | 172 | 163 | 167  |
| 26       | 115 | 110 | 112  | 132   | 128 | 130  | 144   | 138 | 131  | 176 | 165 | 171  |
| 27       | 118 | 112 | 114  | 134   | 129 | 131  | 148   | 142 | 145  | 185 | 172 | 177  |
| 28       | 119 | 112 | 116  | 134   | 118 | 127  | 147   | 99  | 130  | 201 | 177 | 187  |
| 29       | 120 | 112 | 116  | 134   | 129 | 131  | 133   | 113 | 117  | 212 | 193 | 200  |
| 30       | --- | --- | ---  | 134   | 132 | 133  | 136   | 130 | 133  | 210 | 198 | 203  |
| 31       | --- | --- | ---  | 136   | 134 | 135  | ---   | --- | ---  | 224 | 200 | 208  |
| MONTH    | 150 | 88  | 121  | 155   | 92  | 126  | 161   | 84  | 140  | 416 | 121 | 157  |

| DAY   | MAX | MIN | MEAN | MAX  | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|-------|-----|-----|------|------|-----|------|--------|-----|------|-----------|-----|------|
| JUNE  |     |     |      | JULY |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1     | 227 | 212 | 221  | 291  | 193 | 229  | 370    | 251 | 307  | 385       | 364 | 377  |
| 2     | 208 | 181 | 189  | 338  | 278 | 306  | 351    | 279 | 316  | 388       | 338 | 370  |
| 3     | 227 | 193 | 210  | 385  | 338 | 368  | 388    | 353 | 369  | 332       | 311 | 317  |
| 4     | 231 | 215 | 222  | 395  | 382 | 388  | 400    | 383 | 388  | 353       | 320 | 338  |
| 5     | 239 | 219 | 226  | 396  | 380 | 385  | 398    | 380 | 389  | 369       | 353 | 362  |
| 6     | 241 | 232 | 237  | 416  | 386 | 396  | 402    | 269 | 383  | 377       | 365 | 371  |
| 7     | 235 | 215 | 222  | 417  | 397 | 404  | 398    | 232 | 251  | 385       | 375 | 379  |
| 8     | 254 | 222 | 230  | 419  | 398 | 406  | 351    | 205 | 234  | 390       | 379 | 385  |
| 9     | 281 | 246 | 258  | 425  | 404 | 411  | 204    | 110 | 176  | 396       | 388 | 392  |
| 10    | 313 | 282 | 296  | 436  | 418 | 427  | 165    | 98  | 128  | 404       | 371 | 394  |
| 11    | 316 | 303 | 308  | 437  | 416 | 428  | 231    | 169 | 195  | 367       | 321 | 334  |
| 12    | 320 | 314 | 318  | 424  | 331 | 369  | 303    | 232 | 262  | 368       | 333 | 352  |
| 13    | 330 | 317 | 324  | 414  | 393 | 399  | 357    | 305 | 332  | 393       | 369 | 383  |
| 14    | 348 | 328 | 339  | 414  | 398 | 404  | 360    | 345 | 353  | 415       | 391 | 401  |
| 15    | 339 | 326 | 332  | 426  | 402 | 410  | 356    | 176 | 340  | 414       | 409 | 411  |
| 16    | 358 | 329 | 347  | 431  | 404 | 415  | ---    | --- | ---  | 416       | 411 | 414  |
| 17    | 354 | 255 | 293  | 428  | 372 | 402  | ---    | --- | ---  | 418       | 406 | 414  |
| 18    | 303 | 262 | 287  | 425  | 414 | 418  | ---    | --- | ---  | 384       | 341 | 357  |
| 19    | 327 | 303 | 316  | 430  | 417 | 424  | ---    | --- | ---  | 398       | 358 | 382  |
| 20    | 335 | 309 | 324  | 440  | 424 | 431  | ---    | --- | ---  | 419       | 397 | 407  |
| 21    | 331 | 310 | 323  | 444  | 274 | 397  | ---    | --- | ---  | 432       | 419 | 427  |
| 22    | 359 | 333 | 345  | 393  | 303 | 362  | ---    | --- | ---  | 429       | 424 | 426  |
| 23    | 388 | 359 | 376  | 431  | 391 | 407  | ---    | --- | ---  | 432       | 429 | 430  |
| 24    | 392 | 376 | 383  | 430  | 291 | 349  | ---    | --- | ---  | 430       | 417 | 423  |
| 25    | 419 | 365 | 399  | 406  | 363 | 388  | 386    | 373 | 379  | 418       | 416 | 417  |
| 26    | 440 | 419 | 425  | 411  | 402 | 406  | 400    | 384 | 393  | 428       | 426 | 426  |
| 27    | 425 | 377 | 399  | 416  | 410 | 414  | 399    | 395 | 397  | 439       | 432 | 434  |
| 28    | 399 | 327 | 369  | 418  | 412 | 416  | 399    | 392 | 396  | 438       | 433 | 435  |
| 29    | 418 | 335 | 386  | 420  | 290 | 402  | 394    | 270 | 332  | 441       | 431 | 437  |
| 30    | 420 | 335 | 390  | 347  | 300 | 303  | 314    | 278 | 298  | 442       | 437 | 440  |
| 31    | --- | --- | ---  | 375  | 346 | 363  | 363    | 353 | 359  | ---       | --- | ---  |
| MONTH | 440 | 181 | 309  | 444  | 193 | 387  | ---    | --- | ---  | 442       | 311 | 394  |
| YEAR  | 444 | 80  | 213  |      |     |      |        |     |      |           |     |      |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]



01096910 BOULDER BROOK AT EAST BOLTON, MA--Continued

TEMPERATURE (DEG. C) OF WATER, MAY TO SEPTEMBER 1977

| DAY   | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN |
|-------|------|------|------|------|------|------|
|       |      | MAY  |      |      | JUNE |      |
| 1     | ---  | ---  | ---  | 15.5 | 13.0 | 14.0 |
| 2     | ---  | ---  | ---  | 18.5 | 11.0 | 14.0 |
| 3     | ---  | ---  | ---  | 19.5 | 10.5 | 14.0 |
| 4     | ---  | ---  | ---  | 18.5 | 12.5 | 15.0 |
| 5     | ---  | ---  | ---  | 16.5 | 11.5 | 13.5 |
| 6     | ---  | ---  | ---  | 13.5 | 11.5 | 12.5 |
| 7     | ---  | ---  | ---  | 13.0 | 10.5 | 11.5 |
| 8     | ---  | ---  | ---  | 13.5 | 8.5  | 11.0 |
| 9     | ---  | ---  | ---  | 12.0 | 11.0 | 11.0 |
| 10    | ---  | ---  | ---  | 12.0 | 10.5 | 11.0 |
| 11    | ---  | ---  | ---  | 14.5 | 11.5 | 12.5 |
| 12    | ---  | ---  | ---  | 17.5 | 11.5 | 14.0 |
| 13    | ---  | ---  | ---  | 17.5 | 12.0 | 14.5 |
| 14    | ---  | ---  | ---  | 21.5 | 13.5 | 16.5 |
| 15    | ---  | ---  | ---  | 21.5 | 12.0 | 16.0 |
| 16    | ---  | ---  | ---  | 21.0 | 11.5 | 15.5 |
| 17    | ---  | ---  | ---  | 20.0 | 14.0 | 16.0 |
| 18    | ---  | ---  | ---  | 21.0 | 15.0 | 17.5 |
| 19    | ---  | ---  | ---  | 21.0 | 14.0 | 17.0 |
| 20    | ---  | ---  | ---  | 22.5 | 14.5 | 18.0 |
| 21    | ---  | ---  | ---  | 21.0 | 13.5 | 17.0 |
| 22    | ---  | ---  | ---  | 20.5 | 12.5 | 16.0 |
| 23    | ---  | ---  | ---  | 20.5 | 13.5 | 16.5 |
| 24    | ---  | ---  | ---  | 21.0 | 14.0 | 17.5 |
| 25    | 21.0 | 16.0 | 18.0 | 19.5 | 15.0 | 17.5 |
| 26    | 20.0 | 14.0 | 16.5 | 21.5 | 16.0 | 17.5 |
| 27    | 18.0 | 12.0 | 15.0 | 22.5 | 15.5 | 18.5 |
| 28    | 20.0 | 12.5 | 16.0 | 23.5 | 15.5 | 19.0 |
| 29    | 18.5 | 10.0 | 13.5 | 20.5 | 16.0 | 18.0 |
| 30    | 20.0 | 11.5 | 14.0 | 24.0 | 15.0 | 18.0 |
| 31    | 16.0 | 12.0 | 14.5 | ---  | ---  | ---  |
| MONTH | ---  | ---  | ---  | 24.0 | 8.5  | 15.0 |

TEMPERATURE (DEG. C) OF WATER, MAY TO SEPTEMBER 1977--Continued

| DAY    | MAX  | MIN  | MEAN | MAX  | MIN    | MEAN | MAX  | MIN       | MEAN |
|--------|------|------|------|------|--------|------|------|-----------|------|
|        |      | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |
| 1      | 22.0 | 16.0 | 18.0 | ---  | ---    | ---  | 21.0 | 17.5      | 19.0 |
| 2      | 23.5 | 13.5 | 18.0 | ---  | ---    | ---  | 22.5 | 18.0      | 20.0 |
| 3      | 24.0 | 13.5 | 18.0 | ---  | ---    | ---  | 23.5 | 18.5      | 21.5 |
| 4      | 23.0 | 14.5 | 18.5 | ---  | ---    | ---  | 22.0 | 15.0      | 19.5 |
| 5      | 23.0 | 15.5 | 19.0 | ---  | ---    | ---  | 19.5 | 15.5      | 17.0 |
| 6      | 19.0 | 14.5 | 17.0 | ---  | ---    | ---  | 19.5 | 15.5      | 18.0 |
| 7      | 22.5 | 14.0 | 18.0 | ---  | ---    | ---  | 20.5 | 16.0      | 18.0 |
| 8      | ---  | ---  | ---  | ---  | ---    | ---  | 18.5 | 13.5      | 16.5 |
| 9      | ---  | ---  | ---  | ---  | ---    | ---  | 17.5 | 13.0      | 15.0 |
| 10     | ---  | ---  | ---  | ---  | ---    | ---  | 17.5 | 13.0      | 15.5 |
| 11     | ---  | ---  | ---  | 25.0 | 18.0   | 20.0 | 17.5 | 14.5      | 16.0 |
| 12     | ---  | ---  | ---  | 26.0 | 18.5   | 21.0 | 16.5 | 11.5      | 14.5 |
| 13     | ---  | ---  | ---  | 21.5 | 17.5   | 19.5 | 15.5 | 11.0      | 13.5 |
| 14     | ---  | ---  | ---  | 22.0 | 18.0   | 20.0 | 16.0 | 13.5      | 15.0 |
| 15     | ---  | ---  | ---  | 22.0 | 16.5   | 19.0 | 19.5 | 15.0      | 17.0 |
| 16     | ---  | ---  | ---  | 23.5 | 14.5   | 18.0 | 16.0 | 13.5      | 14.5 |
| 17     | ---  | ---  | ---  | 20.0 | 17.5   | 18.5 | 15.5 | 13.5      | 14.5 |
| 18     | ---  | ---  | ---  | 21.0 | 15.5   | 18.5 | 17.0 | 15.0      | 16.0 |
| 19     | ---  | ---  | ---  | 21.5 | 12.5   | 16.5 | 19.0 | 15.5      | 17.0 |
| 20     | ---  | ---  | ---  | 21.5 | 13.5   | 16.5 | 20.0 | 17.5      | 18.5 |
| 21     | ---  | ---  | ---  | 20.5 | 12.0   | 15.5 | 17.5 | 13.5      | 15.0 |
| 22     | ---  | ---  | ---  | 20.5 | 13.5   | 16.0 | 14.0 | 12.5      | 13.5 |
| 23     | ---  | ---  | ---  | 18.5 | 13.0   | 15.5 | 16.0 | 12.0      | 13.5 |
| 24     | ---  | ---  | ---  | 20.5 | 14.0   | 17.0 | 16.5 | 12.0      | 14.0 |
| 25     | ---  | ---  | ---  | 18.5 | 13.5   | 16.5 | 14.0 | 13.5      | 13.5 |
| 26     | ---  | ---  | ---  | 20.0 | 11.5   | 15.0 | 13.0 | 11.0      | 12.0 |
| 27     | ---  | ---  | ---  | 19.5 | 12.5   | 15.5 | 15.0 | 12.5      | 14.0 |
| 28     | ---  | ---  | ---  | 21.5 | 14.5   | 18.0 | 15.0 | 11.5      | 13.0 |
| 29     | ---  | ---  | ---  | 24.5 | 18.0   | 21.0 | 15.0 | 10.5      | 12.5 |
| 30     | ---  | ---  | ---  | 25.0 | 19.0   | 21.5 | 14.5 | 9.0       | 11.5 |
| 31     | ---  | ---  | ---  | 22.5 | 17.0   | 19.5 | ---  | ---       | ---  |
| MONTH  | ---  | ---  | ---  | ---  | ---    | ---  | 23.5 | 9.0       | 15.5 |
| PERIOD | ---  | ---  | ---  |      |        |      |      |           |      |



## 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) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair. Occasional diurnal fluctuation at low flow by mills upstream; greater regulation prior to 1969. High flow affected by retarding reservoirs since 1962. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--36 years, 182 ft<sup>3</sup>/s (5.154 m<sup>3</sup>/s), 21.31 in/yr (541 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 cfs (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 cfs (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, 1,250 ft<sup>3</sup>/s (35.4 m<sup>3</sup>/s) Mar. 15, gage height, 5.37 ft (1.637 m); minimum daily, 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s) July 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN  | FEB  | MAR    | APR       | MAY      | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|------|------|--------|-----------|----------|------|------|------|------|
| 1           | 36    | 84    | 46       | 44   | 45   | 327    | 536       | 289      | 76   | 68   | 96   | 44   |
| 2           | 34    | 86    | 44       | 42   | 43   | 318    | 460       | 261      | 78   | 60   | 176  | 42   |
| 3           | 35    | 77    | 43       | 41   | 42   | 292    | 431       | 234      | 77   | 51   | 152  | 37   |
| 4           | 35    | 68    | 40       | 43   | 43   | 270    | 410       | 221      | 71   | 46   | 135  | 38   |
| 5           | 35    | 65    | 38       | 43   | 44   | 327    | 452       | 207      | 65   | 43   | 102  | 37   |
| 6           | 35    | 65    | 35       | 41   | 45   | 425    | 570       | 204      | 62   | 48   | 83   | 35   |
| 7           | 38    | 63    | 45       | 45   | 47   | 490    | 564       | 203      | 76   | 46   | 74   | 35   |
| 8           | 29    | 60    | 94       | 48   | 48   | 466    | 473       | 185      | 81   | 42   | 74   | 30   |
| 9           | 65    | 60    | 129      | 44   | 50   | 442    | 409       | 194      | 79   | 53   | 80   | 28   |
| 10          | 102   | 58    | 111      | 51   | 53   | 487    | 367       | 338      | 76   | 44   | 78   | 31   |
| 11          | 96    | 58    | 89       | 60   | 58   | 562    | 335       | 525      | 90   | 55   | 69   | 35   |
| 12          | 81    | 57    | 77       | 57   | 62   | 615    | 305       | 550      | 106  | 55   | 78   | 32   |
| 13          | 64    | 55    | 71       | 55   | 71   | 657    | 281       | 464      | 112  | 56   | 100  | 29   |
| 14          | 58    | 53    | 57       | 53   | 75   | 1010   | 254       | 367      | 91   | 74   | 84   | 38   |
| 15          | 52    | 53    | 57       | 54   | 83   | 1220   | 229       | 302      | 85   | 81   | 72   | 46   |
| 16          | 49    | 52    | 56       | 53   | 83   | 1070   | 208       | 265      | 75   | 84   | 63   | 47   |
| 17          | 44    | 51    | 60       | 51   | 78   | 867    | 190       | 238      | 67   | 78   | 60   | 56   |
| 18          | 45    | 52    | 60       | 48   | 75   | 723    | 178       | 215      | 64   | 63   | 57   | 55   |
| 19          | 43    | 52    | 58       | 50   | 75   | 644    | 165       | 211      | 69   | 25   | 49   | 63   |
| 20          | 45    | 51    | 58       | 52   | 74   | 582    | 157       | 205      | 75   | 26   | 48   | 83   |
| 21          | 139   | 49    | 67       | 50   | 77   | 554    | 149       | 191      | 75   | 33   | 49   | 142  |
| 22          | 169   | 47    | 60       | 47   | 75   | 543    | 141       | 170      | 68   | 37   | 48   | 143  |
| 23          | 169   | 47    | 63       | 44   | 77   | 786    | 152       | 152      | 60   | 40   | 47   | 130  |
| 24          | 135   | 46    | 56       | 42   | 77   | 959    | 276       | 135      | 56   | 51   | 49   | 121  |
| 25          | 113   | 45    | 50       | 44   | 162  | 857    | 636       | 123      | 52   | 74   | 57   | 132  |
| 26          | 111   | 44    | 52       | 45   | 225  | 715    | 824       | 112      | 56   | 94   | 58   | 171  |
| 27          | 113   | 45    | 51       | 45   | 273  | 637    | 632       | 102      | 68   | 105  | 56   | 210  |
| 28          | 107   | 44    | 49       | 44   | 309  | 615    | 483       | 89       | 69   | 111  | 49   | 221  |
| 29          | 93    | 46    | 47       | 49   | ---  | 635    | 384       | 76       | 75   | 103  | 45   | 217  |
| 30          | 83    | 48    | 46       | 46   | ---  | 673    | 321       | 69       | 77   | 93   | 43   | 181  |
| 31          | 77    | ---   | 45       | 45   | ---  | 624    | ---       | 75       | ---  | 77   | 41   | ---  |
| TOTAL       | 2330  | 1681  | 1854     | 1476 | 2469 | 19392  | 10972     | 6972     | 2231 | 1916 | 2272 | 2509 |
| MEAN        | 75.2  | 56.0  | 59.8     | 47.6 | 88.2 | 626    | 366       | 225      | 74.4 | 61.8 | 73.3 | 83.6 |
| MAX         | 169   | 86    | 129      | 60   | 309  | 1220   | 824       | 550      | 112  | 111  | 176  | 221  |
| MIN         | 29    | 44    | 35       | 41   | 42   | 270    | 141       | 69       | 52   | 25   | 41   | 28   |
| CFSM        | .65   | .48   | .52      | .41  | .76  | 5.40   | 3.16      | 1.94     | .64  | .53  | .63  | .72  |
| IN.         | .75   | .54   | .59      | .47  | .79  | 6.22   | 3.52      | 2.24     | .72  | .61  | .73  | .80  |
| CAL YR 1976 | TOTAL | 59840 | MEAN 163 | MAX  | 954  | MIN 21 | CFSM 1.41 | IN 19.19 |      |      |      |      |
| WTR YR 1977 | TOTAL | 56074 | MEAN 154 | MAX  | 1220 | MIN 25 | CFSM 1.33 | IN 17.98 |      |      |      |      |

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>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1962-63. July 1963 to current year.

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

REMARKS.--Records good except those for winter period and periods of no gage-height record or backwater from beaver dam, which are poor. Occasional regulation since 1967 by small pond upstream.

AVERAGE DISCHARGE.--14 years, 19.6 ft<sup>3</sup>/s (0.555 m<sup>3</sup>/s), 20.96 in/yr (532 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 360 ft<sup>3</sup>/s (10.2 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 5.07 ft (1.545 m); minimum, 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 (2.55 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 |      |                                                       |                         | Apr. 6  | 0330 | 92 2.61                                               | 3.65 1.113              |
| or 15   | -    | *300 8.5                                              | *Unknown                | Apr. 26 | 1500 | 175 4.96                                              | 4.19 1.277              |
| Mar. 23 | 2200 | 165 4.67                                              | 4.21 1.283              | May 11  | 2100 | 161 4.56                                              | 4.09 1.247              |

Minimum discharge, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB  | MAR  | APR  | MAY    | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|------|------|------|--------|-------|-------|-------|-------|
| 1     | 1.1   | 29    | 17    | 6.8   | 13   | 65   | 68   | 40     | 7.6   | 8.3   | 12    | 6.2   |
| 2     | 1.2   | 18    | 14    | 6.8   | 13   | 67   | 61   | 35     | 7.6   | 7.0   | 27    | 6.0   |
| 3     | 1.4   | 14    | 14    | 6.8   | 12   | 62   | 59   | 32     | 7.6   | 5.7   | 38    | 5.6   |
| 4     | 1.4   | 11    | 11    | 6.8   | 12   | 57   | 59   | 27     | 7.4   | 4.5   | 20    | 6.2   |
| 5     | 1.4   | 9.4   | 9.6   | 7.0   | 12   | 63   | 65   | 25     | 6.8   | 3.4   | 14    | 6.2   |
| 6     | 1.5   | 6.2   | 9.0   | 7.2   | 13   | 88   | 88   | 25     | 6.6   | 2.6   | 11    | 5.8   |
| 7     | 1.7   | 21    | 13    | 8.5   | 11   | 82   | 74   | 24     | 6.4   | 2.5   | 10    | 5.3   |
| 8     | 1.8   | 32    | 28    | 9.2   | 11   | 67   | 64   | 21     | 9.5   | 2.7   | 9.9   | 4.9   |
| 9     | 2.5   | 20    | 35    | 8.5   | 10   | 66   | 60   | 22     | 12    | 3.4   | 9.9   | 5.1   |
| 10    | 5.1   | 16    | 27    | 12    | 10   | 79   | 54   | 55     | 10    | 3.9   | 9.9   | 5.1   |
| 11    | 8.2   | 15    | 21    | 15    | 10   | 98   | 49   | 115    | 12    | 4.3   | 9.4   | 5.3   |
| 12    | 10    | 15    | 20    | 14    | 11   | 94   | 45   | 101    | 20    | 4.1   | 9.2   | 5.3   |
| 13    | 9.3   | 13    | 19    | 14    | 12   | 97   | 41   | 77     | 20    | 4.8   | 9.2   | 5.3   |
| 14    | 7.7   | 10    | 16    | 14    | 13   | 224  | 38   | 58     | 15    | 5.6   | 9.2   | 5.4   |
| 15    | 5.9   | 14    | 14    | 14    | 14   | 220  | 35   | 45     | 12    | 4.8   | 9.2   | 5.3   |
| 16    | 5.5   | 17    | 13    | 14    | 14   | 160  | 32   | 38     | 9.4   | 4.7   | 8.7   | 5.4   |
| 17    | 6.7   | 16    | 13    | 13    | 14   | 120  | 27   | 32     | 7.8   | 4.9   | 8.5   | 5.8   |
| 18    | 8.0   | 16    | 14    | 14    | 13   | 100  | 25   | 28     | 7.4   | 6.6   | 8.7   | 6.0   |
| 19    | 5.3   | 16    | 14    | 15    | 13   | 88   | 25   | 30     | 17    | 7.5   | 8.2   | 6.6   |
| 20    | 2.9   | 16    | 13    | 14    | 13   | 80   | 23   | 33     | 28    | 6.9   | 8.0   | 7.2   |
| 21    | 14    | 16    | 15    | 13    | 13   | 76   | 21   | 29     | 17    | 6.8   | 7.2   | 11    |
| 22    | 48    | 16    | 14    | 13    | 12   | 75   | 19   | 25     | 12    | 7.4   | 7.2   | 12    |
| 23    | 39    | 15    | 12    | 13    | 12   | 128  | 25   | 20     | 11    | 8.5   | 7.4   | 8.2   |
| 24    | 26    | 14    | 11    | 13    | 12   | 140  | 62   | 17     | 9.3   | 8.8   | 7.4   | 7.4   |
| 25    | 21    | 14    | 8.0   | 13    | 30   | 100  | 130  | 15     | 8.7   | 11    | 7.2   | 7.6   |
| 26    | 23    | 13    | 6.0   | 13    | 32   | 86   | 126  | 13     | 8.3   | 14    | 7.4   | 9.4   |
| 27    | 26    | 13    | 6.4   | 13    | 38   | 84   | 79   | 11     | 8.2   | 15    | 7.6   | 16    |
| 28    | 26    | 14    | 6.2   | 13    | 58   | 84   | 63   | 9.6    | 8.6   | 10    | 7.4   | 26    |
| 29    | 22    | 16    | 6.4   | 14    | ---  | 89   | 53   | 9.2    | 8.6   | 11    | 7.2   | 21    |
| 30    | 18    | 18    | 6.6   | 13    | ---  | 89   | 46   | 8.5    | 8.5   | 11    | 6.8   | 15    |
| 31    | 19    | ---   | 6.6   | 13    | ---  | 76   | ---  | 8.0    | ---   | 11    | 6.6   | ---   |
| TOTAL | 370.6 | 473.6 | 432.8 | 364.6 | 451  | 3004 | 1616 | 1028.3 | 330.3 | 212.7 | 329.4 | 247.6 |
| MEAN  | 12.0  | 15.8  | 14.0  | 11.8  | 16.1 | 96.9 | 53.9 | 33.2   | 11.0  | 6.86  | 10.6  | 8.25  |
| MAX   | 48    | 32    | 35    | 15    | 58   | 224  | 130  | 115    | 28    | 15    | 38    | 26    |
| MIN   | 1.1   | 6.2   | 6.0   | 6.8   | 10   | 57   | 19   | 8.0    | 6.4   | 2.5   | 6.6   | 4.9   |
| CFSM  | .95   | 1.24  | 1.10  | .93   | 1.27 | 7.63 | 4.24 | 2.61   | .87   | .54   | .84   | .65   |
| IN.   | 1.09  | 1.39  | 1.27  | 1.07  | 1.32 | 8.80 | 4.73 | 3.01   | .97   | .62   | .96   | .73   |

CAL YR 1976 TOTAL 9116.70 MEAN 24.9 MAX 206 MIN .27 CFSM 1.96 IN 26.70  
WTR YR 1977 TOTAL 8860.90 MEAN 24.3 MAX 224 MIN 1.1 CFSM 1.91 IN 25.95

NOTE.--No gage-height record Mar. 14-22. Backwater from beaver dam July 28 to Sept. 28.

01097300 NASHOBA BROOK NEAR ACTON, MA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972-74, October 1975 to October 1977 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1971 to September 1974, October 1975 to October 1977 (discontinued).

WATER TEMPERATURES: October 1971 to September 1974, October 1975 to October 1977 (discontinued).

INSTRUMENTATION.--Water-quality monitor since Oct. 1971 (no record during 1975 water year).

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Recording air-temperature gage located at station since January 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 371 micromhos May 13, 1972; minimum, 71 micromhos Apr. 2, 1973.

WATER TEMPERATURES: Maximum recorded, 30.0°C July 21, 1977; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR PERIOD OCTOBER 1976 TO OCTOBER 1977.--

SPECIFIC CONDUCTANCE: Maximum recorded, 261 micromhos Feb. 18; minimum, 81 micromhos May 12.

WATER TEMPERATURES: Maximum recorded, 30.0°C July 21; minimum, 0.0°C on many days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 165 | 163 | 164      | 172 | 170 | 171      | 177 | 168 | 173     | 190 | 186 | 188  |
| 2       | 163 | 161 | 162      | 175 | 172 | 174      | 182 | 177 | 180     | 187 | 185 | 186  |
| 3       | 163 | 161 | 162      | 177 | 175 | 176      | 188 | 178 | 183     | 186 | 184 | 185  |
| 4       | 164 | 161 | 163      | 177 | 176 | 176      | 192 | 188 | 191     | 185 | 184 | 185  |
| 5       | 166 | 163 | 165      | 179 | 176 | 177      | 205 | 192 | 199     | 186 | 185 | 186  |
| 6       | 166 | 164 | 165      | --- | --- | ---      | 210 | 205 | 207     | 187 | 186 | 187  |
| 7       | 170 | 166 | 169      | --- | --- | ---      | 206 | 182 | 198     | 188 | 182 | 186  |
| 8       | 172 | 169 | 170      | --- | --- | ---      | 193 | 169 | 181     | 185 | 184 | 185  |
| 9       | 170 | 138 | 163      | 166 | 143 | 165      | 202 | 179 | 197     | 187 | 186 | 187  |
| 10      | 147 | 134 | 139      | 171 | 166 | 168      | 204 | 200 | 201     | 189 | 181 | 186  |
| 11      | 152 | 149 | 151      | 174 | 170 | 172      | 205 | 200 | 203     | 186 | 181 | 183  |
| 12      | 163 | 152 | 155      | 177 | 173 | 175      | 199 | 191 | 194     | 185 | 178 | 181  |
| 13      | 170 | 164 | 167      | 181 | 177 | 179      | 192 | 185 | 189     | 193 | 177 | 183  |
| 14      | 174 | 170 | 172      | 185 | 179 | 182      | 189 | 184 | 186     | 197 | 194 | 195  |
| 15      | 178 | 174 | 177      | 186 | 182 | 184      | 194 | 190 | 192     | 205 | 198 | 202  |
| 16      | 179 | 178 | 179      | 188 | 185 | 187      | 192 | 189 | 190     | 209 | 206 | 208  |
| 17      | 182 | 180 | 182      | 189 | 187 | 188      | 189 | 186 | 187     | 211 | 208 | 210  |
| 18      | 182 | 181 | 182      | 190 | 186 | 188      | 186 | 178 | 182     | 211 | 207 | 209  |
| 19      | 181 | 180 | 181      | 187 | 185 | 186      | 178 | 176 | 176     | 213 | 208 | 212  |
| 20      | 182 | 181 | 182      | 184 | 181 | 183      | 177 | 176 | 176     | 208 | 201 | 204  |
| 21      | 182 | 149 | 166      | 181 | 178 | 179      | 178 | 177 | 178     | 202 | 199 | 201  |
| 22      | 160 | 145 | 150      | 179 | 178 | 179      | 183 | 179 | 181     | 200 | 196 | 198  |
| 23      | 147 | 145 | 146      | 183 | 178 | 181      | 196 | 185 | 189     | 199 | 197 | 199  |
| 24      | 155 | 147 | 150      | 182 | 181 | 182      | 208 | 197 | 204     | 206 | 199 | 202  |
| 25      | 156 | 153 | 155      | 183 | 181 | 182      | 214 | 208 | 211     | 206 | 203 | 204  |
| 26      | 160 | 157 | 158      | 183 | 181 | 182      | 215 | 212 | 214     | 208 | 203 | 205  |
| 27      | 159 | 158 | 158      | 182 | 180 | 181      | 213 | 210 | 211     | 214 | 209 | 211  |
| 28      | 162 | 159 | 160      | 180 | 175 | 177      | 215 | 204 | 209     | 211 | 208 | 210  |
| 29      | 165 | 162 | 164      | 175 | 166 | 171      | 205 | 195 | 199     | 208 | 205 | 206  |
| 30      | 168 | 165 | 167      | 168 | 164 | 166      | 196 | 191 | 194     | 208 | 206 | 207  |
| 31      | 172 | 168 | 170      | --- | --- | ---      | 192 | 189 | 191     | 226 | 209 | 220  |
| MONTH   | 182 | 134 | 164      | 190 | 143 | 178      | 215 | 168 | 192     | 226 | 177 | 197  |

01097300 NASHOBA BROOK NEAR ACTON, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX      | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|-------|----------|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
|       | FEBRUARY |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1     | 229      | 227 | 228  | 187   | 184 | 185  | 134    | 129 | 131  | 125       | 121 | 124  |
| 2     | 227      | 222 | 225  | 187   | 179 | 182  | 135    | 133 | 134  | 128       | 125 | 127  |
| 3     | 222      | 219 | 220  | 178   | 170 | 175  | 133    | 131 | 132  | 131       | 128 | 130  |
| 4     | 219      | 215 | 217  | 175   | 169 | 172  | 137    | 134 | 136  | 136       | 130 | 133  |
| 5     | 215      | 211 | 213  | 172   | 153 | 160  | 136    | 118 | 126  | 137       | 134 | 136  |
| 6     | 211      | 209 | 210  | 157   | 144 | 152  | 120    | 118 | 119  | 138       | 135 | 136  |
| 7     | 216      | 209 | 212  | 146   | 141 | 144  | 122    | 119 | 120  | 142       | 137 | 139  |
| 8     | 219      | 214 | 216  | 150   | 143 | 147  | 125    | 122 | 123  | 146       | 140 | 143  |
| 9     | 225      | 215 | 220  | 145   | 139 | 142  | 130    | 123 | 127  | 144       | 128 | 140  |
| 10    | 226      | 216 | 223  | 138   | 123 | 130  | 132    | 128 | 130  | 128       | 98  | 113  |
| 11    | 216      | 206 | 210  | 121   | 111 | 116  | 134    | 130 | 133  | 97        | 82  | 86   |
| 12    | 211      | 206 | 209  | 113   | 111 | 112  | 137    | 134 | 135  | 93        | 81  | 87   |
| 13    | 223      | 211 | 218  | 113   | 90  | 105  | 140    | 138 | 139  | 102       | 93  | 97   |
| 14    | 227      | 220 | 223  | 95    | 82  | 88   | 142    | 140 | 141  | 108       | 102 | 106  |
| 15    | 237      | 227 | 232  | 100   | 85  | 91   | 143    | 141 | 142  | 114       | 107 | 111  |
| 16    | 245      | 237 | 241  | 112   | 100 | 106  | 143    | 141 | 142  | 119       | 114 | 117  |
| 17    | 260      | 245 | 253  | 120   | 111 | 116  | 146    | 141 | 144  | 123       | 119 | 121  |
| 18    | 261      | 256 | 259  | 123   | 119 | 121  | 149    | 144 | 147  | 127       | 123 | 125  |
| 19    | 255      | 249 | 253  | 127   | 122 | 125  | 149    | 146 | 148  | 128       | 123 | 126  |
| 20    | 248      | 232 | 242  | 130   | 121 | 125  | 149    | 147 | 148  | 129       | 126 | 128  |
| 21    | 233      | 222 | 228  | 134   | 129 | 131  | 151    | 148 | 150  | 132       | 128 | 130  |
| 22    | 221      | 215 | 218  | 135   | 120 | 131  | 152    | 150 | 151  | 139       | 131 | 133  |
| 23    | 217      | 214 | 215  | 119   | 104 | 109  | 152    | 141 | 148  | 139       | 135 | 137  |
| 24    | 216      | 207 | 212  | 112   | 103 | 108  | 139    | 110 | 124  | 139       | 136 | 138  |
| 25    | 208      | 155 | 181  | 118   | 111 | 114  | 108    | 92  | 98   | 144       | 139 | 142  |
| 26    | 164      | 151 | 154  | 123   | 118 | 120  | 94     | 92  | 93   | 162       | 144 | 151  |
| 27    | 204      | 165 | 189  | 129   | 123 | 126  | 107    | 93  | 101  | 177       | 163 | 169  |
| 28    | 199      | 185 | 192  | 129   | 127 | 128  | 113    | 106 | 110  | 193       | 178 | 183  |
| 29    | ---      | --- | ---  | 126   | 122 | 124  | 119    | 113 | 116  | 189       | 177 | 182  |
| 30    | ---      | --- | ---  | 127   | 126 | 126  | 122    | 117 | 120  | 180       | 158 | 168  |
| 31    | ---      | --- | ---  | 130   | 127 | 128  | ---    | --- | ---  | 170       | 165 | 166  |
| MONTH | 261      | 151 | 218  | 187   | 82  | 130  | 152    | 92  | 130  | 193       | 81  | 133  |
| DAY   | MAX      | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|       | JUNE     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1     | 168      | 163 | 166  | 150   | 146 | 147  | 164    | 108 | 149  | 175       | 171 | 173  |
| 2     | 163      | 161 | 162  | 156   | 150 | 153  | 143    | 103 | 126  | 174       | 167 | 170  |
| 3     | 170      | 161 | 164  | 156   | 154 | 155  | 160    | 143 | 153  | 170       | 167 | 168  |
| 4     | 172      | 167 | 169  | 154   | 151 | 152  | 166    | 160 | 163  | 166       | 154 | 158  |
| 5     | 169      | 164 | 166  | 151   | 148 | 150  | 166    | 165 | 166  | 158       | 155 | 156  |
| 6     | 165      | 161 | 163  | 149   | 145 | 146  | 166    | 163 | 165  | 165       | 157 | 159  |
| 7     | 162      | 158 | 160  | 146   | 144 | 145  | 163    | 161 | 162  | 173       | 162 | 167  |
| 8     | 157      | 146 | 151  | 146   | 144 | 145  | 163    | 161 | 162  | 175       | 172 | 174  |
| 9     | 151      | 145 | 147  | 144   | 142 | 142  | 165    | 163 | 164  | 175       | 171 | 173  |
| 10    | 152      | 151 | 152  | 143   | 142 | 142  | 165    | 163 | 164  | 173       | 168 | 171  |
| 11    | 151      | 140 | 146  | 146   | 142 | 144  | 166    | 162 | 164  | 168       | 163 | 166  |
| 12    | 140      | 138 | 138  | 146   | 145 | 145  | 165    | 162 | 164  | 164       | 162 | 163  |
| 13    | 143      | 138 | 141  | 146   | 144 | 145  | 162    | 160 | 161  | 163       | 161 | 163  |
| 14    | 146      | 143 | 144  | 146   | 143 | 144  | 163    | 159 | 161  | 161       | 158 | 159  |
| 15    | 146      | 144 | 145  | 147   | 144 | 145  | 163    | 161 | 161  | 160       | 158 | 159  |
| 16    | 147      | 145 | 146  | 150   | 148 | 148  | 164    | 160 | 162  | 164       | 161 | 163  |
| 17    | 147      | 145 | 146  | 152   | 150 | 152  | 164    | 162 | 163  | 161       | 151 | 155  |
| 18    | 145      | 141 | 144  | 151   | 138 | 145  | 163    | 158 | 160  | 158       | 151 | 155  |
| 19    | 140      | 134 | 137  | 148   | 143 | 145  | 162    | 156 | 160  | 164       | 157 | 158  |
| 20    | 139      | 137 | 138  | 147   | 145 | 145  | 163    | 160 | 161  | 170       | 156 | 163  |
| 21    | 141      | 138 | 139  | 151   | 147 | 149  | 161    | 155 | 158  | 196       | 155 | 179  |
| 22    | 141      | 139 | 140  | ---   | --- | ---  | 160    | 156 | 157  | 208       | 196 | 204  |
| 23    | 144      | 141 | 142  | ---   | --- | ---  | 157    | 151 | 154  | 213       | 208 | 210  |
| 24    | 144      | 142 | 143  | ---   | --- | ---  | 155    | 151 | 153  | 214       | 204 | 211  |
| 25    | 143      | 142 | 142  | ---   | --- | ---  | 153    | 145 | 149  | 201       | 172 | 180  |
| 26    | 142      | 140 | 140  | ---   | --- | ---  | 157    | 148 | 151  | 189       | 165 | 181  |
| 27    | 140      | 139 | 139  | 170   | 147 | 158  | 176    | 159 | 167  | 172       | 162 | 166  |
| 28    | 147      | 139 | 142  | 185   | 172 | 181  | 185    | 176 | 178  | 172       | 161 | 166  |
| 29    | 149      | 147 | 148  | 184   | 177 | 179  | 186    | 178 | 182  | 174       | 162 | 166  |
| 30    | 148      | 146 | 147  | 177   | 167 | 171  | 184    | 178 | 180  | 181       | 174 | 177  |
| 31    | ---      | --- | ---  | 167   | 160 | 163  | 181    | 173 | 175  | ---       | --- | ---  |
| MONTH | 172      | 134 | 148  | 185   | 138 | 151  | 186    | 103 | 161  | 214       | 151 | 170  |
| YEAR  | 261      | 81  | 164  |       |     |      |        |     |      |           |     |      |

01097300 NASHOBA BROOK NEAR ACTON, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), OCTOBER 1977

| DAY     | MAX | MIN | MEAN |
|---------|-----|-----|------|
| OCTOBER |     |     |      |
| 1       | 183 | 171 | 181  |
| 2       | 170 | 160 | 165  |
| 3       | 169 | 162 | 167  |
| 4       | 174 | 168 | 171  |
| 5       | 177 | 174 | 176  |
| 6       | 181 | 175 | 177  |
| 7       | 188 | 180 | 183  |
| 8       | 188 | 173 | 181  |
| 9       | 171 | 155 | 161  |
| 10      | 166 | 154 | 157  |
| 11      | 166 | 159 | 162  |
| 12      | 166 | 161 | 162  |
| 13      | 170 | 166 | 167  |
| 14      | 172 | 168 | 170  |
| 15      | 168 | 165 | 167  |
| 16      | 167 | 161 | 165  |
| 17      | 160 | 137 | 145  |
| 18      | 137 | 132 | 136  |
| 19      | 139 | 136 | 138  |
| 20      | 139 | 135 | 138  |
| 21      | 140 | 135 | 136  |
| 22      | 143 | 140 | 142  |
| 23      | 148 | 144 | 146  |
| 24      | 153 | 149 | 151  |
| 25      | 155 | 153 | 154  |
| 26      | --- | --- | ---  |
| 27      | --- | --- | ---  |
| 28      | --- | --- | ---  |
| 29      | --- | --- | ---  |
| 30      | --- | --- | ---  |
| 31      | --- | --- | ---  |
| MONTH   | 188 | 132 | 160  |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX  | MIN  | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 11.0 | 10.5 | 10.5     | 5.0 | 4.5 | 5.0      | 2.0 | 1.0 | 1.5     | 0.0 | 0.0 | 0.0  |
| 2       | 11.0 | 9.5  | 10.0     | 5.5 | 3.5 | 4.5      | 1.5 | 0.0 | 1.5     | 0.0 | 0.0 | 0.0  |
| 3       | 12.0 | 9.0  | 10.0     | 5.0 | 3.5 | 4.0      | 0.5 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 4       | 13.0 | 9.5  | 11.0     | 5.0 | 4.0 | 4.5      | 1.0 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 5       | 12.5 | 10.0 | 11.0     | 6.5 | 5.5 | 6.0      | 1.0 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 6       | 12.5 | 11.5 | 12.0     | --- | --- | ---      | 1.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 7       | 14.0 | 12.0 | 12.5     | --- | --- | ---      | 1.5 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 8       | 14.5 | 13.5 | 14.0     | --- | --- | ---      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 9       | 14.5 | 14.0 | 14.5     | 2.5 | 2.0 | 2.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 10      | 14.5 | 10.0 | 12.0     | 2.0 | 1.0 | 1.5      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 11      | 11.5 | 9.0  | 10.0     | 1.5 | 0.5 | 1.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 12      | 10.0 | 7.5  | 8.5      | 2.0 | 0.5 | 1.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 13      | 8.5  | 6.5  | 7.5      | 2.0 | 0.5 | 1.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 14      | 9.5  | 8.0  | 8.5      | 2.0 | 0.5 | 1.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 15      | 9.5  | 7.5  | 8.0      | 2.5 | 0.5 | 1.5      | 0.5 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 16      | 10.0 | 8.0  | 8.5      | 2.5 | 0.5 | 1.5      | 1.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 17      | 10.0 | 7.5  | 8.5      | 2.5 | 1.0 | 1.5      | 0.5 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 18      | 9.0  | 6.5  | 7.5      | 2.5 | 0.5 | 1.5      | 0.5 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 19      | 7.5  | 5.0  | 6.0      | 3.0 | 1.0 | 2.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 20      | 7.0  | 4.5  | 5.5      | 3.0 | 2.0 | 2.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 21      | 8.0  | 5.5  | 7.0      | 3.0 | 1.5 | 2.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 22      | 8.5  | 6.0  | 7.0      | 2.5 | 1.5 | 2.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 23      | 6.5  | 5.0  | 5.5      | 2.0 | 1.0 | 1.5      | 0.0 | 0.0 | 0.0     | 1.0 | 0.0 | 0.0  |
| 24      | 6.0  | 4.0  | 5.0      | 2.0 | 1.0 | 1.5      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 25      | 5.0  | 4.5  | 4.5      | 2.5 | 1.0 | 1.5      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 26      | 5.5  | 5.0  | 5.5      | 3.0 | 1.5 | 2.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 27      | 5.5  | 3.0  | 4.0      | 4.0 | 2.0 | 3.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 28      | 4.5  | 2.5  | 3.5      | 3.5 | 2.5 | 3.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 29      | 4.0  | 2.5  | 3.0      | 3.5 | 2.0 | 3.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 30      | 4.5  | 3.0  | 3.5      | 2.5 | 1.5 | 2.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 31      | 5.0  | 4.0  | 4.5      | --- | --- | ---      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| MONTH   | 14.5 | 2.5  | 8.0      | 6.5 | 0.5 | 2.5      | 2.0 | 0.0 | 0.0     | 1.0 | 0.0 | 0.0  |

01097300 NASHOBA BROOK NEAR ACTON, MA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX | MIN      | MEAN | MAX  | MIN   | MEAN | MAX  | MIN   | MEAN | MAX  | MIN  | MEAN |
|-------|-----|----------|------|------|-------|------|------|-------|------|------|------|------|
|       |     | FEBRUARY |      |      | MARCH |      |      | APRIL |      |      | MAY  |      |
| 1     | 0.0 | 0.0      | 0.0  | 1.5  | 0.0   | 0.5  | 12.5 | 10.5  | 11.5 | 15.5 | 10.5 | 14.0 |
| 2     | 0.0 | 0.0      | 0.0  | 1.0  | 0.0   | 0.5  | 10.0 | 7.0   | 8.0  | 15.5 | 14.0 | 14.5 |
| 3     | 0.0 | 0.0      | 0.0  | 1.5  | 0.0   | 0.5  | 10.5 | 6.5   | 8.5  | 17.0 | 13.0 | 15.0 |
| 4     | 0.0 | 0.0      | 0.0  | 1.0  | 0.0   | 0.0  | 9.5  | 8.0   | 9.0  | 15.5 | 11.5 | 14.5 |
| 5     | 0.0 | 0.0      | 0.0  | 1.5  | 0.0   | 0.5  | 8.0  | 5.5   | 6.5  | 15.0 | 14.0 | 14.5 |
| 6     | 0.0 | 0.0      | 0.0  | 2.0  | 0.0   | 1.0  | 7.5  | 5.0   | 6.5  | 18.0 | 13.5 | 15.0 |
| 7     | 0.0 | 0.0      | 0.0  | 2.0  | 0.0   | 0.5  | 8.0  | 5.5   | 7.0  | 19.0 | 17.0 | 18.0 |
| 8     | 0.5 | 0.0      | 0.0  | 1.5  | 0.0   | 1.0  | 7.5  | 6.0   | 7.0  | 17.5 | 14.5 | 16.0 |
| 9     | 0.0 | 0.0      | 0.0  | 2.5  | 0.0   | 1.5  | 6.5  | 4.0   | 5.5  | 15.0 | 6.5  | 11.5 |
| 10    | 0.0 | 0.0      | 0.0  | 3.0  | 1.0   | 2.0  | 8.0  | 4.5   | 6.5  | 6.0  | 2.5  | 3.5  |
| 11    | 0.5 | 0.0      | 0.0  | 4.0  | 1.0   | 2.5  | 8.5  | 6.0   | 7.5  | 7.5  | 1.5  | 4.5  |
| 12    | 0.0 | 0.0      | 0.0  | 5.0  | 1.5   | 3.5  | 13.0 | 7.5   | 10.5 | 13.5 | 7.0  | 10.0 |
| 13    | 0.0 | 0.0      | 0.0  | 6.0  | 4.0   | 5.0  | 16.0 | 12.5  | 14.0 | 16.5 | 13.0 | 14.5 |
| 14    | 0.5 | 0.0      | 0.0  | 6.0  | 5.0   | 5.5  | 16.5 | 14.0  | 15.5 | 15.5 | 12.5 | 14.5 |
| 15    | 0.0 | 0.0      | 0.0  | 5.5  | 4.5   | 5.0  | 14.0 | 12.0  | 13.0 | 16.0 | 12.0 | 14.0 |
| 16    | 0.5 | 0.0      | 0.0  | 6.0  | 5.0   | 5.5  | 13.5 | 11.5  | 12.5 | 17.0 | 13.5 | 15.0 |
| 17    | 0.5 | 0.0      | 0.0  | 6.0  | 3.5   | 4.5  | 14.5 | 11.5  | 13.0 | 19.5 | 15.5 | 17.0 |
| 18    | 0.5 | 0.0      | 0.0  | 4.0  | 0.5   | 2.0  | 16.5 | 12.0  | 14.0 | 20.0 | 18.5 | 19.0 |
| 19    | 0.0 | 0.0      | 0.0  | 2.0  | 0.5   | 1.0  | 16.5 | 12.5  | 14.5 | 18.5 | 15.5 | 16.5 |
| 20    | 0.0 | 0.0      | 0.0  | 3.0  | 0.5   | 2.0  | 15.5 | 11.5  | 14.0 | 18.5 | 14.0 | 15.5 |
| 21    | 0.0 | 0.0      | 0.0  | 5.0  | 2.0   | 3.5  | 17.5 | 14.5  | 15.5 | 20.0 | 17.5 | 18.5 |
| 22    | 0.0 | 0.0      | 0.0  | 4.5  | 1.0   | 3.0  | 19.0 | 16.0  | 17.5 | 22.0 | 18.0 | 20.0 |
| 23    | 0.5 | 0.0      | 0.0  | 1.0  | 0.0   | 0.5  | 19.0 | 14.0  | 17.0 | 23.0 | 19.5 | 21.0 |
| 24    | 0.5 | 0.0      | 0.0  | 2.0  | 0.0   | 1.0  | 14.0 | 9.0   | 11.5 | 23.0 | 20.5 | 22.0 |
| 25    | 0.5 | 0.0      | 0.0  | 4.0  | 0.5   | 2.5  | 9.0  | 8.0   | 8.5  | 23.5 | 21.0 | 22.0 |
| 26    | 1.0 | 0.0      | 0.0  | 7.0  | 2.5   | 4.5  | 10.5 | 8.5   | 9.5  | 23.0 | 19.5 | 21.5 |
| 27    | 0.5 | 0.0      | 0.0  | 8.5  | 4.5   | 6.5  | 13.0 | 10.0  | 11.5 | 21.0 | 18.0 | 19.5 |
| 28    | 1.0 | 0.0      | 0.5  | 9.0  | 6.5   | 8.0  | 13.0 | 11.0  | 12.0 | 21.0 | 17.5 | 18.5 |
| 29    | --- | ---      | ---  | 12.5 | 8.5   | 10.5 | 13.0 | 10.0  | 11.5 | 20.5 | 17.0 | 18.5 |
| 30    | --- | ---      | ---  | 16.0 | 11.5  | 14.0 | 14.5 | 10.5  | 12.5 | 18.5 | 16.0 | 17.5 |
| 31    | --- | ---      | ---  | 15.5 | 13.0  | 14.5 | ---  | ---   | ---  | 19.0 | 16.0 | 17.5 |
| MONTH | 1.0 | 0.0      | 0.0  | 16.0 | 0.0   | 3.5  | 19.0 | 4.0   | 11.0 | 23.5 | 1.5  | 16.0 |

| DAY   | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN | MAX  | MIN    | MEAN | MAX  | MIN       | MEAN |
|-------|------|------|------|------|------|------|------|--------|------|------|-----------|------|
|       |      | JUNE |      |      | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |
| 1     | 19.0 | 17.0 | 18.0 | 24.0 | 21.5 | 22.5 | 24.5 | 22.0   | 23.0 | 23.0 | 21.0      | 21.5 |
| 2     | 18.0 | 17.0 | 17.5 | 25.5 | 21.5 | 23.5 | 24.0 | 20.5   | 22.0 | 25.0 | 22.0      | 23.0 |
| 3     | 19.5 | 16.5 | 17.5 | 25.0 | 19.5 | 22.5 | 23.0 | 20.5   | 22.0 | 25.0 | 23.0      | 23.5 |
| 4     | 20.0 | 15.5 | 17.5 | 24.5 | 20.5 | 22.0 | 24.0 | 21.0   | 22.5 | 23.0 | 19.0      | 21.0 |
| 5     | 21.5 | 17.5 | 19.5 | 26.0 | 20.5 | 23.0 | 24.0 | 22.5   | 23.0 | 21.5 | 18.0      | 20.0 |
| 6     | 19.5 | 17.0 | 18.0 | 25.5 | 19.0 | 21.5 | 24.5 | 22.5   | 23.5 | 23.0 | 19.5      | 21.0 |
| 7     | 18.0 | 15.5 | 16.0 | 25.0 | 18.0 | 20.5 | 25.0 | 23.0   | 23.5 | 22.5 | 18.5      | 20.5 |
| 8     | 15.0 | 14.0 | 14.5 | 24.5 | 19.0 | 21.0 | 26.0 | 22.5   | 24.0 | 20.5 | 17.0      | 18.5 |
| 9     | 15.0 | 13.0 | 14.0 | 25.5 | 17.5 | 19.5 | 26.5 | 23.0   | 25.0 | 18.5 | 17.0      | 17.5 |
| 10    | 15.0 | 13.0 | 13.5 | 26.0 | 20.0 | 23.0 | 24.5 | 21.0   | 22.5 | 18.0 | 17.0      | 17.5 |
| 11    | 13.0 | 12.5 | 12.5 | 26.0 | 18.5 | 22.0 | 26.5 | 22.0   | 24.0 | 17.0 | 16.0      | 16.0 |
| 12    | 16.0 | 12.5 | 14.0 | 25.0 | 20.0 | 21.5 | 25.0 | 23.0   | 23.5 | 16.0 | 13.5      | 14.5 |
| 13    | 17.5 | 14.5 | 16.0 | 24.0 | 20.0 | 21.0 | 23.0 | 21.0   | 22.0 | 15.5 | 15.5      | 15.5 |
| 14    | 18.5 | 16.0 | 17.5 | 27.0 | 21.5 | 24.0 | 23.5 | 21.5   | 22.5 | 17.0 | 15.5      | 16.5 |
| 15    | 22.5 | 17.5 | 19.5 | 27.0 | 20.5 | 24.0 | 24.5 | 20.5   | 22.5 | 17.0 | 14.5      | 15.5 |
| 16    | 22.0 | 18.0 | 19.5 | 28.0 | 23.0 | 25.0 | 23.0 | 20.0   | 21.5 | 16.0 | 14.5      | 15.5 |
| 17    | 20.0 | 18.0 | 18.5 | 28.5 | 24.5 | 26.0 | 21.5 | 20.5   | 21.0 | 15.5 | 15.0      | 15.0 |
| 18    | 21.5 | 18.0 | 19.5 | 29.0 | 23.5 | 26.0 | 22.0 | 18.5   | 20.0 | 19.5 | 15.5      | 16.5 |
| 19    | 21.5 | 18.5 | 20.0 | 29.5 | 23.0 | 26.0 | 21.0 | 17.0   | 19.0 | 20.0 | 18.0      | 19.0 |
| 20    | 22.0 | 18.5 | 20.5 | 29.5 | 25.0 | 27.0 | 21.0 | 17.5   | 19.0 | 19.5 | 13.0      | 16.0 |
| 21    | 23.0 | 20.0 | 21.5 | 30.0 | 25.5 | 27.5 | 21.0 | 16.0   | 18.5 | 13.0 | 12.0      | 12.0 |
| 22    | 22.0 | 19.0 | 20.5 | ---  | ---  | ---  | 20.0 | 18.0   | 18.5 | 14.0 | 11.0      | 12.5 |
| 23    | 21.0 | 18.5 | 19.5 | ---  | ---  | ---  | 20.5 | 17.0   | 18.5 | 15.0 | 12.0      | 13.5 |
| 24    | 21.0 | 18.5 | 19.5 | ---  | ---  | ---  | 20.5 | 18.0   | 19.0 | 14.0 | 13.0      | 13.5 |
| 25    | 21.0 | 19.5 | 20.5 | ---  | ---  | ---  | 20.5 | 16.5   | 18.5 | 13.0 | 12.5      | 12.5 |
| 26    | 22.0 | 20.0 | 21.0 | ---  | ---  | ---  | 20.5 | 15.0   | 18.0 | 14.0 | 12.5      | 13.0 |
| 27    | 23.5 | 20.0 | 21.5 | 23.0 | 17.5 | 21.5 | 22.0 | 17.0   | 19.0 | 16.5 | 14.0      | 15.0 |
| 28    | 23.5 | 21.0 | 22.5 | 23.0 | 16.5 | 19.5 | 25.0 | 19.5   | 22.0 | 16.5 | 14.0      | 15.0 |
| 29    | 23.5 | 21.5 | 22.0 | 23.5 | 17.5 | 20.5 | 26.5 | 22.5   | 24.0 | 16.5 | 14.0      | 15.0 |
| 30    | 23.5 | 19.5 | 21.5 | 23.0 | 19.5 | 21.0 | 26.0 | 23.5   | 24.0 | 15.5 | 12.5      | 14.0 |
| 31    | ---  | ---  | ---  | 24.5 | 19.0 | 21.5 | 23.5 | 21.0   | 22.0 | ---  | ---       | ---  |
| MONTH | 23.5 | 12.5 | 18.5 | 30.0 | 16.5 | 23.0 | 26.5 | 15.0   | 21.5 | 25.0 | 11.0      | 16.5 |

| YEAR | 30.0 | 0.0 | 10.0 |
|------|------|-----|------|
|------|------|-----|------|



01097300 NASHOBA BROOK NEAR ACTON, MA--Continued

TEMPERATURE (DEG. C) OF WATER, OCTOBER 1977

| DAY     | MAX  | MIN  | MEAN |
|---------|------|------|------|
| OCTOBER |      |      |      |
| 1       | 16.5 | 14.5 | 15.0 |
| 2       | 17.5 | 16.0 | 17.0 |
| 3       | 17.0 | 15.0 | 16.0 |
| 4       | 14.5 | 12.5 | 13.5 |
| 5       | 14.0 | 11.0 | 13.0 |
| 6       | 14.0 | 12.5 | 13.0 |
| 7       | 13.0 | 10.5 | 12.0 |
| 8       | 12.0 | 9.5  | 10.5 |
| 9       | 13.0 | 11.0 | 12.0 |
| 10      | 13.5 | 12.0 | 13.0 |
| 11      | 13.0 | 11.0 | 12.0 |
| 12      | 13.0 | 11.5 | 12.0 |
| 13      | 12.5 | 11.5 | 12.0 |
| 14      | 12.0 | 10.0 | 11.0 |
| 15      | 10.5 | 9.5  | 10.0 |
| 16      | 10.5 | 8.5  | 9.5  |
| 17      | 11.5 | 10.5 | 11.0 |
| 18      | 12.0 | 10.0 | 11.0 |
| 19      | 11.5 | 11.0 | 11.0 |
| 20      | 11.5 | 11.0 | 11.5 |
| 21      | 13.0 | 10.5 | 12.0 |
| 22      | 13.0 | 11.0 | 12.0 |
| 23      | 12.5 | 10.5 | 11.5 |
| 24      | 10.5 | 8.0  | 9.5  |
| 25      | 9.5  | 8.5  | 8.5  |
| 26      | ---  | ---  | ---  |
| 27      | ---  | ---  | ---  |
| 28      | ---  | ---  | ---  |
| 29      | ---  | ---  | ---  |
| 30      | ---  | ---  | ---  |
| 31      | ---  | ---  | ---  |
| MONTH   | 17.5 | 8.0  | 12.0 |

## 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.

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 South Branch 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.--102 years, 114 ft<sup>3</sup>/s (3.228 m<sup>3</sup>/s), 20.59 in/yr (523 mm/yr), adjusted to present drainage area.

REVISIONS.--Revised monthly and yearly discharges, in cubic feet per second, for water year 1976, superseding those published in WDR MA-RI-76-1 are given herewith:

## MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

| Month                   | Mean | Per square mile | Runoff in inches | Rainfall in inches |
|-------------------------|------|-----------------|------------------|--------------------|
| October.....            | 188  | 2.50            | 2.89             | 6.48               |
| November.....           | 290  | 3.86            | 4.31             | 7.16               |
| December.....           | 158  | 2.10            | 2.43             | 6.20               |
| Calendar year 1975..... | 150  | 1.99            | 27.08            | 53.60              |
| January.....            | 280  | 3.72            | 4.30             | 5.81               |
| February.....           | 339  | 4.51            | 4.86             | 2.46               |
| March.....              | 204  | 2.71            | 3.14             | 2.84               |
| April.....              | 127  | 1.69            | 1.88             | 2.42               |
| May.....                | 95.7 | 1.27            | 1.47             | 2.84               |
| June.....               | 20.1 | .27             | .30              | 1.80               |
| July.....               | 12.1 | .16             | .19              | 3.88               |
| August.....             | 49.9 | .66             | .77              | 5.31               |
| September.....          | 28.9 | .38             | .43              | 2.73               |
| Water year 1976.....    | 149  | 1.98            | 26.94            | 49.93              |

## MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Month                   | Mean | Per square mile | Runoff in inches | Rainfall in inches |
|-------------------------|------|-----------------|------------------|--------------------|
| October.....            | 74.3 | 0.99            | 1.14             | 5.20               |
| November.....           | 31.3 | .42             | .47              | .60                |
| December.....           | 23.6 | .31             | .36              | 3.13               |
| Calendar year 1976..... | 106  | 1.41            | 19.28            | 39.02              |
| January.....            | 31.1 | .41             | .48              | 4.20               |
| February.....           | 53.9 | .72             | .75              | 2.50               |
| March.....              | 414  | 5.51            | 6.35             | 5.22               |
| April.....              | 281  | 3.74            | 4.17             | 4.46               |
| May.....                | 173  | 2.30            | 2.65             | 2.98               |
| June.....               | 54.9 | .73             | .82              | 3.28               |
| July.....               | 18.5 | .25             | .28              | 2.92               |
| August.....             | 14.8 | .20             | .23              | 2.54               |
| September.....          | 61.1 | .81             | .91              | 6.19               |
| Water year 1977.....    | 103  | 1.37            | 18.60            | 43.22              |

## 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) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair. 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 (see table below for figures of diversion). 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.--41 years, 613 ft<sup>3</sup>/s (17.36 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft<sup>3</sup>/s (136 m<sup>3</sup>/s) Mar. 22, 1968, gage height, 9.16 ft (2.792 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, 2,630 ft<sup>3</sup>/s (74.5 m<sup>3</sup>/s) Mar. 26, gage height, 7.51 ft (2.289 m); minimum daily, 75 ft<sup>3</sup>/s (2.12 m<sup>3</sup>/s) Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|--------|----------|----------|--------|-------|-------|-------|-------|-------|-------|-------|
| 1           | 126   | 385    | 262      | 165      | 295    | 852   | 2150  | 1450  | 536   | 245   | 165   | 95    |
| 2           | 122   | 374    | 258      | 158      | 295    | 901   | 2040  | 1390  | 505   | 225   | 350   | 93    |
| 3           | 133   | 371    | 253      | 155      | 290    | 939   | 1940  | 1300  | 466   | 200   | 435   | 91    |
| 4           | 138   | 354    | 230      | 149      | 290    | 969   | 1830  | 1210  | 434   | 184   | 433   | 98    |
| 5           | 138   | 340    | 211      | 149      | 291    | 1080  | 1830  | 1140  | 404   | 170   | 393   | 90    |
| 6           | 142   | 300    | 199      | 146      | 289    | 1190  | 1880  | 1070  | 374   | 155   | 337   | 85    |
| 7           | 146   | 270    | 232      | 162      | 290    | 1260  | 1890  | 1010  | 357   | 146   | 294   | 79    |
| 8           | 148   | 240    | 352      | 171      | 280    | 1310  | 1880  | 965   | 364   | 142   | 254   | 78    |
| 9           | 193   | 220    | 407      | 165      | 266    | 1360  | 1820  | 941   | 342   | 144   | 226   | 77    |
| 10          | 317   | 210    | 437      | 195      | 242    | 1430  | 1740  | 1150  | 312   | 143   | 205   | 75    |
| 11          | 368   | 210    | 424      | 230      | 219    | 1510  | 1670  | 1330  | 346   | 140   | 192   | 81    |
| 12          | 366   | 205    | 376      | 265      | 206    | 1550  | 1580  | 1490  | 407   | 138   | 171   | 91    |
| 13          | 334   | 200    | 320      | 275      | 214    | 1650  | 1490  | 1590  | 426   | 145   | 180   | 93    |
| 14          | 285   | 195    | 250      | 271      | 229    | 2010  | 1380  | 1610  | 415   | 139   | 199   | 98    |
| 15          | 243   | 190    | 259      | 266      | 236    | 2140  | 1300  | 1570  | 382   | 142   | 192   | 93    |
| 16          | 202   | 190    | 248      | 255      | 230    | 2330  | 1220  | 1500  | 343   | 140   | 180   | 101   |
| 17          | 172   | 190    | 263      | 250      | 225    | 2380  | 1160  | 1420  | 318   | 136   | 171   | 118   |
| 18          | 150   | 190    | 269      | 250      | 225    | 2330  | 1100  | 1340  | 295   | 173   | 162   | 130   |
| 19          | 143   | 190    | 253      | 260      | 223    | 2240  | 1040  | 1290  | 323   | 143   | 151   | 146   |
| 20          | 136   | 186    | 242      | 274      | 215    | 2140  | 987   | 1230  | 310   | 125   | 143   | 206   |
| 21          | 327   | 186    | 250      | 279      | 205    | 2040  | 938   | 1160  | 296   | 108   | 132   | 315   |
| 22          | 489   | 180    | 215      | 285      | 200    | 1990  | 882   | 1100  | 279   | 90    | 132   | 365   |
| 23          | 554   | 177    | 217      | 290      | 202    | 2230  | 876   | 1030  | 263   | 84    | 132   | 359   |
| 24          | 561   | 170    | 200      | 302      | 199    | 2430  | 1030  | 965   | 251   | 87    | 147   | 336   |
| 25          | 546   | 174    | 180      | 307      | 358    | 2570  | 1330  | 907   | 234   | 117   | 162   | 325   |
| 26          | 523   | 189    | 172      | 304      | 520    | 2600  | 1480  | 836   | 232   | 149   | 140   | 397   |
| 27          | 515   | 205    | 170      | 296      | 631    | 2550  | 1620  | 787   | 235   | 160   | 130   | 535   |
| 28          | 506   | 213    | 160      | 285      | 759    | 2520  | 1670  | 743   | 237   | 159   | 120   | 579   |
| 29          | 481   | 230    | 164      | 290      | ---    | 2470  | 1600  | 676   | 238   | 154   | 111   | 595   |
| 30          | 439   | 256    | 165      | 300      | ---    | 2310  | 1530  | 632   | 248   | 145   | 102   | 590   |
| 31          | 408   | ---    | 165      | 300      | ---    | 2240  | ---   | 578   | ---   | 138   | 95    | ---   |
| TOTAL       | 9351  | 6990   | 7803     | 7449     | 8124   | 57521 | 44883 | 35410 | 10172 | 4566  | 6236  | 6414  |
| MEAN        | 302   | 233    | 252      | 240      | 290    | 1856  | 1496  | 1142  | 339   | 147   | 201   | 214   |
| MAX         | 561   | 385    | 437      | 307      | 759    | 2600  | 2150  | 1610  | 536   | 245   | 435   | 595   |
| MIN         | 122   | 170    | 160      | 146      | 199    | 852   | 876   | 578   | 232   | 84    | 95    | 75    |
| (†)         | -50.7 | 56.4   | -60.9    | -48.3    | -33.4  | -384  | -286  | -232  | -42.3 | -29.2 | -25.6 | -26.7 |
| CAL YR 1976 | TOTAL | 222032 | MEAN 607 | MAX 2150 | MIN 60 |       |       |       |       |       |       |       |
| WTR YR 1977 | TOTAL | 204919 | MEAN 561 | MAX 2600 | MIN 75 |       |       |       |       |       |       |       |

† Diversion in cubic feet per second, into basin while diverting flow from 92.6 mi<sup>2</sup> in basins of Sudbury River and Lake Cochituate for use of Boston metropolitan district; records furnished by Water Division of Metropolitan District Commission.

## 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) above mean sea level. 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 excellent. Daily discharge includes water released from 210 mi<sup>2</sup> (544 km<sup>2</sup>) in basins of Sudbury and South Branch Nashua Rivers and Lake Cochituate (see table below for figures of diversion). 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.--54 years, 7,424 ft<sup>3</sup>/s (210.2 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 175,000 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, 58,000 ft<sup>3</sup>/s (1,640 m<sup>3</sup>/s) Mar. 15, gage height, 53.41 ft (16.279 m); minimum daily, 760 ft<sup>3</sup>/s (21.5 m<sup>3</sup>/s) July 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT    | NOV    | DEC    | JAN   | FEB   | MAR    | APR    | MAY    | JUN    | JUL   | AUG   | SEP   |
|-------|--------|--------|--------|-------|-------|--------|--------|--------|--------|-------|-------|-------|
| 1     | 6650   | 6480   | 3060   | 2140  | 2880  | 7090   | 37400  | 13100  | 3480   | 3880  | 1840  | 1380  |
| 2     | 5540   | 6770   | 3090   | 1830  | 2830  | 6730   | 35700  | 12600  | 3510   | 2940  | 1650  | 1290  |
| 3     | 5320   | 7330   | 3390   | 2810  | 2770  | 6480   | 32700  | 11200  | 3340   | 3060  | 2120  | 1180  |
| 4     | 4460   | 6920   | 2190   | 2700  | 2820  | 6700   | 30800  | 9440   | 3400   | 2860  | 2280  | 957   |
| 5     | 3830   | 5850   | 2150   | 2700  | 2350  | 7580   | 29400  | 8710   | 3320   | 3080  | 2090  | 1020  |
| 6     | 4130   | 5970   | 3030   | 2710  | 2660  | 8460   | 29500  | 8240   | 3400   | 2500  | 1390  | 1450  |
| 7     | 3670   | 5790   | 2930   | 2710  | 3010  | 9200   | 28900  | 7560   | 3390   | 2490  | 1210  | 1150  |
| 8     | 2880   | 6460   | 5190   | 2080  | 2790  | 9000   | 26400  | 7590   | 3730   | 2370  | 2240  | 1190  |
| 9     | 2220   | 7010   | 5800   | 2180  | 2920  | 9420   | 23100  | 7860   | 4120   | 1980  | 2180  | 1360  |
| 10    | 7520   | 6180   | 7310   | 3020  | 2620  | 9870   | 20400  | 9850   | 4880   | 1680  | 1740  | 1060  |
| 11    | 14100  | 5110   | 5990   | 3060  | 2490  | 12000  | 17200  | 14200  | 5290   | 1800  | 1710  | 912   |
| 12    | 19300  | 4240   | 5370   | 3120  | 2040  | 15600  | 15700  | 14600  | 5190   | 1740  | 1860  | 1570  |
| 13    | 13900  | 4360   | 4890   | 3160  | 2190  | 19600  | 14700  | 12900  | 5030   | 1900  | 1130  | 1150  |
| 14    | 9140   | 3880   | 4910   | 3010  | 3320  | 37300  | 14400  | 10600  | 4620   | 1860  | 1220  | 1280  |
| 15    | 7920   | 3920   | 4230   | 2580  | 3140  | 55900  | 15100  | 9530   | 4240   | 1740  | 2130  | 1630  |
| 16    | 6600   | 3880   | 4070   | 2520  | 2870  | 49200  | 15900  | 8710   | 4190   | 832   | 1870  | 2640  |
| 17    | 6460   | 3420   | 4020   | 3490  | 2810  | 41900  | 14600  | 7480   | 3780   | 760   | 1790  | 3400  |
| 18    | 7160   | 3710   | 3230   | 3650  | 2740  | 38400  | 13100  | 7160   | 3270   | 2510  | 1750  | 2490  |
| 19    | 6420   | 3290   | 3400   | 3330  | 2210  | 35200  | 12000  | 7230   | 3470   | 2170  | 1730  | 2840  |
| 20    | 6670   | 2740   | 3850   | 3210  | 2200  | 33100  | 11200  | 6940   | 3370   | 1770  | 1330  | 2600  |
| 21    | 11200  | 3320   | 3420   | 3080  | 3150  | 30500  | 10400  | 6810   | 3420   | 1540  | 1230  | 2840  |
| 22    | 19200  | 3700   | 3610   | 2500  | 2400  | 25800  | 9910   | 6490   | 3350   | 1630  | 2070  | 4510  |
| 23    | 25900  | 3410   | 3280   | 2710  | 2410  | 23000  | 10400  | 6290   | 2830   | 1200  | 1860  | 4920  |
| 24    | 19500  | 3000   | 2970   | 2930  | 2630  | 20900  | 14500  | 5800   | 3130   | 1030  | 1580  | 4300  |
| 25    | 14700  | 3090   | 2290   | 2790  | 3870  | 19900  | 26100  | 5220   | 2210   | 1990  | 1510  | 3850  |
| 26    | 12900  | 2840   | 2370   | 2680  | 4800  | 18100  | 32800  | 4660   | 2350   | 1840  | 1550  | 4400  |
| 27    | 11900  | 2230   | 3110   | 2720  | 6000  | 16900  | 28100  | 4410   | 3330   | 1680  | 1210  | 5390  |
| 28    | 10000  | 2500   | 2820   | 2850  | 6620  | 17400  | 22300  | 3830   | 4320   | 1350  | 1100  | 7090  |
| 29    | 8710   | 3210   | 2730   | 2350  | ---   | 19700  | 18500  | 3440   | 4610   | 1710  | 1630  | 7280  |
| 30    | 7020   | 3270   | 2570   | 2390  | ---   | 26400  | 15500  | 3310   | 4310   | 1290  | 1540  | 6010  |
| 31    | 6700   | ---    | 2770   | 2930  | ---   | 33300  | ---    | 3470   | ---    | 1000  | 1440  | ---   |
| TOTAL | 291620 | 133880 | 114040 | 85940 | 85540 | 670630 | 626710 | 249230 | 112880 | 60182 | 51980 | 83139 |
| MEAN  | 9407   | 4463   | 3679   | 2772  | 3055  | 21630  | 20890  | 8040   | 3763   | 1941  | 1677  | 2771  |
| MAX   | 25900  | 7330   | 7310   | 3650  | 6620  | 55900  | 37400  | 14600  | 5290   | 3880  | 2280  | 7280  |
| MIN   | 2220   | 2230   | 2150   | 1830  | 2040  | 6480   | 9910   | 3310   | 2210   | 760   | 1100  | 912   |
| (†)   | -57.8  | -63.5  | -68.0  | -56.0 | -46.4 | -392   | -294   | -240   | -50.3  | -36.9 | -33.7 | -34.7 |

CAL YR 1976 TOTAL 3399040 MEAN 9287 MAX 40600 MIN 1100  
WTR YR 1977 TOTAL 2565771 MEAN 7030 MAX 55900 MIN 760

† Diversion, in cubic feet per second, into basin while diverting flow from 210 mi<sup>2</sup> in basins of Sudbury and South Branch Nashua Rivers and Lake Cochituate for use of Boston metropolitan district; records furnished by Water Division of Metropolitan District Commission.

## MERRIMACK RIVER BASIN

57

01100600 SHAWSHEEN RIVER NEAR WILMINGTON, MA

LOCATION.--Lat 42°34'05", long 71°12'55", Middlesex County, Hydrologic Unit 01070002 (revised), 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.--35.3 mi<sup>2</sup> (91.4 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: November 1963 to current year.  
Water-quality records: Water year 1973.

REVISED RECORDS.--WRD MA, NH, RI, VT, 1974: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 80.44 ft (24.518 m) above mean sea level.

REMARKS.--Records good except those for winter period and periods of shifting control or backwater from debris, which are fair. Diversion upstream at times during period January through June each year since 1973 for municipal supply of Burlington. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--13 years (water years 1965-77), 56.3 ft<sup>3</sup>/s (1.594 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft<sup>3</sup>/s (29.7 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 8.60 ft (2.621 m); minimum, 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 (8.50 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)   |
|---------|------|-----------------------------------|---------------------|---------------------|-------|---------|------|-----------------------------------|---------------------|---------------------|-------|
| Mar. 14 | 2045 | 380                               | 10.8                | 6.29                | 1.917 | Apr. 25 | 1245 | 342                               | 9.69                | 6.07                | 1.850 |
| Mar. 23 | 2230 | *494                              | 14.0                | *6.88               | 2.097 | May 11  | 1215 | 344                               | 9.74                | 6.08                | 1.853 |

Minimum discharge, 2.4 ft<sup>3</sup>/s (0.068 m<sup>3</sup>/s) Aug. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC       | JAN     | FEB     | MAR  | APR  | MAY  | JUN  | JUL  | AUG    | SEP   |
|-------------|-------|---------|-----------|---------|---------|------|------|------|------|------|--------|-------|
| 1           | 18    | 53      | 28        | 17      | 28      | 150  | 124  | 82   | 24   | 18   | 31     | 6.8   |
| 2           | 18    | 50      | 27        | 19      | 28      | 135  | 112  | 78   | 24   | 11   | 81     | 5.7   |
| 3           | 19    | 46      | 24        | 14      | 28      | 120  | 107  | 71   | 27   | 17   | 191    | 5.9   |
| 4           | 20    | 42      | 24        | 16      | 29      | 110  | 103  | 69   | 29   | 20   | 191    | 7.3   |
| 5           | 19    | 40      | 23        | 19      | 28      | 138  | 107  | 64   | 22   | 20   | 131    | 9.0   |
| 6           | 18    | 40      | 26        | 18      | 29      | 218  | 195  | 62   | 21   | 21   | 101    | 7.0   |
| 7           | 19    | 39      | 40        | 17      | 28      | 192  | 168  | 62   | 21   | 20   | 82     | 6.1   |
| 8           | 19    | 39      | 52        | 19      | 27      | 151  | 128  | 58   | 29   | 17   | 64     | 5.5   |
| 9           | 26    | 39      | 70        | 17      | 26      | 136  | 114  | 55   | 31   | 17   | 52     | 5.3   |
| 10          | 52    | 38      | 64        | 19      | 26      | 151  | 106  | 108  | 31   | 18   | 45     | 5.3   |
| 11          | 65    | 36      | 58        | 33      | 27      | 171  | 96   | 325  | 36   | 18   | 37     | 6.6   |
| 12          | 68    | 36      | 50        | 35      | 29      | 168  | 90   | 293  | 56   | 16   | 42     | 7.8   |
| 13          | 56    | 34      | 44        | 35      | 34      | 157  | 82   | 200  | 72   | 17   | 32     | 6.6   |
| 14          | 41    | 33      | 37        | 34      | 36      | 314  | 78   | 139  | 83   | 24   | 32     | 6.3   |
| 15          | 37    | 33      | 37        | 34      | 35      | 310  | 73   | 107  | 49   | 19   | 32     | 9.3   |
| 16          | 33    | 33      | 38        | 32      | 33      | 201  | 71   | 95   | 39   | 16   | 20     | 9.6   |
| 17          | 30    | 33      | 39        | 30      | 31      | 158  | 66   | 86   | 35   | 16   | 14     | 9.0   |
| 18          | 28    | 31      | 39        | 32      | 30      | 136  | 63   | 80   | 32   | 34   | 12     | 12    |
| 19          | 27    | 31      | 38        | 33      | 29      | 123  | 59   | 78   | 45   | 46   | 6.6    | 13    |
| 20          | 27    | 31      | 37        | 32      | 29      | 117  | 51   | 75   | 57   | 40   | 11     | 21    |
| 21          | 59    | 31      | 36        | 31      | 29      | 117  | 49   | 71   | 49   | 29   | 9.3    | 35    |
| 22          | 101   | 29      | 41        | 30      | 29      | 121  | 49   | 63   | 40   | 26   | 13     | 56    |
| 23          | 115   | 29      | 37        | 29      | 29      | 346  | 51   | 51   | 34   | 23   | 14     | 74    |
| 24          | 94    | 28      | 33        | 30      | 40      | 446  | 99   | 41   | 31   | 23   | 9.6    | 50    |
| 25          | 76    | 28      | 31        | 31      | 70      | 274  | 314  | 37   | 26   | 29   | 12     | 31    |
| 26          | 64    | 27      | 31        | 30      | 110     | 195  | 254  | 35   | 18   | 53   | 14     | 30    |
| 27          | 62    | 27      | 31        | 29      | 160     | 168  | 157  | 31   | 39   | 62   | 8.3    | 59    |
| 28          | 62    | 27      | 31        | 29      | 160     | 152  | 122  | 30   | 58   | 67   | 7.5    | 116   |
| 29          | 59    | 29      | 31        | 28      | ---     | 151  | 103  | 27   | 40   | 36   | 8.5    | 119   |
| 30          | 50    | 30      | 31        | 29      | ---     | 158  | 92   | 25   | 23   | 35   | 7.0    | 74    |
| 31          | 48    | ---     | 27        | 29      | ---     | 144  | ---  | 24   | ---  | 34   | 6.8    | ---   |
| TOTAL       | 1430  | 1042    | 1155      | 830     | 1217    | 5628 | 3283 | 2622 | 1121 | 842  | 1317.6 | 809.1 |
| MEAN        | 46.1  | 34.7    | 37.3      | 26.8    | 43.5    | 182  | 109  | 84.6 | 37.4 | 27.2 | 42.5   | 27.0  |
| MAX         | 115   | 53      | 70        | 35      | 160     | 446  | 314  | 325  | 83   | 67   | 191    | 119   |
| MIN         | 18    | 27      | 23        | 14      | 26      | 110  | 49   | 24   | 11   | 11   | 6.6    | 5.3   |
| (†)         | 0     | 0       | 0         | 11.2    | 11.6    | 1.94 | 2.56 | 1.64 | 4.82 | 0    | 0      | 0     |
| CAL YR 1976 | TOTAL | 24207.8 | MEAN 66.1 | MAX 760 | MIN 4.3 |      |      |      |      |      |        |       |
| WTR YR 1977 | TOTAL | 21296.7 | MEAN 58.3 | MAX 446 | MIN 5.3 |      |      |      |      |      |        |       |

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

NOTE.--Shifting-control method used May 20-22, June 4 to Aug. 16. Backwater from debris Aug. 18 to Sept. 6.

## PARKER RIVER BASIN

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) above mean sea level (levels by Massachusetts Department of Public Works).

REMARKS.--Records good except those for winter period and period of indefinite stage-discharge relation, which are poor. 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.--32 years, 36.0 ft<sup>3</sup>/s (1.020 m<sup>3</sup>/s), 22.63 in/yr (575 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, 236 ft<sup>3</sup>/s (6.68 m<sup>3</sup>/s) Mar. 15, gage height, 3.98 ft (1.213 m); maximum gage height, 5.17 ft (1.576 m) Oct. 20 (backwater from coffer dam); minimum daily discharge, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Sept. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT      | NOV   | DEC   | JAN       | FEB     | MAR     | APR       | MAY      | JUN  | JUL   | AUG   | SEP   |
|-------------------|----------|-------|-------|-----------|---------|---------|-----------|----------|------|-------|-------|-------|
| 1                 | 6.7      | 18    | 10    | 7.6       | 9.0     | 103     | 134       | 76       | 22   | 9.7   | .65   | .34   |
| 2                 | 6.6      | 17    | 9.4   | 7.4       | 9.0     | 114     | 124       | 69       | 20   | 8.7   | .81   | .34   |
| 3                 | 6.9      | 16    | 9.1   | 7.5       | 9.0     | 119     | 115       | 62       | 20   | 7.8   | .99   | .39   |
| 4                 | 6.6      | 15    | 7.8   | 8.2       | 9.0     | 119     | 106       | 56       | 19   | 7.2   | .99   | .39   |
| 5                 | 4.8      | 14    | 7.2   | 7.2       | 9.0     | 130     | 105       | 51       | 18   | 6.3   | .99   | .29   |
| 6                 | 4.8      | 14    | 6.9   | 7.1       | 9.0     | 147     | 107       | 47       | 17   | 4.7   | .90   | .29   |
| 7                 | 4.8      | 12    | 11    | 8.0       | 9.0     | 156     | 105       | 44       | 16   | 3.4   | .81   | .21   |
| 8                 | 5.2      | 11    | 16    | 9.0       | 9.0     | 152     | 101       | 40       | 17   | 3.4   | .81   | .25   |
| 9                 | 10       | 10    | 15    | 8.0       | 9.0     | 150     | 94        | 41       | 16   | 3.2   | .81   | .18   |
| 10                | 15       | 10    | 12    | 13        | 9.0     | 155     | 87        | 79       | 16   | 2.7   | .73   | .21   |
| 11                | 15       | 9.7   | 11    | 18        | 9.0     | 167     | 81        | 116      | 20   | 2.3   | .81   | .18   |
| 12                | 15       | 9.7   | 11    | 14        | 10      | 170     | 75        | 130      | 23   | 2.2   | .81   | .15   |
| 13                | 14       | 9.4   | 10    | 12        | 11      | 175     | 70        | 125      | 25   | 2.2   | .81   | .15   |
| 14                | 14       | 9.1   | 9.0   | 11        | 11      | 216     | 65        | 114      | 25   | 1.3   | .81   | .15   |
| 15                | 13       | 9.1   | 8.6   | 11        | 11      | 232     | 59        | 102      | 22   | .99   | 2.8   | .10   |
| 16                | 13       | 9.1   | 8.2   | 11        | 12      | 221     | 55        | 90       | 20   | .99   | 1.2   | .10   |
| 17                | 12       | 8.7   | 8.6   | 11        | 12      | 202     | 51        | 80       | 18   | .90   | .81   | .25   |
| 18                | 12       | 8.7   | 8.6   | 11        | 12      | 184     | 47        | 71       | 16   | .90   | .81   | .29   |
| 19                | 11       | 8.7   | 8.2   | 11        | 12      | 169     | 44        | 63       | 16   | .81   | .65   | .25   |
| 20                | 11       | 8.7   | 8.0   | 11        | 12      | 157     | 41        | 58       | 15   | .81   | .58   | .65   |
| 21                | 11       | 8.7   | 9.0   | 10        | 12      | 148     | 40        | 53       | 15   | .81   | .51   | 2.4   |
| 22                | 13       | 8.4   | 8.7   | 10        | 12      | 143     | 39        | 48       | 14   | .73   | .45   | 5.5   |
| 23                | 14       | 8.1   | 8.3   | 10        | 12      | 174     | 40        | 43       | 13   | .65   | .45   | 6.4   |
| 24                | 14       | 8.4   | 7.8   | 10        | 12      | 200     | 56        | 39       | 12   | .58   | .51   | 6.7   |
| 25                | 15       | 8.4   | 7.5   | 10        | 20      | 200     | 85        | 36       | 12   | .99   | .58   | 6.4   |
| 26                | 17       | 7.5   | 8.0   | 10        | 30      | 188     | 107       | 33       | 12   | 1.1   | .39   | 7.4   |
| 27                | 18       | 8.1   | 8.0   | 10        | 60      | 175     | 109       | 30       | 11   | .81   | .34   | 9.3   |
| 28                | 19       | 8.4   | 7.4   | 10        | 85      | 165     | 104       | 28       | 10   | .73   | .29   | 9.1   |
| 29                | 20       | 9.7   | 8.0   | 9.0       | ---     | 160     | 95        | 25       | 10   | .73   | .29   | 9.1   |
| 30                | 19       | 11    | 8.0   | 9.0       | ---     | 153     | 86        | 22       | 10   | .65   | .29   | 8.5   |
| 31                | 19       | ---   | 7.8   | 9.0       | ---     | 145     | ---       | 22       | ---  | .58   | .29   | ---   |
| TOTAL             | 380.4    | 314.6 | 284.1 | 311.0     | 445.0   | 5089    | 2427      | 1893     | 500  | 78.86 | 22.97 | 75.96 |
| MEAN              | 12.3     | 10.5  | 9.16  | 10.0      | 15.9    | 164     | 80.9      | 61.1     | 16.7 | 2.54  | .74   | 2.53  |
| MAX               | 20       | 18    | 16    | 18        | 85      | 232     | 134       | 130      | 25   | 9.7   | 2.8   | 9.3   |
| MIN               | 4.8      | 7.5   | 6.9   | 7.1       | 9.0     | 103     | 39        | 22       | 10   | .58   | .29   | .10   |
| CFSM              | .57      | .49   | .42   | .46       | .74     | 7.59    | 3.75      | 2.83     | .77  | .12   | .03   | .12   |
| IN.               | .66      | .54   | .49   | .54       | .77     | 8.76    | 4.18      | 3.26     | .86  | .14   | .04   | .13   |
| CAL YR 1976 TOTAL | 13330.00 |       |       | MEAN 36.4 | MAX 190 | MIN .81 | CFSM 1.69 | IN 22.96 |      |       |       |       |
| WTR YR 1977 TOTAL | 11821.89 |       |       | MEAN 32.4 | MAX 232 | MIN .10 | CFSM 1.50 | IN 20.36 |      |       |       |       |

NOTE.--Stage-discharge relation indefinite Oct. 1-21.



## 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) above mean sea level (Massachusetts Geodetic Survey bench mark).

REMARKS.--Records good except those for period of no gage-height record, which are poor. 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.--39 years, 61.4 ft<sup>3</sup>/s (1.739 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 833 ft<sup>3</sup>/s (23.6 m<sup>3</sup>/s) Mar. 19, 1968, gage height, 7.09 ft (2.161 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, 470 ft<sup>3</sup>/s (13.3 m<sup>3</sup>/s) Mar. 23 or 24, gage height not determined; minimum, 0.23 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s) Dec. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT    | NOV    | DEC    | JAN   | FEB   | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------|--------|--------|--------|-------|-------|------|------|------|-------|-------|-------|-------|
| 1     | 8.6    | 12     | 8.5    | 12    | 7.3   | 200  | 196  | 129  | 23    | 24    | 11    | 3.6   |
| 2     | 8.3    | 9.5    | 2.9    | 6.4   | 7.3   | 230  | 173  | 113  | 18    | 20    | 36    | 3.1   |
| 3     | 8.6    | 7.6    | 6.5    | 2.3   | 7.3   | 300  | 165  | 100  | 15    | 17    | 38    | 2.7   |
| 4     | 7.8    | 6.2    | 1.1    | 12    | 7.2   | 280  | 150  | 90   | 11    | 15    | 32    | 2.5   |
| 5     | 7.0    | 4.5    | 4.3    | 12    | 7.2   | 260  | 171  | 83   | 8.3   | 13    | 28    | 3.2   |
| 6     | 6.8    | 3.1    | .26    | 12    | 7.1   | 250  | 194  | 78   | 5.8   | 11    | 26    | 6.6   |
| 7     | 6.2    | 1.7    | 12     | 12    | 7.0   | 240  | 177  | 74   | 15    | 9.8   | 23    | 11    |
| 8     | 3.2    | .94    | 30     | 9.6   | 6.4   | 230  | 169  | 67   | 9.6   | 9.1   | 20    | 10    |
| 9     | 11     | .56    | 13     | 10    | 6.1   | 260  | 158  | 78   | 8.3   | 9.6   | 17    | 9.6   |
| 10    | 28     | 4.0    | 7.5    | 22    | 6.1   | 280  | 141  | 290  | 10    | 8.9   | 14    | 9.5   |
| 11    | 22     | 12     | 7.4    | 27    | 6.2   | 310  | 130  | 333  | 37    | 7.7   | 13    | 8.2   |
| 12    | 13     | 4.9    | 6.8    | 27    | 6.6   | 365  | 121  | 306  | 51    | 7.2   | 12    | 7.4   |
| 13    | 7.3    | 11     | 5.1    | 27    | 6.8   | 400  | 120  | 285  | 44    | 8.2   | 11    | 6.1   |
| 14    | 14     | 3.0    | 1.4    | 23    | 6.8   | 420  | 121  | 255  | 38    | 7.8   | 9.4   | 6.8   |
| 15    | 8.2    | 9.8    | 6.7    | 6.1   | 6.8   | 390  | 112  | 224  | 34    | 6.6   | 8.5   | 6.1   |
| 16    | 15     | 5.4    | 11     | 4.4   | 7.0   | 360  | 101  | 191  | 28    | 5.7   | 7.3   | 5.5   |
| 17    | 2.7    | 12     | .84    | 4.4   | 7.0   | 310  | 92   | 163  | 21    | 5.1   | 7.0   | 6.9   |
| 18    | 7.5    | 6.3    | 5.0    | 4.1   | 6.9   | 270  | 77   | 140  | 18    | 13    | 6.7   | 6.6   |
| 19    | .69    | 11     | 16     | 3.9   | 6.8   | 240  | 71   | 130  | 26    | 12    | 5.9   | 6.8   |
| 20    | 4.6    | 6.0    | 17     | 3.6   | 6.7   | 230  | 68   | 120  | 23    | 8.6   | 5.1   | 15    |
| 21    | 38     | 9.6    | 11     | 3.5   | 6.6   | 270  | 52   | 110  | 29    | 6.7   | 4.0   | 28    |
| 22    | 52     | 3.8    | .61    | 3.6   | 6.4   | 370  | 56   | 101  | 36    | 5.0   | 3.7   | 24    |
| 23    | 17     | 15     | 3.4    | 3.1   | 6.7   | 450  | 64   | 92   | 31    | 4.2   | 3.5   | 14    |
| 24    | 15     | 15     | 15     | 3.1   | 7.0   | 460  | 122  | 83   | 27    | 3.5   | 4.1   | 9.5   |
| 25    | 17     | 14     | 8.0    | 3.6   | 30    | 407  | 234  | 76   | 24    | 7.2   | 5.8   | 16    |
| 26    | 26     | 13     | 3.3    | 3.8   | 70    | 349  | 249  | 68   | 35    | 15    | 5.9   | 6.7   |
| 27    | 29     | 14     | 6.5    | 4.0   | 130   | 315  | 247  | 56   | 36    | 12    | 5.3   | 41    |
| 28    | 21     | 14     | 2.1    | 4.0   | 175   | 274  | 227  | 43   | 32    | 10    | 4.6   | 18    |
| 29    | 16     | 11     | 12     | 5.0   | ---   | 261  | 198  | 24   | 29    | 8.9   | 4.1   | 23    |
| 30    | 14     | 6.6    | 6.7    | 6.0   | ---   | 241  | 161  | 19   | 27    | 7.9   | 4.3   | 38    |
| 31    | 13     | ---    | 1.3    | 6.8   | ---   | 216  | ---  | 20   | ---   | 7.0   | 4.4   | ---   |
| TOTAL | 448.49 | 247.50 | 233.31 | 267.3 | 568.3 | 9438 | 4317 | 3941 | 750.0 | 306.7 | 380.6 | 355.4 |
| MEAN  | 14.5   | 8.25   | 7.53   | 9.27  | 20.3  | 304  | 144  | 127  | 25.0  | 9.89  | 12.3  | 11.8  |
| MAX   | 52     | 15     | 30     | 27    | 175   | 460  | 249  | 333  | 51    | 24    | 38    | 41    |
| MIN   | .69    | .56    | .26    | 2.3   | 6.1   | 200  | 52   | 19   | 5.8   | 3.5   | 3.5   | 2.5   |

CAL YR 1976 TOTAL 20739.55 MEAN 56.7 MAX 337 MIN .26  
WTR YR 1977 TOTAL 21273.60 MEAN 54.3 MAX 460 MIN .26

NOTE.--No gage-height record Feb. 2 to Mar. 24.

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>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1930 to current year.

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) above mean sea level.

REMARKS.--Records excellent except those for January and February, which are fair. Diversions upstream for municipal supply of Reading, Lynn, Peabody, Danvers, Salem, and Beverly. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years, 187 ft<sup>3</sup>/s (5.296 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, 0.8 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s) Aug. 20, 1965.  
Maximum discharge since 1886, that of Mar. 20, 21, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,150 ft<sup>3</sup>/s (32.6 m<sup>3</sup>/s) Mar. 15, 25, gage height, 5.60 ft (1.707 m); minimum, 6.4 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC      | JAN  | FEB  | MAR     | APR   | MAY   | JUN  | JUL  | AUG  | SEP   |
|-------------|-------|---------|----------|------|------|---------|-------|-------|------|------|------|-------|
| 1           | 15    | 60      | 28       | 23   | 42   | 314     | 667   | 450   | 99   | 79   | 21   | 12    |
| 2           | 16    | 55      | 24       | 22   | 42   | 471     | 610   | 400   | 93   | 71   | 34   | 11    |
| 3           | 16    | 50      | 19       | 23   | 42   | 517     | 554   | 360   | 91   | 64   | 41   | 11    |
| 4           | 16    | 47      | 20       | 23   | 43   | 531     | 506   | 320   | 87   | 55   | 44   | 10    |
| 5           | 16    | 43      | 18       | 22   | 43   | 568     | 506   | 300   | 81   | 48   | 46   | 9.7   |
| 6           | 15    | 40      | 15       | 22   | 43   | 625     | 519   | 280   | 71   | 41   | 46   | 9.0   |
| 7           | 15    | 37      | 20       | 23   | 44   | 689     | 513   | 255   | 64   | 36   | 45   | 7.3   |
| 8           | 14    | 34      | 39       | 18   | 40   | 686     | 512   | 240   | 61   | 32   | 42   | 6.8   |
| 9           | 21    | 31      | 47       | 18   | 31   | 665     | 499   | 230   | 62   | 31   | 38   | 7.7   |
| 10          | 38    | 28      | 55       | 26   | 29   | 661     | 467   | 290   | 62   | 30   | 34   | 9.8   |
| 11          | 52    | 27      | 49       | 36   | 27   | 699     | 438   | 380   | 81   | 27   | 30   | 11    |
| 12          | 55    | 27      | 40       | 42   | 29   | 752     | 407   | 470   | 105  | 26   | 27   | 11    |
| 13          | 54    | 30      | 34       | 49   | 32   | 791     | 386   | 600   | 123  | 25   | 24   | 11    |
| 14          | 48    | 29      | 25       | 55   | 32   | 977     | 354   | 660   | 136  | 24   | 23   | 11    |
| 15          | 39    | 30      | 23       | 57   | 32   | 1120    | 327   | 640   | 136  | 23   | 21   | 10    |
| 16          | 34    | 29      | 22       | 55   | 32   | 1140    | 305   | 613   | 123  | 21   | 19   | 11    |
| 17          | 29    | 28      | 24       | 53   | 33   | 1070    | 288   | 550   | 107  | 20   | 18   | 14    |
| 18          | 26    | 27      | 26       | 53   | 37   | 946     | 270   | 493   | 93   | 25   | 16   | 15    |
| 19          | 22    | 38      | 22       | 52   | 36   | 845     | 253   | 440   | 86   | 26   | 15   | 16    |
| 20          | 22    | 29      | 23       | 51   | 33   | 761     | 234   | 391   | 80   | 26   | 14   | 23    |
| 21          | 42    | 28      | 30       | 50   | 33   | 689     | 217   | 347   | 78   | 25   | 13   | 45    |
| 22          | 60    | 25      | 29       | 48   | 32   | 651     | 201   | 312   | 77   | 21   | 12   | 57    |
| 23          | 70    | 26      | 29       | 47   | 30   | 815     | 198   | 280   | 75   | 18   | 11   | 62    |
| 24          | 72    | 24      | 24       | 45   | 31   | 1040    | 237   | 254   | 73   | 15   | 12   | 61    |
| 25          | 77    | 25      | 22       | 44   | 63   | 1150    | 360   | 232   | 69   | 19   | 15   | 57    |
| 26          | 76    | 24      | 24       | 43   | 91   | 1110    | 480   | 209   | 78   | 26   | 17   | 52    |
| 27          | 74    | 24      | 22       | 41   | 118  | 992     | 580   | 190   | 83   | 27   | 15   | 57    |
| 28          | 72    | 24      | 22       | 40   | 175  | 880     | 600   | 173   | 86   | 27   | 14   | 64    |
| 29          | 71    | 26      | 22       | 45   | ---  | 823     | 560   | 157   | 87   | 26   | 13   | 66    |
| 30          | 69    | 29      | 19       | 44   | ---  | 774     | 500   | 142   | 83   | 24   | 12   | 66    |
| 31          | 64    | ---     | 21       | 43   | ---  | 721     | ---   | 125   | ---  | 21   | 11   | ---   |
| TOTAL       | 1310  | 974     | 837      | 1213 | 1295 | 24473   | 12548 | 10783 | 2630 | 979  | 743  | 814.3 |
| MEAN        | 42.3  | 32.5    | 27.0     | 39.1 | 46.3 | 789     | 418   | 348   | 87.7 | 31.6 | 24.0 | 27.1  |
| MAX         | 77    | 60      | 55       | 57   | 175  | 1150    | 667   | 660   | 136  | 79   | 46   | 66    |
| MIN         | 14    | 24      | 15       | 18   | 27   | 314     | 198   | 125   | 61   | 15   | 11   | 6.8   |
| CAL YR 1976 | TOTAL | 60872.9 | MEAN 166 | MAX  | 916  | MIN 3.8 |       |       |      |      |      |       |
| WTR YR 1977 | TOTAL | 58599.3 | MEAN 161 | MAX  | 1150 | MIN 6.8 |       |       |      |      |      |       |

01102000 IPSWICH RIVER NEAR IPSWICH, MA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954, 1976 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE         | INSTANTANEOUS<br>DIS-<br>CHARGE<br>(CFS) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | PH<br>(UNITS) | AIR<br>TEMPER-<br>ATURE<br>(DEG C) | TEMPER-<br>ATURE<br>(DEG C) | COLOR<br>(PLAT-<br>INUM<br>COBALT<br>UNITS) | TUR-<br>BID-<br>ITY<br>(JTU) | DIS-<br>SOLVED<br>OXYGEN<br>(MG/L) | OXYGEN<br>DEMAND<br>CHEM<br>0.025N<br>DICHRO-<br>MATE<br>(MG/L) | OXYGEN<br>DEMAND<br>CHEM<br>T IN BM<br>DRY WT<br>(MG/KG) | TOTAL<br>CAL-<br>CIUM<br>(CA)<br>(MG/L) |
|--------------|------------------------------------------|------------------------------------------------------------|---------------|------------------------------------|-----------------------------|---------------------------------------------|------------------------------|------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|
| NOV<br>18... | 26                                       | 440                                                        | 7.1           | 4.0                                | .5                          | 45                                          | 3                            | 12.9                               | 17                                                              | 7200                                                     | 21                                      |

| DATE         | TOTAL<br>MAG-<br>NE-<br>SIUM<br>(MG)<br>(MG/L) | BICAR-<br>BONATE<br>(HCO3)<br>(MG/L) | CAR-<br>BONATE<br>(CO3)<br>(MG/L) | ALKA-<br>LINITY<br>AS<br>CACO3<br>(MG/L) | CARBON<br>DIOXIDE<br>DIS-<br>SOLVED<br>(MG/L) | DIS-<br>SOLVED<br>SULFATE<br>(SO4)<br>(MG/L) | DIS-<br>SOLVED<br>CHLO-<br>RIDE<br>(CL)<br>(MG/L) | SUS-<br>PEN-<br>DED<br>SOLIDS<br>(MG/L) | SOLIDS<br>RESIDUE<br>ON EVAP<br>AT 105C<br>TOTAL<br>(MG/L) | LOSS ON<br>IGNI-<br>TION IN<br>BOTTOM<br>MA-<br>TERIAL<br>(MG/KG) |
|--------------|------------------------------------------------|--------------------------------------|-----------------------------------|------------------------------------------|-----------------------------------------------|----------------------------------------------|---------------------------------------------------|-----------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------|
| NOV<br>18... | 4.2                                            | 49                                   | 0                                 | 40                                       | 6.2                                           | 25                                           | 40                                                | 2                                       | 157                                                        | 11700                                                             |

| DATE         | TOTAL<br>NITRITE<br>PLUS<br>NITRATE<br>(N)<br>(MG/L) | TOTAL<br>AMMONIA<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>ORGANIC<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | NITRO-<br>GEN<br>AMMONIA<br>ORGANIC<br>TOTAL<br>AS N<br>(MG/L) | TOTAL<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>PHOS-<br>PHORUS<br>(P)<br>(MG/L) | TOTAL<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | TOTAL<br>CHRO-<br>MIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | CHLORO-<br>PHYLL A<br>(UG/L) | CHLORO-<br>PHYLL B<br>(UG/L) |
|--------------|------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------|-----------------------------------------|-------------------------------------------|------------------------------------------|----------------------------------------------------------------|------------------------------|------------------------------|
| NOV<br>18... | .48                                                  | .06                                                | .44                                                | .50                                                            | .98                                     | .03                                       | 10                                       | 4                                                              | .000                         | .000                         |

## 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.--WRD MA, NH, RI, VT, 1974: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is at mean sea level.

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.--38 years, 27.4 ft<sup>3</sup>/s (0.776 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 835 ft<sup>3</sup>/s (23.6 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 13.64 ft (4.157 m), from rating curve extended above 330 ft<sup>3</sup>/s (9.35 m<sup>3</sup>/s); maximum gage height, 14.43 ft (4.398 m) Oct. 7, 1962 (backwater from Upper Mystic Lake); 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 Aug. 19, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 344 ft<sup>3</sup>/s (9.74 m<sup>3</sup>/s) Mar. 23, gage height, 12.60 ft (3.840 m); minimum, 0.86 ft<sup>3</sup>/s (0.024 m<sup>3</sup>/s) Sept. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB   | MAR  | APR  | MAY    | JUN   | JUL   | AUG   | SEP    |
|-------------|-------|---------|-------|-------|-------|------|------|--------|-------|-------|-------|--------|
| 1           | 3.1   | 9.5     | 4.5   | 3.3   | 6.4   | 87   | 48   | 33     | 9.5   | 8.4   | 100   | 2.6    |
| 2           | 3.3   | 7.0     | 4.5   | 3.3   | 5.8   | 69   | 46   | 32     | 15    | 7.0   | 75    | 2.6    |
| 3           | 4.0   | 6.4     | 4.0   | 3.3   | 5.5   | 61   | 50   | 30     | 14    | 5.3   | 36    | 2.6    |
| 4           | 3.1   | 6.7     | 3.3   | 3.6   | 5.5   | 62   | 45   | 27     | 11    | 5.3   | 18    | 1.8    |
| 5           | 3.1   | 7.4     | 2.9   | 3.6   | 5.8   | 114  | 114  | 26     | 9.2   | 5.3   | 11    | 1.0    |
| 6           | 2.8   | 6.4     | 3.1   | 3.3   | 5.8   | 112  | 95   | 26     | 8.1   | 5.3   | 10    | 1.1    |
| 7           | 2.9   | 5.8     | 28    | 5.0   | 5.8   | 88   | 66   | 26     | 14    | 4.5   | 7.4   | 1.0    |
| 8           | 2.8   | 5.3     | 37    | 4.3   | 5.5   | 74   | 58   | 23     | 16    | 4.5   | 7.0   | .94    |
| 9           | 40    | 5.5     | 15    | 2.9   | 5.5   | 70   | 48   | 63     | 12    | 5.0   | 6.1   | .94    |
| 10          | 38    | 6.7     | 8.8   | 24    | 6.4   | 73   | 51   | 268    | 18    | 3.8   | 4.7   | 4.5    |
| 11          | 15    | 7.4     | 7.7   | 29    | 7.4   | 69   | 45   | 220    | 50    | 3.3   | 5.0   | 2.8    |
| 12          | 8.1   | 7.0     | 6.7   | 18    | 11    | 61   | 41   | 124    | 37    | 3.3   | 5.0   | 1.1    |
| 13          | 6.4   | 5.8     | 5.8   | 19    | 17    | 88   | 37   | 84     | 21    | 4.0   | 4.7   | 1.6    |
| 14          | 6.7   | 5.3     | 4.3   | 19    | 19    | 208  | 32   | 53     | 15    | 4.0   | 3.6   | 11     |
| 15          | 5.5   | 5.5     | 4.3   | 19    | 19    | 130  | 33   | 44     | 12    | 2.8   | 3.3   | 4.5    |
| 16          | 4.5   | 5.5     | 4.3   | 15    | 16    | 91   | 31   | 42     | 9.5   | 2.4   | 2.8   | 2.8    |
| 17          | 3.6   | 5.3     | 3.8   | 13    | 13    | 70   | 29   | 38     | 8.4   | 2.1   | 3.1   | 11     |
| 18          | 3.6   | 5.3     | 4.3   | 12    | 11    | 59   | 28   | 37     | 11    | 28    | 3.1   | 5.5    |
| 19          | 2.4   | 5.0     | 4.0   | 11    | 10    | 67   | 27   | 40     | 18    | 9.9   | 2.1   | 9.5    |
| 20          | 16    | 5.0     | 5.0   | 11    | 10    | 62   | 26   | 36     | 13    | 4.7   | 1.9   | 34     |
| 21          | 63    | 4.3     | 13    | 10    | 11    | 63   | 25   | 32     | 8.8   | 3.6   | 1.3   | 37     |
| 22          | 26    | 4.3     | 6.7   | 9.9   | 10    | 100  | 25   | 29     | 7.0   | 2.8   | 1.5   | 19     |
| 23          | 15    | 4.0     | 5.3   | 9.5   | 9.9   | 297  | 44   | 27     | 6.1   | 1.6   | 2.1   | 10     |
| 24          | 13    | 3.8     | 4.5   | 8.4   | 12    | 218  | 112  | 25     | 6.4   | 1.5   | 5.8   | 9.5    |
| 25          | 9.2   | 3.6     | 4.0   | 8.1   | 145   | 136  | 176  | 23     | 5.5   | 30    | 10    | 8.4    |
| 26          | 18    | 3.8     | 4.7   | 7.7   | 112   | 112  | 112  | 20     | 50    | 40    | 5.3   | 32     |
| 27          | 14    | 3.8     | 4.3   | 7.4   | 76    | 93   | 74   | 14     | 33    | 15    | 4.0   | 49     |
| 28          | 9.5   | 3.8     | 4.0   | 7.7   | 93    | 76   | 57   | 12     | 17    | 9.0   | 3.1   | 21     |
| 29          | 9.2   | 7.4     | 4.7   | 14    | ---   | 80   | 43   | 9.9    | 16    | 7.5   | 2.6   | 12     |
| 30          | 8.1   | 6.4     | 4.0   | 8.4   | ---   | 67   | 37   | 9.5    | 13    | 6.5   | 4.3   | 7.7    |
| 31          | 8.8   | ---     | 3.8   | 7.4   | ---   | 59   | ---  | 9.5    | ---   | 6.0   | 3.6   | ---    |
| TOTAL       | 368.7 | 169.0   | 220.3 | 321.1 | 660.3 | 3016 | 1655 | 1482.9 | 484.5 | 242.4 | 353.4 | 308.48 |
| MEAN        | 11.9  | 5.63    | 7.11  | 10.4  | 23.6  | 97.3 | 55.2 | 47.8   | 16.2  | 7.82  | 11.4  | 10.3   |
| MAX         | 63    | 9.5     | 37    | 29    | 145   | 297  | 176  | 268    | 50    | 40    | 100   | 49     |
| MIN         | 2.4   | 3.6     | 2.9   | 2.9   | 5.5   | 59   | 25   | 9.5    | 5.5   | 1.5   | 1.3   | .94    |
| CAL YR 1976 | TOTAL | 8971.51 | MEAN  | 24.5  | MAX   | 381  | MIN  | .85    |       |       |       |        |
| WTR YR 1977 | TOTAL | 9282.08 | MEAN  | 25.4  | MAX   | 297  | MIN  | .94    |       |       |       |        |

## 01103305 CHARLES RIVER NEAR MILLIS, MA

LOCATION.--Lat 42°07'59", long 71°21'46", Norfolk County, Hydrologic Unit 01090001, on left bank 150 ft (46 m) upstream from Myrtle St. Bridge, 500 ft (150 m) downstream from Mill River, and 2.5 mi (4.0 km) south of Millis.

DRAINAGE AREA.--85.9 mi<sup>2</sup> (222.5 km<sup>2</sup>).

PERIOD OF RECORD.--August 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 125 ft (38 m), from topographic map.

REMARKS.--Records good except those for periods of shifting-control, which are fair. Flow affected by diversions to and from the basin for municipal supplies. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft<sup>3</sup>/s (50.1 m<sup>3</sup>/s) Jan. 28, 1976, gage height, 6.94 ft (2.115 m), from rating curve extended above 520 ft<sup>3</sup>/s (14.7 m<sup>3</sup>/s); minimum, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Aug. 19, 20, 25-27, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 863 ft<sup>3</sup>/s (24.4 m<sup>3</sup>/s) Mar. 24, gage height, 5.42 ft (1.652 m); minimum, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 1     | 31   | 66   | 51   | 47   | 71   | 369   | 283  | 159  | 56   | 57   | 27   | 19   |
| 2     | 30   | 66   | 48   | 47   | 69   | 345   | 254  | 142  | 55   | 54   | 26   | 19   |
| 3     | 30   | 63   | 46   | 47   | 63   | 299   | 245  | 134  | 58   | 49   | 26   | 19   |
| 4     | 30   | 61   | 42   | 45   | 60   | 270   | 238  | 124  | 59   | 45   | 26   | 19   |
| 5     | 30   | 58   | 39   | 45   | 59   | 313   | 327  | 120  | 57   | 40   | 24   | 19   |
| 6     | 30   | 57   | 38   | 44   | 59   | 434   | 479  | 118  | 54   | 40   | 25   | 19   |
| 7     | 29   | 55   | 47   | 44   | 59   | 443   | 491  | 116  | 56   | 42   | 25   | 18   |
| 8     | 29   | 55   | 117  | 44   | 59   | 389   | 416  | 108  | 61   | 42   | 25   | 17   |
| 9     | 38   | 55   | 118  | 44   | 59   | 347   | 348  | 120  | 61   | 43   | 24   | 16   |
| 10    | 86   | 55   | 110  | 53   | 59   | 337   | 299  | 245  | 69   | 40   | 21   | 16   |
| 11    | 89   | 55   | 88   | 105  | 58   | 408   | 262  | 442  | 95   | 40   | 20   | 18   |
| 12    | 88   | 60   | 78   | 111  | 59   | 405   | 233  | 529  | 127  | 40   | 20   | 18   |
| 13    | 72   | 61   | 69   | 117  | 68   | 397   | 217  | 476  | 133  | 44   | 22   | 18   |
| 14    | 66   | 60   | 58   | 117  | 82   | 578   | 198  | 379  | 123  | 52   | 24   | 18   |
| 15    | 60   | 58   | 56   | 116  | 89   | 629   | 179  | 301  | 104  | 53   | 26   | 18   |
| 16    | 54   | 57   | 52   | 111  | 91   | 577   | 168  | 245  | 88   | 53   | 24   | 18   |
| 17    | 48   | 56   | 51   | 104  | 88   | 479   | 160  | 204  | 76   | 51   | 26   | 23   |
| 18    | 43   | 56   | 51   | 95   | 82   | 406   | 148  | 174  | 69   | 45   | 32   | 29   |
| 19    | 37   | 56   | 50   | 90   | 79   | 361   | 141  | 157  | 66   | 41   | 32   | 36   |
| 20    | 36   | 56   | 49   | 88   | 76   | 348   | 135  | 146  | 59   | 37   | 28   | 48   |
| 21    | 89   | 56   | 58   | 84   | 75   | 342   | 127  | 138  | 53   | 33   | 24   | 81   |
| 22    | 117  | 53   | 64   | 80   | 73   | 352   | 121  | 130  | 48   | 28   | 22   | 94   |
| 23    | 117  | 49   | 62   | 75   | 71   | 707   | 110  | 117  | 43   | 25   | 22   | 93   |
| 24    | 113  | 47   | 57   | 73   | 69   | 838   | 174  | 105  | 40   | 24   | 23   | 78   |
| 25    | 101  | 47   | 52   | 70   | 146  | 722   | 323  | 98   | 40   | 25   | 29   | 86   |
| 26    | 92   | 47   | 51   | 69   | 306  | 570   | 390  | 91   | 42   | 33   | 32   | 111  |
| 27    | 93   | 47   | 49   | 68   | 355  | 469   | 350  | 82   | 48   | 41   | 30   | 161  |
| 28    | 90   | 47   | 47   | 66   | 379  | 407   | 281  | 74   | 48   | 41   | 27   | 156  |
| 29    | 79   | 47   | 47   | 68   | ---  | 379   | 222  | 69   | 51   | 36   | 23   | 138  |
| 30    | 74   | 51   | 47   | 71   | ---  | 356   | 185  | 66   | 57   | 31   | 20   | 111  |
| 31    | 67   | ---  | 47   | 71   | ---  | 331   | ---  | 64   | ---  | 28   | 20   | ---  |
| TOTAL | 1988 | 1657 | 1839 | 2309 | 2863 | 13607 | 7504 | 5473 | 1996 | 1253 | 775  | 1534 |
| MEAN  | 64.1 | 55.2 | 59.3 | 74.5 | 102  | 439   | 250  | 177  | 66.5 | 40.4 | 25.0 | 51.1 |
| MAX   | 117  | 66   | 118  | 117  | 379  | 838   | 491  | 529  | 133  | 57   | 32   | 161  |
| MIN   | 29   | 47   | 38   | 44   | 58   | 270   | 110  | 64   | 40   | 24   | 20   | 16   |

CAL YR 1976 TOTAL 48105 MEAN 131 MAX 1410 MIN 16  
WTR YR 1977 TOTAL 42798 MEAN 117 MAX 838 MIN 16

NOTE.--Shifting-control method used Oct. 1-17, Apr. 22 to Sept. 30.

## CHARLES RIVER BASIN

01103500 CHARLES RIVER AT CHARLES RIVER VILLAGE, 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 at Charles River Village, 0.8 mi (1.3 km) downstream from Noanet Brook, and 1.3 mi (2.1 km) northeast of Dover.

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

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 89.76 ft (27.359 m) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair. Flow affected by diversions to and from basin for municipal supplies.

AVERAGE DISCHARGE.--40 years, 297 ft<sup>3</sup>/s (8.411 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, 1,290 ft<sup>3</sup>/s (36.5 m<sup>3</sup>/s) Mar. 26, gage height, 4.68 ft (1.426 m); minimum, 33 ft<sup>3</sup>/s (0.93 m<sup>3</sup>/s) Sept. 8-10, 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN  | FEB  | MAR    | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|--------|----------|------|------|--------|-------|-------|------|------|------|------|
| 1           | 53    | 162    | 109      | 95   | 180  | 779    | 861   | 584   | 153  | 130  | 57   | 45   |
| 2           | 53    | 159    | 105      | 95   | 180  | 816    | 792   | 519   | 149  | 120  | 57   | 43   |
| 3           | 55    | 154    | 92       | 94   | 170  | 819    | 759   | 445   | 146  | 109  | 50   | 43   |
| 4           | 53    | 145    | 85       | 89   | 165  | 825    | 699   | 398   | 145  | 100  | 48   | 39   |
| 5           | 53    | 137    | 77       | 90   | 160  | 858    | 765   | 362   | 142  | 94   | 51   | 37   |
| 6           | 54    | 130    | 70       | 89   | 160  | 904    | 786   | 336   | 137  | 85   | 53   | 39   |
| 7           | 55    | 123    | 108      | 98   | 155  | 918    | 810   | 314   | 148  | 80   | 50   | 37   |
| 8           | 54    | 117    | 183      | 93   | 150  | 911    | 867   | 296   | 169  | 83   | 56   | 34   |
| 9           | 98    | 116    | 211      | 87   | 150  | 897    | 873   | 321   | 175  | 84   | 53   | 33   |
| 10          | 136   | 116    | 229      | 141  | 145  | 882    | 849   | 505   | 174  | 79   | 49   | 39   |
| 11          | 165   | 116    | 212      | 223  | 145  | 861    | 804   | 635   | 219  | 75   | 46   | 39   |
| 12          | 178   | 118    | 183      | 236  | 145  | 828    | 753   | 736   | 268  | 74   | 58   | 37   |
| 13          | 169   | 122    | 158      | 236  | 155  | 825    | 699   | 795   | 289  | 82   | 66   | 37   |
| 14          | 147   | 122    | 125      | 236  | 165  | 963    | 640   | 831   | 293  | 84   | 57   | 40   |
| 15          | 132   | 117    | 128      | 236  | 175  | 975    | 585   | 839   | 274  | 89   | 54   | 34   |
| 16          | 116   | 114    | 115      | 230  | 180  | 1040   | 537   | 810   | 241  | 88   | 51   | 35   |
| 17          | 105   | 111    | 110      | 225  | 185  | 1060   | 490   | 753   | 209  | 85   | 56   | 49   |
| 18          | 94    | 108    | 110      | 220  | 185  | 1030   | 447   | 678   | 197  | 79   | 65   | 49   |
| 19          | 86    | 109    | 103      | 215  | 189  | 998    | 401   | 609   | 197  | 70   | 80   | 70   |
| 20          | 83    | 108    | 106      | 210  | 185  | 924    | 363   | 542   | 174  | 63   | 71   | 113  |
| 21          | 170   | 107    | 126      | 200  | 178  | 870    | 335   | 480   | 157  | 57   | 58   | 150  |
| 22          | 204   | 105    | 108      | 195  | 174  | 849    | 309   | 426   | 140  | 51   | 51   | 171  |
| 23          | 229   | 100    | 140      | 190  | 165  | 1090   | 306   | 371   | 126  | 44   | 45   | 182  |
| 24          | 230   | 95     | 125      | 180  | 163  | 1130   | 405   | 314   | 113  | 43   | 51   | 186  |
| 25          | 222   | 93     | 109      | 175  | 335  | 1220   | 565   | 277   | 103  | 64   | 61   | 180  |
| 26          | 214   | 93     | 104      | 170  | 421  | 1280   | 641   | 245   | 122  | 70   | 58   | 231  |
| 27          | 208   | 95     | 99       | 160  | 516  | 1260   | 705   | 223   | 133  | 71   | 61   | 299  |
| 28          | 219   | 96     | 93       | 155  | 681  | 1180   | 726   | 203   | 134  | 78   | 58   | 307  |
| 29          | 214   | 104    | 91       | 180  | ---  | 1110   | 692   | 182   | 135  | 74   | 53   | 304  |
| 30          | 188   | 109    | 93       | 180  | ---  | 1010   | 640   | 171   | 132  | 68   | 49   | 286  |
| 31          | 172   | ---    | 93       | 180  | ---  | 936    | ---   | 161   | ---  | 61   | 45   | ---  |
| TOTAL       | 4209  | 3501   | 3800     | 5203 | 5957 | 30048  | 19104 | 14361 | 5194 | 2434 | 1718 | 3188 |
| MEAN        | 136   | 117    | 123      | 168  | 213  | 969    | 637   | 463   | 173  | 78.5 | 55.4 | 106  |
| MAX         | 230   | 162    | 229      | 236  | 681  | 1280   | 873   | 839   | 293  | 130  | 80   | 307  |
| MIN         | 53    | 93     | 70       | 87   | 145  | 779    | 306   | 161   | 103  | 43   | 45   | 33   |
| CAL YR 1976 | TOTAL | 104215 | MEAN 296 | MAX  | 1740 | MIN 30 |       |       |      |      |      |      |
| WTR YR 1977 | TOTAL | 98717  | MEAN 270 | MAX  | 1280 | MIN 33 |       |       |      |      |      |      |



01103500 CHARLES RIVER AT CHARLES RIVER VILLAGE, MA--Continued

## WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: November 1974 to current year.

INSTRUMENTATION.--Water-quality monitor since November 1974.

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

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, 30.5°C Aug. 2, 1975, July 21, 1977; minimum, 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 448 micromhos Sept. 24; minimum recorded, 125 micromhos Dec. 8.

WATER TEMPERATURES: Maximum, 30.5°C July 21; minimum, 0.0°C on many days during winter period.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | IMMEDIATE COLIFORM (COL./100 ML) | FECAL COLIFORM (COL./100 ML) | FECAL STREPTOCOCCI KF AGAR (COL./100 ML) |
|-----------|------|-------------------------------|----------------------------------|------------|-------------------------|---------------------|-----------------|-------------------------|----------------------------------|------------------------------|------------------------------------------|
| OCT 06... | 1100 | 53                            | 210                              | --         | 16.5                    | 11.0                | --              | 11.3                    | 280                              | 840                          | B110                                     |
| NOV 17... | 0900 | 109                           | 192                              | 6.9        | 4.0                     | 1.0                 | 1               | 9.8                     | 56                               | B14                          | 17                                       |
| DEC 08... | 0900 | 175                           | 162                              | 6.8        | 2.5                     | .0                  | --              | 13.8                    | 320                              | 80                           | 64                                       |
| MAR 01... | 1015 | 774                           | 167                              | 6.9        | 2.0                     | .0                  | --              | 13.0                    | 540                              | B24                          | 110                                      |
| APR 05... | 1100 | 783                           | 175                              | 6.6        | 6.5                     | 6.0                 | 1               | 11.0                    | 820                              | 34                           | B22                                      |
| MAY 20... | 0855 | 551                           | 137                              | 6.1        | 17.0                    | 14.0                | --              | 9.7                     | 1200                             | 40                           | 20                                       |
| JUL 08... | 1130 | 80                            | 200                              | 6.9        | 19.0                    | 24.0                | 1               | 4.8                     | 1100                             | 340                          | 76                                       |
| SEP 21... | 1000 | 148                           | 217                              | 7.3        | 10.5                    | 16.5                | --              | 9.0                     | 3600                             | 290                          | 300                                      |
| 27...     | 0900 | 296                           | 212                              | 6.6        | 17.5                    | 15.0                | 3               | 8.9                     | 30000                            | 500                          | 1400                                     |

| DATE      | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SIO2) (MG/L) | SOLIDS RESIDUE ON EVAP AT 180C (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | NITROGEN AMMONIA ORGANIC TOTAL AS N (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
|-----------|--------------------------------|-------------------------------|--------------------------------|---------------------------------------|-----------------------------------------------|---------------------------------------|--------------------------------------------|---------------------------|-----------------------------|---------------------------------|
| OCT 06... | --                             | --                            | --                             | --                                    | --                                            | .01                                   | .60                                        | .61                       | .20                         | --                              |
| NOV 17... | 39                             | .1                            | 10                             | 131                                   | 116                                           | .81                                   | .50                                        | 1.3                       | .21                         | 8.8                             |
| DEC 08... | --                             | --                            | --                             | --                                    | --                                            | 1.5                                   | .48                                        | 2.0                       | .34                         | --                              |
| MAR 01... | --                             | --                            | --                             | --                                    | --                                            | .57                                   | 1.1                                        | 1.7                       | .18                         | --                              |
| APR 05... | 31                             | .1                            | .7                             | 104                                   | 77                                            | .16                                   | .53                                        | .69                       | .05                         | --                              |
| MAY 20... | --                             | --                            | --                             | --                                    | --                                            | .11                                   | .56                                        | .67                       | .15                         | --                              |
| JUL 08... | 39                             | .1                            | 3.3                            | 118                                   | 104                                           | .02                                   | .79                                        | .81                       | .21                         | 8.1                             |
| SEP 21... | --                             | --                            | --                             | --                                    | --                                            | .07                                   | .77                                        | .84                       | .34                         | --                              |
| 27...     | 36                             | .1                            | 6.9                            | 130                                   | 117                                           | .44                                   | .75                                        | 1.2                       | .33                         | 6.8                             |

B NON-IDEAL COLONY COUNT.

## CHARLES RIVER BASIN

01103500 CHARLES RIVER AT CHARLES RIVER VILLAGE, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | HARD-<br>NESS<br>(CA+MG)<br>(MG/L) | NON-<br>CAR-<br>BONATE<br>HARD-<br>NESS<br>(MG/L) | DIS-<br>SOLVED<br>CAL-<br>CIUM<br>(CA)<br>(MG/L) | DIS-<br>SOLVED<br>MAG-<br>NE-<br>SIUM<br>(MG)<br>(MG/L) | DIS-<br>SOLVED<br>SODIUM<br>(NA)<br>(MG/L) | DIS-<br>SOLVED<br>PO-<br>TAS-<br>SIUM<br>(K)<br>(MG/L) | BICAR-<br>BONATE<br>(HCO3)<br>(MG/L) | CAR-<br>BONATE<br>(CO3)<br>(MG/L) | ALKA-<br>LINITY<br>AS<br>CACO3<br>(MG/L) | CARBON<br>DIOXIDE<br>DIS-<br>SOLVED<br>(MG/L) | DIS-<br>SOLVED<br>SULFATE<br>(SO4)<br>(MG/L) |
|-----------|------------------------------------|---------------------------------------------------|--------------------------------------------------|---------------------------------------------------------|--------------------------------------------|--------------------------------------------------------|--------------------------------------|-----------------------------------|------------------------------------------|-----------------------------------------------|----------------------------------------------|
| OCT 06... | --                                 | --                                                | --                                               | --                                                      | --                                         | --                                                     | --                                   | --                                | --                                       | --                                            | --                                           |
| NOV 17... | 42                                 | 22                                                | 12                                               | 3.0                                                     | 22                                         | 2.4                                                    | 25                                   | 0                                 | 21                                       | 5.0                                           | 15                                           |
| DEC 08... | --                                 | --                                                | --                                               | --                                                      | --                                         | --                                                     | --                                   | --                                | --                                       | --                                            | --                                           |
| MAR 01... | --                                 | --                                                | --                                               | --                                                      | --                                         | --                                                     | --                                   | --                                | --                                       | --                                            | --                                           |
| APR 05... | 30                                 | 17                                                | 8.7                                              | 1.9                                                     | 14                                         | 1.3                                                    | 15                                   | 0                                 | 12                                       | 6.0                                           | 12                                           |
| MAY 20... | --                                 | --                                                | --                                               | --                                                      | --                                         | --                                                     | --                                   | --                                | --                                       | --                                            | --                                           |
| JUL 08... | 40                                 | 12                                                | 12                                               | 2.5                                                     | 18                                         | 1.4                                                    | 35                                   | 0                                 | 29                                       | 7.0                                           | 9.6                                          |
| SEP 21... | --                                 | --                                                | --                                               | --                                                      | --                                         | --                                                     | --                                   | --                                | --                                       | --                                            | --                                           |
| SEP 27... | 43                                 | 23                                                | 12                                               | 3.2                                                     | 21                                         | 3.1                                                    | 24                                   | 0                                 | 20                                       | 9.6                                           | 23                                           |

| DATE      | TOTAL<br>ARSENIC<br>(AS)<br>(UG/L) | SUS-<br>PENDED<br>ARSENIC<br>(AS)<br>(UG/L) | DIS-<br>SOLVED<br>ARSENIC<br>(AS)<br>(UG/L) | TOTAL<br>CAD-<br>MIUM<br>(CD)<br>(UG/L) | SUS-<br>PENDED<br>CAD-<br>MIUM<br>(CD)<br>(UG/L) | DIS-<br>SOLVED<br>CAD-<br>MIUM<br>(CD)<br>(UG/L) | TOTAL<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | SUS-<br>PENDED<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | DIS-<br>SOLVED<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | TOTAL<br>COBALT<br>(CO)<br>(UG/L) | SUS-<br>PENDED<br>COBALT<br>(CO)<br>(UG/L) |
|-----------|------------------------------------|---------------------------------------------|---------------------------------------------|-----------------------------------------|--------------------------------------------------|--------------------------------------------------|------------------------------------------|---------------------------------------------------|---------------------------------------------------|-----------------------------------|--------------------------------------------|
| NOV 17... | 2                                  | 2                                           | 0                                           | 0                                       | 0                                                | 2                                                | <10                                      | 0                                                 | 10                                                | 2                                 | 2                                          |
| APR 05... | 2                                  | 0                                           | 2                                           | 0                                       | 0                                                | 0                                                | 10                                       | 6                                                 | 4                                                 | 0                                 | 0                                          |
| JUL 08... | 2                                  | 0                                           | 2                                           | 0                                       | 0                                                | 0                                                | 10                                       | 0                                                 | 12                                                | 0                                 | 0                                          |
| SEP 27... | 1                                  | 1                                           | 0                                           | 0                                       | 0                                                | 0                                                | <10                                      | <9                                                | 1                                                 | 0                                 | 0                                          |

| DATE      | DIS-<br>SOLVED<br>COBALT<br>(CO)<br>(UG/L) | TOTAL<br>COPPER<br>(CU)<br>(UG/L) | SUS-<br>PENDED<br>COPPER<br>(CU)<br>(UG/L) | DIS-<br>SOLVED<br>COPPER<br>(CU)<br>(UG/L) | TOTAL<br>IRON<br>(FE)<br>(UG/L) | DIS-<br>SOLVED<br>IRON<br>(FE)<br>(UG/L) | TOTAL<br>LEAD<br>(PB)<br>(UG/L) | SUS-<br>PENDED<br>LEAD<br>(PB)<br>(UG/L) | DIS-<br>SOLVED<br>LEAD<br>(PB)<br>(UG/L) | TOTAL<br>MAN-<br>GANESE<br>(MN)<br>(UG/L) | SUS-<br>PENDED<br>MAN-<br>GANESE<br>(MN)<br>(UG/L) |
|-----------|--------------------------------------------|-----------------------------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------|---------------------------------|------------------------------------------|------------------------------------------|-------------------------------------------|----------------------------------------------------|
| NOV 17... | 0                                          | 0                                 | 0                                          | 10                                         | 360                             | 240                                      | 6                               | 0                                        | 12                                       | 30                                        | 0                                                  |
| APR 05... | 0                                          | 3                                 | 1                                          | 2                                          | 430                             | 70                                       | 4                               | 0                                        | 5                                        | 30                                        | 30                                                 |
| JUL 08... | 0                                          | 6                                 | 2                                          | 4                                          | 1000                            | 270                                      | 6                               | 0                                        | 6                                        | 90                                        | 20                                                 |
| SEP 27... | 0                                          | 7                                 | 3                                          | 4                                          | 480                             | 220                                      | 28                              | 21                                       | 7                                        | 70                                        | 20                                                 |

| DATE      | DIS-<br>SOLVED<br>MAN-<br>GANESE<br>(MN)<br>(UG/L) | TOTAL<br>MERCURY<br>(HG)<br>(UG/L) | SUS-<br>PENDED<br>MERCURY<br>(HG)<br>(UG/L) | DIS-<br>SOLVED<br>MERCURY<br>(HG)<br>(UG/L) | TOTAL<br>SELE-<br>NIUM<br>(SE)<br>(UG/L) | SUS-<br>PENDED<br>SELE-<br>NIUM<br>(SE)<br>(UG/L) | DIS-<br>SOLVED<br>SELE-<br>NIUM<br>(SE)<br>(UG/L) | TOTAL<br>ZINC<br>(ZN)<br>(UG/L) | SUS-<br>PENDED<br>ZINC<br>(ZN)<br>(UG/L) | DIS-<br>SOLVED<br>ZINC<br>(ZN)<br>(UG/L) |
|-----------|----------------------------------------------------|------------------------------------|---------------------------------------------|---------------------------------------------|------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------|------------------------------------------|------------------------------------------|
| NOV 17... | 30                                                 | <.5                                | .0                                          | <.5                                         | 0                                        | 0                                                 | 0                                                 | 20                              | 0                                        | 40                                       |
| APR 05... | 0                                                  | .3                                 | .1                                          | .2                                          | 0                                        | 0                                                 | 0                                                 | 40                              | 40                                       | 0                                        |
| JUL 08... | 70                                                 | .0                                 | .0                                          | .1                                          | 0                                        | 0                                                 | 0                                                 | 80                              | 60                                       | 20                                       |
| SEP 27... | 50                                                 | <.5                                | .0                                          | <.5                                         | 0                                        | 0                                                 | 0                                                 | 0                               | 0                                        | 10                                       |

| DATE      | TOTAL<br>PCB<br>(UG/L) | POLY-<br>CHLO-<br>RINATED<br>NAPH-<br>THA-<br>LENES<br>(UG/L) | TOTAL<br>ALDRIN<br>(UG/L) | TOTAL<br>CHLOR-<br>DANE<br>(UG/L) | TOTAL<br>DDD<br>(UG/L) | TOTAL<br>ODE<br>(UG/L) | TOTAL<br>DDT<br>(UG/L) | TOTAL<br>DI-<br>ELDRIN<br>(UG/L) | TOTAL<br>ENDRIN<br>(UG/L) | TOTAL<br>HEPTA-<br>CHLOR<br>(UG/L) | TOTAL<br>HEPTA-<br>CHLOR<br>EPOXIDE<br>(UG/L) | TOTAL<br>LINDANE<br>(UG/L) | TOTAL<br>TOX-<br>APHENE<br>(UG/L) |
|-----------|------------------------|---------------------------------------------------------------|---------------------------|-----------------------------------|------------------------|------------------------|------------------------|----------------------------------|---------------------------|------------------------------------|-----------------------------------------------|----------------------------|-----------------------------------|
| NOV 17... | .0                     | .00                                                           | .00                       | .0                                | .00                    | .00                    | .00                    | .01                              | .00                       | .00                                | .00                                           | .00                        | 0                                 |

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

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1976 TO JULY 1977

## PHYTOPLANKTON

| DATE<br>TIME                  | OCT 6.76<br>1100 | NOV 17.76<br>0900 | DEC 8.76<br>0900 | APR 5.77<br>1100 | MAY 20.77<br>0855 | JUL 8.77<br>1130 |
|-------------------------------|------------------|-------------------|------------------|------------------|-------------------|------------------|
| TOTAL CELLS/ML                | 11000            | 910               | 510              | 5000             | 8000              | 42000            |
| DIVERSITY: DIVISION           | 0.8              | 1.0               | 1.0              | 1.3              | 1.2               | 1.0              |
| ..CLASS                       | 0.8              | 1.0               | 1.0              | 1.3              | 1.2               | 1.0              |
| ..ORDER                       | 1.0              | 1.8               | 1.4              | 2.4              | 1.7               | 1.2              |
| ...FAMILY                     | 1.2              | 2.1               | 2.4              | 3.2              | 2.1               | 1.3              |
| ....GENUS                     | 1.2              | 2.8               | 2.9              | 0.0              | 0.0               | 1.6              |
| ORGANISM                      | CELLS<br>/ML     | PER-<br>CENT      | CELLS<br>/ML     | PER-<br>CENT     | CELLS<br>/ML      | PER-<br>CENT     |
| CHLOROPHYTA (GREEN ALGAE)     |                  |                   |                  |                  |                   |                  |
| ..CHLOROPHYCEAE               |                  |                   |                  |                  |                   |                  |
| ...CHLOROCOCCALES             |                  |                   |                  |                  |                   |                  |
| ....HYDRODICTYACEAE           |                  |                   |                  |                  |                   |                  |
| .....PEDIASTRUM               | 650              | 6                 | --               | --               | --                | 880 2            |
| .....OOCYSTACEAE              |                  |                   |                  |                  |                   |                  |
| .....ANKISTRODESUS            | --               | --                | 12 1             | --               | 120 2             | * 0              |
| .....DICTYOSPHAERIUM          | --               | --                | --               | --               | 490 10            | --               |
| .....NEPHROCYTIUM             | --               | --                | --               | --               | 250 5             | --               |
| .....TETRAEDRON               | 220              | 2                 | --               | --               | --                | --               |
| .....SCENEDESMACEAE           |                  |                   |                  |                  |                   |                  |
| .....CRUCIGENIA               | --               | --                | --               | --               | 70 1              | --               |
| .....SCENEDESMUS              | 1100             | 10                | 77 9             | 8 2              | 1100# 22          | 61 1             |
| .....TETRASTRUM               | --               | --                | * 0              | --               | --                | 440 1            |
| ...TETRASPORALES              |                  |                   |                  |                  |                   |                  |
| ....PALMELLACEAE              |                  |                   |                  |                  |                   |                  |
| .....GLOEOCYSTIS              | --               | --                | --               | --               | 670 13            | --               |
| ...ULOTRICHALES               |                  |                   |                  |                  |                   |                  |
| ....CHAETOPHORACEAE           | --               | --                | --               | --               | 370 7             | --               |
| ....ULOTRICHACEAE             | --               | --                | --               | --               | --                | --               |
| .....ULOTHRIX                 | --               | --                | --               | --               | --                | 210 3            |
| ...VOLVOCALES                 |                  |                   |                  |                  |                   |                  |
| ....VOLVOCAEAE                |                  |                   |                  |                  |                   |                  |
| .....PANDORINA                | --               | --                | --               | --               | --                | 1800 4           |
| ...ZYGNEATALES                |                  |                   |                  |                  |                   |                  |
| ....DESMIDIACEAE              |                  |                   |                  |                  |                   |                  |
| .....CLOSTERIUM               | --               | --                | --               | --               | 35 1              | * 0              |
| .....STAUSTRUM                | 110              | 1                 | --               | --               | --                | --               |
| ...ZYGNEMATAEAE               |                  |                   |                  |                  |                   |                  |
| .....MOUGEOTIA                | 430              | 4                 | --               | --               | --                | --               |
| CHRYSOPHYTA                   |                  |                   |                  |                  |                   |                  |
| ..BACILLARIOPHYCEAE           |                  |                   |                  |                  |                   |                  |
| ...CENTRALES                  |                  |                   |                  |                  |                   |                  |
| ....COSCONODISCAEAE           |                  |                   |                  |                  |                   |                  |
| .....CYCLOTELLA               | 8100# 77         |                   | 110 12           | 4 1              | 160 3             | 360 5            |
| .....MELOSIRA                 | --               | --                | 300# 33          | 45 9             | 35 1              | 1100 14          |
| ...PENNALES                   |                  |                   |                  |                  |                   | 1600 4           |
| ....ACHNANTHACEAE             |                  |                   |                  |                  |                   | 31000# 73        |
| .....ACHNANTHES               | --               | --                | * 0              | 4 1              | * 0               | 61 1             |
| .....COCCONEIS                | --               | --                | * 0              | --               | --                | --               |
| ...CYMBELLACEAE               |                  |                   |                  |                  |                   |                  |
| .....CYMBELLA                 | --               | --                | * 0              | 4 1              | --                | --               |
| ...EUNOTIACEAE                |                  |                   |                  |                  |                   |                  |
| .....EUNOTIA                  | --               | --                | * 0              | 4 1              | 35 1              | 61 1             |
| ...FRAGILIARIACEAE            |                  |                   |                  |                  |                   |                  |
| .....ASTERIONELLA             | --               | --                | 110 12           | 82# 16           | --                | --               |
| .....FRAGILARIA               | --               | --                | 130 14           | 90# 18           | 560 11            | 910 11           |
| .....SYNEDRA                  | --               | --                | * 0              | 12 2             | * 0               | * 0              |
| ...GOMPHONEMATAEAE            |                  |                   |                  |                  |                   |                  |
| .....GOMPHONEMA               | --               | --                | --               | 8 2              | --                | * 0              |
| ...MERIDIIONACEAE             |                  |                   |                  |                  |                   |                  |
| .....MERIDIION                | --               | --                | --               | 25 5             | --                | --               |
| ...NAVICULACEAE               |                  |                   |                  |                  |                   |                  |
| .....NAVICULA                 | --               | --                | 16 2             | 4 1              | 70 1              | --               |
| ...PINNULARIA                 |                  |                   |                  |                  |                   |                  |
| .....NITZSCHIAEAE             | --               | --                | * 0              | --               | --                | --               |
| .....NITZSCHIA                | --               | --                | 8 1              | 70 14            | 230 5             | 1600# 20         |
| ...TABELLARIAEAE              |                  |                   |                  |                  |                   |                  |
| .....TABELLARIA               | --               | --                | --               | --               | 110 2             | --               |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                  |                   |                  |                  |                   |                  |
| ..CYANOPHYCEAE                |                  |                   |                  |                  |                   |                  |
| ...CHROCOCCOCCALES            |                  |                   |                  |                  |                   |                  |
| ....CHROCOCCOCCAEAE           |                  |                   |                  |                  |                   |                  |
| .....AGMENELLUM               | --               | --                | --               | --               | 210 4             | --               |
| .....ANACYSTIS                | --               | --                | --               | --               | --                | --               |
| ...HORMOGONALES               |                  |                   |                  |                  |                   |                  |
| .....OSCILLATORIACEAE         | --               | --                | --               | --               | --                | 4200 10          |
| .....OSCILLATORIA             | --               | --                | 130 14           | 150# 30          | 440 9             | 3600# 45         |
| EUGLENOPHYTA (EUGLENOIDS)     |                  |                   |                  |                  |                   |                  |
| ..EUGLENOPHYCEAE              |                  |                   |                  |                  |                   |                  |
| ...EUGLENALES                 |                  |                   |                  |                  |                   |                  |
| ....EUGLENACEAE               | --               | --                | --               | --               | --                | --               |
| .....TRACHELOMONAS            | --               | --                | --               | --               | --                | * 0              |
| PYRRHOPHYTA (FIRE ALGAE)      |                  |                   |                  |                  |                   |                  |
| ..DINOPHYCEAE                 |                  |                   |                  |                  |                   |                  |
| ...PERIDINIALES               |                  |                   |                  |                  |                   |                  |
| ....PERIDINIACEAE             |                  |                   |                  |                  |                   |                  |
| .....PERIDINIUM               | --               | --                | --               | --               | --                | * 0              |

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

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%  
USED DEPTH-INTEGRATED SAMPLING METHOD.

01103500 CHARLES RIVER AT CHARLES RIVER VILLAGE, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 200 | 195 | 198      | 174 | 158 | 168      | 181 | 177 | 179     | 221 | 212 | 217  |
| 2       | 201 | 195 | 199      | 175 | 171 | 172      | 184 | 178 | 180     | 220 | 215 | 218  |
| 3       | 201 | 194 | 197      | 173 | 168 | 171      | 187 | 178 | 181     | 225 | 218 | 221  |
| 4       | 201 | 195 | 197      | 240 | 163 | 186      | 186 | 180 | 183     | 225 | 214 | 221  |
| 5       | 201 | 194 | 198      | 245 | 236 | 241      | 192 | 187 | 189     | 225 | 221 | 223  |
| 6       | 197 | 187 | 191      | 246 | 239 | 243      | 196 | 191 | 193     | 226 | 220 | 223  |
| 7       | 192 | 185 | 188      | 245 | 236 | 240      | 202 | 137 | 190     | 224 | 217 | 221  |
| 8       | 193 | 188 | 190      | 235 | 220 | 230      | 176 | 125 | 145     | 225 | 220 | 223  |
| 9       | 192 | 181 | 187      | 220 | 213 | 216      | 205 | 177 | 189     | 225 | 222 | 223  |
| 10      | 195 | 186 | 192      | 213 | 202 | 207      | 181 | 176 | 179     | 224 | 219 | 221  |
| 11      | 191 | 172 | 184      | 201 | 172 | 185      | 178 | 153 | 164     | 226 | 220 | 222  |
| 12      | 194 | 189 | 192      | 197 | 172 | 179      | 203 | 170 | 192     | 351 | 222 | 244  |
| 13      | 192 | 183 | 188      | --- | --- | ---      | 199 | 184 | 190     | 394 | 226 | 302  |
| 14      | 199 | 186 | 192      | --- | --- | ---      | 198 | 191 | 194     | 226 | 211 | 216  |
| 15      | 203 | 199 | 202      | --- | --- | ---      | 206 | 194 | 199     | 232 | 220 | 224  |
| 16      | 208 | 202 | 205      | --- | --- | ---      | 214 | 206 | 211     | 247 | 233 | 241  |
| 17      | 207 | 200 | 203      | --- | --- | ---      | 214 | 205 | 209     | 255 | 242 | 249  |
| 18      | 204 | 200 | 202      | --- | --- | ---      | 213 | 205 | 209     | 272 | 255 | 267  |
| 19      | 204 | 199 | 201      | 176 | 173 | 174      | 210 | 203 | 207     | 268 | 253 | 262  |
| 20      | 201 | 185 | 196      | 177 | 172 | 174      | 222 | 204 | 214     | 254 | 240 | 248  |
| 21      | 182 | 174 | 179      | 178 | 174 | 176      | 215 | 203 | 210     | 241 | 233 | 237  |
| 22      | 183 | 164 | 174      | 179 | 175 | 176      | 204 | 196 | 201     | 233 | 227 | 231  |
| 23      | 178 | 174 | 176      | 178 | 175 | 177      | 213 | 197 | 204     | 232 | 224 | 228  |
| 24      | 177 | 172 | 174      | 179 | 176 | 178      | 211 | 204 | 207     | 225 | 214 | 220  |
| 25      | 175 | 167 | 171      | 179 | 175 | 177      | 211 | 205 | 209     | 221 | 215 | 219  |
| 26      | 173 | 164 | 168      | 178 | 173 | 175      | 216 | 208 | 213     | 222 | 215 | 220  |
| 27      | 175 | 170 | 172      | 178 | 175 | 177      | 220 | 215 | 217     | 225 | 221 | 223  |
| 28      | 173 | 169 | 171      | 179 | 174 | 177      | 222 | 216 | 218     | 229 | 220 | 224  |
| 29      | 176 | 169 | 173      | 179 | 174 | 176      | 221 | 216 | 218     | 230 | 223 | 227  |
| 30      | 175 | 168 | 171      | 180 | 175 | 177      | 222 | 219 | 220     | 237 | 220 | 225  |
| 31      | 169 | 156 | 163      | --- | --- | ---      | 221 | 218 | 219     | 258 | 220 | 233  |
| MONTH   | 208 | 156 | 187      | 246 | 158 | 190      | 222 | 125 | 198     | 394 | 211 | 231  |

| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN  | MAX | MIN | MEAN | MAX | MIN | MEAN |
|----------|-----|-----|-------|-----|-----|-------|-----|-----|------|-----|-----|------|
| FEBRUARY |     |     | MARCH |     |     | APRIL |     |     | MAY  |     |     |      |
| 1        | 257 | 225 | 236   | 167 | 160 | 164   | 173 | 170 | 172  | 140 | 137 | 138  |
| 2        | 234 | 224 | 230   | 166 | 159 | 162   | 177 | 170 | 174  | 143 | 139 | 141  |
| 3        | 236 | 230 | 232   | 161 | 155 | 158   | 179 | 175 | 177  | 148 | 140 | 143  |
| 4        | 258 | 234 | 247   | 161 | 154 | 157   | --- | --- | ---  | 155 | 147 | 151  |
| 5        | 264 | 255 | 259   | 155 | 147 | 151   | 172 | 168 | 169  | 162 | 154 | 158  |
| 6        | 265 | 258 | 260   | 156 | 152 | 154   | 170 | 162 | 167  | 168 | 161 | 165  |
| 7        | 260 | 247 | 255   | 158 | 154 | 156   | --- | --- | ---  | 171 | 166 | 168  |
| 8        | 256 | 246 | 251   | 156 | 152 | 155   | --- | --- | ---  | 171 | 166 | 169  |
| 9        | 249 | 240 | 245   | 155 | 149 | 153   | --- | --- | ---  | 173 | 163 | 169  |
| 10       | 253 | 240 | 247   | 159 | 152 | 156   | --- | --- | ---  | 163 | 152 | 157  |
| 11       | 251 | 168 | 221   | 158 | 153 | 156   | --- | --- | ---  | 157 | 146 | 149  |
| 12       | 176 | 149 | 161   | 158 | 153 | 155   | 132 | 129 | 130  | 146 | 136 | 141  |
| 13       | 153 | 142 | 147   | 155 | 148 | 152   | 134 | 131 | 132  | 137 | 130 | 133  |
| 14       | 154 | 148 | 150   | 150 | 144 | 147   | 138 | 134 | 136  | 132 | 130 | 131  |
| 15       | 169 | 152 | 160   | 151 | 149 | 150   | 142 | 137 | 140  | 131 | 130 | 130  |
| 16       | 227 | 171 | 215   | 151 | 147 | 149   | 146 | 141 | 143  | 135 | 129 | 132  |
| 17       | 239 | 227 | 233   | 150 | 146 | 148   | 149 | 145 | 147  | 136 | 134 | 135  |
| 18       | 244 | 236 | 241   | 150 | 144 | 147   | 152 | 148 | 150  | 137 | 135 | 136  |
| 19       | 246 | 206 | 232   | 158 | 144 | 149   | 153 | 150 | 151  | 137 | 135 | 136  |
| 20       | 232 | 216 | 226   | 158 | 151 | 153   | 152 | 150 | 151  | 139 | 136 | 138  |
| 21       | 226 | 221 | 224   | 156 | 150 | 153   | 155 | 151 | 152  | 142 | 139 | 140  |
| 22       | 237 | 225 | 234   | 160 | 154 | 156   | 156 | 151 | 154  | 144 | 141 | 143  |
| 23       | 237 | 166 | 214   | 171 | 152 | 159   | 157 | 155 | 155  | 148 | 144 | 146  |
| 24       | 174 | 162 | 169   | 167 | 164 | 165   | 157 | 143 | 150  | 149 | 146 | 148  |
| 25       | 162 | 144 | 153   | 164 | 158 | 161   | 146 | 137 | 141  | 152 | 148 | 151  |
| 26       | 151 | 144 | 146   | 160 | 156 | 157   | 149 | 143 | 146  | 155 | 150 | 153  |
| 27       | 160 | 150 | 157   | 159 | 156 | 158   | 143 | 139 | 141  | 156 | 154 | 155  |
| 28       | 164 | 155 | 159   | 161 | 158 | 159   | 141 | 138 | 139  | 157 | 155 | 156  |
| 29       | --- | --- | ---   | 164 | 159 | 161   | 138 | 134 | 136  | 158 | 154 | 156  |
| 30       | --- | --- | ---   | 171 | 164 | 168   | 136 | 134 | 135  | 160 | 158 | 159  |
| 31       | --- | --- | ---   | 173 | 169 | 171   | --- | --- | ---  | 161 | 158 | 159  |
| MONTH    | 265 | 142 | 211   | 173 | 144 | 156   | 179 | 129 | 150  | 173 | 129 | 148  |

01103500 CHARLES RIVER AT CHARLES RIVER VILLAGE, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX | MIN<br>JUNE | MEAN | MAX | MIN<br>JULY | MEAN | MAX | MIN<br>AUGUST | MEAN | MAX | MIN<br>SEPTEMBER | MEAN |
|-------|-----|-------------|------|-----|-------------|------|-----|---------------|------|-----|------------------|------|
| 1     | 161 | 158         | 160  | 177 | 174         | 176  | 213 | 209           | 211  | 237 | 230              | 234  |
| 2     | 162 | 159         | 160  | 182 | 177         | 180  | 216 | 212           | 214  | 236 | 231              | 233  |
| 3     | 163 | 160         | 162  | 186 | 181         | 183  | 216 | 212           | 213  | 235 | 232              | 234  |
| 4     | 164 | 160         | 162  | 189 | 183         | 187  | 215 | 212           | 213  | 237 | 234              | 236  |
| 5     | 166 | 163         | 164  | 193 | 187         | 190  | 215 | 212           | 214  | 237 | 235              | 236  |
| 6     | 166 | 164         | 165  | 199 | 193         | 196  | 222 | 215           | 218  | 238 | 234              | 236  |
| 7     | 166 | 163         | 164  | 202 | 199         | 200  | 226 | 222           | 224  | 239 | 237              | 238  |
| 8     | 171 | 165         | 168  | 202 | 200         | 201  | 229 | 226           | 227  | 241 | 238              | 239  |
| 9     | 178 | 171         | 174  | 201 | 199         | 200  | 228 | 225           | 227  | 244 | 239              | 241  |
| 10    | 179 | 171         | 175  | 202 | 199         | 201  | 227 | 225           | 226  | 243 | 239              | 242  |
| 11    | 172 | 165         | 168  | 202 | 200         | 201  | 227 | 224           | 226  | 242 | 240              | 241  |
| 12    | 165 | 160         | 162  | 204 | 201         | 202  | 225 | 209           | 222  | 242 | 240              | 241  |
| 13    | 160 | 157         | 159  | 204 | 201         | 202  | 223 | 213           | 219  | 241 | 237              | 239  |
| 14    | 162 | 158         | 159  | 206 | 203         | 205  | 222 | 219           | 220  | 238 | 233              | 236  |
| 15    | 162 | 160         | 161  | 205 | 204         | 205  | 220 | 212           | 218  | 237 | 233              | 235  |
| 16    | 163 | 158         | 161  | 205 | 202         | 204  | 212 | 210           | 211  | 234 | 229              | 231  |
| 17    | 163 | 158         | 161  | 207 | 203         | 205  | 214 | 210           | 212  | 230 | 223              | 228  |
| 18    | 165 | 161         | 163  | 208 | 206         | 207  | 220 | 214           | 217  | 229 | 226              | 228  |
| 19    | 165 | 158         | 161  | 209 | 207         | 208  | 225 | 220           | 223  | --- | ---              | ---  |
| 20    | 163 | 157         | 160  | 212 | 208         | 210  | 227 | 222           | 225  | --- | ---              | ---  |
| 21    | 164 | 163         | 163  | 214 | 208         | 212  | 230 | 224           | 228  | 244 | 207              | 219  |
| 22    | 166 | 164         | 165  | 214 | 213         | 213  | 232 | 225           | 228  | --- | ---              | ---  |
| 23    | 168 | 165         | 167  | 213 | 212         | 213  | 232 | 225           | 230  | 225 | 210              | 216  |
| 24    | 171 | 167         | 169  | 214 | 210         | 212  | 230 | 218           | 226  | 448 | 229              | 305  |
| 25    | 174 | 168         | 171  | 213 | 206         | 210  | 228 | 221           | 225  | 442 | 235              | 346  |
| 26    | 175 | 171         | 173  | 210 | 207         | 208  | 227 | 221           | 224  | 341 | 222              | 266  |
| 27    | 177 | 169         | 175  | 211 | 209         | 210  | 227 | 220           | 224  | 371 | 133              | 268  |
| 28    | 174 | 170         | 172  | 209 | 202         | 205  | 225 | 218           | 223  | 259 | 227              | 241  |
| 29    | 173 | 169         | 171  | 209 | 204         | 207  | 228 | 220           | 225  | 234 | 222              | 230  |
| 30    | 175 | 172         | 174  | 211 | 207         | 209  | 232 | 220           | 227  | 225 | 200              | 210  |
| 31    | --- | ---         | ---  | 212 | 209         | 211  | 236 | 232           | 233  | --- | ---              | ---  |
| MONTH | 179 | 157         | 166  | 214 | 174         | 202  | 236 | 209           | 222  | 448 | 133              | 243  |
| YEAR  | 448 | 125         | 192  |     |             |      |     |               |      |     |                  |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX  | MIN<br>OCTOBER | MEAN | MAX | MIN<br>NOVEMBER | MEAN | MAX | MIN<br>DECEMBER | MEAN | MAX | MIN<br>JANUARY | MEAN |
|-------|------|----------------|------|-----|-----------------|------|-----|-----------------|------|-----|----------------|------|
| 1     | 19.5 | 18.5           | 19.0 | 7.0 | 6.5             | 7.0  | 4.5 | 3.0             | 3.5  | 0.0 | 0.0            | 0.0  |
| 2     | 18.5 | 18.0           | 18.5 | 6.0 | 5.5             | 6.0  | 3.5 | 2.5             | 3.0  | 0.0 | 0.0            | 0.0  |
| 3     | 18.5 | 17.5           | 18.0 | 6.0 | 5.5             | 5.5  | 3.0 | 1.0             | 1.5  | 0.0 | 0.0            | 0.0  |
| 4     | 18.5 | 17.0           | 17.5 | 6.5 | 0.5             | 5.0  | 1.0 | 1.0             | 1.0  | 0.0 | 0.0            | 0.0  |
| 5     | 17.5 | 17.0           | 17.5 | 6.5 | 0.0             | 0.5  | 1.0 | 0.5             | 1.0  | 0.0 | 0.0            | 0.0  |
| 6     | 18.0 | 17.5           | 17.5 | 0.0 | 0.0             | 0.0  | 1.0 | 0.5             | 0.5  | 0.0 | 0.0            | 0.0  |
| 7     | 19.0 | 17.5           | 18.5 | 0.0 | 0.0             | 0.0  | 1.0 | 0.5             | 1.0  | 0.0 | 0.0            | 0.0  |
| 8     | 19.5 | 18.0           | 19.0 | 0.0 | 0.0             | 0.0  | 1.0 | 0.5             | 1.0  | 0.0 | 0.0            | 0.0  |
| 9     | 19.5 | 19.0           | 19.0 | 0.0 | 0.0             | 0.0  | 0.5 | 0.5             | 0.5  | 0.0 | 0.0            | 0.0  |
| 10    | 19.0 | 17.5           | 18.0 | 0.0 | 0.0             | 0.0  | 0.5 | 0.5             | 0.5  | 0.0 | 0.0            | 0.0  |
| 11    | 17.0 | 15.5           | 16.5 | 2.0 | 0.0             | 1.0  | 0.5 | 0.5             | 0.5  | 0.0 | 0.0            | 0.0  |
| 12    | 15.5 | 14.5           | 15.0 | 1.5 | 0.0             | 1.0  | 0.5 | 0.5             | 0.5  | 0.0 | 0.0            | 0.0  |
| 13    | 15.0 | 13.5           | 14.5 | --- | ---             | ---  | 0.5 | 0.5             | 0.5  | 0.0 | 0.0            | 0.0  |
| 14    | 14.5 | 13.5           | 14.0 | --- | ---             | ---  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 15    | 14.0 | 13.0           | 13.5 | --- | ---             | ---  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 16    | 14.0 | 13.0           | 13.5 | --- | ---             | ---  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 17    | 13.0 | 12.5           | 12.5 | --- | ---             | ---  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 18    | 12.5 | 11.0           | 12.0 | --- | ---             | ---  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 19    | 11.0 | 10.0           | 10.5 | --- | ---             | ---  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 20    | 10.5 | 10.0           | 10.5 | 4.5 | 3.5             | 4.0  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 21    | 11.0 | 10.5           | 11.0 | 3.5 | 3.0             | 3.5  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 22    | 10.5 | 10.0           | 10.5 | 3.5 | 2.5             | 3.0  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 23    | 9.5  | 9.0            | 9.0  | 3.0 | 2.5             | 2.5  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 24    | 8.5  | 8.0            | 8.5  | 2.5 | 2.0             | 2.5  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 25    | 8.5  | 8.0            | 8.5  | 2.5 | 2.0             | 2.0  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 26    | 8.5  | 7.5            | 8.5  | 3.5 | 2.0             | 2.5  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 27    | 7.5  | 6.5            | 7.0  | 5.0 | 3.0             | 4.0  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 28    | 6.0  | 5.5            | 6.0  | 5.5 | 4.5             | 5.0  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 29    | 6.5  | 5.0            | 6.0  | 6.0 | 5.0             | 5.5  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 30    | 6.5  | 5.5            | 6.0  | 5.5 | 4.5             | 4.5  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| 31    | 7.0  | 6.5            | 7.0  | --- | ---             | ---  | 0.0 | 0.0             | 0.0  | 0.0 | 0.0            | 0.0  |
| MONTH | 19.5 | 5.0            | 13.0 | --- | ---             | ---  | 4.5 | 0.0             | 0.5  | 0.0 | 0.0            | 0.0  |

## CHARLES RIVER BASIN

01103500 CHARLES RIVER AT CHARLES RIVER VILLAGE, MA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY      | MAX  | MIN  | MEAN  | MAX  | MIN  | MEAN   | MAX  | MIN  | MEAN      | MAX  | MIN  | MEAN |
|----------|------|------|-------|------|------|--------|------|------|-----------|------|------|------|
| FEBRUARY |      |      | MARCH |      |      | APRIL  |      |      | MAY       |      |      |      |
| 1        | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0    | 8.0  | 7.0  | 7.5       | 15.0 | 12.5 | 14.0 |
| 2        | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0    | 8.5  | 7.0  | 8.0       | 15.0 | 14.0 | 14.5 |
| 3        | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0    | ---  | ---  | ---       | 15.5 | 14.0 | 15.0 |
| 4        | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0    | ---  | ---  | ---       | 15.5 | 14.5 | 15.0 |
| 5        | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0    | ---  | ---  | ---       | 15.0 | 14.5 | 15.0 |
| 6        | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0    | 6.0  | 4.5  | 5.5       | 16.0 | 14.5 | 15.0 |
| 7        | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0    | ---  | ---  | ---       | 17.5 | 15.5 | 16.5 |
| 8        | 0.0  | 0.0  | 0.0   | 1.0  | 0.0  | 0.0    | ---  | ---  | ---       | 17.5 | 16.0 | 16.5 |
| 9        | 0.0  | 0.0  | 0.0   | 2.0  | 0.0  | 1.0    | ---  | ---  | ---       | 15.5 | 9.5  | 13.5 |
| 10       | 0.0  | 0.0  | 0.0   | 3.5  | 1.5  | 2.5    | ---  | ---  | ---       | 9.0  | 7.0  | 7.5  |
| 11       | 0.0  | 0.0  | 0.0   | 5.0  | 3.0  | 4.0    | ---  | ---  | ---       | 8.5  | 6.5  | 7.5  |
| 12       | 0.0  | 0.0  | 0.0   | 5.5  | 4.0  | 5.0    | ---  | ---  | ---       | 10.5 | 7.5  | 9.0  |
| 13       | 0.0  | 0.0  | 0.0   | 6.0  | 5.0  | 5.5    | 12.5 | 10.0 | 11.5      | 13.5 | 10.0 | 12.0 |
| 14       | 0.0  | 0.0  | 0.0   | 6.5  | 6.0  | 6.0    | 13.5 | 12.0 | 13.0      | 14.5 | 12.5 | 13.5 |
| 15       | 0.0  | 0.0  | 0.0   | 6.0  | 5.0  | 5.5    | 13.0 | 12.0 | 12.5      | 16.0 | 13.5 | 14.5 |
| 16       | 0.0  | 0.0  | 0.0   | 5.0  | 4.5  | 5.0    | 13.0 | 11.5 | 12.5      | 17.5 | 14.5 | 16.0 |
| 17       | 0.0  | 0.0  | 0.0   | 4.5  | 3.5  | 4.0    | 13.0 | 12.0 | 12.5      | 19.0 | 16.5 | 18.0 |
| 18       | 0.0  | 0.0  | 0.0   | 3.5  | 0.5  | 2.0    | 14.0 | 12.5 | 13.0      | 20.0 | 18.5 | 19.0 |
| 19       | 0.0  | 0.0  | 0.0   | 1.5  | 0.0  | 1.0    | 14.0 | 13.0 | 13.5      | 19.0 | 18.0 | 18.5 |
| 20       | 0.0  | 0.0  | 0.0   | 2.0  | 0.5  | 1.5    | 14.5 | 13.5 | 14.0      | 19.0 | 17.0 | 18.0 |
| 21       | 0.0  | 0.0  | 0.0   | 3.5  | 1.5  | 2.5    | 15.5 | 14.0 | 15.0      | 20.0 | 18.5 | 19.5 |
| 22       | 0.0  | 0.0  | 0.0   | 3.0  | 2.0  | 2.5    | 17.0 | 14.5 | 16.0      | 21.0 | 19.5 | 20.0 |
| 23       | 0.0  | 0.0  | 0.0   | 2.0  | 1.0  | 1.5    | 17.0 | 15.0 | 16.5      | 22.5 | 20.5 | 21.5 |
| 24       | 0.0  | 0.0  | 0.0   | 1.5  | 0.5  | 1.0    | 14.5 | 11.0 | 13.0      | 24.0 | 22.0 | 23.0 |
| 25       | 0.0  | 0.0  | 0.0   | 2.0  | 0.0  | 1.0    | 11.0 | 10.0 | 10.0      | 24.0 | 23.0 | 23.5 |
| 26       | 0.0  | 0.0  | 0.0   | 3.0  | 1.0  | 2.0    | 10.0 | 9.5  | 9.5       | 23.5 | 22.5 | 23.0 |
| 27       | 0.0  | 0.0  | 0.0   | 4.5  | 2.0  | 3.5    | 10.5 | 9.0  | 10.0      | 22.5 | 21.0 | 21.5 |
| 28       | 0.0  | 0.0  | 0.0   | 6.0  | 4.0  | 5.0    | 12.0 | 10.0 | 11.0      | 22.0 | 20.0 | 21.0 |
| 29       | ---  | ---  | ---   | 11.0 | 5.5  | 7.5    | 12.0 | 10.5 | 11.5      | 21.0 | 20.0 | 20.5 |
| 30       | ---  | ---  | ---   | 12.0 | 9.0  | 11.0   | 13.5 | 11.0 | 12.5      | 21.0 | 19.0 | 20.0 |
| 31       | ---  | ---  | ---   | 10.0 | 8.0  | 9.5    | ---  | ---  | ---       | 21.0 | 19.0 | 20.0 |
| MONTH    | 0.0  | 0.0  | 0.0   | 12.0 | 0.0  | 3.0    | ---  | ---  | ---       | 24.0 | 6.5  | 17.0 |
| DAY      | MAX  | MIN  | MEAN  | MAX  | MIN  | MEAN   | MAX  | MIN  | MEAN      | MAX  | MIN  | MEAN |
| JUNE     |      |      | JULY  |      |      | AUGUST |      |      | SEPTEMBER |      |      |      |
| 1        | 20.5 | 19.5 | 20.0  | 25.0 | 23.5 | 24.5   | 25.5 | 23.0 | 24.0      | 24.5 | 23.0 | 23.5 |
| 2        | 20.0 | 19.5 | 20.0  | 26.0 | 24.5 | 25.0   | 26.0 | 23.5 | 24.5      | 26.0 | 23.5 | 24.5 |
| 3        | 19.5 | 18.5 | 19.0  | 25.5 | 24.0 | 25.0   | 26.0 | 23.5 | 25.0      | 25.5 | 24.5 | 25.0 |
| 4        | 19.5 | 18.0 | 19.0  | 25.5 | 24.0 | 25.0   | 26.5 | 24.0 | 25.0      | 24.5 | 23.0 | 24.0 |
| 5        | 20.0 | 18.5 | 19.5  | 26.5 | 24.5 | 25.5   | 27.0 | 24.5 | 25.5      | 24.5 | 22.0 | 23.5 |
| 6        | 20.0 | 19.0 | 19.5  | 25.5 | 24.5 | 25.0   | 27.0 | 25.0 | 26.0      | 25.0 | 23.0 | 24.0 |
| 7        | 19.0 | 17.5 | 18.0  | 26.0 | 24.0 | 25.0   | 27.0 | 26.0 | 26.5      | 24.0 | 22.5 | 23.5 |
| 8        | 17.5 | 16.5 | 17.0  | 25.0 | 23.5 | 24.0   | 27.5 | 25.5 | 26.5      | 23.0 | 20.5 | 22.0 |
| 9        | 17.0 | 16.0 | 16.5  | 25.5 | 23.0 | 24.0   | 27.5 | 26.0 | 27.0      | 22.5 | 20.5 | 21.5 |
| 10       | 16.5 | 15.0 | 15.5  | 25.5 | 23.5 | 24.5   | 26.5 | 24.5 | 25.5      | 21.0 | 20.0 | 21.0 |
| 11       | 14.5 | 14.0 | 14.0  | 25.5 | 23.0 | 24.5   | 27.0 | 25.0 | 26.0      | 21.0 | 19.5 | 20.0 |
| 12       | 15.0 | 13.5 | 14.0  | 24.0 | 24.0 | 24.0   | 26.5 | 25.5 | 26.0      | 20.5 | 18.5 | 19.5 |
| 13       | 16.5 | 14.5 | 15.5  | 25.0 | 23.5 | 24.0   | 26.0 | 25.0 | 25.5      | 19.5 | 19.0 | 19.5 |
| 14       | 17.5 | 16.0 | 17.0  | 26.0 | 24.0 | 25.0   | 25.5 | 25.0 | 25.0      | 20.0 | 18.5 | 19.0 |
| 15       | 19.5 | 17.5 | 18.5  | 26.0 | 24.0 | 25.5   | 25.5 | 24.0 | 24.5      | 19.0 | 17.5 | 18.5 |
| 16       | 20.5 | 18.5 | 19.5  | 27.0 | 25.0 | 26.0   | 25.0 | 23.5 | 24.0      | 18.5 | 18.0 | 18.0 |
| 17       | 20.0 | 19.0 | 19.5  | 27.5 | 26.0 | 27.0   | 24.5 | 23.5 | 24.0      | 18.5 | 18.0 | 18.0 |
| 18       | 21.0 | 19.0 | 20.0  | 28.5 | 26.0 | 27.5   | 24.0 | 22.5 | 23.5      | 19.5 | 18.0 | 18.5 |
| 19       | 21.5 | 20.0 | 21.0  | 29.0 | 27.0 | 28.0   | 23.0 | 21.5 | 22.5      | ---  | ---  | ---  |
| 20       | 22.5 | 20.5 | 22.0  | 30.0 | 27.5 | 29.0   | 22.5 | 20.5 | 21.5      | ---  | ---  | ---  |
| 21       | 23.0 | 22.0 | 22.5  | 30.5 | 28.0 | 29.0   | 22.5 | 20.0 | 21.5      | ---  | ---  | ---  |
| 22       | 22.5 | 22.0 | 22.5  | 28.5 | 26.0 | 27.5   | 22.0 | 20.0 | 21.0      | 17.5 | 13.0 | 15.0 |
| 23       | 22.5 | 21.0 | 22.0  | 26.5 | 25.0 | 26.0   | 22.5 | 20.0 | 21.5      | 16.5 | 14.0 | 15.0 |
| 24       | 22.5 | 21.0 | 22.0  | 27.0 | 24.5 | 25.5   | 22.0 | 20.5 | 21.5      | ---  | ---  | ---  |
| 25       | 22.5 | 21.0 | 22.0  | 25.0 | 24.0 | 24.5   | 22.0 | 20.0 | 21.0      | ---  | ---  | ---  |
| 26       | 22.5 | 21.5 | 22.0  | 24.5 | 23.0 | 24.0   | 22.0 | 19.5 | 21.0      | ---  | ---  | ---  |
| 27       | 23.5 | 21.5 | 22.5  | 23.5 | 22.0 | 23.0   | 22.5 | 20.0 | 21.5      | ---  | ---  | ---  |
| 28       | 24.5 | 22.5 | 23.5  | 23.5 | 21.5 | 22.5   | 24.0 | 21.5 | 22.5      | ---  | ---  | ---  |
| 29       | 24.0 | 23.5 | 23.5  | 23.0 | 21.0 | 22.0   | 25.5 | 22.5 | 24.0      | ---  | ---  | ---  |
| 30       | 25.0 | 23.0 | 24.0  | 22.5 | 22.0 | 22.0   | 25.5 | 23.5 | 24.5      | ---  | ---  | ---  |
| 31       | ---  | ---  | ---   | 24.0 | 21.5 | 23.0   | 24.5 | 23.0 | 23.5      | ---  | ---  | ---  |
| MONTH    | 25.0 | 13.5 | 19.5  | 30.5 | 21.0 | 25.0   | 27.5 | 19.5 | 24.0      | ---  | ---  | ---  |
| YEAR     | 30.5 | 0.0  | 11.5  |      |      |        |      |      |           |      |      |      |



## 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 mean sea level. 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.--46 years, 79.4 ft<sup>3</sup>/s (2.249 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, 358 ft<sup>3</sup>/s (10.1 m<sup>3</sup>/s) Mar. 23, 24, 26, gage height, 83.24 ft (25.372 m); minimum, 0.66 ft<sup>3</sup>/s (0.019 m<sup>3</sup>/s) July 6, 7, Aug. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR    | MAY    | JUN   | JUL    | AUG   | SEP    |
|-------|-------|-------|-------|-------|-------|------|--------|--------|-------|--------|-------|--------|
| 1     | 6.4   | 27    | 7.6   | 8.0   | 21    | 207  | 208    | 79     | 20    | 1.3    | 5.0   | .88    |
| 2     | 7.1   | 21    | 7.4   | 8.2   | 20    | 216  | 171    | 60     | 19    | 1.2    | 6.4   | .99    |
| 3     | 7.1   | 18    | 8.4   | 8.4   | 20    | 205  | 158    | 43     | 20    | .95    | 4.5   | 1.1    |
| 4     | 6.3   | 17    | 6.5   | 8.6   | 21    | 201  | 132    | 26     | 21    | .88    | 3.5   | 1.1    |
| 5     | 6.4   | 15    | 6.0   | 8.8   | 19    | 265  | 159    | 15     | 19    | .87    | 3.3   | 1.4    |
| 6     | 5.9   | 15    | 5.3   | 8.7   | 18    | 285  | 173    | 9.6    | 17    | .83    | 3.5   | 1.6    |
| 7     | 4.9   | 13    | 12    | 9.8   | 16    | 290  | 160    | 7.5    | 20    | .92    | 3.5   | 2.7    |
| 8     | 4.3   | 13    | 29    | 11    | 14    | 276  | 169    | 4.8    | 22    | 4.6    | 4.2   | 3.1    |
| 9     | 16    | 12    | 30    | 9.4   | 12    | 249  | 179    | 9.5    | 23    | 8.0    | 4.0   | 3.7    |
| 10    | 27    | 12    | 36    | 23    | 11    | 222  | 171    | 77     | 31    | 7.1    | 2.9   | 4.2    |
| 11    | 23    | 12    | 36    | 53    | 11    | 220  | 156    | 102    | 48    | 5.7    | 2.7   | 5.2    |
| 12    | 27    | 11    | 29    | 50    | 12    | 190  | 145    | 100    | 62    | 5.3    | 4.5   | 5.0    |
| 13    | 26    | 11    | 28    | 43    | 15    | 185  | 126    | 125    | 71    | 5.1    | 5.5   | 4.0    |
| 14    | 24    | 10    | 16    | 42    | 19    | 268  | 112    | 142    | 72    | 3.1    | 3.1   | 4.5    |
| 15    | 18    | 10    | 16    | 47    | 21    | 278  | 89     | 142    | 69    | 2.8    | 2.2   | 4.2    |
| 16    | 16    | 9.5   | 14    | 49    | 22    | 277  | 71     | 135    | 59    | 2.7    | 1.7   | 3.7    |
| 17    | 13    | 8.7   | 13    | 45    | 20    | 291  | 52     | 118    | 43    | 2.6    | 1.8   | 6.1    |
| 18    | 13    | 8.9   | 13    | 38    | 16    | 281  | 38     | 90     | 32    | 2.7    | 1.3   | 5.5    |
| 19    | 9.8   | 8.3   | 11    | 32    | 14    | 277  | 28     | 68     | 30    | 2.5    | 1.4   | 10     |
| 20    | 10    | 9.2   | 11    | 31    | 13    | 244  | 18     | 67     | 15    | 2.2    | 1.7   | 19     |
| 21    | 38    | 8.4   | 18    | 32    | 13    | 216  | 12     | 50     | 11    | 2.0    | 1.6   | 26     |
| 22    | 31    | 8.0   | 12    | 34    | 10    | 212  | 8.5    | 34     | 19    | 2.2    | 1.3   | 22     |
| 23    | 37    | 7.7   | 15    | 30    | 8.8   | 336  | 8.2    | 23     | 12    | 1.6    | .99   | 24     |
| 24    | 38    | 7.0   | 16    | 29    | 12    | 352  | 28     | 12     | 5.4   | 1.1    | 1.7   | 27     |
| 25    | 38    | 6.7   | 13    | 30    | 96    | 348  | 76     | 7.1    | 2.6   | 4.5    | 2.3   | 27     |
| 26    | 42    | 6.3   | 12    | 30    | 130   | 355  | 87     | 11     | 2.6   | 5.5    | 1.6   | 38     |
| 27    | 38    | 6.2   | 11    | 28    | 142   | 348  | 105    | 43     | 3.3   | 3.1    | 1.3   | 64     |
| 28    | 35    | 6.4   | 8.6   | 29    | 180   | 328  | 118    | 38     | 2.0   | 2.7    | 1.1   | 62     |
| 29    | 37    | 8.0   | 9.0   | 31    | ---   | 310  | 118    | 31     | 2.0   | 5.2    | .99   | 57     |
| 30    | 31    | 8.3   | 9.3   | 25    | ---   | 273  | 100    | 26     | 1.4   | 6.1    | 1.6   | 53     |
| 31    | 26    | ---   | 9.2   | 20    | ---   | 239  | ---    | 23     | ---   | 5.5    | 1.1   | ---    |
| TOTAL | 662.2 | 334.6 | 468.3 | 851.9 | 926.8 | 8244 | 3175.7 | 1718.5 | 774.3 | 100.85 | 82.28 | 487.97 |
| MEAN  | 21.4  | 11.2  | 15.1  | 27.5  | 33.1  | 266  | 106    | 55.4   | 25.8  | 3.25   | 2.65  | 16.3   |
| MAX   | 42    | 27    | 36    | 53    | 180   | 355  | 208    | 142    | 72    | 8.0    | 6.4   | 64     |
| MIN   | 4.3   | 6.2   | 5.3   | 8.0   | 8.8   | 185  | 8.2    | 4.8    | 1.4   | .83    | .99   | .88    |

CAL YR 1976 TOTAL 30382.40 MEAN 83.0 MAX 580 MIN 2.4  
WTR YR 1977 TOTAL 17827.40 MEAN 48.8 MAX 355 MIN .83

## CHARLES RIVER BASIN

01104200 CHARLES RIVER AT WELLESLEY, MA

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.

DRAINAGE AREA.--211 mi<sup>2</sup> (546 km<sup>2</sup>).

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) above mean sea level.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow affected by diversion to Mother Brook (station 01104000), and by diversions to and from basin for municipal supplies. Occasional regulation at dam 0.2 mi (0.3 m) upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--18 years, 268 ft<sup>3</sup>/s (7.590 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, 1,080 ft<sup>3</sup>/s (30.6 m<sup>3</sup>/s) Mar. 23, 26-29, gage height, 4.81 ft (1.466 m); minimum, 8.5 ft<sup>3</sup>/s (0.24 m<sup>3</sup>/s) July 7; minimum daily, 9.8 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) July 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR   | MAY   | JUN  | JUL    | AUG  | SEP  |
|-------|------|------|------|------|------|-------|-------|-------|------|--------|------|------|
| 1     | 67   | 180  | 130  | 118  | 194  | 530   | 857   | 600   | 151  | 146    | 54   | 45   |
| 2     | 68   | 180  | 125  | 118  | 194  | 592   | 797   | 550   | 145  | 136    | 66   | 41   |
| 3     | 62   | 180  | 120  | 118  | 193  | 618   | 733   | 490   | 135  | 127    | 53   | 39   |
| 4     | 57   | 170  | 110  | 118  | 182  | 664   | 711   | 440   | 128  | 117    | 45   | 39   |
| 5     | 56   | 170  | 105  | 118  | 175  | 725   | 783   | 410   | 126  | 106    | 45   | 33   |
| 6     | 64   | 160  | 97   | 118  | 172  | 768   | 812   | 390   | 128  | 56     | 45   | 33   |
| 7     | 65   | 150  | 155  | 120  | 172  | 805   | 800   | 370   | 132  | 9.8    | 45   | 33   |
| 8     | 60   | 140  | 245  | 135  | 172  | 819   | 800   | 350   | 139  | 33     | 48   | 33   |
| 9     | 111  | 140  | 225  | 135  | 172  | 834   | 790   | 440   | 155  | 50     | 56   | 32   |
| 10    | 156  | 145  | 240  | 176  | 172  | 834   | 780   | 700   | 165  | 56     | 53   | 28   |
| 11    | 145  | 145  | 250  | 253  | 169  | 834   | 760   | 800   | 207  | 56     | 46   | 31   |
| 12    | 160  | 145  | 230  | 250  | 169  | 819   | 700   | 840   | 244  | 56     | 55   | 32   |
| 13    | 164  | 145  | 210  | 249  | 183  | 827   | 670   | 840   | 246  | 57     | 83   | 31   |
| 14    | 151  | 150  | 170  | 249  | 198  | 926   | 620   | 820   | 250  | 58     | 64   | 23   |
| 15    | 144  | 150  | 150  | 249  | 209  | 926   | 580   | 800   | 251  | 58     | 59   | 21   |
| 16    | 122  | 140  | 135  | 249  | 217  | 926   | 540   | 780   | 237  | 58     | 56   | 21   |
| 17    | 118  | 140  | 127  | 249  | 221  | 926   | 510   | 760   | 220  | 60     | 56   | 28   |
| 18    | 101  | 170  | 128  | 249  | 225  | 950   | 480   | 711   | 211  | 62     | 56   | 31   |
| 19    | 100  | 140  | 124  | 251  | 225  | 950   | 450   | 613   | 225  | 63     | 61   | 45   |
| 20    | 105  | 125  | 122  | 253  | 225  | 926   | 410   | 567   | 214  | 63     | 64   | 91   |
| 21    | 220  | 130  | 143  | 240  | 225  | 872   | 380   | 539   | 132  | 57     | 64   | 139  |
| 22    | 210  | 125  | 127  | 223  | 221  | 888   | 360   | 487   | 124  | 43     | 53   | 122  |
| 23    | 220  | 120  | 131  | 218  | 217  | 1050  | 390   | 444   | 137  | 40     | 44   | 124  |
| 24    | 230  | 120  | 138  | 208  | 165  | 1070  | 540   | 394   | 141  | 39     | 45   | 138  |
| 25    | 235  | 120  | 136  | 194  | 310  | 1060  | 660   | 345   | 134  | 64     | 66   | 145  |
| 26    | 240  | 115  | 131  | 191  | 352  | 1070  | 680   | 191   | 143  | 88     | 60   | 174  |
| 27    | 230  | 115  | 126  | 182  | 377  | 1080  | 680   | 173   | 148  | 69     | 55   | 233  |
| 28    | 220  | 120  | 119  | 180  | 450  | 1080  | 680   | 183   | 148  | 65     | 51   | 233  |
| 29    | 220  | 130  | 118  | 194  | ---  | 1070  | 660   | 172   | 148  | 65     | 51   | 233  |
| 30    | 210  | 130  | 118  | 194  | ---  | 1010  | 640   | 166   | 148  | 60     | 48   | 229  |
| 31    | 200  | ---  | 118  | 194  | ---  | 926   | ---   | 158   | ---  | 55     | 49   | ---  |
| TOTAL | 4511 | 4290 | 4603 | 5993 | 6156 | 27375 | 19253 | 15523 | 5112 | 2072.8 | 1696 | 2480 |
| MEAN  | 146  | 143  | 148  | 193  | 220  | 883   | 642   | 501   | 170  | 66.9   | 54.7 | 82.7 |
| MAX   | 240  | 180  | 250  | 253  | 450  | 1080  | 857   | 840   | 251  | 146    | 83   | 233  |
| MIN   | 56   | 115  | 97   | 118  | 165  | 530   | 360   | 158   | 124  | 9.8    | 44   | 21   |

CAL YR 1976 TOTAL 93367.0 MEAN 255 MAX 1320 MIN 24  
WTR YR 1977 TOTAL 99064.8 MEAN 271 MAX 1080 MIN 9.8

NOTE.--No gage-height record Oct. 20 to Dec. 16, Apr. 7 to May 17.

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) above mean sea level. 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.

AVERAGE DISCHARGE.--46 years (water years 1932-77), 292 ft<sup>3</sup>/s (8.269 m<sup>3</sup>/s).

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, 1,610 ft<sup>3</sup>/s (45.6 m<sup>3</sup>/s) Mar. 23, gage height, 3.97 ft (1.210 m); minimum, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Dec. 14; minimum daily, 38 ft<sup>3</sup>/s (1.08 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC  | JAN  | FEB  | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|--------|------|------|------|-------|-------|-------|------|------|------|------|
| 1           | 70    | 198    | 143  | 118  | 207  | 615   | 982   | 692   | 173  | 130  | 104  | 59   |
| 2           | 70    | 198    | 143  | 114  | 201  | 649   | 925   | 639   | 178  | 145  | 121  | 53   |
| 3           | 75    | 195    | 130  | 114  | 195  | 673   | 875   | 569   | 180  | 137  | 77   | 50   |
| 4           | 73    | 188    | 123  | 114  | 186  | 717   | 832   | 513   | 199  | 129  | 63   | 48   |
| 5           | 71    | 188    | 116  | 114  | 183  | 816   | 1010  | 461   | 203  | 123  | 59   | 46   |
| 6           | 73    | 174    | 107  | 111  | 183  | 835   | 985   | 461   | 203  | 106  | 67   | 42   |
| 7           | 78    | 168    | 168  | 130  | 180  | 854   | 915   | 430   | 230  | 43   | 69   | 40   |
| 8           | 76    | 157    | 268  | 138  | 178  | 859   | 917   | 405   | 211  | 44   | 68   | 39   |
| 9           | 146   | 149    | 247  | 118  | 176  | 896   | 912   | 517   | 187  | 74   | 68   | 38   |
| 10          | 201   | 160    | 268  | 192  | 177  | 917   | 903   | 915   | 193  | 81   | 63   | 48   |
| 11          | 162   | 160    | 271  | 318  | 183  | 928   | 868   | 1000  | 260  | 81   | 57   | 49   |
| 12          | 177   | 160    | 250  | 279  | 193  | 899   | 815   | 983   | 301  | 84   | 61   | 43   |
| 13          | 185   | 160    | 230  | 275  | 212  | 975   | 781   | 972   | 295  | 95   | 100  | 43   |
| 14          | 174   | 162    | 188  | 279  | 234  | 1200  | 715   | 941   | 298  | 95   | 87   | 50   |
| 15          | 157   | 160    | 174  | 279  | 253  | 1160  | 669   | 937   | 290  | 94   | 73   | 42   |
| 16          | 141   | 157    | 157  | 268  | 258  | 1110  | 620   | 927   | 270  | 96   | 69   | 42   |
| 17          | 130   | 154    | 157  | 264  | 261  | 1110  | 595   | 885   | 250  | 98   | 68   | 57   |
| 18          | 118   | 217    | 146  | 261  | 259  | 1120  | 562   | 850   | 247  | 111  | 68   | 58   |
| 19          | 111   | 157    | 136  | 254  | 252  | 1100  | 525   | 735   | 280  | 98   | 69   | 77   |
| 20          | 116   | 138    | 136  | 250  | 247  | 1060  | 476   | 667   | 248  | 85   | 78   | 137  |
| 21          | 283   | 141    | 177  | 236  | 241  | 1010  | 442   | 614   | 195  | 75   | 74   | 186  |
| 22          | 230   | 138    | 146  | 226  | 231  | 1100  | 417   | 555   | 146  | 65   | 71   | 156  |
| 23          | 236   | 133    | 154  | 213  | 227  | 1570  | 450   | 498   | 168  | 59   | 64   | 156  |
| 24          | 250   | 130    | 162  | 204  | 207  | 1470  | 633   | 444   | 165  | 57   | 61   | 177  |
| 25          | 261   | 128    | 149  | 204  | 439  | 1350  | 818   | 392   | 154  | 106  | 87   | 187  |
| 26          | 268   | 125    | 149  | 198  | 489  | 1310  | 786   | 275   | 178  | 131  | 77   | 242  |
| 27          | 247   | 125    | 136  | 192  | 498  | 1310  | 777   | 201   | 175  | 95   | 70   | 327  |
| 28          | 236   | 128    | 123  | 188  | 573  | 1280  | 792   | 223   | 166  | 84   | 67   | 275  |
| 29          | 240   | 138    | 130  | 220  | ---  | 1270  | 772   | 209   | 179  | 84   | 65   | 268  |
| 30          | 230   | 143    | 123  | 210  | ---  | 1190  | 737   | 192   | 100  | 78   | 65   | 267  |
| 31          | 220   | ---    | 121  | 210  | ---  | 1090  | ---   | 181   | ---  | 72   | 65   | ---  |
| TOTAL       | 5105  | 4729   | 5128 | 6291 | 7123 | 32443 | 22506 | 18303 | 6322 | 2855 | 2255 | 3302 |
| MEAN        | 165   | 158    | 165  | 203  | 254  | 1047  | 750   | 590   | 211  | 92.1 | 72.7 | 110  |
| MAX         | 283   | 217    | 271  | 318  | 573  | 1570  | 1010  | 1000  | 301  | 145  | 121  | 327  |
| MIN         | 70    | 125    | 107  | 111  | 176  | 615   | 417   | 181   | 100  | 43   | 57   | 38   |
| CAL YR 1976 | TOTAL | 111219 | MEAN | 304  | MAX  | 1610  | MIN   | 41    |      |      |      |      |
| WTR YR 1977 | TOTAL | 116362 | MEAN | 319  | MAX  | 1570  | MIN   | 38    |      |      |      |      |

## 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 Penn Central 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.

GAGE.--Water-stage recorder. Datum of gage is 44.04 ft (13.423 m) above mean sea level, unadjusted.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. 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.--38 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, 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s) Mar. 23, gage height unknown, at upstream side of railroad bridge; minimum daily, 4.4 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC   | JAN    | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------|-------|------|-------|--------|------|------|------|------|------|-------|-------|-------|
| 1     | 8.7   | 33   | 15    | 17     | 25   | 148  | 122  | 58   | 21   | 16    | 6.4   | 6.0   |
| 2     | 16    | 32   | 11    | 17     | 23   | 131  | 116  | 52   | 23   | 18    | 6.4   | 5.6   |
| 3     | 23    | 29   | 9.3   | 14     | 21   | 113  | 118  | 48   | 23   | 17    | 6.4   | 5.1   |
| 4     | 22    | 31   | 7.8   | 9.7    | 21   | 106  | 106  | 45   | 23   | 14    | 6.4   | 4.8   |
| 5     | 18    | 29   | 9.7   | 9.7    | 23   | 151  | 184  | 43   | 20   | 13    | 8.8   | 5.5   |
| 6     | 17    | 27   | 8.0   | 9.2    | 24   | 178  | 210  | 45   | 21   | 9.5   | 7.7   | 5.4   |
| 7     | 17    | 27   | 21    | 12     | 22   | 158  | 174  | 43   | 24   | 8.5   | 11    | 5.0   |
| 8     | 15    | 23   | 43    | 20     | 21   | 136  | 150  | 40   | 24   | 8.8   | 12    | 4.5   |
| 9     | 55    | 17   | 30    | 21     | 21   | 128  | 132  | 150  | 23   | 8.6   | 10    | 4.4   |
| 10    | 52    | 17   | 22    | 53     | 20   | 126  | 125  | 250  | 41   | 8.7   | 7.1   | 7.8   |
| 11    | 36    | 17   | 23    | 90     | 21   | 128  | 108  | 220  | 91   | 9.5   | 6.0   | 6.3   |
| 12    | 26    | 19   | 23    | 76     | 23   | 123  | 103  | 190  | 101  | 10    | 12    | 11    |
| 13    | 23    | 21   | 19    | 78     | 33   | 130  | 95   | 165  | 80   | 10    | 13    | 8.3   |
| 14    | 19    | 21   | 15    | 63     | 40   | 250  | 90   | 140  | 65   | 15    | 12    | 7.8   |
| 15    | 17    | 18   | 12    | 56     | 40   | 180  | 82   | 121  | 51   | 12    | 11    | 6.9   |
| 16    | 16    | 15   | 10    | 52     | 36   | 150  | 74   | 96   | 40   | 9.3   | 7.3   | 7.3   |
| 17    | 14    | 15   | 13    | 42     | 31   | 130  | 68   | 87   | 35   | 8.8   | 14    | 17    |
| 18    | 13    | 15   | 17    | 36     | 28   | 120  | 64   | 77   | 35   | 8.0   | 12    | 17    |
| 19    | 12    | 16   | 19    | 34     | 28   | 200  | 61   | 72   | 35   | 7.9   | 12    | 23    |
| 20    | 20    | 19   | 18    | 34     | 30   | 150  | 58   | 65   | 28   | 7.7   | 7.1   | 40    |
| 21    | 79    | 16   | 23    | 32     | 32   | 130  | 56   | 63   | 24   | 8.0   | 5.6   | 44    |
| 22    | 70    | 15   | 22    | 31     | 29   | 170  | 54   | 59   | 21   | 8.1   | 6.2   | 33    |
| 23    | 50    | 13   | 20    | 30     | 26   | 330  | 70   | 50   | 19   | 6.7   | 5.3   | 23    |
| 24    | 42    | 15   | 19    | 26     | 28   | 250  | 120  | 44   | 19   | 6.4   | 8.8   | 24    |
| 25    | 42    | 20   | 20    | 26     | 137  | 200  | 130  | 38   | 18   | 23    | 8.2   | 31    |
| 26    | 50    | 25   | 20    | 26     | 141  | 160  | 100  | 35   | 32   | 23    | 10    | 48    |
| 27    | 49    | 25   | 20    | 26     | 124  | 140  | 86   | 30   | 27   | 20    | 13    | 60    |
| 28    | 41    | 18   | 20    | 26     | 146  | 140  | 76   | 29   | 18   | 15    | 15    | 49    |
| 29    | 33    | 18   | 17    | 38     | ---  | 163  | 70   | 28   | 17   | 8.2   | 9.6   | 37    |
| 30    | 35    | 17   | 17    | 37     | ---  | 155  | 64   | 27   | 17   | 6.9   | 7.1   | 28    |
| 31    | 36    | ---  | 17    | 30     | ---  | 140  | ---  | 23   | ---  | 6.5   | 6.1   | ---   |
| TOTAL | 966.7 | 623  | 560.8 | 1071.6 | 1194 | 4914 | 3066 | 2433 | 1016 | 352.1 | 283.5 | 575.7 |
| MEAN  | 31.2  | 20.8 | 18.1  | 34.6   | 42.6 | 159  | 102  | 78.5 | 33.9 | 11.4  | 9.15  | 19.2  |
| MAX   | 79    | 33   | 43    | 90     | 146  | 330  | 210  | 250  | 101  | 23    | 15    | 60    |
| MIN   | 8.7   | 13   | 7.8   | 9.2    | 20   | 106  | 54   | 23   | 17   | 6.4   | 5.3   | 4.4   |

CAL YR 1976 TOTAL 19090.6 MEAN 52.2 MAX 642 MIN 4.8  
WTR YR 1977 TOTAL 17056.4 MEAN 46.7 MAX 330 MIN 4.4

NOTE.--No gage-height record Oct. 10-17, Mar. 13-27, Apr. 16 to May 13.

## 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) above mean sea level (Massachusetts Department of Public Works bench mark).

REMARKS.--Records good except those for winter period and period of shifting-control, which are fair. 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.--25 years, 51.2 ft<sup>3</sup>/s (1.450 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 (19.5 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, 367 ft<sup>3</sup>/s (10.4 m<sup>3</sup>/s) Mar. 23, gage height, 3.66 ft (1.116 m); minimum daily, 6.8 ft<sup>3</sup>/s (0.19 m<sup>3</sup>/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------|-------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 1     | 8.2   | 29   | 14   | 33   | 27   | 119  | 105  | 46   | 16   | 14    | 7.9   | 8.9   |
| 2     | 7.9   | 26   | 14   | 31   | 26   | 100  | 96   | 43   | 16   | 11    | 9.6   | 8.5   |
| 3     | 11    | 23   | 14   | 28   | 23   | 94   | 99   | 44   | 19   | 12    | 14    | 8.2   |
| 4     | 9.9   | 23   | 12   | 28   | 24   | 89   | 88   | 30   | 18   | 10    | 12    | 7.9   |
| 5     | 7.9   | 23   | 10   | 26   | 23   | 142  | 177  | 31   | 17   | 9.9   | 11    | 7.3   |
| 6     | 7.6   | 23   | 11   | 24   | 23   | 141  | 172  | 32   | 15   | 11    | 9.9   | 7.9   |
| 7     | 7.3   | 21   | 26   | 25   | 22   | 121  | 131  | 35   | 24   | 9.6   | 11    | 11    |
| 8     | 6.8   | 20   | 51   | 31   | 21   | 106  | 129  | 28   | 29   | 8.9   | 13    | 9.6   |
| 9     | 59    | 19   | 31   | 37   | 21   | 99   | 117  | 66   | 24   | 9.2   | 12    | 16    |
| 10    | 102   | 19   | 23   | 70   | 21   | 99   | 106  | 256  | 63   | 10    | 15    | 14    |
| 11    | 41    | 20   | 33   | 127  | 22   | 98   | 98   | 200  | 150  | 8.5   | 8.9   | 14    |
| 12    | 32    | 19   | 36   | 95   | 25   | 94   | 87   | 139  | 139  | 9.2   | 13    | 12    |
| 13    | 23    | 19   | 33   | 70   | 35   | 104  | 81   | 130  | 75   | 12    | 20    | 9.6   |
| 14    | 22    | 17   | 26   | 52   | 44   | 225  | 71   | 118  | 52   | 14    | 17    | 11    |
| 15    | 20    | 17   | 20   | 46   | 42   | 163  | 65   | 106  | 47   | 11    | 14    | 11    |
| 16    | 18    | 26   | 35   | 42   | 36   | 133  | 62   | 90   | 42   | 9.6   | 9.6   | 10    |
| 17    | 16    | 17   | 63   | 38   | 31   | 119  | 58   | 74   | 36   | 16    | 15    | 11    |
| 18    | 13    | 15   | 59   | 35   | 28   | 110  | 54   | 68   | 33   | 24    | 22    | 15    |
| 19    | 12    | 15   | 49   | 33   | 26   | 114  | 38   | 63   | 36   | 30    | 19    | 23    |
| 20    | 18    | 15   | 47   | 32   | 27   | 111  | 28   | 52   | 32   | 27    | 14    | 47    |
| 21    | 95    | 14   | 80   | 31   | 29   | 110  | 32   | 46   | 29   | 18    | 9.6   | 56    |
| 22    | 63    | 14   | 68   | 30   | 28   | 135  | 32   | 42   | 29   | 14    | 9.6   | 36    |
| 23    | 45    | 14   | 63   | 29   | 26   | 295  | 38   | 38   | 28   | 9.6   | 11    | 25    |
| 24    | 33    | 12   | 55   | 27   | 28   | 232  | 94   | 35   | 26   | 7.9   | 14    | 23    |
| 25    | 33    | 12   | 49   | 29   | 135  | 191  | 113  | 25   | 20   | 14    | 23    | 31    |
| 26    | 42    | 12   | 48   | 29   | 127  | 156  | 82   | 24   | 28   | 24    | 16    | 40    |
| 27    | 42    | 14   | 45   | 28   | 100  | 138  | 68   | 23   | 27   | 15    | 13    | 81    |
| 28    | 36    | 13   | 40   | 27   | 135  | 129  | 62   | 22   | 20   | 11    | 11    | 49    |
| 29    | 32    | 18   | 38   | 39   | ---  | 139  | 54   | 20   | 17   | 8.9   | 9.6   | 34    |
| 30    | 29    | 22   | 41   | 32   | ---  | 127  | 50   | 18   | 16   | 8.9   | 8.9   | 27    |
| 31    | 31    | ---  | 36   | 29   | ---  | 114  | ---  | 17   | ---  | 8.5   | 9.6   | ---   |
| TOTAL | 923.6 | 551  | 1170 | 1233 | 1155 | 4147 | 2487 | 1961 | 1123 | 406.7 | 403.2 | 664.9 |
| MEAN  | 29.8  | 18.4 | 37.7 | 39.8 | 41.3 | 134  | 82.9 | 63.3 | 37.4 | 13.1  | 13.0  | 22.2  |
| MAX   | 102   | 29   | 80   | 127  | 135  | 295  | 177  | 256  | 150  | 30    | 23    | 81    |
| MIN   | 6.8   | 12   | 10   | 24   | 21   | 89   | 28   | 17   | 15   | 7.9   | 7.9   | 7.3   |

CAL YR 1976 TOTAL 17482.8 MEAN 47.8 MAX 420 MIN 5.3  
WTR YR 1977 TOTAL 16225.4 MEAN 44.5 MAX 295 MIN 6.8

NOTE.--Shifting-control method used Apr. 7 to Sept. 30.

## BLACKS CREEK BASIN

01105557 FURNACE BROOK AT QUINCY, MA

LOCATION.--Lat 42°15'28", long 71°00'33", Norfolk County, Hydrologic Unit 01090001, on left bank 20 ft (6 m) upstream from Hancock Street Bridge at Quincy and 1.1 mi (1.8 km) upstream from mouth.

DRAINAGE AREA.--3.83 mi<sup>2</sup> (9.92 km<sup>2</sup>), based on storm-sewer system.

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

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, which are poor. Occasional regulation at low flow. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--5 years, 5.71 ft<sup>3</sup>/s (0.162 m<sup>3</sup>/s), 20.25 in/yr (514 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291 ft<sup>3</sup>/s (8.24 m<sup>3</sup>/s) May 13, 1975, gage height, 4.72 ft (1.439 m); minimum, 0.11 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) June 21, 1973; minimum daily, 0.19 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Aug. 20-22, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 120 ft<sup>3</sup>/s (3.40 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. 25 | 0300 | *141 3.99                                             | *3.79 1.155             |      |      |                                                       |                         |

Minimum discharge, 0.52 ft<sup>3</sup>/s (0.015 m<sup>3</sup>/s) Sept. 11-13; minimum daily, 0.52 ft<sup>3</sup>/s (0.015 m<sup>3</sup>/s) Sept. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV   | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1                 | 1.8     | 4.7   | 3.2   | 2.4   | 2.7   | 22    | 7.9   | 3.6   | 1.3   | 1.7   | 6.3   | .86   |
| 2                 | 4.5     | 4.5   | 2.8   | 2.3   | 2.3   | 17    | 7.0   | 3.1   | 1.9   | 1.5   | 1.7   | .78   |
| 3                 | 2.4     | 4.0   | 2.5   | 2.2   | 2.3   | 14    | 7.2   | 3.1   | 1.7   | 1.2   | 1.1   | .71   |
| 4                 | 2.0     | 6.0   | 2.3   | 2.1   | 2.4   | 11    | 6.1   | 2.5   | 1.3   | 1.1   | 1.0   | .71   |
| 5                 | 3.3     | 5.0   | 2.2   | 2.0   | 2.5   | 17    | 23    | 2.9   | 1.4   | 2.5   | 1.2   | .71   |
| 6                 | 2.0     | 4.6   | 3.0   | 1.9   | 2.5   | 14    | 12    | 5.1   | 1.0   | 1.1   | 1.1   | .71   |
| 7                 | 1.5     | 4.5   | 6.0   | 2.4   | 2.1   | 12    | 8.9   | 7.0   | 3.5   | 1.1   | .94   | .64   |
| 8                 | 1.5     | 4.4   | 13    | 3.1   | 2.1   | 11    | 8.4   | 4.5   | 1.0   | 1.3   | 1.9   | .64   |
| 9                 | 22      | 4.3   | 6.0   | 2.1   | 2.0   | 14    | 7.2   | 23    | .71   | 1.2   | 1.0   | .58   |
| 10                | 6.8     | 4.2   | 4.8   | 18    | 2.4   | 17    | 7.0   | 36    | 7.9   | 1.1   | .78   | 3.0   |
| 11                | 4.0     | 4.1   | 4.2   | 8.4   | 3.0   | 17    | 8.4   | 20    | 11    | 1.1   | .78   | .52   |
| 12                | 3.1     | 4.1   | 3.9   | 7.0   | 3.8   | 14    | 7.9   | 15    | 5.3   | 1.2   | 6.8   | .52   |
| 13                | 2.9     | 4.0   | 3.8   | 5.7   | 6.3   | 23    | 7.9   | 11    | 4.3   | 2.9   | 1.3   | .78   |
| 14                | 2.9     | 3.9   | 3.7   | 5.5   | 6.5   | 30    | 7.0   | 8.7   | 4.0   | 1.3   | 1.1   | .71   |
| 15                | 2.7     | 3.6   | 3.6   | 5.1   | 5.9   | 19    | 6.5   | 6.5   | 3.1   | 1.0   | 1.0   | .65   |
| 16                | 2.5     | 3.4   | 5.0   | 4.3   | 5.1   | 15    | 6.1   | 6.1   | 2.7   | 1.0   | 1.0   | .78   |
| 17                | 2.5     | 3.2   | 6.0   | 4.1   | 4.3   | 14    | 5.7   | 5.3   | 2.5   | 1.0   | 4.5   | 3.0   |
| 18                | 2.4     | 3.2   | 5.1   | 3.8   | 4.0   | 14    | 5.1   | 4.9   | 5.3   | 1.0   | 1.0   | .93   |
| 19                | 2.7     | 3.2   | 4.4   | 3.8   | 3.8   | 15    | 4.0   | 4.7   | 2.7   | 1.0   | .94   | 3.5   |
| 20                | 7.2     | 3.1   | 4.0   | 3.5   | 4.0   | 12    | 4.1   | 4.0   | 2.3   | 1.0   | .94   | 11    |
| 21                | 18      | 3.0   | 8.0   | 3.1   | 4.5   | 13    | 4.1   | 4.0   | 2.1   | 1.0   | .94   | 2.8   |
| 22                | 6.8     | 2.9   | 5.5   | 3.0   | 3.1   | 30    | 4.0   | 3.1   | 2.0   | 1.0   | 1.1   | 1.4   |
| 23                | 5.3     | 2.8   | 4.0   | 2.9   | 3.8   | 43    | 6.5   | 2.9   | 1.9   | .94   | .86   | 1.2   |
| 24                | 4.7     | 2.8   | 3.3   | 2.9   | 6.8   | 26    | 13    | 2.5   | 1.8   | .94   | 4.3   | 2.4   |
| 25                | 5.1     | 2.8   | 2.9   | 3.6   | 36    | 18    | 9.7   | 2.1   | 1.7   | 8.9   | 1.1   | 1.9   |
| 26                | 8.4     | 2.7   | 3.0   | 3.0   | 20    | 14    | 7.0   | 1.9   | 4.5   | 1.3   | .71   | 3.9   |
| 27                | 5.5     | 2.8   | 2.9   | 2.9   | 16    | 12    | 5.5   | 1.8   | 1.9   | .94   | .71   | 5.3   |
| 28                | 5.1     | 3.0   | 2.8   | 4.7   | 26    | 11    | 4.7   | 1.8   | 1.8   | .94   | .71   | 1.5   |
| 29                | 4.9     | 4.0   | 2.7   | 4.1   | ---   | 15    | 3.8   | 1.7   | 1.8   | .94   | .71   | 1.3   |
| 30                | 4.5     | 3.6   | 2.6   | 3.1   | ---   | 11    | 3.8   | 1.5   | 1.7   | .94   | 1.4   | 1.3   |
| 31                | 4.9     | ---   | 2.5   | 2.9   | ---   | 9.5   | ---   | 1.4   | ---   | .94   | 1.0   | ---   |
| TOTAL             | 153.9   | 112.4 | 129.7 | 125.9 | 186.2 | 524.5 | 219.5 | 201.7 | 86.11 | 45.08 | 49.92 | 54.73 |
| MEAN              | 4.96    | 3.75  | 4.18  | 4.06  | 6.65  | 16.9  | 7.32  | 6.51  | 2.87  | 1.45  | 1.61  | 1.82  |
| MAX               | 22      | 6.0   | 13    | 18    | 36    | 43    | 23    | 36    | 11    | 8.9   | 6.8   | 11    |
| MIN               | 1.5     | 2.7   | 2.2   | 1.9   | 2.0   | 9.5   | 3.8   | 1.4   | .71   | .94   | .71   | .52   |
| CFSM              | 1.30    | .98   | 1.09  | 1.06  | 1.74  | 4.41  | 1.91  | 1.70  | .75   | .38   | .42   | .48   |
| IN.               | 1.49    | 1.09  | 1.26  | 1.22  | 1.81  | 5.09  | 2.13  | 1.96  | .84   | .44   | .48   | .53   |
| CAL YR 1976 TOTAL | 1974.94 |       |       |       |       |       |       |       |       |       |       |       |
| WTR YR 1977 TOTAL | 1889.64 |       |       |       |       |       |       |       |       |       |       |       |
| MEAN 5.40         |         |       |       |       |       |       |       |       |       |       |       |       |
| MAX 55            |         |       |       |       |       |       |       |       |       |       |       |       |
| MIN .47           |         |       |       |       |       |       |       |       |       |       |       |       |
| CFSM 1.41         |         |       |       |       |       |       |       |       |       |       |       |       |
| IN 19.18          |         |       |       |       |       |       |       |       |       |       |       |       |
| CFSM 1.35         |         |       |       |       |       |       |       |       |       |       |       |       |
| IN 18.35          |         |       |       |       |       |       |       |       |       |       |       |       |

NOTE.--No gage-height record Nov. 4 to Jan. 5.



## 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 (1.5 m), from topographic map.

REMARKS.--Records fair. 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.--5 years, 8.64 ft<sup>3</sup>/s (0.245 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 481 ft<sup>3</sup>/s (13.6 m<sup>3</sup>/s) May 13, 1975, gage height, 7.40 ft (2.256 m), from rating curve extended above 160 ft<sup>3</sup>/s (4.53 m<sup>3</sup>/s); minimum daily, 0.68 ft<sup>3</sup>/s (0.019 m<sup>3</sup>/s) Aug. 2, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 260 ft<sup>3</sup>/s (7.36 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) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Aug. 12 | 1430 | *268 7.59                                             | *5.34 1.628             |      |      |                                                       |                         |

Minimum daily discharge, 0.74 ft<sup>3</sup>/s (0.021 m<sup>3</sup>/s) July 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB   | MAR  | APR   | MAY   | JUN    | JUL   | AUG    | SEP   |
|-------------|-------|---------|-------|-------|-------|------|-------|-------|--------|-------|--------|-------|
| 1           | 1.2   | 4.8     | .96   | 1.1   | 5.6   | 15   | 14    | 2.1   | 2.0    | .98   | 4.6    | 4.0   |
| 2           | 8.0   | 4.4     | 1.1   | 1.1   | 4.1   | 12   | 14    | 2.1   | 2.3    | 1.2   | 2.6    | 1.5   |
| 3           | 2.1   | 4.4     | .97   | 1.1   | 4.3   | 13   | 14    | 2.0   | 3.2    | .95   | 1.7    | 1.4   |
| 4           | 1.2   | 4.4     | .87   | 1.2   | 4.5   | 13   | 9.5   | 1.9   | 1.7    | .87   | 1.1    | 1.5   |
| 5           | 5.7   | 4.6     | .94   | 1.1   | 4.7   | 22   | 40    | 1.9   | 2.2    | 3.2   | 2.6    | 1.4   |
| 6           | 2.6   | 3.5     | .83   | 1.1   | 4.2   | 13   | 14    | 1.6   | 2.2    | .77   | 1.0    | 1.4   |
| 7           | 1.2   | 2.1     | 20    | 1.4   | 4.2   | 12   | 12    | 1.3   | 10     | .79   | .91    | 1.4   |
| 8           | 1.1   | 1.8     | 2.5   | 1.6   | 4.2   | 12   | 11    | 1.1   | 3.4    | 1.2   | 2.4    | 1.4   |
| 9           | 52    | 1.7     | 1.3   | 1.6   | 3.4   | 13   | 10    | 41    | 2.5    | .83   | 1.0    | 1.4   |
| 10          | 6.0   | 3.5     | 1.1   | 33    | 3.0   | 13   | 9.7   | 52    | 9.7    | .74   | .91    | 8.5   |
| 11          | 4.0   | 1.8     | 1.3   | 14    | 3.8   | 13   | 8.2   | 18    | 16     | .75   | .91    | 1.5   |
| 12          | 3.6   | 1.5     | 1.2   | 8.4   | 4.7   | 12   | 5.8   | 14    | 4.5    | 1.1   | 23     | 1.4   |
| 13          | 3.4   | 1.5     | 1.1   | 4.9   | 8.7   | 30   | 4.9   | 14    | 2.4    | .29   | 2.3    | 2.0   |
| 14          | 3.6   | 1.5     | .94   | 4.9   | 6.8   | 37   | 3.7   | 12    | 1.0    | 1.4   | 1.5    | 2.0   |
| 15          | 3.2   | 1.6     | 1.0   | 6.2   | 5.4   | 16   | 3.5   | 12    | 3.8    | 1.1   | 1.2    | 1.3   |
| 16          | 2.8   | 1.6     | 1.9   | 5.7   | 4.2   | 14   | 3.4   | 12    | 3.6    | 1.1   | 1.1    | 2.1   |
| 17          | 2.8   | 1.5     | 3.6   | 5.4   | 5.2   | 12   | 3.3   | 7.3   | 3.6    | 1.2   | 11     | 8.6   |
| 18          | 3.0   | 1.5     | 1.2   | 5.4   | 5.2   | 12   | 2.9   | 2.2   | 6.2    | 1.5   | 1.6    | 2.4   |
| 19          | 2.6   | 1.3     | 1.0   | 5.4   | 4.9   | 16   | 2.8   | 2.3   | 4.0    | 1.8   | 1.1    | 10    |
| 20          | 10    | 1.5     | 3.6   | 6.2   | 4.9   | 14   | 2.2   | 2.9   | 4.2    | 1.8   | 1.1    | 33    |
| 21          | 41    | 1.5     | 7.7   | 7.7   | 6.0   | 16   | 1.5   | 3.3   | 3.0    | 1.9   | 1.1    | 5.9   |
| 22          | 5.2   | 1.5     | 1.2   | 8.0   | 4.7   | 50   | 1.3   | 3.2   | 1.9    | 1.9   | 1.9    | 2.6   |
| 23          | 4.3   | 1.2     | 1.1   | 8.0   | 4.9   | 57   | 7.2   | 3.0   | 1.6    | 1.8   | 2.1    | 2.4   |
| 24          | 4.3   | 1.2     | 1.1   | 8.0   | 8.7   | 24   | 19    | 3.2   | .87    | 1.8   | 12     | 8.3   |
| 25          | 5.1   | 1.1     | 1.0   | 9.4   | 58    | 21   | 8.4   | 4.1   | .82    | 20    | 6.0    | 4.5   |
| 26          | 12    | 1.4     | 1.2   | 9.0   | 19    | 18   | 3.9   | 3.0   | 7.0    | 2.8   | 4.5    | 23    |
| 27          | 4.6   | 1.3     | 1.0   | 8.4   | 16    | 17   | 3.6   | 1.8   | 1.1    | 1.8   | 4.7    | 11    |
| 28          | 4.1   | 1.3     | 1.1   | 8.4   | 30    | 17   | 3.1   | 2.0   | .98    | 1.7   | 4.7    | 4.2   |
| 29          | 4.4   | 4.4     | 1.1   | 13    | ---   | 22   | 2.8   | 1.8   | 1.7    | 1.7   | 4.7    | 6.5   |
| 30          | 4.5   | 1.2     | 1.1   | 10    | ---   | 16   | 2.6   | 1.9   | 1.0    | 1.9   | 6.0    | 8.4   |
| 31          | 5.4   | ---     | 1.2   | 7.0   | ---   | 16   | ---   | 1.9   | ---    | 2.0   | 4.9    | ---   |
| TOTAL       | 215.0 | 66.6    | 66.21 | 207.7 | 243.3 | 588  | 242.3 | 232.9 | 108.47 | 65.48 | 116.23 | 165.0 |
| MEAN        | 6.94  | 2.22    | 2.14  | 6.70  | 8.69  | 19.0 | 8.08  | 7.51  | 3.62   | 2.11  | 3.75   | 5.50  |
| MAX         | 52    | 4.8     | 20    | 33    | 58    | 57   | 40    | 52    | 16     | 20    | 23     | 33    |
| MIN         | 1.1   | 1.1     | .83   | 1.1   | 3.0   | 12   | 1.3   | 1.1   | .82    | .74   | .91    | 1.3   |
| CAL YR 1976 | TOTAL | 2654.91 | MEAN  | 7.25  | MAX   | 99   | MIN   | .83   |        |       |        |       |
| WTR YR 1977 | TOTAL | 2317.19 | MEAN  | 6.35  | MAX   | 58   | MIN   | .74   |        |       |        |       |

01105600 OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MA

LOCATION.--Lat 42°11'25", long 70°56'43", Norfolk County, Hydrologic Unit 01090002 (revised), 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 period of doubtful gage-height record, which are fair, and those for winter period, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--11 years, 9.45 ft<sup>3</sup>/s (0.268 m<sup>3</sup>/s), 29.91 in/yr (760 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 (2.55 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Jan. 10 | 1815 | ice jam                                               | *4.02 1.225             | May 10 | 0845 | 99 2.80                                               | 3.76 1.146              |
| Mar. 23 | 1230 | *130 3.68                                             | 3.98 1.213              |        |      |                                                       |                         |

Minimum discharge, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Aug. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| 1     | 1.1   | 5.7   | 4.8   | 3.9   | 5.5   | 35   | 16    | 6.0   | 2.8   | 3.2   | .58   | .63   |
| 2     | 1.5   | 5.7   | 4.3   | 3.8   | 5.2   | 25   | 15    | 5.7   | 2.8   | 2.6   | .53   | .63   |
| 3     | 2.8   | 5.5   | 3.7   | 3.8   | 5.1   | 20   | 14    | 5.5   | 3.2   | 2.5   | .53   | .63   |
| 4     | 1.9   | 5.7   | 3.5   | 3.8   | 5.0   | 19   | 13    | 5.2   | 3.2   | 2.3   | .48   | .54   |
| 5     | 1.8   | 6.0   | 3.3   | 4.0   | 4.9   | 37   | 40    | 4.8   | 2.8   | 2.5   | .44   | .47   |
| 6     | 2.7   | 5.2   | 3.3   | 4.0   | 4.8   | 37   | 41    | 4.5   | 2.8   | 2.6   | .44   | .43   |
| 7     | 1.9   | 5.0   | 8.0   | 5.2   | 4.7   | 26   | 21    | 4.8   | 6.0   | 2.5   | .40   | .39   |
| 8     | 1.5   | 5.0   | 11    | 6.5   | 4.7   | 20   | 16    | 4.5   | 5.2   | 2.3   | .53   | .36   |
| 9     | 18    | 5.0   | 8.9   | 7.0   | 4.5   | 19   | 14    | 19    | 3.7   | 2.3   | .48   | .33   |
| 10    | 22    | 4.8   | 6.0   | 17    | 4.5   | 18   | 13    | 91    | 11    | 2.2   | .37   | 1.0   |
| 11    | 11    | 4.8   | 5.5   | 30    | 5.4   | 18   | 12    | 51    | 27    | 1.9   | .33   | .82   |
| 12    | 6.2   | 4.8   | 5.5   | 20    | 5.0   | 17   | 10    | 21    | 26    | 1.5   | 1.0   | .48   |
| 13    | 4.8   | 4.5   | 5.0   | 15    | 9.0   | 22   | 8.9   | 15    | 13    | 6.2   | 1.4   | .40   |
| 14    | 4.2   | 4.5   | 4.7   | 13    | 13    | 68   | 8.9   | 11    | 8.0   | 3.2   | 1.3   | .40   |
| 15    | 3.8   | 4.3   | 4.5   | 11    | 12    | 36   | 8.0   | 8.9   | 6.2   | 2.0   | 1.1   | .40   |
| 16    | 3.1   | 4.1   | 4.2   | 9.8   | 10    | 23   | 7.1   | 7.8   | 4.5   | 1.5   | .89   | .40   |
| 17    | 2.7   | 4.1   | 7.0   | 8.6   | 8.2   | 20   | 7.1   | 7.2   | 3.7   | 1.3   | 2.2   | 2.3   |
| 18    | 2.5   | 4.1   | 6.5   | 7.8   | 7.4   | 17   | 6.8   | 6.5   | 4.5   | 1.1   | 1.7   | 1.3   |
| 19    | 2.4   | 4.1   | 5.7   | 7.3   | 6.8   | 18   | 6.5   | 6.7   | 5.0   | 1.0   | 1.1   | 2.5   |
| 20    | 3.4   | 4.1   | 5.7   | 6.8   | 7.2   | 19   | 6.2   | 6.4   | 3.7   | .96   | .96   | 6.8   |
| 21    | 20    | 4.1   | 10    | 6.4   | 6.8   | 20   | 6.2   | 6.0   | 3.0   | .81   | .86   | 9.5   |
| 22    | 14    | 3.9   | 7.4   | 6.1   | 6.3   | 36   | 6.0   | 5.7   | 2.5   | .81   | 1.2   | 7.1   |
| 23    | 8.6   | 3.9   | 6.0   | 5.8   | 6.0   | 108  | 7.4   | 4.8   | 2.3   | .68   | 1.2   | 4.3   |
| 24    | 6.2   | 3.9   | 5.5   | 5.8   | 6.4   | 55   | 17    | 4.3   | 2.2   | .63   | 1.5   | 3.7   |
| 25    | 5.7   | 3.7   | 5.0   | 7.0   | 35    | 30   | 22    | 4.2   | 2.2   | 2.0   | 2.4   | 4.5   |
| 26    | 8.9   | 3.5   | 5.0   | 6.2   | 40    | 23   | 16    | 3.8   | 11    | 1.9   | 1.5   | 6.0   |
| 27    | 9.2   | 3.5   | 4.6   | 5.6   | 33    | 20   | 11    | 3.5   | 9.8   | 1.1   | 1.1   | 12    |
| 28    | 7.7   | 3.7   | 4.3   | 6.5   | 40    | 18   | 8.9   | 3.3   | 5.7   | .81   | .92   | 7.7   |
| 29    | 6.2   | 4.8   | 4.1   | 8.0   | ---   | 20   | 7.7   | 3.0   | 4.3   | .68   | .76   | 4.5   |
| 30    | 5.7   | 5.5   | 4.0   | 6.6   | ---   | 19   | 6.5   | 3.0   | 3.9   | .63   | .63   | 3.3   |
| 31    | 5.5   | ---   | 4.0   | 6.0   | ---   | 16   | ---   | 2.8   | ---   | .63   | .63   | ---   |
| TOTAL | 197.0 | 137.5 | 171.0 | 258.3 | 306.4 | 879  | 393.2 | 336.9 | 192.0 | 56.34 | 29.46 | 83.81 |
| MEAN  | 6.35  | 4.54  | 5.52  | 8.33  | 10.9  | 28.4 | 13.1  | 10.9  | 6.40  | 1.82  | .95   | 2.79  |
| MAX   | 22    | 6.0   | 11    | 30    | 40    | 108  | 41    | 91    | 27    | 6.2   | 2.4   | 12    |
| MIN   | 1.1   | 3.5   | 3.3   | 3.8   | 4.5   | 16   | 6.0   | 2.8   | 2.2   | .63   | .33   | .33   |
| CFSM  | 1.48  | 1.07  | 1.29  | 1.94  | 2.54  | 6.62 | 3.05  | 2.54  | 1.49  | .42   | .22   | .65   |
| IN.   | 1.71  | 1.19  | 1.48  | 2.24  | 2.66  | 7.62 | 3.41  | 2.92  | 1.66  | .49   | .26   | .73   |

CAL YR 1976 TOTAL 2636.63 MEAN 7.20 MAX 164 MIN .18 CFSM 1.68 IN 22.86  
WTR YR 1977 TOTAL 3040.91 MEAN 8.33 MAX 108 MIN .33 CFSM 1.94 IN 26.36

NOTE.--Doubtful gage-height record Mar. 24 to May 12.

## 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) above mean sea level.

REMARKS.--Records good except those for January, which are fair. 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.--11 years, 62.5 ft<sup>3</sup>/s (1.770 m<sup>3</sup>/s) 28.01 in/yr (711 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, 0.18 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) July 13, 14, 1971; minimum daily, 0.23 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s) July 14, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 280 ft<sup>3</sup>/s (7.93 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. 25 | 2130 | 295                                                   | 8.35 | 4.07                    | 1.241 | Apr. 5 | 2315 | 293                                                   | 8.30 | 4.06                    | 1.237 |
| Mar. 14 | 1345 | 324                                                   | 9.18 | 4.22                    | 1.286 | May 10 | 2015 | *524                                                  | 14.8 | *5.01                   | 1.527 |
| Mar. 23 | 1830 | 514                                                   | 14.6 | 4.98                    | 1.518 |        |      |                                                       |      |                         |       |

Minimum discharge, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Sept. 8-10; minimum daily, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT    | NOV     | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------------|--------|---------|------|------|------|------|------|------|------|-------|-------|-------|
| 1           | 8.4    | 41      | 26   | 24   | 32   | 229  | 103  | 48   | 18   | 30    | 5.8   | 4.2   |
| 2           | 13     | 37      | 23   | 23   | 29   | 171  | 87   | 45   | 19   | 24    | 12    | 3.8   |
| 3           | 13     | 34      | 21   | 22   | 27   | 138  | 92   | 42   | 23   | 20    | 7.3   | 3.8   |
| 4           | 11     | 48      | 18   | 22   | 28   | 126  | 81   | 40   | 22   | 17    | 6.5   | 3.8   |
| 5           | 10     | 55      | 17   | 23   | 29   | 202  | 198  | 41   | 18   | 17    | 5.7   | 3.5   |
| 6           | 9.8    | 46      | 16   | 23   | 29   | 221  | 260  | 45   | 17   | 22    | 7.0   | 3.4   |
| 7           | 9.7    | 39      | 31   | 30   | 27   | 174  | 175  | 45   | 28   | 20    | 6.8   | 2.8   |
| 8           | 11     | 36      | 89   | 37   | 26   | 140  | 136  | 40   | 37   | 17    | 6.5   | 2.3   |
| 9           | 151    | 33      | 52   | 40   | 26   | 125  | 113  | 88   | 26   | 17    | 6.0   | 2.2   |
| 10          | 156    | 32      | 35   | 78   | 26   | 122  | 96   | 445  | 72   | 16    | 5.0   | 2.7   |
| 11          | 81     | 33      | 31   | 177  | 28   | 117  | 85   | 414  | 183  | 15    | 4.7   | 5.9   |
| 12          | 55     | 31      | 30   | 153  | 36   | 106  | 78   | 237  | 193  | 12    | 15    | 4.9   |
| 13          | 43     | 30      | 29   | 125  | 49   | 111  | 74   | 165  | 120  | 14    | 28    | 4.2   |
| 14          | 40     | 29      | 23   | 105  | 78   | 288  | 66   | 123  | 74   | 15    | 17    | 3.6   |
| 15          | 33     | 28      | 22   | 90   | 76   | 235  | 60   | 96   | 55   | 13    | 12    | 3.5   |
| 16          | 28     | 27      | 23   | 81   | 66   | 168  | 57   | 80   | 43   | 10    | 9.2   | 3.5   |
| 17          | 25     | 26      | 39   | 69   | 54   | 135  | 55   | 71   | 35   | 10    | 11    | 6.6   |
| 18          | 23     | 25      | 40   | 62   | 45   | 116  | 52   | 63   | 31   | 9.0   | 15    | 8.7   |
| 19          | 21     | 25      | 32   | 58   | 41   | 121  | 49   | 58   | 32   | 8.5   | 11    | 15    |
| 20          | 21     | 25      | 30   | 52   | 40   | 127  | 47   | 55   | 29   | 7.9   | 8.8   | 28    |
| 21          | 126    | 24      | 61   | 48   | 41   | 127  | 45   | 50   | 24   | 7.6   | 7.3   | 49    |
| 22          | 118    | 23      | 45   | 44   | 36   | 156  | 44   | 46   | 21   | 7.3   | 7.0   | 34    |
| 23          | 71     | 22      | 35   | 40   | 34   | 445  | 46   | 42   | 20   | 6.7   | 7.9   | 21    |
| 24          | 52     | 22      | 31   | 38   | 34   | 376  | 95   | 39   | 21   | 6.0   | 7.8   | 17    |
| 25          | 50     | 22      | 26   | 40   | 189  | 229  | 135  | 36   | 21   | 8.3   | 10    | 22    |
| 26          | 69     | 21      | 28   | 43   | 244  | 172  | 105  | 33   | 54   | 24    | 8.2   | 28    |
| 27          | 79     | 22      | 28   | 41   | 190  | 142  | 80   | 29   | 107  | 19    | 6.5   | 68    |
| 28          | 61     | 22      | 23   | 37   | 246  | 123  | 69   | 26   | 63   | 14    | 5.8   | 47    |
| 29          | 50     | 28      | 24   | 45   | ---  | 139  | 59   | 25   | 49   | 12    | 5.0   | 29    |
| 30          | 43     | 33      | 23   | 40   | ---  | 128  | 53   | 21   | 40   | 6.6   | 4.7   | 21    |
| 31          | 40     | ---     | 24   | 34   | ---  | 111  | ---  | 19   | ---  | 4.7   | 4.5   | ---   |
| TOTAL       | 1521.9 | 919     | 975  | 1744 | 1806 | 5320 | 2695 | 2607 | 1495 | 430.6 | 275.0 | 452.4 |
| MEAN        | 49.1   | 30.6    | 31.5 | 56.3 | 64.5 | 172  | 89.8 | 84.1 | 49.8 | 13.9  | 8.87  | 15.1  |
| MAX         | 156    | 55      | 89   | 177  | 246  | 445  | 260  | 445  | 193  | 30    | 28    | 68    |
| MIN         | 8.4    | 21      | 16   | 22   | 26   | 106  | 44   | 19   | 17   | 4.7   | 4.5   | 2.2   |
| CF5M        | 1.62   | 1.01    | 1.04 | 1.86 | 2.13 | 5.68 | 2.96 | 2.78 | 1.64 | .46   | .29   | .50   |
| IN.         | 1.87   | 1.13    | 1.20 | 2.14 | 2.22 | 6.53 | 3.31 | 3.20 | 1.84 | .53   | .34   | .56   |
| CAL YR 1976 | TOTAL  | 19344.0 | MEAN | 52.9 | MAX  | 789  | MIN  | 3.9  | CF5M | 1.75  | IN    | 23.75 |
| WTR YR 1977 | TOTAL  | 20240.9 | MEAN | 55.5 | MAX  | 445  | MIN  | 2.2  | CF5M | 1.83  | IN    | 24.85 |

## JONES RIVER BASIN

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. Altitude of gage is 10 ft (3 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Flow regulated by pond upstream. Flow affected at times during springs of 1968-76 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.--11 years, 31.0 ft<sup>3</sup>/s (0.878 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, 4.65 ft (1.417 m) May 26, 1967, 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, 131 ft<sup>3</sup>/s (3.71 m<sup>3</sup>/s) May 10, gage height, 3.52 ft (1.073 m); maximum gage height, 3.60 ft (1.097 m) Apr. 6, backwater from tide; minimum daily discharge, 4.1 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Oct. 1-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV  | DEC   | JAN       | FEB     | MAR     | APR  | MAY  | JUN   | JUL   | AUG  | SEP  |
|-------------------|---------|------|-------|-----------|---------|---------|------|------|-------|-------|------|------|
| 1                 | 4.1     | 15   | 11    | 9.1       | 22      | 80      | 44   | 21   | 14    | 16    | 16   | 15   |
| 2                 | 4.1     | 15   | 11    | 9.1       | 21      | 67      | 42   | 21   | 12    | 13    | 16   | 15   |
| 3                 | 4.1     | 15   | 11    | 8.2       | 19      | 55      | 44   | 22   | 16    | 11    | 16   | 15   |
| 4                 | 4.1     | 17   | 8.6   | 9.1       | 19      | 50      | 40   | 25   | 13    | 9.6   | 16   | 15   |
| 5                 | 4.3     | 17   | 8.2   | 8.2       | 19      | 64      | 62   | 25   | 11    | 9.4   | 16   | 15   |
| 6                 | 6.0     | 17   | 8.2   | 7.5       | 18      | 76      | 87   | 33   | 9.1   | 11    | 15   | 14   |
| 7                 | 6.1     | 17   | 10    | 11        | 18      | 69      | 75   | 34   | 9.1   | 10    | 16   | 13   |
| 8                 | 5.5     | 17   | 15    | 13        | 18      | 59      | 62   | 30   | 9.1   | 9.4   | 17   | 13   |
| 9                 | 12      | 16   | 15    | 11        | 18      | 52      | 54   | 37   | 9.1   | 9.8   | 16   | 12   |
| 10                | 21      | 15   | 14    | 25        | 18      | 52      | 45   | 112  | 27    | 9.6   | 16   | 13   |
| 11                | 17      | 15   | 14    | 57        | 19      | 49      | 42   | 120  | 85    | 9.4   | 16   | 14   |
| 12                | 15      | 15   | 14    | 57        | 21      | 45      | 36   | 83   | 95    | 11    | 19   | 14   |
| 13                | 15      | 15   | 13    | 59        | 22      | 47      | 31   | 59   | 71    | 13    | 25   | 14   |
| 14                | 15      | 15   | 10    | 52        | 31      | 85      | 31   | 45   | 49    | 11    | 25   | 13   |
| 15                | 14      | 15   | 10    | 45        | 34      | 89      | 31   | 33   | 33    | 10    | 22   | 14   |
| 16                | 12      | 15   | 10    | 39        | 34      | 75      | 28   | 27   | 22    | 9.6   | 19   | 12   |
| 17                | 10      | 15   | 13    | 37        | 34      | 64      | 28   | 24   | 16    | 9.5   | 17   | 13   |
| 18                | 9.9     | 15   | 14    | 31        | 31      | 55      | 27   | 24   | 14    | 9.5   | 17   | 15   |
| 19                | 9.1     | 14   | 14    | 28        | 28      | 55      | 27   | 24   | 13    | 9.5   | 17   | 18   |
| 20                | 9.4     | 13   | 16    | 28        | 27      | 55      | 25   | 22   | 13    | 9.4   | 17   | 25   |
| 21                | 19      | 12   | 17    | 27        | 25      | 55      | 27   | 22   | 12    | 9.4   | 17   | 38   |
| 22                | 22      | 13   | 19    | 24        | 24      | 55      | 28   | 22   | 11    | 11    | 17   | 40   |
| 23                | 22      | 13   | 15    | 24        | 22      | 97      | 28   | 22   | 11    | 11    | 15   | 38   |
| 24                | 22      | 11   | 13    | 24        | 22      | 105     | 36   | 22   | 10    | 10    | 15   | 28   |
| 25                | 20      | 11   | 12    | 22        | 57      | 83      | 54   | 22   | 10    | 10    | 15   | 30   |
| 26                | 24      | 11   | 13    | 24        | 73      | 66      | 54   | 21   | 16    | 30    | 15   | 30   |
| 27                | 25      | 10   | 13    | 24        | 73      | 55      | 42   | 19   | 24    | 25    | 15   | 33   |
| 28                | 22      | 10   | 12    | 24        | 78      | 50      | 31   | 17   | 24    | 20    | 15   | 33   |
| 29                | 18      | 10   | 11    | 24        | ---     | 42      | 28   | 17   | 21    | 18    | 15   | 31   |
| 30                | 16      | 11   | 10    | 24        | ---     | 42      | 25   | 17   | 18    | 17    | 15   | 25   |
| 31                | 16      | ---  | 10    | 22        | ---     | 42      | ---  | 14   | ---   | 16    | 16   | ---  |
| TOTAL             | 423.7   | 420  | 385.0 | 807.2     | 845     | 1935    | 1214 | 1036 | 697.4 | 388.1 | 524  | 618  |
| MEAN              | 13.7    | 14.0 | 12.4  | 26.0      | 30.2    | 62.4    | 40.5 | 33.4 | 23.2  | 12.5  | 16.9 | 20.6 |
| MAX               | 25      | 17   | 19    | 59        | 78      | 105     | 87   | 120  | 95    | 30    | 25   | 40   |
| MIN               | 4.1     | 10   | 8.2   | 7.5       | 18      | 42      | 25   | 14   | 9.1   | 9.4   | 15   | 12   |
| CAL YR 1976 TOTAL | 8893.54 |      |       | MEAN 24.3 | MAX 150 | MIN .74 |      |      |       |       |      |      |
| WTR YR 1977 TOTAL | 9293.40 |      |       | MEAN 25.5 | MAX 120 | MIN 4.1 |      |      |       |       |      |      |

NOTE.--No gage-height record June 29 to Aug. 1.

## 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. Altitude of gage is 10 ft (3 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. 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.--11 years, 10.2 ft<sup>3</sup>/s (0.289 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); maximum gage height, 4.88 ft (1.487 m) June 6, 1967; minimum discharge, 0.43 ft<sup>3</sup>/s (0.012 m<sup>3</sup>/s) Sept. 11, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34 ft<sup>3</sup>/s (0.96 m<sup>3</sup>/s) Aug. 22, gage height, 3.18 ft (0.969 m); minimum, 0.43 ft<sup>3</sup>/s (0.012 m<sup>3</sup>/s) Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV    | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP    |
|-------------------|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1                 | 1.5     | 2.0    | 1.1   | 1.4   | 4.6   | 7.3   | 8.6   | 12    | 6.4   | 9.2   | 6.1   | 3.3    |
| 2                 | 1.3     | 1.8    | .95   | 1.5   | 4.6   | 7.3   | 8.6   | 12    | 6.5   | 8.6   | 5.9   | 3.1    |
| 3                 | 1.5     | 2.0    | .95   | 1.5   | 4.6   | 7.7   | 9.9   | 11    | 6.8   | 8.2   | 3.9   | 3.1    |
| 4                 | 2.0     | 2.5    | .95   | 1.5   | 4.9   | 7.3   | 9.2   | 11    | 6.0   | 7.8   | 2.2   | 3.2    |
| 5                 | 2.5     | 2.9    | 1.0   | 1.5   | 4.9   | 13    | 14    | 11    | 5.9   | 7.5   | 3.2   | 3.1    |
| 6                 | 3.1     | 2.9    | 1.0   | 1.5   | 4.9   | 17    | 14    | 5.9   | 4.3   | 8.0   | 4.5   | 3.1    |
| 7                 | 3.1     | 2.9    | 1.1   | 3.3   | 4.9   | 12    | 13    | 2.7   | 2.6   | 7.6   | 2.2   | 3.3    |
| 8                 | 3.1     | 2.9    | 1.5   | 7.1   | 5.1   | 6.8   | 12    | 7.8   | 5.2   | 7.2   | 3.8   | 3.1    |
| 9                 | 3.7     | 2.9    | 1.3   | 4.6   | 4.9   | 6.8   | 12    | 13    | 7.4   | 8.0   | 6.8   | 3.1    |
| 10                | 4.2     | 2.9    | 1.2   | 8.0   | 4.9   | 6.8   | 15    | 15    | 12    | 7.8   | 7.1   | 2.5    |
| 11                | 3.5     | 2.9    | 1.1   | 8.3   | 4.9   | 6.8   | 14    | 15    | 18    | 7.5   | 3.7   | 1.1    |
| 12                | 3.3     | 7.1    | 1.0   | 7.1   | 5.7   | 6.8   | 16    | 13    | 19    | 7.2   | 1.6   | .83    |
| 13                | 6.8     | 9.2    | 1.0   | 6.8   | 6.2   | 6.8   | 26    | 12    | 16    | 7.0   | 1.5   | 1.2    |
| 14                | 12      | 8.3    | 1.0   | 9.6   | 6.2   | 9.2   | 19    | 9.9   | 15    | 7.5   | 1.5   | 1.2    |
| 15                | 9.9     | 7.7    | 1.0   | 17    | 5.9   | 8.6   | 12    | 10    | 13    | 7.2   | 1.5   | .62    |
| 16                | 8.3     | 7.1    | 1.0   | 15    | 5.4   | 7.7   | 12    | 9.9   | 12    | 7.0   | 1.5   | .62    |
| 17                | 7.1     | 7.1    | 1.0   | 13    | 4.9   | 7.7   | 11    | 9.7   | 11    | 6.8   | 1.9   | 1.1    |
| 18                | 7.3     | 6.5    | 1.1   | 11    | 4.9   | 8.3   | 10    | 9.9   | 9.6   | 6.5   | 1.8   | .83    |
| 19                | 6.5     | 6.2    | 1.1   | 11    | 5.1   | 9.2   | 8.0   | 11    | 10    | 6.5   | 1.8   | 1.1    |
| 20                | 5.7     | 5.7    | 1.1   | 7.3   | 12    | 9.2   | 8.3   | 11    | 9.0   | 6.5   | 1.8   | 3.1    |
| 21                | 7.7     | 5.4    | 1.1   | 1.6   | 13    | 8.6   | 10    | 12    | 7.4   | 6.5   | 1.8   | 2.7    |
| 22                | 6.8     | 4.9    | 1.1   | 1.6   | 6.2   | 7.3   | 10    | 13    | 6.4   | 6.2   | 7.2   | 2.3    |
| 23                | 6.5     | 4.6    | 1.1   | 1.8   | 6.2   | 3.5   | 9.2   | 11    | 6.2   | 5.6   | 5.2   | 2.0    |
| 24                | 6.2     | 4.6    | 1.2   | 1.8   | 6.2   | 5.4   | 11    | 10    | 6.6   | 4.9   | 4.9   | 6.2    |
| 25                | 6.2     | 4.6    | 1.2   | 2.3   | 8.3   | 5.4   | 17    | 9.6   | 6.6   | 5.2   | 4.8   | 9.9    |
| 26                | 7.3     | 4.4    | 1.2   | 2.5   | 7.1   | 7.3   | 18    | 8.6   | 8.0   | 6.2   | 4.4   | 9.9    |
| 27                | 8.0     | 4.4    | 1.3   | 2.9   | 7.3   | 8.6   | 17    | 7.7   | 14    | 6.2   | 4.2   | 9.2    |
| 28                | 4.9     | 4.4    | 1.3   | 3.3   | 7.3   | 8.3   | 16    | 7.5   | 12    | 6.1   | 3.9   | 8.3    |
| 29                | 2.0     | 4.2    | 1.3   | 4.6   | ---   | 8.0   | 14    | 6.8   | 11    | 5.8   | 3.8   | 16     |
| 30                | 2.0     | .95    | 1.4   | 4.4   | ---   | 7.7   | 12    | 6.2   | 10    | 6.0   | 3.6   | 20     |
| 31                | 2.5     | ---    | 1.4   | 4.6   | ---   | 8.0   | ---   | 6.2   | ---   | 6.2   | 3.4   | ---    |
| TOTAL             | 156.5   | 135.95 | 35.05 | 169.4 | 171.1 | 250.4 | 386.8 | 311.4 | 283.9 | 214.5 | 111.5 | 129.10 |
| MEAN              | 5.05    | 4.53   | 1.13  | 5.46  | 6.11  | 8.08  | 12.9  | 10.0  | 9.46  | 6.92  | 3.60  | 4.30   |
| MAX               | 12      | 9.2    | 1.5   | 17    | 13    | 17    | 26    | 15    | 19    | 9.2   | 7.2   | 20     |
| MIN               | 1.3     | .95    | .95   | 1.4   | 4.6   | 3.5   | 8.0   | 2.7   | 2.6   | 4.9   | 1.5   | .62    |
| CAL YR 1976 TOTAL | 3366.20 |        |       |       |       |       |       |       |       |       |       |        |
| WTR YR 1977 TOTAL | 2355.60 |        |       |       |       |       |       |       |       |       |       |        |
| MEAN              | 9.20    |        |       |       |       |       |       |       |       |       |       |        |
| MAX               | 29      |        |       |       |       |       |       |       |       |       |       |        |
| MIN               | .95     |        |       |       |       |       |       |       |       |       |       |        |

NOTE.--No gage-height record Dec. 2 to Jan. 4, June 10 to July 17.

## WEST BRANCH WESTPORT RIVER BASIN

01106000 ADAMSVILLE BROOK AT ADAMSVILLE, RI

LOCATION.--Lat 41°33'30", long 71°07'47", Newport County, Hydrologic Unit 01090002, on right bank 0.2 mi (0.3 km) upstream from milldam at Adamsville and 0.7 mi (1.1 km) upstream from mouth.

DRAINAGE AREA.--7.91 mi<sup>2</sup> (20.49 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1940 to current year.

Water-quality records: Water year 1973.

Chemical analyses: February 1973 to June 1974.

Water temperatures: July 1973 to June 1974.

REVISED RECORDS.--WSP 1701: 1955-59. WRD MA, NH, RI, VT, 1971: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Sept. 16, 1942. Altitude of gage is 15 ft (5 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.--37 years, 14.2 ft<sup>3</sup>/s (0.402 m<sup>3</sup>/s), 24.38 in/yr (619 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 316 ft<sup>3</sup>/s (8.95 m<sup>3</sup>/s) Dec. 27, 1969, gage height, 7.65 ft (2.332 m); maximum gage height, 7.70 ft (2.347 m) Mar. 18, 1968; minimum discharge, 0.03 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 23, 24, Oct. 3, 4, 1950, Sept. 24, 25, 29, 1971, Aug. 21, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 120 ft<sup>3</sup>/s (3.40 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) |
|--------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Apr. 6 | 0400 | *149 4.22                                             | *5.50 1.676             | June 11 | 1245 | 143 4.05                                              | 5.44 1.658              |

Minimum discharge, 0.07 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) Aug. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP    |
|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|--------|
| 1     | 1.8   | 11    | 9.0   | 8.2   | 7.6   | 50   | 19   | 10    | 4.5   | 7.1   | .22   | 2.2    |
| 2     | 1.9   | 9.4   | 8.5   | 8.1   | 7.3   | 45   | 18   | 9.8   | 4.5   | 6.0   | .18   | 2.1    |
| 3     | 2.2   | 8.5   | 7.5   | 7.8   | 7.1   | 36   | 32   | 9.4   | 4.5   | 5.1   | .18   | 2.6    |
| 4     | 2.1   | 9.7   | 6.0   | 7.2   | 7.0   | 29   | 35   | 9.0   | 4.2   | 4.5   | .22   | 2.1    |
| 5     | 2.0   | 10    | 5.5   | 6.7   | 7.2   | 42   | 83   | 9.8   | 4.2   | 4.2   | .18   | 1.9    |
| 6     | 2.2   | 11    | 5.1   | 6.7   | 7.2   | 54   | 134  | 9.8   | 3.7   | 3.7   | .18   | 1.6    |
| 7     | 2.3   | 11    | 10    | 7.7   | 7.2   | 42   | 73   | 11    | 5.7   | 3.1   | .18   | 1.4    |
| 8     | 2.1   | 9.9   | 21    | 9.7   | 6.9   | 31   | 46   | 11    | 5.7   | 2.7   | .18   | 1.1    |
| 9     | 5.0   | 8.9   | 19    | 9.4   | 6.6   | 26   | 34   | 25    | 5.7   | 2.5   | .14   | .90    |
| 10    | 7.9   | 8.2   | 13    | 19    | 6.4   | 23   | 28   | 69    | 66    | 2.0   | .14   | 1.0    |
| 11    | 5.8   | 8.0   | 12    | 37    | 7.1   | 20   | 23   | 68    | 130   | 1.6   | .18   | 2.0    |
| 12    | 6.1   | 7.5   | 11    | 22    | 7.4   | 19   | 20   | 47    | 83    | 1.4   | .11   | 3.0    |
| 13    | 5.6   | 7.1   | 11    | 19    | 12    | 19   | 18   | 32    | 50    | 1.4   | .09   | 2.3    |
| 14    | 5.4   | 6.8   | 8.5   | 17    | 15    | 60   | 17   | 24    | 33    | 1.3   | .14   | 1.8    |
| 15    | 4.7   | 6.5   | 7.2   | 15    | 14    | 68   | 15   | 18    | 22    | .97   | .18   | 1.4    |
| 16    | 4.4   | 6.4   | 7.6   | 13    | 13    | 45   | 14   | 14    | 16    | .83   | .18   | 1.5    |
| 17    | 4.0   | 6.2   | 12    | 12    | 12    | 33   | 13   | 11    | 12    | .60   | .34   | 1.8    |
| 18    | 3.9   | 6.0   | 15    | 11    | 11    | 28   | 12   | 10    | 9.4   | .50   | .97   | 2.5    |
| 19    | 3.7   | 6.0   | 13    | 10    | 10    | 33   | 12   | 11    | 8.2   | .41   | .71   | 4.0    |
| 20    | 4.1   | 5.9   | 12    | 10    | 10    | 37   | 11   | 10    | 7.1   | .27   | .67   | 5.9    |
| 21    | 23    | 5.7   | 20    | 9.7   | 9.4   | 35   | 10   | 11    | 6.7   | .18   | .50   | 8.9    |
| 22    | 26    | 5.4   | 16    | 9.3   | 9.1   | 37   | 10   | 9.8   | 5.7   | .18   | 8.2   | 7.9    |
| 23    | 22    | 5.3   | 12    | 9.0   | 9.0   | 97   | 12   | 9.0   | 5.4   | .14   | 14    | 6.9    |
| 24    | 16    | 5.1   | 10    | 9.0   | 9.2   | 85   | 17   | 8.2   | 5.1   | .14   | 9.9   | 7.1    |
| 25    | 14    | 5.1   | 8.2   | 9.2   | 40    | 49   | 22   | 7.8   | 4.5   | .22   | 14    | 12     |
| 26    | 17    | 4.9   | 10    | 10    | 60    | 34   | 21   | 7.1   | 15    | .71   | 11    | 13     |
| 27    | 20    | 5.1   | 12    | 9.0   | 45    | 28   | 18   | 6.7   | 21    | .60   | 8.4   | 16     |
| 28    | 18    | 5.1   | 10    | 9.0   | 55    | 23   | 15   | 6.0   | 18    | .50   | 6.4   | 13     |
| 29    | 15    | 8.1   | 8.9   | 10    | ---   | 23   | 13   | 5.7   | 14    | .41   | 5.1   | 9.4    |
| 30    | 13    | 9.0   | 8.4   | 8.8   | ---   | 22   | 11   | 5.1   | 9.4   | .27   | 3.9   | 7.0    |
| 31    | 12    | ---   | 8.2   | 8.0   | ---   | 21   | ---  | 4.8   | ---   | .27   | 2.9   | ---    |
| TOTAL | 273.2 | 222.8 | 337.6 | 357.5 | 418.7 | 1194 | 806  | 500.0 | 584.2 | 53.80 | 89.67 | 144.30 |
| MEAN  | 8.81  | 7.43  | 10.9  | 11.5  | 15.0  | 38.5 | 26.9 | 16.1  | 19.5  | 1.74  | 2.89  | 4.81   |
| MAX   | 26    | 11    | 21    | 37    | 60    | 97   | 134  | 69    | 130   | 7.1   | 14    | 16     |
| MIN   | 1.8   | 4.9   | 5.1   | 6.7   | 6.4   | 19   | 10   | 4.8   | 3.7   | .14   | .09   | .90    |
| CFSM  | 1.11  | .94   | 1.38  | 1.45  | 1.90  | 4.87 | 3.40 | 2.04  | 2.47  | .22   | .37   | .61    |
| IN.   | 1.28  | 1.05  | 1.59  | 1.68  | 1.97  | 5.61 | 3.79 | 2.35  | 2.75  | .25   | .42   | .68    |

CAL YR 1976 TOTAL 4609.25 MEAN 12.6 MAX 130 MIN .07 CFSM 1.59 IN 21.68  
WTR YR 1977 TOTAL 4981.77 MEAN 13.6 MAX 134 MIN .09 CFSM 1.72 IN 23.43



## 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). WRD MA, NH, RI, VT 1971: 1970.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 120.85 ft (36.835 m) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair. 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.--24 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, caused by temporary storage upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 152 ft<sup>3</sup>/s (4.30 m<sup>3</sup>/s) Mar. 23, gage height, 5.09 ft (1.551 m); minimum daily, 0.95 ft<sup>3</sup>/s (0.027 m<sup>3</sup>/s) July 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB  | MAR  | APR  | MAY  | JUN   | JUL    | AUG   | SEP   |
|-------|-------|-------|-------|-------|------|------|------|------|-------|--------|-------|-------|
| 1     | 4.4   | 13    | 7.3   | 9.8   | 17   | 96   | 82   | 42   | 17    | 9.9    | 3.2   | 2.6   |
| 2     | 4.5   | 12    | 7.1   | 9.5   | 17   | 89   | 76   | 40   | 15    | 18     | 3.0   | 2.6   |
| 3     | 4.6   | 11    | 10    | 9.0   | 16   | 83   | 74   | 37   | 15    | 9.9    | 2.8   | 2.6   |
| 4     | 4.4   | 10    | 8.6   | 8.6   | 15   | 76   | 68   | 33   | 15    | 7.3    | 2.7   | 2.7   |
| 5     | 4.2   | 11    | 6.2   | 8.5   | 14   | 93   | 93   | 34   | 14    | 6.5    | 2.7   | 2.6   |
| 6     | 4.1   | 10    | 5.1   | 9.0   | 14   | 105  | 113  | 35   | 12    | 8.8    | 3.0   | 2.6   |
| 7     | 4.5   | 9.9   | 9.7   | 11    | 14   | 102  | 103  | 33   | 17    | 11     | 2.9   | 2.4   |
| 8     | 8.0   | 9.4   | 21    | 11    | 14   | 104  | 101  | 30   | 21    | 11     | 2.7   | 2.3   |
| 9     | 20    | 8.6   | 17    | 10    | 13   | 105  | 94   | 35   | 19    | 9.9    | 2.5   | 2.3   |
| 10    | 32    | 8.1   | 13    | 17    | 13   | 96   | 85   | 72   | 28    | 8.3    | 2.2   | 3.1   |
| 11    | 28    | 8.1   | 13    | 27    | 13   | 89   | 77   | 93   | 46    | 7.1    | 2.1   | 3.8   |
| 12    | 22    | 7.9   | 13    | 30    | 14   | 86   | 69   | 95   | 59    | 6.3    | 3.8   | 2.6   |
| 13    | 16    | 7.7   | 13    | 30    | 16   | 89   | 63   | 92   | 58    | 6.0    | 5.5   | 2.5   |
| 14    | 14    | 7.7   | 9.7   | 29    | 20   | 138  | 55   | 86   | 50    | 6.0    | 4.5   | 2.8   |
| 15    | 13    | 7.7   | 8.1   | 28    | 24   | 139  | 50   | 80   | 47    | 6.5    | 3.9   | 2.3   |
| 16    | 13    | 7.9   | 7.5   | 27    | 25   | 135  | 45   | 71   | 43    | 6.5    | 3.3   | 2.1   |
| 17    | 12    | 7.1   | 10    | 26    | 22   | 131  | 42   | 64   | 37    | 2.0    | 4.0   | 5.5   |
| 18    | 11    | 6.7   | 11    | 25    | 21   | 119  | 39   | 58   | 33    | .95    | 4.5   | 4.3   |
| 19    | 11    | 6.5   | 11    | 24    | 19   | 119  | 37   | 52   | 29    | 1.2    | 4.1   | 5.5   |
| 20    | 15    | 7.5   | 11    | 23    | 18   | 105  | 35   | 48   | 29    | 1.1    | 3.2   | 8.1   |
| 21    | 25    | 6.0   | 16    | 22    | 17   | 96   | 33   | 45   | 18    | 1.1    | 2.7   | 8.6   |
| 22    | 28    | 5.3   | 15    | 21    | 17   | 96   | 31   | 43   | 19    | 1.5    | 3.6   | 5.6   |
| 23    | 25    | 5.1   | 13    | 20    | 16   | 140  | 31   | 39   | 17    | 1.6    | 4.6   | 3.0   |
| 24    | 20    | 5.1   | 12    | 20    | 15   | 150  | 32   | 35   | 17    | 1.7    | 4.5   | 2.9   |
| 25    | 16    | 5.0   | 11    | 19    | 77   | 143  | 45   | 33   | 11    | 2.6    | 4.4   | 5.4   |
| 26    | 13    | 4.8   | 11    | 18    | 82   | 130  | 48   | 30   | 11    | 5.2    | 3.7   | 8.3   |
| 27    | 11    | 5.6   | 11    | 17    | 74   | 116  | 48   | 25   | 15    | 4.3    | 3.3   | 23    |
| 28    | 10    | 6.7   | 11    | 17    | 92   | 106  | 47   | 24   | 11    | 3.3    | 3.0   | 16    |
| 29    | 8.8   | 7.5   | 10    | 19    | ---  | 104  | 46   | 22   | 11    | 2.8    | 2.9   | 8.9   |
| 30    | 9.0   | 9.0   | 10    | 18    | ---  | 95   | 44   | 21   | 8.5   | 3.2    | 2.8   | 5.7   |
| 31    | 12    | ---   | 10    | 17    | ---  | 87   | ---  | 19   | ---   | 3.3    | 2.6   | ---   |
| TOTAL | 423.5 | 237.9 | 342.3 | 580.4 | 729  | 3362 | 1806 | 1466 | 742.5 | 174.85 | 104.7 | 152.7 |
| MEAN  | 13.7  | 7.93  | 11.0  | 18.7  | 26.0 | 108  | 60.2 | 47.3 | 24.8  | 5.64   | 3.38  | 5.09  |
| MAX   | 32    | 13    | 21    | 30    | 92   | 150  | 113  | 95   | 59    | 18     | 5.5   | 23    |
| MIN   | 4.1   | 4.8   | 5.1   | 8.5   | 13   | 76   | 31   | 19   | 8.5   | .95    | 2.1   | 2.1   |

CAL YR 1976 TOTAL 9720.49 MEAN 26.6 MAX 175 MIN .53  
WTR YR 1977 TOTAL 10121.85 MEAN 27.7 MAX 150 MIN .95

NOTE.--No gage-height record Dec. 17 to Jan. 31.

## 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) above mean sea level. 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 excellent except those for period of no gage-height record, which are fair. 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.--52 years, 71.9 ft<sup>3</sup>/s (2.036 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 (7.93 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. 28       | 2000 | 304 8.61                                              | 7.78 2.371              | Mar. 23 or 24 | -    | *440 12.5                                             | *Unknown                |
| Mar. 6        | 0100 | 336 9.52                                              | 8.01 2.441              | Apr. 6        | 0800 | 314 8.89                                              | 7.85 2.393              |
| Mar. 14 or 15 | -    | 400 11.3                                              | -                       |               |      |                                                       |                         |

Minimum discharge, 4.1 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT    | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------|--------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 1     | 9.7    | 58   | 29   | 32   | 49   | 275  | 177  | 82   | 35   | 37    | 15    | 13    |
| 2     | 11     | 54   | 26   | 28   | 47   | 245  | 160  | 73   | 34   | 33    | 16    | 16    |
| 3     | 13     | 50   | 25   | 28   | 41   | 222  | 162  | 68   | 32   | 30    | 13    | 12    |
| 4     | 13     | 48   | 23   | 25   | 39   | 207  | 152  | 62   | 29   | 25    | 12    | 10    |
| 5     | 13     | 47   | 22   | 26   | 40   | 281  | 214  | 60   | 31   | 25    | 15    | 8.7   |
| 6     | 12     | 46   | 20   | 26   | 40   | 318  | 305  | 60   | 30   | 29    | 12    | 8.0   |
| 7     | 14     | 43   | 28   | 29   | 39   | 277  | 256  | 59   | 41   | 29    | 11    | 6.3   |
| 8     | 23     | 41   | 53   | 33   | 38   | 245  | 221  | 57   | 44   | 26    | 12    | 5.6   |
| 9     | 58     | 39   | 49   | 30   | 36   | 229  | 202  | 64   | 39   | 25    | 11    | 5.1   |
| 10    | 163    | 37   | 56   | 52   | 35   | 210  | 181  | 173  | 68   | 22    | 9.5   | 6.9   |
| 11    | 127    | 37   | 43   | 80   | 34   | 200  | 162  | 262  | 140  | 19    | 8.7   | 9.7   |
| 12    | 84     | 35   | 41   | 80   | 37   | 190  | 144  | 234  | 173  | 18    | 9.8   | 8.7   |
| 13    | 51     | 33   | 41   | 78   | 47   | 250  | 134  | 202  | 174  | 19    | 14    | 6.8   |
| 14    | 47     | 32   | 30   | 76   | 59   | 380  | 124  | 160  | 130  | 21    | 22    | 7.7   |
| 15    | 50     | 31   | 31   | 76   | 67   | 370  | 111  | 128  | 101  | 19    | 20    | 6.3   |
| 16    | 45     | 30   | 28   | 75   | 64   | 340  | 102  | 113  | 89   | 14    | 15    | 5.7   |
| 17    | 40     | 30   | 33   | 72   | 61   | 300  | 96   | 101  | 77   | 12    | 18    | 18    |
| 18    | 37     | 29   | 35   | 68   | 58   | 270  | 90   | 91   | 66   | 12    | 23    | 24    |
| 19    | 33     | 28   | 33   | 66   | 51   | 250  | 84   | 93   | 67   | 11    | 20    | 29    |
| 20    | 42     | 27   | 32   | 66   | 50   | 240  | 80   | 85   | 62   | 8.9   | 15    | 35    |
| 21    | 111    | 27   | 51   | 66   | 48   | 230  | 74   | 75   | 53   | 7.7   | 13    | 55    |
| 22    | 139    | 25   | 47   | 63   | 46   | 270  | 67   | 69   | 75   | 10    | 14    | 46    |
| 23    | 97     | 24   | 44   | 58   | 45   | 390  | 62   | 54   | 63   | 7.7   | 17    | 30    |
| 24    | 73     | 23   | 37   | 54   | 55   | 420  | 73   | 54   | 53   | 6.6   | 17    | 24    |
| 25    | 68     | 22   | 33   | 52   | 140  | 360  | 107  | 49   | 46   | 20    | 16    | 41    |
| 26    | 77     | 23   | 33   | 51   | 249  | 300  | 117  | 44   | 67   | 41    | 17    | 54    |
| 27    | 83     | 22   | 33   | 49   | 229  | 260  | 113  | 43   | 66   | 31    | 14    | 97    |
| 28    | 74     | 23   | 31   | 47   | 283  | 240  | 110  | 45   | 54   | 23    | 13    | 104   |
| 29    | 63     | 28   | 30   | 54   | ---  | 230  | 107  | 46   | 49   | 19    | 11    | 70    |
| 30    | 57     | 31   | 32   | 55   | ---  | 220  | 92   | 43   | 45   | 16    | 10    | 52    |
| 31    | 56     | ---  | 31   | 52   | ---  | 200  | ---  | 39   | ---  | 15    | 17    | ---   |
| TOTAL | 1783.7 | 1023 | 1080 | 1647 | 2027 | 8419 | 4079 | 2788 | 2033 | 631.9 | 451.0 | 815.5 |
| MEAN  | 57.5   | 34.1 | 34.8 | 53.1 | 72.4 | 272  | 136  | 89.9 | 67.8 | 20.4  | 14.5  | 27.2  |
| MAX   | 163    | 58   | 56   | 80   | 283  | 420  | 305  | 262  | 174  | 41    | 23    | 104   |
| MIN   | 9.7    | 22   | 20   | 25   | 34   | 190  | 62   | 39   | 29   | 6.6   | 8.7   | 5.1   |

CAL YR 1976 TOTAL 26042.3 MEAN 71.3 MAX 512 MIN 1.2  
WTR YR 1977 TOTAL 26778.1 MEAN 73.4 MAX 420 MIN 5.1

NOTE.--No gage-height record Mar. 10-31.

## 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) above mean sea level.

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.--11 years, 170 ft<sup>3</sup>/s (4.814 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, 5.3 ft<sup>3</sup>/s (0.15 m<sup>3</sup>/s) Aug. 27, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft<sup>3</sup>/s (17.0 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 6  | 1645 | 659 18.7                                              | 4.87 1.484              | Mar. 24 | 1300 | *969 27.4                                             | *5.54 1.689             |
| Mar. 15 | 1545 | 857 24.3                                              | 5.31 1.618              | Apr. 6  | 2000 | 689 19.5                                              | 4.94 1.506              |

Minimum discharge, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) July 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|-------|------|------|------|------|------|------|
| 1           | 32    | 148   | 89       | 105      | 120    | 536   | 419  | 214  | 134  | 76   | 45   | 45   |
| 2           | 30    | 145   | 84       | 102      | 115    | 477   | 383  | 196  | 135  | 68   | 44   | 43   |
| 3           | 31    | 138   | 80       | 99       | 110    | 428   | 380  | 182  | 136  | 62   | 44   | 41   |
| 4           | 32    | 137   | 70       | 99       | 110    | 401   | 362  | 172  | 128  | 56   | 42   | 40   |
| 5           | 32    | 130   | 75       | 96       | 110    | 503   | 470  | 163  | 121  | 58   | 41   | 34   |
| 6           | 32    | 123   | 70       | 95       | 110    | 626   | 638  | 161  | 123  | 61   | 43   | 32   |
| 7           | 32    | 119   | 89       | 98       | 105    | 620   | 658  | 158  | 148  | 61   | 41   | 30   |
| 8           | 33    | 114   | 150      | 89       | 105    | 548   | 556  | 152  | 160  | 56   | 39   | 28   |
| 9           | 100   | 105   | 141      | 100      | 105    | 495   | 488  | 180  | 157  | 54   | 38   | 26   |
| 10          | 221   | 102   | 117      | 143      | 105    | 470   | 441  | 362  | 236  | 51   | 36   | 42   |
| 11          | 255   | 99    | 127      | 219      | 105    | 451   | 396  | 506  | 322  | 46   | 34   | 45   |
| 12          | 219   | 96    | 114      | 220      | 110    | 420   | 364  | 562  | 389  | 43   | 47   | 37   |
| 13          | 151   | 94    | 110      | 210      | 140    | 424   | 334  | 512  | 407  | 43   | 75   | 34   |
| 14          | 108   | 90    | 84       | 211      | 178    | 691   | 312  | 446  | 356  | 43   | 60   | 33   |
| 15          | 92    | 88    | 97       | 215      | 184    | 835   | 284  | 381  | 287  | 43   | 58   | 32   |
| 16          | 90    | 85    | 94       | 206      | 175    | 757   | 264  | 319  | 225  | 40   | 53   | 30   |
| 17          | 84    | 83    | 101      | 197      | 162    | 640   | 246  | 284  | 175  | 36   | 51   | 59   |
| 18          | 79    | 83    | 106      | 181      | 152    | 579   | 232  | 255  | 145  | 32   | 60   | 70   |
| 19          | 74    | 88    | 101      | 170      | 150    | 553   | 220  | 265  | 140  | 30   | 56   | 75   |
| 20          | 76    | 88    | 97       | 160      | 141    | 529   | 210  | 248  | 140  | 28   | 49   | 95   |
| 21          | 200   | 86    | 130      | 150      | 140    | 504   | 201  | 225  | 135  | 26   | 42   | 126  |
| 22          | 226   | 84    | 128      | 145      | 132    | 515   | 193  | 204  | 120  | 27   | 44   | 116  |
| 23          | 244   | 81    | 128      | 135      | 136    | 756   | 186  | 186  | 110  | 28   | 51   | 90   |
| 24          | 206   | 77    | 122      | 130      | 133    | 936   | 196  | 162  | 100  | 23   | 53   | 72   |
| 25          | 183   | 77    | 109      | 130      | 314    | 827   | 235  | 154  | 96   | 49   | 55   | 93   |
| 26          | 190   | 75    | 111      | 130      | 397    | 687   | 263  | 143  | 110  | 97   | 48   | 114  |
| 27          | 198   | 75    | 109      | 125      | 458    | 595   | 265  | 134  | 110  | 88   | 45   | 181  |
| 28          | 197   | 75    | 91       | 120      | 534    | 527   | 263  | 130  | 105  | 67   | 42   | 179  |
| 29          | 181   | 82    | 105      | 130      | ---    | 507   | 253  | 136  | 100  | 56   | 40   | 165  |
| 30          | 165   | 91    | 100      | 120      | ---    | 490   | 236  | 139  | 89   | 50   | 42   | 123  |
| 31          | 152   | ---   | 110      | 125      | ---    | 459   | ---  | 139  | ---  | 48   | 47   | ---  |
| TOTAL       | 3945  | 2958  | 3239     | 4455     | 4836   | 17786 | 9948 | 7470 | 5139 | 1546 | 1465 | 2130 |
| MEAN        | 127   | 98.6  | 104      | 144      | 173    | 574   | 332  | 241  | 171  | 49.9 | 47.3 | 71.0 |
| MAX         | 255   | 148   | 150      | 220      | 534    | 936   | 658  | 562  | 407  | 97   | 75   | 181  |
| MIN         | 30    | 75    | 70       | 89       | 105    | 401   | 186  | 130  | 89   | 23   | 34   | 26   |
| CAL YR 1976 | TOTAL | 61459 | MEAN 168 | MAX 1270 | MIN 15 |       |      |      |      |      |      |      |
| WTR YR 1977 | TOTAL | 64917 | MEAN 178 | MAX 936  | MIN 23 |       |      |      |      |      |      |      |

## 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, which are poor. Occasional regulation by ponds upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--11 years, 22.1 ft<sup>3</sup>/s (0.626 m<sup>3</sup>/s), 28.31 in/yr (719 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 Aug. 13-22, 1966, Oct. 2, 3, 1968, Sept. 5, 6, 1969, Aug. 14-30, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 170 ft<sup>3</sup>/s (4.81 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. 28 | 1900 | 170 4.81                                              | 4.18 1.274              | Mar. 14 | 1545 | 193 5.47                                              | 4.34 1.323              |
| Mar. 4  | 0345 | *388 11.0                                             | *5.43 1.655             | Mar. 23 | 1345 | 236 6.68                                              | 4.63 1.411              |

Minimum discharge, 0.26 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s) Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB  | MAR  | APR   | MAY   | JUN   | JUL   | AUG   | SEP    |
|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|--------|
| 1     | 2.4   | 18    | 10    | 9.6   | 12   | 130  | 29    | 12    | 2.7   | 3.9   | 2.3   | 1.5    |
| 2     | 2.4   | 17    | 8.3   | 9.6   | 11   | 83   | 25    | 10    | 2.4   | 3.3   | 1.9   | 1.5    |
| 3     | 2.4   | 16    | 7.8   | 9.4   | 11   | 57   | 32    | 10    | 2.4   | 3.0   | 1.4   | 1.4    |
| 4     | 2.4   | 15    | 6.3   | 9.4   | 11   | 59   | 34    | 10    | 2.4   | 2.7   | 1.1   | 1.6    |
| 5     | 2.4   | 18    | 5.4   | 9.2   | 11   | 107  | 92    | 9.7   | 2.4   | 2.4   | 1.1   | .88    |
| 6     | 2.4   | 18    | 5.4   | 9.2   | 11   | 114  | 140   | 9.7   | 2.4   | 1.9   | 1.0   | 1.2    |
| 7     | 2.5   | 16    | 13    | 11    | 10   | 68   | 79    | 9.7   | 4.6   | 1.7   | 1.0   | .56    |
| 8     | 2.5   | 14    | 34    | 14    | 10   | 46   | 49    | 9.0   | 7.9   | 1.7   | 1.2   | .37    |
| 9     | 7.2   | 12    | 31    | 15    | 10   | 38   | 38    | 17    | 7.2   | 1.5   | 1.2   | .29    |
| 10    | 42    | 12    | 22    | 30    | 10   | 35   | 32    | 103   | 31    | 1.5   | .96   | 1.4    |
| 11    | 49    | 12    | 17    | 65    | 10   | 32   | 27    | 126   | 71    | 1.5   | .88   | 3.5    |
| 12    | 28    | 12    | 15    | 55    | 10   | 28   | 25    | 76    | 77    | 1.4   | 1.1   | 3.5    |
| 13    | 19    | 9.7   | 15    | 41    | 17   | 37   | 23    | 44    | 57    | 1.3   | 1.7   | 2.8    |
| 14    | 15    | 9.3   | 12    | 36    | 28   | 175  | 21    | 30    | 38    | 1.3   | 2.4   | 2.5    |
| 15    | 12    | 9.0   | 9.2   | 31    | 33   | 127  | 17    | 23    | 24    | 1.2   | 2.4   | 2.6    |
| 16    | 10    | 8.7   | 9.6   | 27    | 34   | 68   | 16    | 18    | 16    | 1.2   | 2.3   | 2.3    |
| 17    | 8.5   | 8.3   | 15    | 24    | 27   | 46   | 15    | 16    | 11    | 1.0   | 2.3   | 4.9    |
| 18    | 7.7   | 8.3   | 17    | 22    | 22   | 36   | 14    | 13    | 8.3   | .94   | 2.4   | 8.3    |
| 19    | 6.8   | 8.3   | 15    | 20    | 18   | 42   | 13    | 13    | 8.0   | .81   | 2.4   | 10     |
| 20    | 7.7   | 8.3   | 14    | 18    | 16   | 46   | 12    | 14    | 8.2   | .74   | 2.1   | 15     |
| 21    | 53    | 7.9   | 28    | 17    | 16   | 44   | 12    | 13    | 6.7   | .65   | 1.7   | 26     |
| 22    | 72    | 7.4   | 19    | 16    | 15   | 62   | 9.3   | 11    | 5.4   | .60   | 1.6   | 22     |
| 23    | 42    | 7.1   | 16    | 15    | 14   | 216  | 9.2   | 9.1   | 4.5   | .51   | 2.0   | 15     |
| 24    | 28    | 6.8   | 14    | 15    | 13   | 154  | 15    | 8.0   | 3.8   | .49   | 2.4   | 10     |
| 25    | 24    | 6.6   | 11    | 16    | 88   | 71   | 28    | 6.7   | 3.3   | 1.1   | 3.2   | 15     |
| 26    | 30    | 6.8   | 11    | 16    | 119  | 46   | 30    | 5.5   | 3.9   | 8.2   | 3.2   | 23     |
| 27    | 38    | 6.8   | 12    | 15    | 93   | 35   | 25    | 4.6   | 7.5   | 7.1   | 2.7   | 45     |
| 28    | 32    | 6.8   | 10    | 15    | 138  | 30   | 20    | 3.9   | 7.4   | 4.8   | 2.3   | 42     |
| 29    | 24    | 8.6   | 9.7   | 17    | ---  | 32   | 16    | 3.7   | 5.9   | 3.6   | 2.0   | 28     |
| 30    | 20    | 11    | 9.7   | 15    | ---  | 34   | 13    | 3.4   | 4.9   | 2.9   | 1.6   | 17     |
| 31    | 18    | ---   | 9.6   | 13    | ---  | 31   | ---   | 2.9   | ---   | 2.4   | 1.5   | ---    |
| TOTAL | 613.3 | 325.7 | 432.0 | 635.4 | 818  | 2129 | 910.5 | 644.9 | 437.2 | 67.34 | 57.34 | 309.10 |
| MEAN  | 19.8  | 10.9  | 13.9  | 20.5  | 29.2 | 68.7 | 30.4  | 20.8  | 14.6  | 2.17  | 1.85  | 10.3   |
| MAX   | 72    | 18    | 34    | 65    | 138  | 216  | 140   | 126   | 77    | 8.2   | 3.2   | 45     |
| MIN   | 2.4   | 6.6   | 5.4   | 9.2   | 10   | 28   | 9.2   | 2.9   | 2.4   | .49   | .88   | .29    |
| CFSM  | 1.87  | 1.03  | 1.31  | 1.93  | 2.76 | 6.48 | 2.87  | 1.96  | 1.38  | .21   | .18   | .97    |
| IN.   | 2.15  | 1.14  | 1.52  | 2.23  | 2.87 | 7.47 | 3.20  | 2.26  | 1.53  | .24   | .20   | 1.08   |

CAL YR 1976 TOTAL 7819.23 MEAN 21.4 MAX 365 MIN .15 CFSM 2.02 IN 27.44  
WTR YR 1977 TOTAL 7379.78 MEAN 20.2 MAX 316 MIN .29 CFSM 1.91 IN 25.90

NOTE.--No gage-height record Dec. 30 to Jan. 30.

## 01109500 KETTLE BROOK AT WORCESTER, MA

LOCATION.--Lat 42°13'55", long 71°50'07", Worcester County, Hydrologic Unit 01090003, on right bank 75 ft (23 m) downstream from Webster Street Bridge at Worcester and 1 mi (2 km) upstream from Beaver Brook.

DRAINAGE AREA.--31.3 mi<sup>2</sup> (81.1 km<sup>2</sup>).

PERIOD OF RECORD.--August 1923 to current year. Prior to October 1950, published as Blackstone River at Worcester. Adjusted monthly discharge in cubic feet per second per square mile and runoff in inches, published in water-supply papers for 1923-58, may be subject to error because of regulation upstream.

REVISED RECORDS.--WSP 1301: 1927(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Concrete control since Oct. 28, 1937. Datum of gage is 472.86 ft (144.128 m) above mean sea level.

REMARKS.--Records good except those for periods of bypass flow through diversion tunnel, which are poor. City of Worcester diverts flow for municipal use from about 7.0 mi<sup>2</sup> (18.1 km<sup>2</sup>) of drainage area upstream; see table below for figures of diversion. Since October 1959, city diverts flow through tunnel, usually during periods of high flow; this flow included in daily discharge. Flow regulated by reservoirs upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--54 years, 53.4 ft<sup>3</sup>/s (1.512 m<sup>3</sup>/s), 23.17 in/yr (589 mm/yr), adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,970 ft<sup>3</sup>/s (112 m<sup>3</sup>/s) Aug. 19, 1955, gage height, 12.78 ft (3.895 m), from floodmark, from rating curve extended above 1,700 ft<sup>3</sup>/s (48.1 m<sup>3</sup>/s) on basis of computation of peak flow over dam; maximum daily, 2,720 ft<sup>3</sup>/s (77.0 m<sup>3</sup>/s) Aug. 19, 1953; minimum discharge, 0.2 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) May 17, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 220 ft<sup>3</sup>/s (6.23 m<sup>3</sup>/s) Mar. 14; minimum discharge, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV   | DEC   | JAN  | FEB  | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------------------|---------|-------|-------|------|------|------|------|------|-------|-------|-------|-------|
| 1                 | 11      | 18    | 8.9   | 13   | 12   | 75   | 125  | 80   | 12    | 19    | 5.2   | 3.5   |
| 2                 | 11      | 15    | 9.1   | 12   | 12   | 61   | 115  | 67   | 18    | 15    | 4.8   | 3.6   |
| 3                 | 11      | 14    | 12    | 12   | 11   | 53   | 110  | 56   | 19    | 11    | 4.6   | 3.5   |
| 4                 | 11      | 14    | 11    | 12   | 12   | 51   | 110  | 52   | 16    | 8.7   | 4.6   | 3.3   |
| 5                 | 11      | 13    | 11    | 12   | 12   | 98   | 140  | 53   | 14    | 7.3   | 6.1   | 3.3   |
| 6                 | 11      | 12    | 10    | 11   | 12   | 122  | 125  | 54   | 13    | 7.0   | 11    | 3.4   |
| 7                 | 11      | 11    | 44    | 14   | 12   | 102  | 115  | 50   | 16    | 6.5   | 9.5   | 3.0   |
| 8                 | 11      | 10    | 83    | 16   | 11   | 90   | 105  | 46   | 19    | 7.6   | 9.0   | 2.7   |
| 9                 | 29      | 9.2   | 47    | 14   | 11   | 77   | 98   | 63   | 18    | 9.0   | 7.7   | 2.6   |
| 10                | 43      | 10    | 31    | 17   | 11   | 94   | 90   | 110  | 22    | 7.3   | 6.6   | 3.8   |
| 11                | 22      | 10    | 25    | 24   | 13   | 120  | 81   | 130  | 27    | 5.6   | 7.2   | 4.0   |
| 12                | 17      | 9.5   | 23    | 23   | 15   | 123  | 74   | 110  | 26    | 7.8   | 8.6   | 3.0   |
| 13                | 15      | 9.2   | 21    | 21   | 17   | 140  | 69   | 103  | 23    | 11    | 9.1   | 3.0   |
| 14                | 14      | 8.7   | 18    | 19   | 20   | 220  | 64   | 96   | 19    | 16    | 7.4   | 5.5   |
| 15                | 13      | 7.8   | 17    | 19   | 19   | 200  | 60   | 81   | 16    | 14    | 6.3   | 6.4   |
| 16                | 12      | 8.1   | 17    | 18   | 16   | 170  | 55   | 66   | 15    | 9.0   | 5.5   | 5.8   |
| 17                | 11      | 8.1   | 19    | 16   | 14   | 150  | 51   | 44   | 14    | 6.3   | 7.8   | 14    |
| 18                | 11      | 8.1   | 17    | 15   | 13   | 140  | 47   | 35   | 14    | 7.0   | 11    | 11    |
| 19                | 11      | 8.4   | 15    | 15   | 12   | 130  | 44   | 41   | 17    | 6.1   | 7.9   | 22    |
| 20                | 12      | 8.7   | 16    | 14   | 13   | 120  | 41   | 42   | 15    | 4.4   | 6.1   | 28    |
| 21                | 103     | 7.8   | 30    | 14   | 14   | 110  | 33   | 41   | 14    | 4.1   | 4.9   | 34    |
| 22                | 69      | 7.0   | 20    | 13   | 12   | 140  | 29   | 38   | 12    | 3.7   | 4.5   | 30    |
| 23                | 36      | 6.8   | 18    | 12   | 12   | 170  | 36   | 33   | 11    | 3.3   | 4.7   | 24    |
| 24                | 25      | 6.3   | 16    | 12   | 13   | 155  | 80   | 30   | 10    | 3.4   | 5.0   | 26    |
| 25                | 27      | 6.1   | 13    | 14   | 82   | 140  | 140  | 27   | 8.4   | 16    | 6.5   | 35    |
| 26                | 33      | 6.1   | 15    | 14   | 80   | 125  | 130  | 24   | 22    | 28    | 5.4   | 49    |
| 27                | 27      | 6.8   | 14    | 13   | 71   | 120  | 120  | 20   | 27    | 25    | 5.0   | 45    |
| 28                | 21      | 7.0   | 13    | 13   | 82   | 135  | 110  | 16   | 22    | 18    | 4.6   | 42    |
| 29                | 18      | 9.0   | 15    | 17   | ---  | 160  | 100  | 13   | 23    | 12    | 4.3   | 41    |
| 30                | 15      | 9.9   | 14    | 14   | ---  | 150  | 90   | 12   | 22    | 9.9   | 4.0   | 40    |
| 31                | 18      | ---   | 13    | 13   | ---  | 140  | ---  | 11   | ---   | 7.6   | 3.8   | ---   |
| TOTAL             | 690     | 285.6 | 636.0 | 466  | 634  | 3881 | 2587 | 1644 | 524.4 | 316.6 | 198.7 | 501.4 |
| MEAN              | 22.3    | 9.52  | 20.5  | 15.0 | 22.6 | 125  | 86.2 | 53.0 | 17.5  | 10.2  | 6.41  | 16.7  |
| MAX               | 103     | 18    | 83    | 24   | 82   | 220  | 140  | 130  | 27    | 28    | 11    | 49    |
| MIN               | 11      | 6.1   | 8.9   | 11   | 11   | 51   | 29   | 11   | 8.4   | 3.3   | 3.8   | 2.6   |
| (†)               | 7.27    | 7.14  | 7.19  | 6.51 | 5.72 | 11.3 | 12.3 | 11.8 | 11.6  | 10.3  | 10.3  | 9.08  |
| CAL YR 1976 TOTAL | 13559.5 |       |       |      |      |      |      |      |       |       |       |       |
| WTR YR 1977 TOTAL | 12364.7 |       |       |      |      |      |      |      |       |       |       |       |
| MEAN 37.0         |         |       |       |      |      |      |      |      |       |       |       |       |
| MEAN 33.9         |         |       |       |      |      |      |      |      |       |       |       |       |
| MAX 147           |         |       |       |      |      |      |      |      |       |       |       |       |
| MAX 220           |         |       |       |      |      |      |      |      |       |       |       |       |
| MIN 5.7           |         |       |       |      |      |      |      |      |       |       |       |       |
| MIN 2.6           |         |       |       |      |      |      |      |      |       |       |       |       |
| MEAN† 46.6        |         |       |       |      |      |      |      |      |       |       |       |       |
| MEAN† 43.1        |         |       |       |      |      |      |      |      |       |       |       |       |
| CFSM† 1.49        |         |       |       |      |      |      |      |      |       |       |       |       |
| CFSM† 1.38        |         |       |       |      |      |      |      |      |       |       |       |       |
| IN† 20.28         |         |       |       |      |      |      |      |      |       |       |       |       |
| IN† 18.70         |         |       |       |      |      |      |      |      |       |       |       |       |

† Diversion, in cubic feet per second, for municipal supply of Worcester; records furnished by city of Worcester.  
‡ Adjusted for diversion.

NOTE.--Bypass flow through diversion tunnel Mar. 13 to Apr. 13, Apr. 24 to May 1, May 10-12.

## BLACKSTONE RIVER BASIN

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 good. Some regulation by Lake Quinsigamond 2.3 mi (3.7 km) upstream and by ponds above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 41.0 ft<sup>3</sup>/s (1.161 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 171 ft<sup>3</sup>/s (4.84 m<sup>3</sup>/s) Mar. 14; minimum daily, 0.90 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV      | DEC   | JAN   | FEB   | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP    |
|-------------|-------|----------|-------|-------|-------|------|------|------|------|-------|-------|--------|
| 1           | 2.9   | 20       | 5.5   | 8.7   | 5.5   | 49   | 89   | 65   | 25   | 21    | 11    | 2.6    |
| 2           | 2.7   | 17       | 5.7   | 8.3   | 4.9   | 47   | 96   | 61   | 27   | 20    | 13    | 2.5    |
| 3           | 2.7   | 15       | 6.5   | 8.4   | 4.4   | 44   | 102  | 59   | 25   | 17    | 14    | 2.4    |
| 4           | 2.2   | 14       | 5.9   | 8.7   | 4.5   | 43   | 72   | 54   | 21   | 14    | 13    | 2.2    |
| 5           | 1.9   | 13       | 5.8   | 8.2   | 4.7   | 64   | 106  | 53   | 20   | 14    | 12    | 1.6    |
| 6           | 2.1   | 14       | 5.5   | 7.7   | 5.3   | 77   | 126  | 58   | 19   | 14    | 14    | 1.6    |
| 7           | 2.1   | 12       | 15    | 10    | 4.8   | 79   | 118  | 56   | 22   | 12    | 13    | 1.5    |
| 8           | 2.0   | 11       | 34    | 13    | 4.2   | 71   | 111  | 56   | 24   | 12    | 14    | 1.1    |
| 9           | 8.8   | 11       | 31    | 11    | 3.7   | 69   | 95   | 58   | 22   | 14    | 12    | .90    |
| 10          | 18    | 9.4      | 26    | 16    | 3.6   | 70   | 88   | 111  | 30   | 12    | 9.4   | 1.8    |
| 11          | 14    | 10       | 24    | 21    | 3.7   | 71   | 76   | 125  | 32   | 10    | 8.6   | 1.7    |
| 12          | 12    | 9.4      | 21    | 18    | 4.7   | 74   | 71   | 111  | 32   | 11    | 8.7   | 1.1    |
| 13          | 10    | 9.1      | 21    | 16    | 6.1   | 86   | 70   | 95   | 27   | 13    | 8.8   | .91    |
| 14          | 11    | 8.5      | 17    | 15    | 7.2   | 152  | 59   | 85   | 24   | 18    | 7.8   | 1.4    |
| 15          | 8.5   | 7.8      | 15    | 15    | 7.9   | 161  | 54   | 86   | 23   | 18    | 7.2   | 1.4    |
| 16          | 7.3   | 7.7      | 14    | 14    | 7.9   | 142  | 51   | 76   | 21   | 16    | 5.9   | 1.1    |
| 17          | 6.0   | 7.2      | 15    | 13    | 7.5   | 124  | 48   | 62   | 19   | 14    | 5.6   | 2.8    |
| 18          | 5.6   | 7.5      | 15    | 12    | 7.1   | 112  | 51   | 63   | 19   | 14    | 6.0   | 3.1    |
| 19          | 4.3   | 7.1      | 13    | 11    | 7.1   | 114  | 45   | 62   | 36   | 13    | 4.4   | 9.7    |
| 20          | 4.5   | 8.5      | 12    | 9.5   | 8.1   | 114  | 43   | 57   | 30   | 11    | 3.7   | 20     |
| 21          | 36    | 7.2      | 17    | 8.5   | 11    | 111  | 42   | 58   | 27   | 9.2   | 3.2   | 29     |
| 22          | 37    | 6.3      | 15    | 8.0   | 8.2   | 101  | 41   | 50   | 25   | 8.8   | 2.4   | 25     |
| 23          | 34    | 6.4      | 13    | 7.3   | 7.9   | 144  | 50   | 44   | 21   | 6.2   | 2.3   | 21     |
| 24          | 29    | 5.2      | 12    | 6.2   | 8.0   | 137  | 95   | 41   | 19   | 4.0   | 2.4   | 23     |
| 25          | 29    | 4.8      | 11    | 7.2   | 31    | 120  | 148  | 39   | 17   | 9.9   | 5.6   | 31     |
| 26          | 31    | 4.6      | 12    | 6.9   | 40    | 114  | 132  | 41   | 18   | 22    | 5.3   | 42     |
| 27          | 29    | 4.6      | 12    | 6.4   | 41    | 120  | 104  | 34   | 21   | 19    | 4.4   | 63     |
| 28          | 25    | 4.5      | 11    | 6.0   | 47    | 108  | 93   | 29   | 19   | 16    | 4.0   | 57     |
| 29          | 22    | 5.9      | 12    | 7.2   | ---   | 109  | 80   | 27   | 22   | 14    | 3.8   | 47     |
| 30          | 19    | 6.9      | 11    | 6.6   | ---   | 94   | 71   | 25   | 24   | 13    | 3.3   | 37     |
| 31          | 19    | ---      | 9.4   | 5.9   | ---   | 95   | ---  | 23   | ---  | 13    | 3.0   | ---    |
| TOTAL       | 438.6 | 275.6    | 443.3 | 320.7 | 307.0 | 3016 | 2427 | 1864 | 711  | 423.1 | 231.8 | 436.41 |
| MEAN        | 14.1  | 9.19     | 14.3  | 10.3  | 11.0  | 97.3 | 80.9 | 60.1 | 23.7 | 13.6  | 7.48  | 14.5   |
| MAX         | 37    | 20       | 34    | 21    | 47    | 161  | 148  | 125  | 36   | 22    | 14    | 63     |
| MIN         | 1.9   | 4.5      | 5.5   | 5.9   | 3.6   | 43   | 41   | 23   | 17   | 4.0   | 2.3   | .90    |
| CAL YR 1976 | TOTAL | 11848.84 | MEAN  | 32.4  | MAX   | 200  | MIN  | .56  |      |       |       |        |
| WTR YR 1977 | TOTAL | 10894.51 | MEAN  | 29.8  | MAX   | 161  | MIN  | .90  |      |       |       |        |



01110500 BLACKSTONE RIVER AT NORTHBRIDGE, MA

LOCATION.--Lat 42°09'13", long 71°39'09", Worcester County, Hydrologic Unit 01090003, on left bank at Northbridge, 100 ft (30 m) downstream from Sutton Street Bridge, and 3.0 mi (4.8 km) downstream from Quinsigamond River.

DRAINAGE AREA.--139 mi<sup>2</sup> (360 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: October 1939 to September 1977 (discontinued). October and November 1939 monthly discharge only, published in WSP 1301.  
Water-quality records: Water years 1955, 1958, 1971.

REVISED RECORDS.--WSP 1301: 1940(M).

GAGE.--Water-stage recorder. Altitude of gage is 260 ft (79 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by mills and reservoirs upstream. Daily discharge includes flow diverted from Nashua River basin and, at times during 1966, 1967, and 1977, from Quabbin Reservoir to Blackstone River basin for municipal supply of Worcester. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--38 years, 266 ft<sup>3</sup>/s (7.533 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft<sup>3</sup>/s (479 m<sup>3</sup>/s) Aug. 20, 1955, gage height, 16.74 ft (5.102 m), from rating curve extended above 3,800 ft<sup>3</sup>/s (108 m<sup>3</sup>/s) on basis of computation of flow over dam at gage height 13.7 ft (4.18 m) and slope-area measurement at gage height 16.74 ft (5.102 m); maximum gage height, 17.53 ft (5.343 m) Aug. 20, 1955, backwater from debris; minimum daily discharge, 2 ft<sup>3</sup>/s (0.057 m<sup>3</sup>/s) Aug. 29, 1941, Sept. 5, 1942, Aug. 28, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Stage and discharge of flood of Aug. 20, 1955, are the greatest since at least 1900. Flood of Mar. 19, 1936, reached a stage of 13.7 ft (4.18 m) from floodmarks, discharge, 7,510 ft<sup>3</sup>/s (213 m<sup>3</sup>/s) by computation of flow over dam 800 ft (250 m) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,770 ft<sup>3</sup>/s (50.1 m<sup>3</sup>/s) Mar. 14, gage height, 6.81 ft (2.076 m); minimum daily, 51 ft<sup>3</sup>/s (1.44 m<sup>3</sup>/s) July 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT   | NOV   | DEC      | JAN      | FEB    | MAR   | APR   | MAY   | JUN   | JUL  | AUG   | SEP   |
|-------------------|-------|-------|----------|----------|--------|-------|-------|-------|-------|------|-------|-------|
| 1                 | 137   | 136   | 90       | 110      | 105    | 452   | 634   | 371   | 125   | 150  | 78    | 90    |
| 2                 | 98    | 152   | 89       | 105      | 100    | 366   | 577   | 364   | 153   | 129  | 136   | 91    |
| 3                 | 103   | 111   | 85       | 105      | 105    | 324   | 624   | 347   | 155   | 123  | 79    | 87    |
| 4                 | 109   | 98    | 88       | 106      | 105    | 311   | 541   | 323   | 140   | 80   | 83    | 94    |
| 5                 | 120   | 90    | 72       | 104      | 105    | 578   | 932   | 337   | 124   | 123  | 88    | 67    |
| 6                 | 91    | 90    | 82       | 104      | 100    | 660   | 930   | 324   | 123   | 87   | 131   | 78    |
| 7                 | 83    | 81    | 194      | 108      | 100    | 569   | 745   | 307   | 142   | 102  | 91    | 84    |
| 8                 | 127   | 92    | 387      | 118      | 100    | 503   | 688   | 288   | 159   | 106  | 142   | 83    |
| 9                 | 185   | 100   | 255      | 110      | 100    | 488   | 601   | 443   | 117   | 114  | 115   | 82    |
| 10                | 251   | 92    | 192      | 154      | 97     | 572   | 514   | 964   | 157   | 78   | 102   | 100   |
| 11                | 138   | 94    | 167      | 193      | 106    | 623   | 470   | 957   | 185   | 87   | 112   | 77    |
| 12                | 111   | 92    | 151      | 200      | 118    | 601   | 435   | 789   | 159   | 118  | 124   | 73    |
| 13                | 107   | 87    | 141      | 200      | 123    | 712   | 414   | 642   | 136   | 110  | 124   | 80    |
| 14                | 116   | 81    | 130      | 195      | 127    | 1660  | 341   | 538   | 129   | 163  | 95    | 110   |
| 15                | 99    | 86    | 120      | 180      | 129    | 1290  | 364   | 455   | 124   | 125  | 97    | 98    |
| 16                | 81    | 91    | 118      | 170      | 114    | 963   | 333   | 425   | 116   | 93   | 103   | 85    |
| 17                | 87    | 88    | 127      | 165      | 102    | 775   | 312   | 388   | 115   | 83   | 114   | 155   |
| 18                | 85    | 89    | 126      | 160      | 100    | 651   | 227   | 331   | 116   | 133  | 122   | 114   |
| 19                | 90    | 81    | 116      | 155      | 100    | 622   | 259   | 361   | 211   | 104  | 78    | 235   |
| 20                | 123   | 83    | 116      | 150      | 97     | 579   | 273   | 327   | 144   | 87   | 85    | 289   |
| 21                | 585   | 78    | 179      | 140      | 98     | 598   | 270   | 312   | 158   | 89   | 77    | 269   |
| 22                | 354   | 83    | 148      | 135      | 102    | 647   | 257   | 282   | 144   | 97   | 81    | 177   |
| 23                | 230   | 92    | 134      | 125      | 101    | 1010  | 286   | 256   | 135   | 74   | 97    | 126   |
| 24                | 170   | 87    | 113      | 120      | 101    | 854   | 672   | 222   | 131   | 51   | 99    | 219   |
| 25                | 183   | 86    | 107      | 115      | 407    | 716   | 1070  | 181   | 125   | 227  | 177   | 287   |
| 26                | 206   | 83    | 109      | 110      | 515    | 644   | 818   | 206   | 147   | 235  | 91    | 422   |
| 27                | 180   | 75    | 121      | 110      | 395    | 648   | 667   | 197   | 205   | 125  | 83    | 621   |
| 28                | 150   | 69    | 120      | 115      | 456    | 693   | 572   | 176   | 143   | 114  | 76    | 389   |
| 29                | 136   | 89    | 116      | 120      | ---    | 913   | 492   | 170   | 180   | 97   | 79    | 257   |
| 30                | 126   | 102   | 115      | 115      | ---    | 866   | 417   | 159   | 183   | 91   | 93    | 235   |
| 31                | 133   | ---   | 110      | 110      | ---    | 729   | ---   | 146   | ---   | 80   | 91    | ---   |
| TOTAL             | 4794  | 2758  | 4218     | 4207     | 4308   | 21617 | 15735 | 11588 | 4381  | 3475 | 3143  | 5174  |
| MEAN              | 155   | 91.9  | 136      | 136      | 154    | 697   | 525   | 374   | 146   | 112  | 101   | 172   |
| MAX               | 585   | 152   | 387      | 200      | 515    | 1660  | 1070  | 964   | 211   | 235  | 177   | 621   |
| MIN               | 81    | 69    | 72       | 104      | 97     | 311   | 227   | 146   | 115   | 51   | 76    | 67    |
| (+)               | -23.4 | -20.7 | -29.6    | -28.3    | -36.2  | -20.8 | -0.36 | -6.13 | -11.6 | 0    | -31.3 | -31.3 |
| CAL YR 1976 TOTAL | 86949 |       | MEAN 238 | MAX 2120 | MIN 67 |       |       |       |       |      |       |       |
| WTR YR 1977 TOTAL | 85398 |       | MEAN 234 | MAX 1660 | MIN 51 |       |       |       |       |      |       |       |

† Diversion, in cubic feet per second, from Nashua River basin (and from Quabbin Reservoir in February and March) to Blackstone River basin for municipal supply of Worcester; records furnished by city of Worcester.

## 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. Altitude of gage is 240 ft (73 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. 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.--15 years, 44.1 ft<sup>3</sup>/s (1.249 m<sup>3</sup>/s), 21.47 in/yr (545 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 386 ft<sup>3</sup>/s (10.9 m<sup>3</sup>/s) Mar. 16, 1977, gage height, 3.50 ft (1.067 m); 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) Mar. 16, gage height, 3.50 ft (1.067 m); minimum, 0.98 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) Nov. 9; minimum daily, 2.0 ft<sup>3</sup>/s (0.057 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC   | JAN   | FEB  | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |     |       |
|-------------|-------|---------|-------|-------|------|------|------|------|-------|-------|-------|-------|-----|-------|
| 1           | 3.6   | 14      | 9.0   | 9.2   | 14   | 109  | 124  | 68   | 16    | 14    | 5.0   | 2.5   |     |       |
| 2           | 3.6   | 14      | 7.8   | 9.1   | 14   | 113  | 105  | 61   | 22    | 11    | 4.8   | 2.5   |     |       |
| 3           | 3.6   | 13      | 7.6   | 8.8   | 14   | 102  | 98   | 57   | 20    | 9.0   | 5.0   | 2.5   |     |       |
| 4           | 3.6   | 12      | 7.3   | 8.8   | 14   | 89   | 70   | 53   | 18    | 8.1   | 4.8   | 2.7   |     |       |
| 5           | 3.6   | 11      | 7.1   | 8.8   | 14   | 96   | 82   | 45   | 16    | 7.3   | 4.1   | 2.7   |     |       |
| 6           | 3.6   | 11      | 6.5   | 8.2   | 15   | 144  | 204  | 42   | 14    | 7.0   | 4.3   | 2.7   |     |       |
| 7           | 3.5   | 11      | 9.7   | 8.6   | 15   | 155  | 231  | 42   | 15    | 7.6   | 4.3   | 2.4   |     |       |
| 8           | 3.4   | 10      | 32    | 10    | 14   | 136  | 153  | 41   | 17    | 7.6   | 3.9   | 2.1   |     |       |
| 9           | 4.9   | 7.0     | 30    | 11    | 14   | 120  | 132  | 46   | 17    | 7.8   | 3.7   | 2.0   |     |       |
| 10          | 11    | 11      | 22    | 14    | 14   | 120  | 116  | 111  | 21    | 7.8   | 3.5   | 2.1   |     |       |
| 11          | 12    | 9.7     | 20    | 20    | 14   | 136  | 98   | 160  | 28    | 7.0   | 3.4   | 2.8   |     |       |
| 12          | 8.4   | 9.7     | 17    | 25    | 15   | 140  | 87   | 168  | 32    | 6.7   | 4.1   | 2.8   |     |       |
| 13          | 6.6   | 9.3     | 16    | 27    | 17   | 136  | 77   | 164  | 30    | 7.6   | 5.5   | 2.8   |     |       |
| 14          | 5.6   | 9.1     | 13    | 26    | 19   | 68   | 65   | 138  | 24    | 8.4   | 5.0   | 2.8   |     |       |
| 15          | 5.3   | 9.1     | 12    | 26    | 20   | 233  | 57   | 107  | 20    | 8.7   | 4.3   | 2.8   |     |       |
| 16          | 5.3   | 9.1     | 11    | 22    | 20   | 351  | 53   | 86   | 17    | 8.1   | 4.1   | 2.7   |     |       |
| 17          | 5.3   | 8.9     | 11    | 21    | 20   | 218  | 52   | 73   | 15    | 7.0   | 6.2   | 3.9   |     |       |
| 18          | 4.9   | 8.8     | 11    | 20    | 17   | 140  | 50   | 62   | 14    | 6.5   | 6.5   | 4.6   |     |       |
| 19          | 4.6   | 8.8     | 11    | 19    | 16   | 120  | 46   | 58   | 14    | 5.7   | 5.2   | 6.2   |     |       |
| 20          | 4.9   | 8.8     | 11    | 17    | 16   | 107  | 46   | 58   | 14    | 5.2   | 4.1   | 9.0   |     |       |
| 21          | 26    | 8.8     | 14    | 16    | 16   | 93   | 42   | 52   | 13    | 5.0   | 3.7   | 16    |     |       |
| 22          | 40    | 8.2     | 14    | 15    | 16   | 94   | 39   | 46   | 11    | 4.8   | 3.0   | 14    |     |       |
| 23          | 26    | 7.8     | 12    | 14    | 15   | 160  | 39   | 43   | 10    | 4.6   | 2.8   | 10    |     |       |
| 24          | 20    | 7.4     | 11    | 14    | 15   | 260  | 76   | 37   | 9.0   | 4.1   | 3.0   | 9.0   |     |       |
| 25          | 20    | 7.3     | 9.7   | 14    | 38   | 271  | 149  | 33   | 8.4   | 5.0   | 4.3   | 14    |     |       |
| 26          | 20    | 7.3     | 9.5   | 15    | 77   | 190  | 170  | 28   | 8.7   | 10    | 4.3   | 22    |     |       |
| 27          | 20    | 7.3     | 10    | 15    | 104  | 151  | 157  | 23   | 12    | 9.7   | 3.7   | 43    |     |       |
| 28          | 18    | 7.5     | 9.9   | 14    | 113  | 140  | 124  | 21   | 15    | 7.8   | 3.4   | 52    |     |       |
| 29          | 15    | 8.0     | 9.6   | 16    | ---  | 140  | 98   | 19   | 16    | 6.5   | 2.8   | 34    |     |       |
| 30          | 14    | 8.9     | 9.7   | 17    | ---  | 146  | 79   | 18   | 16    | 5.7   | 2.7   | 25    |     |       |
| 31          | 13    | ---     | 9.7   | 15    | ---  | 132  | ---  | 14   | ---   | 5.7   | 2.5   | ---   |     |       |
| TOTAL       | 339.3 | 283.8   | 391.1 | 484.5 | 710  | 4610 | 2919 | 1974 | 503.1 | 227.0 | 128.0 | 303.6 |     |       |
| MEAN        | 10.9  | 9.46    | 12.6  | 15.6  | 25.4 | 149  | 97.3 | 63.7 | 16.8  | 7.32  | 4.13  | 10.1  |     |       |
| MAX         | 40    | 14      | 32    | 27    | 113  | 351  | 231  | 168  | 32    | 14    | 6.5   | 52    |     |       |
| MIN         | 3.4   | 7.0     | 6.5   | 8.2   | 14   | 68   | 39   | 14   | 8.4   | 4.1   | 2.5   | 2.0   |     |       |
| (†)         | 1.3   | 1.1     | 1.1   | 1.5   | 5.8  | 6.5  | 4.4  | 1.5  | 1.7   | .9    | .8    | 2.2   |     |       |
| MEAN†       | 11.1  | 9.38    | 12.6  | 15.8  | 27.1 | 149  | 96.5 | 62.6 | 16.8  | 7.02  | 4.09  | 10.7  |     |       |
| CFSM†       | .40   | .34     | .45   | .57   | .97  | 5.34 | 3.46 | 2.24 | .60   | .25   | .15   | .38   |     |       |
| IN.†        | .46   | .38     | .52   | .65   | 1.01 | 6.16 | 3.86 | 2.59 | .67   | .29   | .17   | .43   |     |       |
| CAL YR 1976 | TOTAL | 15388.0 | MEAN  | 42.0  | MAX  | 323  | MIN  | 2.4  | MEAN† | 41.9  | CFSM† | 1.50  | IN† | 20.44 |
| WTR YR 1977 | TOTAL | 12873.4 | MEAN  | 35.3  | MAX  | 351  | MIN  | 2.0  | MEAN† | 35.3  | CFSM† | 1.27  | IN† | 17.18 |

† Monthend contents, in millions of cubic feet, in West Hill Reservoir.

‡ Adjusted for change in contents in West Hill Reservoir.

## 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 current year.

pH: July 1969 to current year.

WATER TEMPERATURES: July 1969 to current year.

DISSOLVED OXYGEN: July 1969 to current year.

INSTRUMENTATION.--Water-quality monitor since July 1969.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, >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; minimum, 0.0°C on many days during winter periods.

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

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 462 micromhos Nov. 22; minimum recorded, 163 micromhos Apr. 25, but may have been lower during period of no record.

pH: Not determined.

WATER TEMPERATURES: Maximum recorded, 29.0°C July 21; minimum, probably 0.0°C on many days during winter period.

DISSOLVED OXYGEN: Maximum recorded, 9.1 mg/L May 11, Aug. 21; minimum recorded, 1.6 mg/L Oct. 1; maximum and minimum may have been higher or lower during period of no record.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX   | MIN | MEAN | MAX | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|-------|-----|------|-----|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | APRIL |     |      | MAY |     |      |
| 1     | 308     | 279 | 292  | 301      | 292 | 296  | ---   | --- | ---  | 241 | 232 | 237  |
| 2     | 340     | 311 | 325  | 298      | 284 | 294  | ---   | --- | ---  | 237 | 234 | 236  |
| 3     | 329     | 303 | 322  | 291      | 285 | 288  | ---   | --- | ---  | 245 | 235 | 240  |
| 4     | 323     | 301 | 313  | 299      | 288 | 294  | ---   | --- | ---  | 255 | 241 | 250  |
| 5     | 330     | 313 | 323  | 298      | 289 | 293  | ---   | --- | ---  | 257 | 253 | 255  |
| 6     | 311     | 288 | 301  | 311      | 300 | 305  | ---   | --- | ---  | 266 | 256 | 261  |
| 7     | 303     | 287 | 294  | 321      | 311 | 315  | ---   | --- | ---  | 268 | 260 | 264  |
| 8     | 322     | 302 | 309  | 331      | 323 | 328  | ---   | --- | ---  | 270 | 262 | 266  |
| 9     | 389     | 327 | 369  | 350      | 333 | 342  | ---   | --- | ---  | 265 | 214 | 256  |
| 10    | 388     | 332 | 364  | 351      | 340 | 347  | ---   | --- | ---  | 215 | 177 | 198  |
| 11    | 312     | 235 | 261  | 347      | 327 | 339  | ---   | --- | ---  | 179 | 174 | 176  |
| 12    | 232     | 220 | 223  | 333      | 324 | 329  | ---   | --- | ---  | 192 | 172 | 180  |
| 13    | 245     | 219 | 231  | 329      | 320 | 325  | ---   | --- | ---  | 208 | 184 | 192  |
| 14    | 280     | 247 | 264  | 335      | 324 | 329  | ---   | --- | ---  | 219 | 173 | 191  |
| 15    | 322     | 281 | 298  | 371      | 330 | 345  | ---   | --- | ---  | --- | --- | ---  |
| 16    | 352     | 324 | 341  | 381      | 370 | 375  | ---   | --- | ---  | --- | --- | ---  |
| 17    | 347     | 308 | 320  | 387      | 376 | 381  | ---   | --- | ---  | --- | --- | ---  |
| 18    | 316     | 307 | 311  | 380      | 373 | 378  | ---   | --- | ---  | --- | --- | ---  |
| 19    | 323     | 307 | 315  | 378      | 372 | 375  | ---   | --- | ---  | --- | --- | ---  |
| 20    | 349     | 319 | 330  | 387      | 374 | 378  | ---   | --- | ---  | --- | --- | ---  |
| 21    | 330     | 180 | 282  | 402      | 387 | 392  | ---   | --- | ---  | --- | --- | ---  |
| 22    | 185     | 182 | 183  | 462      | 388 | 398  | 290   | 286 | 288  | --- | --- | ---  |
| 23    | 210     | 188 | 199  | 405      | 398 | 401  | 290   | 268 | 281  | --- | --- | ---  |
| 24    | 235     | 212 | 223  | 405      | 397 | 402  | 277   | 182 | 245  | --- | --- | ---  |
| 25    | 254     | 239 | 251  | 417      | 393 | 407  | 177   | 163 | 168  | --- | --- | ---  |
| 26    | 267     | 256 | 264  | 419      | 413 | 415  | 186   | 168 | 181  | --- | --- | ---  |
| 27    | 264     | 249 | 253  | 424      | 416 | 418  | 190   | 185 | 188  | 281 | 258 | 272  |
| 28    | 259     | 250 | 253  | 422      | 405 | 409  | 210   | 188 | 204  | 259 | 250 | 254  |
| 29    | 266     | 252 | 259  | 411      | 382 | 392  | 217   | 206 | 210  | 282 | 262 | 274  |
| 30    | 277     | 266 | 271  | 389      | 381 | 384  | 238   | 218 | 230  | 266 | 257 | 262  |
| 31    | 295     | 279 | 285  | ---      | --- | ---  | ---   | --- | ---  | 273 | 255 | 264  |
| MONTH | 389     | 180 | 285  | 462      | 284 | 356  | ---   | --- | ---  | --- | --- | ---  |

## BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX | MIN  | MEAN | MAX | MIN  | MEAN | MAX | MIN    | MEAN | MAX | MIN       | MEAN |
|-------|-----|------|------|-----|------|------|-----|--------|------|-----|-----------|------|
|       |     | JUNE |      |     | JULY |      |     | AUGUST |      |     | SEPTEMBER |      |
| 1     | 278 | 269  | 272  | 305 | 256  | 273  | 327 | 313    | 320  | 341 | 329       | 334  |
| 2     | 303 | 276  | 285  | 286 | 250  | 263  | 350 | 315    | 333  | 356 | 327       | 343  |
| 3     | 316 | 304  | 312  | 302 | 286  | 292  | 359 | 331    | 354  | 348 | 340       | 344  |
| 4     | 305 | 298  | 300  | 310 | 301  | 307  | 369 | 298    | 350  | 360 | 337       | 348  |
| 5     | 309 | 301  | 305  | 306 | 268  | 289  | 297 | 278    | 289  | 370 | 341       | 359  |
| 6     | 311 | 306  | 309  | 327 | 277  | 309  | 332 | 289    | 314  | 354 | 335       | 340  |
| 7     | 309 | 301  | 305  | 328 | 297  | 321  | 355 | 337    | 348  | 352 | 330       | 337  |
| 8     | 305 | 300  | 302  | 343 | 296  | 326  | 340 | 275    | 322  | 326 | 311       | 316  |
| 9     | 326 | 305  | 315  | 333 | 305  | 323  | 305 | 265    | 288  | 333 | 306       | 320  |
| 10    | 332 | 305  | 324  | 344 | 328  | 339  | 315 | 307    | 311  | 345 | 330       | 336  |
| 11    | 310 | 304  | 306  | 335 | 285  | 307  | 309 | 295    | 302  | 354 | 341       | 347  |
| 12    | 321 | 305  | 316  | 293 | 273  | 283  | 325 | 299    | 315  | 367 | 340       | 361  |
| 13    | 304 | 288  | 294  | 304 | 286  | 294  | 344 | 327    | 334  | 357 | 348       | 352  |
| 14    | 293 | 286  | 290  | 309 | 298  | 305  | 348 | 320    | 332  | 347 | 322       | 333  |
| 15    | 307 | 295  | 301  | 328 | 298  | 316  | 322 | 280    | 304  | 361 | 318       | 336  |
| 16    | 321 | 304  | 312  | 325 | 269  | 293  | 299 | 271    | 289  | 404 | 366       | 388  |
| 17    | 335 | 320  | 328  | 279 | 265  | 270  | 316 | 302    | 311  | 365 | 279       | 331  |
| 18    | 360 | 338  | 349  | 308 | 279  | 295  | 333 | 311    | 321  | 399 | 283       | 349  |
| 19    | 367 | 361  | 364  | 343 | 308  | 324  | 363 | 338    | 351  | 398 | 265       | 333  |
| 20    | 373 | 316  | 351  | 346 | 325  | 338  | 342 | 305    | 331  | 287 | 205       | 258  |
| 21    | 314 | 302  | 306  | 337 | 283  | 297  | 315 | 274    | 295  | 207 | 190       | 199  |
| 22    | 310 | 300  | 307  | 339 | 295  | 318  | 325 | 310    | 318  | 199 | 187       | 192  |
| 23    | 346 | 309  | 324  | 352 | 335  | 343  | 335 | 307    | 320  | 247 | 202       | 223  |
| 24    | 350 | 343  | 346  | 348 | 342  | 346  | 337 | 318    | 329  | 271 | 243       | 260  |
| 25    | 356 | 349  | 352  | 350 | 317  | 336  | 341 | 313    | 321  | 283 | 247       | 267  |
| 26    | 382 | 359  | 369  | 328 | 265  | 304  | 395 | 348    | 374  | 272 | 218       | 231  |
| 27    | 396 | 383  | 392  | 258 | 219  | 246  | 340 | 267    | 295  | 220 | 197       | 210  |
| 28    | 401 | 324  | 373  | 224 | 213  | 219  | 274 | 261    | 267  | 209 | 201       | 203  |
| 29    | 325 | 314  | 316  | 246 | 219  | 237  | 308 | 275    | 295  | 261 | 248       | 257  |
| 30    | 340 | 311  | 322  | 312 | 246  | 292  | 328 | 301    | 316  | 271 | 206       | 259  |
| 31    | --- | ---  | ---  | 318 | 301  | 310  | 343 | 323    | 333  | --- | ---       | ---  |
| MONTH | 401 | 269  | 322  | 352 | 213  | 300  | 395 | 261    | 319  | 404 | 187       | 302  |
| YEAR  | 462 | 163  | 303  |     |      |      |     |        |      |     |           |      |

PH (UNITS), OCTOBER TO NOVEMBER 1976

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      |
| 1     | 6.4     | 6.2 | 6.3  | 6.6      | 6.6 | 6.6  |
| 2     | 6.4     | 6.2 | 6.3  | 6.7      | 6.6 | 6.7  |
| 3     | 6.4     | 6.3 | 6.4  | 6.8      | 6.7 | 6.7  |
| 4     | 6.3     | 6.3 | 6.3  | 6.8      | 6.5 | 6.7  |
| 5     | 6.3     | 6.2 | 6.2  | 6.6      | 6.5 | 6.6  |
| 6     | 6.3     | 6.2 | 6.2  | 6.6      | 6.6 | 6.6  |
| 7     | 6.2     | 6.2 | 6.2  | 6.6      | 6.6 | 6.6  |
| 8     | 6.2     | 6.2 | 6.2  | 6.7      | 6.6 | 6.7  |
| 9     | 6.3     | 6.2 | 6.3  | 6.8      | 6.7 | 6.8  |
| 10    | 6.3     | 6.2 | 6.3  | 6.9      | 6.8 | 6.8  |
| 11    | 6.2     | 6.1 | 6.1  | 6.9      | 6.8 | 6.8  |
| 12    | 6.3     | 6.2 | 6.2  | 6.9      | 6.8 | 6.9  |
| 13    | 6.2     | 6.2 | 6.2  | 7.0      | 6.9 | 6.9  |
| 14    | 6.3     | 6.2 | 6.2  | 7.0      | 6.9 | 6.9  |
| 15    | 6.6     | 6.2 | 6.4  | 6.9      | 6.8 | 6.9  |
| 16    | 6.5     | 6.3 | 6.4  | 7.0      | 6.9 | 6.9  |
| 17    | 6.3     | 6.3 | 6.3  | 7.0      | 6.9 | 6.9  |
| 18    | 6.4     | 6.3 | 6.3  | 7.0      | 6.9 | 6.9  |
| 19    | 6.4     | 6.3 | 6.4  | 7.0      | 6.9 | 6.9  |
| 20    | 6.6     | 6.3 | 6.5  | 6.9      | 6.8 | 6.9  |
| 21    | 6.7     | 6.5 | 6.6  | 7.1      | 6.9 | 7.0  |
| 22    | 6.6     | 6.5 | 6.5  | 7.0      | 7.0 | 7.0  |
| 23    | 6.7     | 6.6 | 6.6  | 7.1      | 7.0 | 7.0  |
| 24    | 6.8     | 6.6 | 6.7  | 7.1      | 7.0 | 7.0  |
| 25    | 6.7     | 6.7 | 6.7  | 7.1      | 7.0 | 7.0  |
| 26    | 6.7     | 6.6 | 6.6  | 7.1      | 7.0 | 7.1  |
| 27    | 6.8     | 6.6 | 6.7  | 7.0      | 6.9 | 7.0  |
| 28    | 6.8     | 6.7 | 6.8  | 6.9      | 6.8 | 6.8  |
| 29    | 6.8     | 6.7 | 6.8  | 6.8      | 6.7 | 6.8  |
| 30    | 6.8     | 6.7 | 6.7  | 6.9      | 6.8 | 6.9  |
| 31    | 6.7     | 6.6 | 6.7  | ---      | --- | ---  |
| MONTH | 6.8     | 6.1 | 6.4  | 7.1      | 6.5 | 6.8  |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX  | MIN  | MEAN     | MAX  | MIN  | MEAN   | MAX  | MIN  | MEAN      | MAX  | MIN  | MEAN |
|---------|------|------|----------|------|------|--------|------|------|-----------|------|------|------|
| OCTOBER |      |      | NOVEMBER |      |      | APRIL  |      |      | MAY       |      |      |      |
| 1       | 16.5 | 16.0 | 16.5     | 10.0 | 9.0  | 9.5    | ---  | ---  | ---       | 17.5 | 14.0 | 15.5 |
| 2       | 16.5 | 15.5 | 16.0     | 9.0  | 7.5  | 8.0    | ---  | ---  | ---       | 17.0 | 15.5 | 16.0 |
| 3       | 16.0 | 15.5 | 15.5     | 8.0  | 7.0  | 7.5    | ---  | ---  | ---       | 18.5 | 15.5 | 17.0 |
| 4       | 16.0 | 15.0 | 15.5     | 9.0  | 8.0  | 8.5    | ---  | ---  | ---       | 18.0 | 15.5 | 17.0 |
| 5       | 16.0 | 15.5 | 15.5     | 9.5  | 8.5  | 9.0    | ---  | ---  | ---       | 18.0 | 16.0 | 16.5 |
| 6       | 16.5 | 15.5 | 16.0     | 9.5  | 9.0  | 9.0    | ---  | ---  | ---       | 19.0 | 16.0 | 17.0 |
| 7       | 18.0 | 16.5 | 17.0     | 9.0  | 8.5  | 8.5    | ---  | ---  | ---       | 20.5 | 18.0 | 19.0 |
| 8       | 18.5 | 17.5 | 18.0     | 8.5  | 6.5  | 7.5    | ---  | ---  | ---       | 20.0 | 17.5 | 18.5 |
| 9       | 19.5 | 18.5 | 19.0     | 6.0  | 5.0  | 5.5    | ---  | ---  | ---       | 19.0 | 10.0 | 14.5 |
| 10      | 19.0 | 16.0 | 17.5     | 5.0  | 4.5  | 5.0    | ---  | ---  | ---       | 9.5  | 7.5  | 8.5  |
| 11      | 16.0 | 13.5 | 14.5     | 4.5  | 4.0  | 4.0    | ---  | ---  | ---       | 10.5 | 8.0  | 9.0  |
| 12      | 13.5 | 12.5 | 13.0     | 4.0  | 3.5  | 3.5    | ---  | ---  | ---       | 14.5 | 10.0 | 12.0 |
| 13      | 13.0 | 12.0 | 12.5     | 4.0  | 3.0  | 3.5    | ---  | ---  | ---       | 19.0 | 14.0 | 16.0 |
| 14      | 14.0 | 13.0 | 13.5     | 4.5  | 3.5  | 4.0    | ---  | ---  | ---       | 19.0 | 12.5 | 15.5 |
| 15      | 13.0 | 12.5 | 12.5     | 4.5  | 3.5  | 4.0    | ---  | ---  | ---       | 19.5 | 14.0 | 16.0 |
| 16      | 13.5 | 12.5 | 13.0     | 5.5  | 4.5  | 5.0    | ---  | ---  | ---       | ---  | ---  | ---  |
| 17      | 13.0 | 11.5 | 12.0     | 5.0  | 4.0  | 4.5    | ---  | ---  | ---       | ---  | ---  | ---  |
| 18      | 11.5 | 10.5 | 11.0     | 6.0  | 5.0  | 5.5    | ---  | ---  | ---       | ---  | ---  | ---  |
| 19      | 10.0 | 9.0  | 9.5      | 6.5  | 5.5  | 6.0    | ---  | ---  | ---       | ---  | ---  | ---  |
| 20      | 10.0 | 8.5  | 9.5      | 6.0  | 5.0  | 5.5    | ---  | ---  | ---       | ---  | ---  | ---  |
| 21      | 13.0 | 10.5 | 12.0     | 4.5  | 3.5  | 4.5    | ---  | ---  | ---       | ---  | ---  | ---  |
| 22      | 12.5 | 11.0 | 11.5     | 3.5  | 3.0  | 3.0    | 20.0 | 17.0 | 19.0      | ---  | ---  | ---  |
| 23      | 11.0 | 9.5  | 10.0     | 3.5  | 3.0  | 3.0    | 20.0 | 16.5 | 18.5      | ---  | ---  | ---  |
| 24      | 9.5  | 8.5  | 9.0      | 3.5  | 3.0  | 3.5    | 16.5 | 12.5 | 14.5      | ---  | ---  | ---  |
| 25      | 10.0 | 9.0  | 9.5      | 3.5  | 3.0  | 3.0    | 12.0 | 11.0 | 11.5      | ---  | ---  | ---  |
| 26      | 10.5 | 9.5  | 10.5     | 5.0  | 3.0  | 4.0    | 12.0 | 11.0 | 11.5      | ---  | ---  | ---  |
| 27      | 9.5  | 7.5  | 8.0      | 8.0  | 5.0  | 6.5    | 13.5 | 11.5 | 12.5      | ---  | ---  | ---  |
| 28      | 7.5  | 6.5  | 7.0      | 9.0  | 7.5  | 8.5    | 14.5 | 12.5 | 13.5      | 21.0 | 20.0 | 20.5 |
| 29      | 7.5  | 6.5  | 7.0      | 9.0  | 7.0  | 8.5    | 14.5 | 12.5 | 13.5      | 21.0 | 20.0 | 20.5 |
| 30      | 8.5  | 7.5  | 8.0      | 6.5  | 3.5  | 5.0    | 16.0 | 12.5 | 14.0      | 21.0 | 19.5 | 20.5 |
| 31      | 10.0 | 8.5  | 9.5      | ---  | ---  | ---    | ---  | ---  | ---       | 21.0 | 19.5 | 20.5 |
| MONTH   | 19.5 | 6.5  | 12.5     | 10.0 | 3.0  | 6.0    | ---  | ---  | ---       | ---  | ---  | ---  |
| DAY     | MAX  | MIN  | MEAN     | MAX  | MIN  | MEAN   | MAX  | MIN  | MEAN      | MAX  | MIN  | MEAN |
| JUNE    |      |      | JULY     |      |      | AUGUST |      |      | SEPTEMBER |      |      |      |
| 1       | 21.0 | 20.0 | 20.5     | 24.5 | 23.5 | 24.0   | 24.5 | 22.5 | 23.5      | 23.5 | 22.5 | 23.0 |
| 2       | 20.0 | 19.5 | 19.5     | 25.5 | 24.0 | 24.5   | 25.5 | 23.5 | 24.5      | 24.0 | 22.0 | 23.0 |
| 3       | 20.0 | 19.0 | 19.5     | 24.5 | 23.0 | 24.0   | 25.0 | 24.0 | 24.5      | 24.0 | 23.0 | 23.5 |
| 4       | 20.0 | 18.5 | 19.5     | 24.0 | 23.0 | 23.5   | 25.0 | 23.5 | 24.5      | 23.5 | 22.5 | 23.0 |
| 5       | 21.0 | 19.5 | 20.5     | 25.0 | 23.0 | 24.0   | 26.0 | 24.0 | 25.0      | 23.0 | 21.5 | 22.0 |
| 6       | 20.5 | 19.5 | 20.0     | 25.0 | 23.5 | 24.0   | 25.0 | 24.5 | 25.0      | 22.5 | 21.5 | 22.0 |
| 7       | 19.5 | 18.0 | 18.5     | 24.5 | 23.0 | 23.5   | 26.0 | 25.0 | 25.5      | 22.5 | 21.5 | 22.0 |
| 8       | 18.0 | 17.0 | 17.5     | 24.0 | 22.0 | 23.0   | 27.0 | 25.0 | 26.0      | 21.5 | 20.5 | 21.0 |
| 9       | 17.0 | 16.5 | 16.5     | 23.5 | 21.5 | 22.5   | 27.0 | 26.0 | 26.5      | 20.5 | 19.5 | 20.0 |
| 10      | 16.5 | 15.5 | 16.0     | 25.0 | 23.0 | 24.0   | 26.5 | 24.5 | 25.0      | 20.0 | 19.0 | 19.0 |
| 11      | 15.5 | 15.0 | 15.0     | 24.5 | 22.5 | 23.5   | 26.0 | 24.0 | 25.0      | 19.0 | 18.0 | 18.5 |
| 12      | 17.0 | 15.0 | 16.0     | 23.5 | 23.0 | 23.5   | 25.5 | 25.0 | 25.0      | 18.5 | 17.0 | 17.5 |
| 13      | 18.5 | 17.0 | 17.5     | 24.0 | 23.0 | 23.5   | 25.0 | 24.0 | 24.5      | 18.0 | 17.0 | 17.5 |
| 14      | 19.5 | 18.5 | 19.0     | 25.0 | 23.5 | 24.0   | 24.5 | 24.0 | 24.0      | 18.5 | 17.5 | 18.0 |
| 15      | 21.5 | 19.5 | 20.5     | 26.0 | 24.5 | 25.5   | 24.5 | 23.0 | 24.0      | 19.0 | 17.5 | 18.5 |
| 16      | 22.0 | 20.5 | 21.0     | 26.5 | 25.0 | 25.5   | 23.5 | 22.5 | 23.0      | 18.0 | 17.5 | 17.5 |
| 17      | 21.0 | 20.5 | 20.5     | 27.5 | 26.0 | 26.5   | 22.5 | 22.0 | 22.5      | 17.5 | 17.0 | 17.0 |
| 18      | 22.0 | 20.0 | 21.0     | 28.0 | 26.5 | 27.5   | 22.5 | 21.5 | 22.0      | 19.0 | 17.5 | 18.0 |
| 19      | 23.0 | 21.5 | 22.0     | 28.5 | 26.5 | 27.5   | 22.0 | 20.5 | 21.5      | 20.0 | 19.0 | 19.5 |
| 20      | 24.0 | 22.5 | 23.0     | 28.5 | 27.0 | 28.0   | 21.5 | 20.0 | 21.0      | 20.5 | 17.5 | 19.5 |
| 21      | 23.5 | 22.5 | 23.0     | 29.0 | 27.5 | 28.5   | 21.0 | 19.5 | 20.5      | 17.5 | 15.0 | 16.0 |
| 22      | 23.0 | 22.0 | 22.5     | 28.5 | 26.5 | 28.0   | 20.5 | 19.5 | 20.0      | 15.0 | 14.5 | 15.0 |
| 23      | 22.0 | 21.0 | 21.5     | 26.0 | 24.5 | 25.0   | 21.0 | 19.5 | 20.0      | 15.5 | 15.0 | 15.5 |
| 24      | 22.0 | 20.5 | 21.5     | 24.5 | 23.0 | 24.0   | 21.0 | 20.0 | 20.5      | 15.5 | 14.5 | 15.0 |
| 25      | 22.0 | 21.0 | 21.5     | 24.0 | 22.5 | 23.0   | 21.0 | 20.0 | 20.5      | 14.5 | 14.0 | 14.5 |
| 26      | 22.0 | 21.0 | 21.5     | 23.0 | 22.0 | 22.5   | 21.0 | 20.0 | 20.5      | 15.0 | 14.0 | 14.5 |
| 27      | 22.5 | 20.5 | 21.5     | 23.0 | 22.0 | 22.5   | 21.0 | 19.5 | 20.5      | ---  | ---  | ---  |
| 28      | 23.5 | 22.5 | 23.0     | 22.5 | 21.5 | 22.0   | 23.0 | 20.5 | 21.5      | ---  | ---  | ---  |
| 29      | 23.0 | 22.5 | 23.0     | 22.5 | 21.5 | 22.0   | 24.5 | 22.5 | 23.5      | ---  | ---  | ---  |
| 30      | 24.0 | 22.0 | 23.0     | 22.0 | 21.5 | 22.0   | 25.0 | 23.5 | 24.0      | ---  | ---  | ---  |
| 31      | ---  | ---  | ---      | 23.5 | 21.5 | 22.5   | 24.0 | 23.0 | 23.5      | ---  | ---  | ---  |
| MONTH   | 24.0 | 15.0 | 20.0     | 29.0 | 21.5 | 24.5   | 27.0 | 19.5 | 23.0      | ---  | ---  | ---  |
| YEAR    | 29.0 | ---  | 17.0     |      |      |        |      |      |           |      |      |      |

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX | MIN     | MEAN | MAX | MIN      | MEAN | MAX | MIN | MEAN  | MAX | MIN | MEAN |
|-------|-----|---------|------|-----|----------|------|-----|-----|-------|-----|-----|------|
|       |     | OCTOBER |      |     | NOVEMBER |      |     |     | APRIL |     |     | MAY  |
| 1     | 3.0 | 1.6     | 2.3  | 5.0 | 4.3      | 4.6  | --- | --- | ---   | 7.2 | 6.4 | 6.9  |
| 2     | 2.2 | 1.8     | 2.0  | 5.1 | 4.5      | 4.8  | --- | --- | ---   | 6.7 | 6.2 | 6.4  |
| 3     | 2.9 | 2.1     | 2.3  | 5.2 | 5.0      | 5.1  | --- | --- | ---   | 6.7 | 5.8 | 6.3  |
| 4     | 3.6 | 2.3     | 2.8  | 5.2 | 4.9      | 5.1  | --- | --- | ---   | 6.4 | 5.4 | 5.9  |
| 5     | 3.1 | 2.4     | 2.7  | 5.0 | 4.7      | 4.8  | --- | --- | ---   | 5.4 | 4.9 | 5.2  |
| 6     | 3.2 | 2.5     | 2.8  | 4.8 | 4.6      | 4.7  | --- | --- | ---   | 5.2 | 4.2 | 4.8  |
| 7     | 3.8 | 2.7     | 3.1  | 4.8 | 4.6      | 4.7  | --- | --- | ---   | 4.2 | 3.5 | 4.0  |
| 8     | 4.0 | 2.8     | 3.2  | 5.1 | 4.8      | 4.9  | --- | --- | ---   | 3.9 | 3.3 | 3.6  |
| 9     | 3.6 | 2.9     | 3.2  | 5.6 | 5.1      | 5.3  | --- | --- | ---   | 4.8 | 3.2 | 3.6  |
| 10    | 3.6 | 3.1     | 3.3  | 5.6 | 5.4      | 5.5  | --- | --- | ---   | 9.1 | 4.7 | 7.8  |
| 11    | 4.3 | 3.5     | 3.9  | 6.0 | 5.6      | 5.8  | --- | --- | ---   | 9.1 | 8.7 | 9.0  |
| 12    | 5.2 | 4.2     | 4.7  | 6.1 | 5.9      | 6.0  | --- | --- | ---   | 8.7 | 7.0 | 8.1  |
| 13    | 4.6 | 4.2     | 4.4  | 6.3 | 6.1      | 6.2  | --- | --- | ---   | --- | --- | ---  |
| 14    | 4.2 | 3.8     | 4.0  | 6.3 | 6.1      | 6.2  | --- | --- | ---   | --- | --- | ---  |
| 15    | 5.0 | 4.1     | 4.6  | 6.3 | 6.1      | 6.2  | --- | --- | ---   | --- | --- | ---  |
| 16    | 4.8 | 4.4     | 4.6  | 6.3 | 6.1      | 6.2  | --- | --- | ---   | --- | --- | ---  |
| 17    | 4.8 | 4.5     | 4.6  | 6.4 | 6.2      | 6.3  | --- | --- | ---   | --- | --- | ---  |
| 18    | 4.9 | 4.6     | 4.8  | 6.4 | 6.2      | 6.3  | --- | --- | ---   | --- | --- | ---  |
| 19    | 5.0 | 4.8     | 4.9  | 6.4 | 6.2      | 6.3  | --- | --- | ---   | --- | --- | ---  |
| 20    | 5.8 | 5.0     | 5.3  | 6.6 | 6.4      | 6.5  | --- | --- | ---   | --- | --- | ---  |
| 21    | 6.6 | 4.9     | 5.8  | 7.8 | 6.7      | 7.3  | --- | --- | ---   | --- | --- | ---  |
| 22    | 5.9 | 4.5     | 5.2  | 7.7 | 7.5      | 7.6  | 8.3 | 6.9 | 7.7   | --- | --- | ---  |
| 23    | 5.6 | 5.0     | 5.3  | 7.7 | 7.4      | 7.6  | 7.4 | 6.5 | 6.9   | --- | --- | ---  |
| 24    | 5.4 | 5.0     | 5.2  | 7.8 | 7.5      | 7.7  | 8.6 | 7.4 | 8.0   | --- | --- | ---  |
| 25    | 5.5 | 4.6     | 5.1  | 8.0 | 7.8      | 7.9  | 8.9 | 8.7 | 8.8   | --- | --- | ---  |
| 26    | 4.7 | 4.5     | 4.7  | 8.1 | 7.8      | 8.0  | 8.8 | 8.7 | 8.7   | --- | --- | ---  |
| 27    | 5.1 | 4.7     | 5.0  | 7.9 | 7.6      | 7.7  | 8.7 | 8.2 | 8.4   | 6.0 | 4.8 | 5.5  |
| 28    | 5.5 | 5.1     | 5.3  | 7.7 | 7.6      | 7.7  | 8.2 | 7.4 | 8.0   | 7.1 | 4.9 | 5.9  |
| 29    | 5.6 | 4.9     | 5.3  | 7.9 | 7.8      | 7.8  | 8.1 | 7.6 | 7.9   | 7.0 | 5.0 | 5.9  |
| 30    | 5.2 | 4.7     | 5.0  | 8.6 | 8.1      | 8.3  | 7.7 | 7.0 | 7.5   | 7.5 | 5.3 | 6.3  |
| 31    | 4.8 | 4.2     | 4.5  | --- | ---      | ---  | --- | --- | ---   | 7.4 | 5.3 | 6.2  |
| MONTH | 6.6 | 1.6     | 4.2  | 8.6 | 4.3      | 6.3  | --- | --- | ---   | --- | --- | ---  |

| DAY   | MAX | MIN  | MEAN | MAX | MIN  | MEAN | MAX | MIN | MEAN   | MAX | MIN | MEAN      |
|-------|-----|------|------|-----|------|------|-----|-----|--------|-----|-----|-----------|
|       |     | JUNE |      |     | JULY |      |     |     | AUGUST |     |     | SEPTEMBER |
| 1     | 6.9 | 4.7  | 5.7  | 5.9 | 3.8  | 4.8  | 7.6 | 2.8 | 5.6    | 6.5 | 4.2 | 5.3       |
| 2     | 6.5 | 4.6  | 5.5  | 7.0 | 3.8  | 5.3  | 7.7 | 4.3 | 5.8    | 7.6 | 4.1 | 5.7       |
| 3     | 7.5 | 5.7  | 6.5  | 7.6 | 4.2  | 5.9  | 7.1 | 4.0 | 5.5    | 7.0 | 3.9 | 5.4       |
| 4     | 7.1 | 5.8  | 6.4  | 7.5 | 5.1  | 6.3  | 7.8 | 3.5 | 5.6    | 7.7 | 4.1 | 5.8       |
| 5     | 6.6 | 5.7  | 6.2  | 8.1 | 5.1  | 6.5  | 8.0 | 5.0 | 6.4    | 7.3 | 4.1 | 5.8       |
| 6     | 6.0 | 5.3  | 5.6  | 7.8 | 5.2  | 6.4  | 7.5 | 4.3 | 5.7    | 7.6 | 4.1 | 5.8       |
| 7     | 5.7 | 5.0  | 5.3  | 7.9 | 5.0  | 6.3  | 6.0 | 3.3 | 4.6    | 7.5 | 4.6 | 6.0       |
| 8     | 5.5 | 4.6  | 5.1  | 6.1 | 4.7  | 5.3  | 7.9 | 3.1 | 5.0    | 8.1 | 5.2 | 6.5       |
| 9     | 5.0 | 4.7  | 4.8  | 7.2 | 4.2  | 5.6  | 7.4 | 4.2 | 5.8    | 8.3 | 5.7 | 6.9       |
| 10    | 5.3 | 4.6  | 5.0  | 6.9 | 4.0  | 5.4  | 7.1 | 3.8 | 5.4    | 7.1 | 5.5 | 5.9       |
| 11    | 5.2 | 4.3  | 4.7  | 7.3 | 4.7  | 5.9  | 7.9 | 4.8 | 6.2    | 7.9 | 5.1 | 6.4       |
| 12    | 4.5 | 4.2  | 4.3  | 5.7 | 4.6  | 5.2  | 6.2 | 4.4 | 5.5    | 7.7 | 5.1 | 6.4       |
| 13    | 4.7 | 4.2  | 4.3  | 5.9 | 4.0  | 4.9  | 6.9 | 4.0 | 5.4    | 7.0 | 5.4 | 6.1       |
| 14    | 5.6 | 4.1  | 4.7  | 5.8 | 3.6  | 4.8  | 6.1 | 4.0 | 5.0    | 7.4 | 5.3 | 6.2       |
| 15    | 6.5 | 4.2  | 4.7  | 6.0 | 2.9  | 4.4  | 8.6 | 4.5 | 6.4    | 7.7 | 5.6 | 6.6       |
| 16    | 5.2 | 4.2  | 4.8  | 6.3 | 3.0  | 4.6  | 8.0 | 5.7 | 6.9    | 6.5 | 4.9 | 5.7       |
| 17    | 6.1 | 4.1  | 5.1  | 5.7 | 3.5  | 4.6  | 7.2 | 6.0 | 6.6    | 6.7 | 4.8 | 5.5       |
| 18    | 6.4 | 5.0  | 5.5  | 5.9 | 2.9  | 4.3  | 8.1 | 5.8 | 6.9    | 6.9 | 4.9 | 5.8       |
| 19    | 5.2 | 3.9  | 4.7  | 5.8 | 2.8  | 4.3  | 7.3 | 3.9 | 5.7    | 6.3 | 4.3 | 5.3       |
| 20    | 4.5 | 3.7  | 3.9  | 5.9 | 3.0  | 4.5  | 8.5 | 4.1 | 6.3    | 5.1 | 3.6 | 4.5       |
| 21    | 5.2 | 3.6  | 4.2  | 6.1 | 3.2  | 4.4  | 9.1 | 6.1 | 7.6    | 5.7 | 5.0 | 5.4       |
| 22    | 4.2 | 3.7  | 3.9  | 5.8 | 2.7  | 4.1  | 7.7 | 5.3 | 6.4    | 7.3 | 5.7 | 6.5       |
| 23    | 5.0 | 3.5  | 4.1  | 5.7 | 2.9  | 4.3  | 8.8 | 5.7 | 7.1    | 6.3 | 5.6 | 5.9       |
| 24    | 6.7 | 3.9  | 5.7  | 6.4 | 3.6  | 5.0  | 7.5 | 5.6 | 6.5    | 6.5 | 5.3 | 5.9       |
| 25    | 5.8 | 4.5  | 5.0  | 5.3 | 3.7  | 4.1  | 8.6 | 5.5 | 6.7    | 6.3 | 5.9 | 6.1       |
| 26    | 6.0 | 3.7  | 4.7  | 4.3 | 3.0  | 3.7  | 7.6 | 4.0 | 5.7    | 6.9 | 6.2 | 6.5       |
| 27    | 5.6 | 4.3  | 5.0  | 4.7 | 2.9  | 3.8  | 8.7 | 4.4 | 6.5    | --- | --- | ---       |
| 28    | 5.7 | 4.1  | 5.0  | 4.6 | 2.9  | 3.8  | 8.9 | 5.7 | 7.2    | --- | --- | ---       |
| 29    | 5.5 | 4.4  | 5.0  | 4.5 | 2.9  | 3.7  | 8.4 | 4.9 | 6.7    | --- | --- | ---       |
| 30    | 5.6 | 3.4  | 4.6  | 3.8 | 2.9  | 3.3  | 7.6 | 4.6 | 6.1    | --- | --- | ---       |
| 31    | --- | ---  | ---  | 5.0 | 2.9  | 3.8  | 7.8 | 4.3 | 5.8    | --- | --- | ---       |
| MONTH | 7.5 | 3.4  | 5.0  | 8.1 | 2.7  | 4.8  | 9.1 | 2.8 | 6.1    | --- | --- | ---       |
| YEAR  | 9.1 | 1.6  | 5.5  |     |      |      |     |     |        |     |     |           |



## BLACKSTONE RIVER BASIN

95

01111300 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.--13 years, 28.5 ft<sup>3</sup>/s (0.807 m<sup>3</sup>/s), 24.19 in/yr (614 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft<sup>3</sup>/s (28.9 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 7.42 ft (2.262 m), from rating curve extended above 530 ft<sup>3</sup>/s (15.0 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 (7.65 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 0615 | 303 8.58                                              | 5.59 1.704              | Apr. 5 | 1830 | 284 8.04                                              | 5.48 1.670              |
| Mar. 23 | 0600 | *305 8.64                                             | *5.60 1.707             |        |      |                                                       |                         |

Minimum discharge, 0.66 ft<sup>3</sup>/s (0.019 m<sup>3</sup>/s) Aug. 11, 12, Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV      | DEC       | JAN     | FEB     | MAR       | APR      | MAY  | JUN   | JUL   | AUG   | SEP    |
|-------------|-------|----------|-----------|---------|---------|-----------|----------|------|-------|-------|-------|--------|
| 1           | 3.0   | 14       | 6.6       | 10      | 11      | 78        | 63       | 36   | 11    | 6.2   | 1.3   | 1.2    |
| 2           | 2.8   | 12       | 6.0       | 10      | 10      | 56        | 55       | 34   | 12    | 4.6   | 1.3   | 1.2    |
| 3           | 2.8   | 11       | 5.6       | 10      | 11      | 52        | 67       | 32   | 13    | 3.8   | 1.2   | 1.2    |
| 4           | 2.8   | 10       | 5.2       | 10      | 11      | 58        | 58       | 29   | 11    | 3.3   | 1.0   | 1.1    |
| 5           | 2.8   | 9.5      | 4.8       | 10      | 11      | 90        | 194      | 30   | 9.5   | 3.0   | 1.0   | 1.0    |
| 6           | 3.0   | 9.1      | 5.0       | 11      | 11      | 160       | 170      | 31   | 8.6   | 2.8   | 1.3   | 1.0    |
| 7           | 3.6   | 8.5      | 23        | 12      | 10      | 110       | 96       | 31   | 13    | 2.6   | 1.3   | .90    |
| 8           | 4.8   | 8.1      | 60        | 12      | 9.8     | 80        | 82       | 28   | 15    | 2.4   | 1.2   | .90    |
| 9           | 12    | 7.4      | 32        | 11      | 9.1     | 77        | 72       | 56   | 12    | 3.0   | .98   | .85    |
| 10          | 18    | 7.4      | 18        | 20      | 9.2     | 80        | 62       | 150  | 23    | 2.7   | .88   | .90    |
| 11          | 11    | 8.8      | 15        | 38      | 10      | 82        | 56       | 142  | 28    | 2.4   | .77   | 1.3    |
| 12          | 7.6   | 8.8      | 13        | 35      | 12      | 75        | 51       | 123  | 27    | 2.1   | .92   | 1.2    |
| 13          | 6.1   | 8.3      | 12        | 32      | 14      | 102       | 47       | 91   | 19    | 4.2   | 1.3   | 1.2    |
| 14          | 5.6   | 8.2      | 12        | 29      | 17      | 244       | 44       | 65   | 14    | 6.6   | 1.3   | 1.2    |
| 15          | 5.2   | 7.8      | 11        | 27      | 15      | 137       | 40       | 52   | 12    | 4.8   | 1.4   | 1.1    |
| 16          | 4.8   | 7.6      | 10        | 25      | 13      | 96        | 37       | 45   | 9.7   | 3.4   | 1.3   | 1.1    |
| 17          | 4.4   | 7.3      | 9.6       | 23      | 12      | 77        | 36       | 41   | 7.5   | 2.7   | 2.7   | 2.7    |
| 18          | 4.0   | 7.1      | 9.0       | 22      | 11      | 66        | 34       | 37   | 7.1   | 2.2   | 3.4   | 2.9    |
| 19          | 4.0   | 7.1      | 8.8       | 20      | 9.6     | 64        | 31       | 39   | 9.0   | 1.8   | 2.2   | 6.3    |
| 20          | 4.4   | 7.1      | 9.0       | 19      | 9.5     | 59        | 29       | 38   | 8.0   | 1.5   | 1.7   | 11     |
| 21          | 62    | 6.9      | 18        | 18      | 11      | 60        | 28       | 33   | 6.5   | 1.3   | 1.4   | 16     |
| 22          | 31    | 6.3      | 14        | 17      | 9.0     | 89        | 28       | 30   | 5.5   | 1.2   | 1.4   | 8.9    |
| 23          | 17    | 6.1      | 12        | 15      | 12      | 260       | 33       | 26   | 5.0   | .99   | 2.2   | 5.8    |
| 24          | 12    | 6.1      | 12        | 13      | 18      | 137       | 93       | 24   | 4.4   | .87   | 1.8   | 7.0    |
| 25          | 12    | 5.9      | 11        | 12      | 40      | 96        | 153      | 21   | 4.3   | 1.9   | 4.5   | 19     |
| 26          | 15    | 5.6      | 11        | 11      | 110     | 84        | 85       | 18   | 4.2   | 4.0   | 2.6   | 29     |
| 27          | 15    | 5.6      | 11        | 10      | 90      | 88        | 62       | 16   | 6.0   | 2.7   | 2.0   | 63     |
| 28          | 13    | 5.6      | 11        | 10      | 98      | 92        | 52       | 15   | 5.0   | 1.9   | 1.6   | 26     |
| 29          | 11    | 6.3      | 11        | 15      | ---     | 119       | 44       | 14   | 5.8   | 1.6   | 1.4   | 15     |
| 30          | 9.8   | 7.6      | 10        | 13      | ---     | 93        | 39       | 13   | 8.8   | 1.3   | 1.2   | 11     |
| 31          | 11    | ---      | 10        | 12      | ---     | 75        | ---      | 11   | ---   | 1.3   | 1.2   | ---    |
| TOTAL       | 321.5 | 237.1    | 406.6     | 532     | 614.2   | 3036      | 1941     | 1351 | 324.9 | 85.16 | 49.75 | 240.95 |
| MEAN        | 10.4  | 7.90     | 13.1      | 17.2    | 21.9    | 97.9      | 64.7     | 43.6 | 10.8  | 2.75  | 1.60  | 8.03   |
| MAX         | 62    | 14       | 60        | 38      | 110     | 260       | 194      | 150  | 28    | 6.6   | 4.5   | 63     |
| MIN         | 2.8   | 5.6      | 4.8       | 10      | 9.0     | 52        | 28       | 11   | 4.2   | .87   | .77   | .85    |
| CFSM        | .65   | .49      | .82       | 1.08    | 1.37    | 6.12      | 4.04     | 2.73 | .68   | .17   | .10   | .50    |
| IN.         | .75   | .55      | .95       | 1.24    | 1.43    | 7.06      | 4.51     | 3.14 | .76   | .20   | .12   | .56    |
| CAL YR 1976 | TOTAL | 10324.75 | MEAN 28.2 | MAX 500 | MIN .67 | CFSM 1.76 | IN 24.01 |      |       |       |       |        |
| WTR YR 1977 | TOTAL | 9140.16  | MEAN 25.0 | MAX 260 | MIN .77 | CFSM 1.56 | IN 21.25 |      |       |       |       |        |

## 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>).

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 current year.  
Water-quality records: Water years 1954, 1968.

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

AVERAGE DISCHARGE.--37 years, 167 ft<sup>3</sup>/s (4.729 m<sup>3</sup>/s), 24.87 in/yr (632 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,980 ft<sup>3</sup>/s (141 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 11.90 ft (3.627 m), from rating curve extended above 2,100 ft<sup>3</sup>/s (59.5 m<sup>3</sup>/s) on basis of computation of peak flow over dam 400 ft (100 m) upstream; minimum daily, 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 (164 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 (24.9 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 1230 | 1130 32.0                                             | 5.82 1.774              | Apr. 6 | 0115 | 1130 32.0                                             | 5.82 1.774              |
| Mar. 23 | 1400 | *1440 40.8                                            | *6.53 1.990             |        |      |                                                       |                         |

Minimum daily discharge, 17 ft<sup>3</sup>/s (0.48 m<sup>3</sup>/s) Sept. 9, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT   | NOV  | DEC      | JAN      | FEB    | MAR       | APR      | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------------|-------|------|----------|----------|--------|-----------|----------|------|------|------|------|------|
| 1                 | 58    | 109  | 50       | 69       | 76     | 468       | 365      | 222  | 65   | 55   | 27   | 23   |
| 2                 | 56    | 109  | 46       | 69       | 71     | 377       | 326      | 210  | 70   | 44   | 25   | 23   |
| 3                 | 59    | 90   | 45       | 68       | 77     | 312       | 360      | 180  | 72   | 37   | 24   | 23   |
| 4                 | 55    | 88   | 40       | 71       | 79     | 290       | 346      | 161  | 65   | 33   | 24   | 21   |
| 5                 | 53    | 94   | 36       | 72       | 79     | 511       | 722      | 160  | 58   | 30   | 25   | 21   |
| 6                 | 52    | 80   | 36       | 68       | 78     | 739       | 988      | 169  | 54   | 27   | 27   | 20   |
| 7                 | 51    | 70   | 78       | 80       | 73     | 605       | 658      | 162  | 81   | 26   | 27   | 18   |
| 8                 | 49    | 80   | 274      | 84       | 69     | 489       | 526      | 149  | 100  | 30   | 26   | 18   |
| 9                 | 102   | 80   | 180      | 78       | 64     | 444       | 425      | 221  | 87   | 33   | 23   | 17   |
| 10                | 201   | 72   | 122      | 117      | 72     | 464       | 378      | 638  | 120  | 30   | 22   | 22   |
| 11                | 146   | 72   | 103      | 239      | 70     | 479       | 337      | 797  | 164  | 27   | 21   | 23   |
| 12                | 99    | 70   | 93       | 230      | 79     | 444       | 306      | 718  | 162  | 27   | 25   | 19   |
| 13                | 85    | 69   | 88       | 210      | 110    | 450       | 262      | 566  | 134  | 32   | 31   | 21   |
| 14                | 78    | 63   | 71       | 190      | 122    | 1010      | 223      | 414  | 108  | 36   | 30   | 24   |
| 15                | 74    | 56   | 68       | 180      | 125    | 872       | 197      | 330  | 90   | 36   | 27   | 17   |
| 16                | 61    | 52   | 68       | 170      | 116    | 654       | 191      | 311  | 72   | 31   | 25   | 21   |
| 17                | 48    | 50   | 74       | 160      | 107    | 508       | 187      | 237  | 60   | 29   | 36   | 47   |
| 18                | 39    | 49   | 68       | 150      | 99     | 410       | 182      | 200  | 56   | 27   | 39   | 49   |
| 19                | 36    | 49   | 63       | 140      | 95     | 394       | 176      | 222  | 83   | 25   | 33   | 70   |
| 20                | 39    | 48   | 63       | 136      | 86     | 375       | 165      | 248  | 84   | 23   | 28   | 95   |
| 21                | 219   | 46   | 101      | 136      | 79     | 362       | 161      | 220  | 67   | 22   | 26   | 138  |
| 22                | 218   | 45   | 97       | 115      | 68     | 454       | 155      | 195  | 57   | 26   | 31   | 104  |
| 23                | 134   | 44   | 90       | 105      | 73     | 1250      | 172      | 174  | 49   | 21   | 38   | 80   |
| 24                | 103   | 43   | 84       | 102      | 71     | 1010      | 304      | 158  | 45   | 23   | 38   | 78   |
| 25                | 99    | 43   | 76       | 90       | 318    | 724       | 555      | 147  | 41   | 34   | 41   | 112  |
| 26                | 109   | 43   | 80       | 75       | 511    | 561       | 468      | 132  | 38   | 50   | 37   | 154  |
| 27                | 116   | 45   | 78       | 73       | 456    | 500       | 348      | 109  | 40   | 38   | 32   | 313  |
| 28                | 97    | 44   | 72       | 72       | 481    | 468       | 296      | 91   | 40   | 30   | 28   | 247  |
| 29                | 84    | 50   | 79       | 96       | ---    | 518       | 233      | 76   | 49   | 25   | 26   | 170  |
| 30                | 78    | 55   | 74       | 91       | ---    | 506       | 217      | 71   | 57   | 26   | 24   | 109  |
| 31                | 82    | ---  | 70       | 82       | ---    | 427       | ---      | 67   | ---  | 28   | 24   | ---  |
| TOTAL             | 2780  | 1904 | 2567     | 3618     | 3804   | 17075     | 10229    | 7755 | 2268 | 961  | 890  | 2097 |
| MEAN              | 89.7  | 63.6 | 82.8     | 117      | 136    | 551       | 341      | 250  | 75.6 | 31.0 | 28.7 | 69.9 |
| MAX               | 219   | 109  | 274      | 239      | 511    | 1250      | 988      | 797  | 164  | 55   | 41   | 313  |
| MIN               | 36    | 43   | 36       | 68       | 64     | 290       | 155      | 67   | 38   | 21   | 21   | 17   |
| CFSM              | .98   | .70  | .91      | 1.28     | 1.49   | 6.04      | 3.74     | 2.74 | .83  | .34  | .32  | .77  |
| IN.               | 1.13  | .78  | 1.05     | 1.48     | 1.55   | 6.96      | 4.17     | 3.16 | .93  | .39  | .36  | .86  |
| CAL YR 1976 TOTAL | 58640 |      | MEAN 160 | MAX 2330 | MIN 15 | CFSM 1.75 | IN 23.92 |      |      |      |      |      |
| WTR YR 1977 TOTAL | 55952 |      | MEAN 153 | MAX 1250 | MIN 17 | CFSM 1.68 | IN 22.82 |      |      |      |      |      |

## 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) above mean sea level.

REMARKS.--Records excellent except those for winter period, which are good. 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 01110500 for figures of diversion and 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.--48 years, 749 ft<sup>3</sup>/s (21.21 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 (425 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.--Peak discharges above base of 3,400 ft<sup>3</sup>/s (96.3 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 1545 | 4400 125                                              | 7.10 2.164              | Apr. 6 | 0800 | 4010 114                                              | 6.73 2.051              |
| Mar. 23 | 1545 | *4590 130                                             | *7.27 2.216             | May 11 | 1615 | 3400 96.3                                             | 6.13 1.868              |

Minimum daily discharge, 97 ft<sup>3</sup>/s (2.75 m<sup>3</sup>/s) July 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR   | APR   | MAY   | JUN   | JUL  | AUG  | SEP  |
|-------------|-------|--------|----------|----------|--------|-------|-------|-------|-------|------|------|------|
| 1           | 208   | 402    | 222      | 300      | 320    | 1640  | 1750  | 1070  | 339   | 330  | 156  | 126  |
| 2           | 222   | 391    | 211      | 290      | 310    | 1370  | 1540  | 978   | 370   | 409  | 157  | 126  |
| 3           | 200   | 335    | 213      | 280      | 330    | 1180  | 1570  | 896   | 406   | 246  | 176  | 134  |
| 4           | 216   | 322    | 192      | 283      | 330    | 1110  | 1500  | 838   | 369   | 226  | 288  | 128  |
| 5           | 179   | 312    | 187      | 275      | 320    | 1770  | 2360  | 789   | 329   | 188  | 172  | 128  |
| 6           | 197   | 296    | 187      | 275      | 310    | 2340  | 3400  | 822   | 310   | 214  | 175  | 117  |
| 7           | 180   | 271    | 342      | 302      | 310    | 2000  | 2560  | 796   | 380   | 180  | 181  | 115  |
| 8           | 176   | 271    | 1020     | 352      | 300    | 1710  | 2090  | 736   | 418   | 197  | 166  | 117  |
| 9           | 362   | 286    | 728      | 330      | 300    | 1570  | 1810  | 757   | 394   | 217  | 191  | 113  |
| 10          | 585   | 274    | 521      | 507      | 300    | 1660  | 1610  | 1870  | 465   | 200  | 167  | 140  |
| 11          | 466   | 283    | 438      | 764      | 310    | 1760  | 1360  | 2970  | 618   | 169  | 157  | 140  |
| 12          | 359   | 271    | 387      | 769      | 340    | 1730  | 1300  | 2770  | 621   | 184  | 184  | 118  |
| 13          | 302   | 265    | 362      | 708      | 380    | 1780  | 1180  | 2320  | 522   | 231  | 196  | 115  |
| 14          | 274   | 250    | 312      | 644      | 410    | 3490  | 1060  | 1870  | 443   | 257  | 184  | 126  |
| 15          | 262   | 233    | 305      | 611      | 400    | 3590  | 915   | 1520  | 388   | 256  | 164  | 134  |
| 16          | 213   | 233    | 293      | 578      | 370    | 2880  | 889   | 1320  | 340   | 164  | 153  | 136  |
| 17          | 205   | 233    | 309      | 530      | 350    | 2390  | 839   | 1150  | 301   | 97   | 186  | 188  |
| 18          | 185   | 230    | 309      | 500      | 335    | 1950  | 781   | 946   | 294   | 151  | 176  | 222  |
| 19          | 180   | 227    | 280      | 480      | 320    | 1810  | 687   | 932   | 399   | 178  | 164  | 280  |
| 20          | 224   | 222    | 277      | 460      | 310    | 1690  | 720   | 990   | 350   | 158  | 138  | 435  |
| 21          | 893   | 211    | 395      | 440      | 305    | 1610  | 704   | 906   | 325   | 153  | 145  | 629  |
| 22          | 998   | 205    | 391      | 410      | 300    | 1890  | 675   | 824   | 305   | 147  | 151  | 466  |
| 23          | 625   | 205    | 335      | 380      | 302    | 4010  | 777   | 713   | 270   | 206  | 147  | 356  |
| 24          | 478   | 213    | 309      | 360      | 308    | 3690  | 1620  | 668   | 250   | 206  | 159  | 335  |
| 25          | 458   | 213    | 274      | 340      | 1220   | 2840  | 2570  | 584   | 236   | 159  | 202  | 532  |
| 26          | 495   | 203    | 280      | 330      | 1790   | 2320  | 2660  | 530   | 251   | 289  | 201  | 650  |
| 27          | 516   | 200    | 293      | 330      | 1540   | 2040  | 2070  | 513   | 357   | 352  | 156  | 1300 |
| 28          | 430   | 197    | 318      | 350      | 1640   | 1970  | 1690  | 455   | 300   | 204  | 140  | 1020 |
| 29          | 384   | 216    | 335      | 370      | ---    | 2200  | 1420  | 425   | 313   | 102  | 130  | 736  |
| 30          | 355   | 244    | 320      | 360      | ---    | 2340  | 1190  | 396   | 402   | 147  | 128  | 549  |
| 31          | 359   | ---    | 310      | 340      | ---    | 2040  | ---   | 373   | ---   | 164  | 130  | ---  |
| TOTAL       | 11186 | 7714   | 10655    | 13248    | 14060  | 66370 | 45297 | 32727 | 11065 | 6381 | 5220 | 9711 |
| MEAN        | 361   | 257    | 344      | 427      | 502    | 2141  | 1510  | 1056  | 369   | 206  | 168  | 324  |
| MAX         | 998   | 402    | 1020     | 769      | 1790   | 4010  | 3400  | 2970  | 621   | 409  | 288  | 1300 |
| MIN         | 176   | 197    | 187      | 275      | 300    | 1110  | 675   | 373   | 236   | 97   | 128  | 113  |
| CAL YR 1976 | TOTAL | 259050 | MEAN 708 | MAX 7700 | MIN 91 |       |       |       |       |      |      |      |
| WTR YR 1977 | TOTAL | 233634 | MEAN 640 | MAX 4010 | MIN 97 |       |       |       |       |      |      |      |

## 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. Datum of gage is 8.19 ft (2.496 m) above mean sea level. 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 except those for periods of no gage-height record, which are fair. Occasional regulation at low flow. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--14 years, 39.7 ft<sup>3</sup>/s (1.124 m<sup>3</sup>/s), 23.34 in/yr (593 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 (13.0 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 (17.0 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Oct. 20 | 2400 | *815 23.1                                             | *4.53 1.381             | Feb. 25 | 0200 | 657 18.6                                              | 4.21 1.283              |
| Jan. 10 | 1445 | 608 17.2                                              | 4.10 1.250              |         |      |                                                       |                         |

Minimum discharge not determined; minimum daily, 7.0 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 1     | 13   | 28   | 20   | 18   | 24   | 85   | 55   | 32   | 17   | 14    | 13    | 8.1   |
| 2     | 14   | 24   | 20   | 17   | 22   | 68   | 53   | 32   | 23   | 13    | 8.8   | 8.1   |
| 3     | 14   | 22   | 19   | 17   | 22   | 61   | 76   | 35   | 18   | 11    | 8.2   | 12    |
| 4     | 13   | 24   | 18   | 18   | 22   | 59   | 55   | 34   | 16   | 11    | 7.8   | 11    |
| 5     | 13   | 23   | 16   | 19   | 23   | 172  | 257  | 37   | 15   | 11    | 11    | 7.7   |
| 6     | 13   | 23   | 16   | 18   | 22   | 117  | 137  | 36   | 20   | 9.7   | 12    | 7.3   |
| 7     | 14   | 20   | 88   | 22   | 22   | 87   | 88   | 34   | 30   | 9.7   | 11    | 7.7   |
| 8     | 14   | 20   | 62   | 24   | 21   | 76   | 76   | 31   | 23   | 9.3   | 9.0   | 8.1   |
| 9     | 146  | 20   | 31   | 20   | 21   | 71   | 66   | 84   | 26   | 9.3   | 7.8   | 7.7   |
| 10    | 54   | 22   | 25   | 181  | 23   | 70   | 61   | 147  | 100  | 8.9   | 7.4   | 75    |
| 11    | 26   | 24   | 23   | 111  | 28   | 66   | 57   | 104  | 70   | 8.1   | 7.0   | 16    |
| 12    | 20   | 22   | 22   | 73   | 34   | 61   | 56   | 81   | 45   | 12    | 7.8   | 11    |
| 13    | 18   | 21   | 22   | 54   | 43   | 123  | 53   | 63   | 28   | 22    | 8.0   | 11    |
| 14    | 20   | 19   | 18   | 46   | 43   | 189  | 51   | 52   | 26   | 26    | 14    | 11    |
| 15    | 15   | 19   | 17   | 42   | 40   | 102  | 44   | 46   | 25   | 12    | 10    | 8.9   |
| 16    | 16   | 19   | 19   | 37   | 33   | 80   | 44   | 43   | 22   | 11    | 9.4   | 20    |
| 17    | 16   | 19   | 26   | 34   | 30   | 70   | 40   | 40   | 20   | 10    | 25    | 43    |
| 18    | 16   | 19   | 22   | 31   | 29   | 70   | 39   | 36   | 30   | 11    | 12    | 20    |
| 19    | 15   | 19   | 19   | 31   | 27   | 84   | 39   | 75   | 34   | 11    | 10    | 78    |
| 20    | 61   | 19   | 24   | 30   | 28   | 71   | 37   | 40   | 22   | 9.7   | 9.4   | 90    |
| 21    | 149  | 17   | 42   | 29   | 30   | 68   | 36   | 35   | 18   | 17    | 8.8   | 44    |
| 22    | 45   | 17   | 25   | 28   | 26   | 149  | 36   | 32   | 16   | 10    | 35    | 22    |
| 23    | 30   | 17   | 22   | 26   | 28   | 243  | 41   | 31   | 16   | 8.5   | 14    | 17    |
| 24    | 29   | 17   | 20   | 25   | 33   | 124  | 63   | 28   | 15   | 8.5   | 27    | 29    |
| 25    | 31   | 17   | 18   | 28   | 221  | 94   | 71   | 26   | 15   | 93    | 19    | 33    |
| 26    | 48   | 17   | 20   | 27   | 109  | 80   | 54   | 24   | 51   | 20    | 11    | 74    |
| 27    | 34   | 17   | 19   | 26   | 87   | 71   | 45   | 22   | 23   | 11    | 9.3   | 113   |
| 28    | 28   | 17   | 17   | 32   | 114  | 68   | 42   | 20   | 18   | 9.6   | 8.9   | 43    |
| 29    | 26   | 25   | 20   | 39   | ---  | 81   | 38   | 19   | 17   | 8.2   | 8.9   | 33    |
| 30    | 24   | 21   | 20   | 30   | ---  | 68   | 34   | 18   | 16   | 10    | 8.9   | 26    |
| 31    | 30   | ---  | 19   | 26   | ---  | 62   | ---  | 17   | ---  | 9.0   | 8.5   | ---   |
| TOTAL | 1005 | 608  | 769  | 1159 | 1205 | 2890 | 1844 | 1354 | 815  | 444.5 | 367.9 | 895.6 |
| MEAN  | 32.4 | 20.3 | 24.8 | 37.4 | 43.0 | 93.2 | 61.5 | 43.7 | 27.2 | 14.3  | 11.9  | 29.9  |
| MAX   | 149  | 28   | 88   | 181  | 221  | 243  | 257  | 147  | 100  | 93    | 35    | 113   |
| MIN   | 13   | 17   | 16   | 17   | 21   | 59   | 34   | 17   | 15   | 8.1   | 7.0   | 7.3   |
| CFSM  | 1.40 | .88  | 1.07 | 1.62 | 1.86 | 4.04 | 2.66 | 1.89 | 1.18 | .62   | .52   | 1.29  |
| IN.   | 1.62 | .98  | 1.24 | 1.87 | 1.94 | 4.65 | 2.97 | 2.18 | 1.31 | .72   | .59   | 1.44  |

CAL YR 1976 TOTAL 14929.5 MEAN 40.8 MAX 434 MIN 8.7 CFSM 1.77 IN 24.04  
WTR YR 1977 TOTAL 13357.0 MEAN 36.6 MAX 257 MIN 7.0 CFSM 1.58 IN 21.51

NOTE.--No gage-height record May 25 to June 13, July 26 to Aug. 22.

## WOONASQUATUCKET RIVER BASIN

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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 current year.  
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.--36 years, 71.3 ft<sup>3</sup>/s (2.019 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, 617 ft<sup>3</sup>/s (17.5 m<sup>3</sup>/s) Mar. 23, gage height, 5.19 ft (1.582 m); minimum daily, 18 ft<sup>3</sup>/s (0.51 m<sup>3</sup>/s) Aug. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC       | JAN     | FEB    | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|-----------|---------|--------|------|------|------|------|------|------|------|
| 1           | 33    | 65    | 55        | 33      | 41     | 107  | 167  | 68   | 41   | 33   | 21   | 20   |
| 2           | 33    | 60    | 64        | 32      | 39     | 85   | 181  | 68   | 41   | 33   | 21   | 19   |
| 3           | 33    | 59    | 44        | 31      | 38     | 76   | 188  | 66   | 40   | 29   | 20   | 20   |
| 4           | 33    | 59    | 43        | 36      | 38     | 75   | 138  | 62   | 37   | 27   | 20   | 21   |
| 5           | 34    | 59    | 44        | 35      | 33     | 130  | 304  | 64   | 37   | 27   | 20   | 27   |
| 6           | 36    | 64    | 43        | 34      | 33     | 160  | 236  | 64   | 37   | 26   | 21   | 75   |
| 7           | 38    | 61    | 140       | 33      | 32     | 121  | 228  | 62   | 52   | 25   | 20   | 79   |
| 8           | 39    | 56    | 134       | 32      | 32     | 124  | 213  | 59   | 45   | 33   | 20   | 79   |
| 9           | 114   | 43    | 81        | 30      | 32     | 120  | 195  | 91   | 40   | 27   | 19   | 78   |
| 10          | 113   | 47    | 88        | 104     | 32     | 118  | 177  | 201  | 68   | 24   | 18   | 97   |
| 11          | 67    | 47    | 111       | 104     | 33     | 115  | 161  | 235  | 75   | 24   | 18   | 81   |
| 12          | 56    | 47    | 113       | 93      | 35     | 111  | 152  | 219  | 75   | 25   | 28   | 77   |
| 13          | 50    | 51    | 110       | 67      | 39     | 149  | 151  | 189  | 69   | 27   | 21   | 77   |
| 14          | 48    | 51    | 106       | 61      | 41     | 261  | 142  | 159  | 62   | 27   | 20   | 76   |
| 15          | 42    | 50    | 105       | 59      | 41     | 252  | 134  | 138  | 57   | 24   | 20   | 72   |
| 16          | 39    | 48    | 106       | 56      | 38     | 249  | 121  | 120  | 51   | 24   | 20   | 75   |
| 17          | 38    | 45    | 111       | 54      | 37     | 213  | 71   | 107  | 46   | 23   | 22   | 87   |
| 18          | 37    | 44    | 109       | 51      | 36     | 198  | 67   | 96   | 46   | 23   | 20   | 75   |
| 19          | 38    | 41    | 108       | 51      | 36     | 200  | 65   | 115  | 52   | 23   | 19   | 91   |
| 20          | 56    | 40    | 108       | 47      | 36     | 192  | 64   | 108  | 45   | 22   | 20   | 104  |
| 21          | 159   | 40    | 119       | 32      | 37     | 190  | 64   | 101  | 42   | 22   | 19   | 92   |
| 22          | 85    | 39    | 103       | 41      | 34     | 247  | 64   | 93   | 39   | 21   | 25   | 76   |
| 23          | 68    | 35    | 93        | 44      | 34     | 476  | 67   | 90   | 37   | 21   | 20   | 71   |
| 24          | 63    | 33    | 58        | 41      | 34     | 427  | 88   | 67   | 35   | 21   | 22   | 85   |
| 25          | 65    | 34    | 56        | 35      | 102    | 352  | 106  | 68   | 35   | 32   | 21   | 100  |
| 26          | 76    | 34    | 61        | 34      | 119    | 287  | 100  | 62   | 42   | 24   | 20   | 120  |
| 27          | 68    | 34    | 90        | 33      | 89     | 250  | 121  | 55   | 39   | 21   | 20   | 85   |
| 28          | 63    | 35    | 59        | 42      | 98     | 225  | 89   | 53   | 36   | 21   | 19   | 64   |
| 29          | 60    | 41    | 38        | 52      | ---    | 223  | 88   | 49   | 36   | 21   | 19   | 70   |
| 30          | 57    | 49    | 33        | 45      | ---    | 199  | 81   | 46   | 35   | 21   | 19   | 89   |
| 31          | 62    | ---   | 33        | 42      | ---    | 208  | ---  | 44   | ---  | 21   | 19   | ---  |
| TOTAL       | 1803  | 1411  | 2566      | 1484    | 1269   | 6140 | 4023 | 3019 | 1392 | 772  | 631  | 2182 |
| MEAN        | 58.2  | 47.0  | 82.8      | 47.9    | 45.3   | 198  | 134  | 97.4 | 46.4 | 24.9 | 20.4 | 72.7 |
| MAX         | 159   | 65    | 140       | 104     | 119    | 476  | 304  | 235  | 75   | 33   | 28   | 120  |
| MIN         | 33    | 33    | 33        | 30      | 32     | 75   | 64   | 44   | 35   | 21   | 18   | 19   |
| CAL YR 1976 | TOTAL | 29493 | MEAN 80.6 | MAX 694 | MIN 16 |      |      |      |      |      |      |      |
| WTR YR 1977 | TOTAL | 26692 | MEAN 73.1 | MAX 476 | MIN 18 |      |      |      |      |      |      |      |

## 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 current year.

Water-quality records: Water year 1963.

GAGE.--Water-stage recorder. Altitude of gage is 265 ft (81 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.--13 years (water years 1965-77), 18.1 ft<sup>3</sup>/s (0.513 m<sup>3</sup>/s), 29.87 in/yr (759 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 318 ft<sup>3</sup>/s (9.01 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 6.13 ft (1.868 m); minimum, 0.81 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s) Sept. 8, 9, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 130 ft<sup>3</sup>/s (3.68 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) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Mar. 23 | 0030 | *266 7.53                                             | *5.51 1.679             |      |      |                                                       |                         |

Minimum discharge, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|-------|
| 1     | 4.5   | 13    | 7.6   | 7.0   | 8.2   | 37   | 38   | 19   | 10    | 7.4   | 4.0   | 2.9   |
| 2     | 4.5   | 12    | 7.3   | 6.8   | 7.8   | 29   | 35   | 18   | 11    | 7.0   | 4.0   | 3.3   |
| 3     | 4.5   | 12    | 7.3   | 6.8   | 7.6   | 26   | 57   | 18   | 11    | 6.3   | 3.8   | 4.0   |
| 4     | 4.5   | 12    | 7.0   | 6.8   | 7.6   | 27   | 42   | 17   | 9.7   | 6.0   | 3.8   | 3.1   |
| 5     | 4.5   | 11    | 6.4   | 6.8   | 7.6   | 83   | 97   | 18   | 9.3   | 5.6   | 3.3   | 2.7   |
| 6     | 4.5   | 10    | 6.4   | 6.6   | 7.4   | 57   | 81   | 22   | 8.9   | 5.0   | 3.5   | 2.4   |
| 7     | 4.5   | 9.8   | 19    | 6.6   | 7.4   | 43   | 56   | 28   | 14    | 4.8   | 5.0   | 2.2   |
| 8     | 4.5   | 9.8   | 25    | 6.8   | 7.4   | 37   | 48   | 21   | 14    | 4.5   | 7.4   | 2.1   |
| 9     | 18    | 9.4   | 14    | 7.6   | 7.4   | 36   | 43   | 45   | 11    | 4.8   | 4.5   | 2.1   |
| 10    | 22    | 9.4   | 11    | 11    | 7.4   | 36   | 40   | 74   | 50    | 4.5   | 3.8   | 8.2   |
| 11    | 11    | 9.0   | 9.9   | 25    | 7.4   | 33   | 37   | 50   | 32    | 4.0   | 3.5   | 6.3   |
| 12    | 9.2   | 9.0   | 9.5   | 24    | 7.8   | 31   | 35   | 35   | 23    | 4.0   | 3.3   | 4.8   |
| 13    | 8.8   | 8.6   | 9.8   | 19    | 9.6   | 40   | 33   | 31   | 18    | 4.2   | 3.3   | 4.2   |
| 14    | 8.2   | 8.6   | 8.6   | 16    | 11    | 81   | 32   | 28   | 16    | 4.8   | 3.1   | 4.2   |
| 15    | 8.1   | 8.2   | 8.4   | 15    | 11    | 50   | 28   | 25   | 14    | 4.0   | 3.3   | 3.8   |
| 16    | 7.6   | 8.2   | 7.9   | 14    | 10    | 40   | 28   | 22   | 13    | 3.5   | 2.9   | 3.8   |
| 17    | 7.6   | 8.2   | 8.0   | 14    | 8.2   | 35   | 27   | 21   | 11    | 3.3   | 3.8   | 8.2   |
| 18    | 7.6   | 8.2   | 8.2   | 13    | 8.2   | 34   | 25   | 20   | 11    | 2.9   | 4.5   | 6.0   |
| 19    | 7.3   | 8.2   | 8.2   | 13    | 8.0   | 38   | 23   | 22   | 11    | 2.7   | 3.5   | 7.0   |
| 20    | 9.9   | 7.9   | 11    | 12    | 8.0   | 35   | 23   | 21   | 10    | 2.6   | 3.1   | 11    |
| 21    | 45    | 7.9   | 13    | 12    | 7.8   | 34   | 23   | 19   | 9.3   | 2.6   | 2.7   | 11    |
| 22    | 18    | 7.6   | 9.4   | 11    | 7.8   | 75   | 23   | 18   | 8.9   | 3.8   | 5.3   | 8.2   |
| 23    | 13    | 7.6   | 8.0   | 10    | 8.0   | 157  | 23   | 17   | 8.2   | 2.7   | 6.3   | 7.0   |
| 24    | 12    | 7.6   | 7.6   | 8.9   | 8.2   | 82   | 26   | 16   | 7.4   | 2.4   | 5.0   | 13    |
| 25    | 12    | 7.6   | 7.4   | 9.0   | 32    | 68   | 31   | 15   | 7.0   | 8.9   | 5.6   | 21    |
| 26    | 17    | 7.6   | 7.4   | 9.0   | 41    | 61   | 27   | 14   | 15    | 11    | 4.2   | 15    |
| 27    | 15    | 7.3   | 7.4   | 8.9   | 33    | 53   | 25   | 13   | 12    | 6.3   | 3.8   | 14    |
| 28    | 12    | 7.3   | 7.4   | 8.9   | 52    | 48   | 23   | 12   | 10    | 5.3   | 3.5   | 11    |
| 29    | 11    | 7.9   | 7.6   | 8.9   | ---   | 56   | 22   | 12   | 9.3   | 4.8   | 2.9   | 8.9   |
| 30    | 11    | 8.2   | 7.4   | 8.9   | ---   | 47   | 20   | 11   | 8.2   | 4.2   | 2.9   | 7.8   |
| 31    | 12    | ---   | 7.2   | 8.9   | ---   | 43   | ---  | 11   | ---   | 4.2   | 3.1   | ---   |
| TOTAL | 339.3 | 269.1 | 290.3 | 342.2 | 354.8 | 1552 | 1071 | 713  | 403.2 | 148.1 | 122.7 | 209.2 |
| MEAN  | 10.9  | 8.97  | 9.36  | 11.0  | 12.7  | 50.1 | 35.7 | 23.0 | 13.4  | 4.78  | 3.96  | 6.97  |
| MAX   | 45    | 13    | 25    | 25    | 52    | 157  | 97   | 74   | 50    | 11    | 7.4   | 21    |
| MIN   | 4.5   | 7.3   | 6.4   | 6.6   | 7.4   | 26   | 20   | 11   | 7.0   | 2.4   | 2.7   | 2.1   |
| CFSM  | 1.32  | 1.09  | 1.14  | 1.34  | 1.54  | 6.09 | 4.34 | 2.80 | 1.63  | .58   | .48   | .85   |
| IN.   | 1.53  | 1.22  | 1.31  | 1.55  | 1.60  | 7.01 | 4.84 | 3.22 | 1.82  | .67   | .55   | .95   |

|             |       |        |           |         |         |           |          |
|-------------|-------|--------|-----------|---------|---------|-----------|----------|
| CAL YR 1976 | TOTAL | 6199.5 | MEAN 16.9 | MAX 153 | MIN 2.3 | CFSM 2.05 | IN 28.02 |
| WTR YR 1977 | TOTAL | 5814.9 | MEAN 15.9 | MAX 157 | MIN 2.1 | CFSM 1.93 | IN 26.28 |



## 01115770 CARR RIVER NEAR NOOSENECK, RI

LOCATION.--Lat 41°38'35", long 71°36'30", Kent County, Hydrologic Unit 01090004, on left bank at upstream side of bridge on Burnt Sawmill Road, 1.5 mi (2.4 km) northeast of Nooseneck, and 4 mi (6 km) southwest of Washington.

DRAINAGE AREA.--6.73 mi<sup>2</sup> (17.43 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: 1961-63 (occasional low-flow measurements), November 1963 to current year. Water-quality records: Water year 1963.

GAGE.--Water-stage recorder. Altitude of gage is 250 ft (76 m), from topographic map. Prior to Nov. 27, 1963, reference point at site 75 ft (23 m) upstream at datum 9 ft (2.7 m) higher.

REMARKS.--Records good. Flow regulated by Carr Pond and other ponds upstream. 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.--13 years (water years 1965-77), 11.5 ft<sup>3</sup>/s (0.326 m<sup>3</sup>/s), 23.20 in/yr (589 mm/yr), adjusted for diversion prior to May 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 221 ft<sup>3</sup>/s (6.26 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 6.50 ft (1.981 m); minimum, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Aug. 25, 26, 1968; minimum daily, 0.36 ft<sup>3</sup>/s (0.010 m<sup>3</sup>/s) Aug. 18, Sept. 12, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 65 ft<sup>3</sup>/s (1.84 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) |
|---------|------|-------------------------------------------------------|-------------------------|------|------|-------------------------------------------------------|-------------------------|
| Mar. 23 | 0715 | *89 2.52                                              | *4.90 1.494             |      |      |                                                       |                         |

Minimum discharge, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Sept. 5-7; minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY   | JUN   | JUL   | AUG  | SEP   |
|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|------|-------|
| 1     | 2.4   | 5.8   | 3.1   | 5.1   | 5.8   | 27   | 25   | 12    | 5.8   | 7.3   | 2.7  | 2.6   |
| 2     | 2.4   | 5.8   | 3.1   | 4.8   | 5.5   | 21   | 22   | 12    | 5.5   | 5.3   | 2.5  | 2.1   |
| 3     | 2.2   | 5.1   | 3.1   | 4.4   | 5.5   | 18   | 31   | 11    | 5.5   | 3.9   | 2.5  | 1.7   |
| 4     | 2.6   | 4.8   | 2.9   | 4.4   | 5.5   | 17   | 30   | 11    | 5.5   | 3.6   | 2.5  | 1.6   |
| 5     | 2.6   | 4.8   | 2.9   | 4.4   | 5.1   | 44   | 48   | 10    | 5.5   | 3.6   | 2.1  | 1.2   |
| 6     | 2.6   | 4.8   | 2.9   | 4.4   | 5.8   | 42   | 53   | 11    | 5.4   | 3.6   | 2.1  | 1.1   |
| 7     | 2.6   | 4.4   | 5.8   | 4.1   | 5.8   | 33   | 41   | 14    | 5.9   | 3.6   | 2.2  | 1.3   |
| 8     | 2.4   | 4.1   | 15    | 4.4   | 5.8   | 27   | 34   | 13    | 7.1   | 3.6   | 2.7  | 1.6   |
| 9     | 5.5   | 3.9   | 10    | 4.4   | 5.8   | 24   | 30   | 23    | 6.7   | 3.6   | 3.7  | 1.5   |
| 10    | 14    | 3.9   | 7.6   | 11    | 5.8   | 24   | 27   | 46    | 21    | 3.0   | 3.6  | 2.7   |
| 11    | 11    | 3.9   | 7.1   | 21    | 5.8   | 24   | 25   | 39    | 28    | 2.9   | 2.9  | 4.1   |
| 12    | 9.2   | 3.9   | 6.2   | 21    | 5.8   | 22   | 23   | 29    | 22    | 2.9   | 2.7  | 3.4   |
| 13    | 7.6   | 3.9   | 5.8   | 16    | 6.2   | 26   | 21   | 22    | 17    | 2.8   | 2.6  | 2.4   |
| 14    | 6.2   | 3.6   | 4.8   | 13    | 7.6   | 49   | 19   | 17    | 14    | 2.7   | 2.5  | 2.1   |
| 15    | 4.8   | 3.6   | 4.8   | 12    | 7.6   | 41   | 19   | 16    | 11    | 2.9   | 2.5  | 1.9   |
| 16    | 4.4   | 3.6   | 4.8   | 11    | 7.6   | 33   | 18   | 14    | 9.7   | 2.9   | 2.4  | 1.5   |
| 17    | 4.4   | 3.6   | 4.8   | 11    | 7.6   | 27   | 17   | 12    | 9.4   | 2.9   | 2.2  | 2.6   |
| 18    | 4.2   | 3.6   | 4.8   | 9.9   | 6.7   | 26   | 18   | 12    | 6.5   | 2.5   | 2.4  | 2.9   |
| 19    | 4.2   | 3.4   | 4.8   | 9.9   | 6.2   | 28   | 14   | 12    | 5.8   | 2.2   | 2.4  | 2.9   |
| 20    | 4.4   | 3.1   | 4.8   | 9.2   | 6.2   | 26   | 12   | 12    | 5.8   | 2.0   | 2.2  | 3.6   |
| 21    | 21    | 3.1   | 7.6   | 9.2   | 6.2   | 24   | 12   | 12    | 5.8   | 1.9   | 2.1  | 5.5   |
| 22    | 17    | 3.1   | 6.7   | 8.6   | 6.2   | 33   | 12   | 11    | 4.9   | 2.2   | 2.2  | 4.4   |
| 23    | 11    | 3.1   | 6.7   | 7.6   | 6.2   | 78   | 13   | 9.8   | 4.4   | 2.2   | 3.0  | 3.4   |
| 24    | 8.1   | 3.1   | 5.8   | 7.1   | 6.2   | 56   | 15   | 8.9   | 4.4   | 2.2   | 2.9  | 3.9   |
| 25    | 7.6   | 3.1   | 5.1   | 6.7   | 23    | 44   | 19   | 7.1   | 4.4   | 2.9   | 2.9  | 10    |
| 26    | 9.2   | 3.1   | 5.1   | 6.7   | 32    | 38   | 18   | 7.0   | 7.5   | 7.4   | 2.9  | 11    |
| 27    | 9.5   | 3.1   | 5.1   | 6.7   | 24    | 34   | 16   | 6.3   | 11    | 5.6   | 2.7  | 10    |
| 28    | 7.6   | 3.1   | 5.1   | 6.7   | 32    | 31   | 14   | 5.8   | 10    | 3.9   | 3.1  | 7.1   |
| 29    | 6.2   | 3.1   | 5.1   | 6.7   | ---   | 32   | 13   | 6.0   | 8.0   | 3.2   | 3.1  | 4.8   |
| 30    | 5.5   | 3.1   | 5.1   | 6.7   | ---   | 30   | 12   | 7.3   | 6.8   | 3.2   | 2.7  | 3.8   |
| 31    | 5.5   | ---   | 5.1   | 6.7   | ---   | 27   | ---  | 7.0   | ---   | 3.4   | 3.6  | ---   |
| TOTAL | 207.9 | 114.6 | 171.6 | 264.8 | 259.5 | 1006 | 671  | 436.2 | 270.3 | 105.9 | 82.6 | 108.7 |
| MEAN  | 6.71  | 3.82  | 5.54  | 8.54  | 9.27  | 32.5 | 22.4 | 14.1  | 9.01  | 3.42  | 2.66 | 3.62  |
| MAX   | 21    | 5.8   | 15    | 21    | 32    | 78   | 53   | 46    | 28    | 7.4   | 3.7  | 11    |
| MIN   | 2.2   | 3.1   | 2.9   | 4.1   | 5.1   | 17   | 12   | 5.8   | 4.4   | 1.9   | 2.1  | 1.1   |
| CFSM  | 1.00  | .57   | .82   | 1.27  | 1.38  | 4.83 | 3.33 | 2.10  | 1.34  | .51   | .40  | .54   |
| IN.   | 1.15  | .63   | .95   | 1.46  | 1.43  | 5.56 | 3.71 | 2.41  | 1.49  | .59   | .46  | .60   |

| CAL YR 1976 | TOTAL | 4107.1 | MEAN 11.2 | MAX 88 | MIN 1.5 | CFSM 1.66 | IN 22.70 |
|-------------|-------|--------|-----------|--------|---------|-----------|----------|
| WTR YR 1977 | TOTAL | 3699.1 | MEAN 10.1 | MAX 78 | MIN 1.1 | CFSM 1.50 | IN 20.44 |

## PAWTUXET RIVER BASIN

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) above mean sea level.

REMARKS.--Records good except those for periods of no gage-height record, 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.--37 years, 127 ft<sup>3</sup>/s (3.597 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, 910 ft<sup>3</sup>/s (25.8 m<sup>3</sup>/s) Mar. 23, gage height, 3.63 ft (1.106 m); minimum daily, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC      | JAN     | FEB     | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|----------|---------|---------|-------|-------|-------|-------|-------|-------|-------|
| 1           | 60    | 100     | 65       | 52      | 111     | 148   | 240   | 119   | 61    | 54    | 45    | 40    |
| 2           | 11    | 90      | 61       | 52      | 75      | 145   | 223   | 115   | 55    | 20    | 47    | 40    |
| 3           | 10    | 86      | 45       | 52      | 60      | 142   | 236   | 110   | 56    | 18    | 45    | 40    |
| 4           | 40    | 82      | 45       | 52      | 60      | 144   | 232   | 106   | 53    | 21    | 45    | 39    |
| 5           | 60    | 80      | 45       | 52      | 61      | 176   | 300   | 106   | 52    | 24    | 45    | 40    |
| 6           | 50    | 50      | 47       | 52      | 60      | 207   | 442   | 108   | 52    | 23    | 45    | 61    |
| 7           | 45    | 50      | 63       | 54      | 60      | 306   | 383   | 114   | 58    | 22    | 45    | 70    |
| 8           | 40    | 88      | 63       | 52      | 60      | 308   | 310   | 114   | 57    | 22    | 45    | 70    |
| 9           | 30    | 88      | 52       | 54      | 60      | 268   | 262   | 137   | 56    | 25    | 44    | 69    |
| 10          | 60    | 88      | 52       | 74      | 82      | 248   | 235   | 259   | 77    | 25    | 44    | 56    |
| 11          | 90    | 88      | 52       | 81      | 128     | 239   | 219   | 325   | 114   | 23    | 42    | 41    |
| 12          | 80    | 67      | 52       | 67      | 128     | 233   | 213   | 283   | 150   | 22    | 42    | 36    |
| 13          | 75    | 15      | 50       | 63      | 129     | 245   | 181   | 225   | 138   | 24    | 42    | 35    |
| 14          | 70    | 25      | 50       | 61      | 129     | 376   | 116   | 185   | 118   | 28    | 44    | 36    |
| 15          | 70    | 101     | 50       | 60      | 128     | 438   | 129   | 161   | 102   | 25    | 44    | 35    |
| 16          | 45    | 83      | 50       | 61      | 126     | 377   | 140   | 144   | 90    | 23    | 44    | 37    |
| 17          | 40    | 81      | 52       | 81      | 126     | 321   | 144   | 135   | 83    | 22    | 47    | 41    |
| 18          | 80    | 63      | 52       | 150     | 123     | 282   | 145   | 125   | 76    | 22    | 45    | 38    |
| 19          | 70    | 45      | 52       | 156     | 123     | 290   | 142   | 130   | 76    | 44    | 43    | 44    |
| 20          | 90    | 12      | 52       | 155     | 123     | 275   | 137   | 132   | 72    | 47    | 21    | 47    |
| 21          | 120   | 16      | 58       | 155     | 122     | 263   | 134   | 127   | 65    | 49    | 16    | 44    |
| 22          | 110   | 70      | 60       | 153     | 120     | 284   | 130   | 118   | 61    | 50    | 20    | 39    |
| 23          | 80    | 63      | 52       | 143     | 120     | 737   | 131   | 109   | 56    | 47    | 37    | 39    |
| 24          | 70    | 63      | 50       | 119     | 118     | 759   | 142   | 103   | 52    | 47    | 40    | 45    |
| 25          | 100   | 63      | 52       | 138     | 155     | 509   | 162   | 98    | 52    | 58    | 41    | 54    |
| 26          | 100   | 63      | 54       | 136     | 143     | 384   | 168   | 92    | 67    | 60    | 39    | 54    |
| 27          | 75    | 65      | 54       | 135     | 141     | 325   | 162   | 90    | 70    | 50    | 38    | 120   |
| 28          | 70    | 65      | 52       | 136     | 152     | 294   | 153   | 89    | 70    | 49    | 38    | 129   |
| 29          | 65    | 67      | 54       | 137     | ---     | 294   | 140   | 88    | 67    | 49    | 38    | 126   |
| 30          | 55    | 65      | 54       | 132     | ---     | 292   | 126   | 88    | 61    | 47    | 38    | 123   |
| 31          | 50    | ---     | 52       | 132     | ---     | 267   | ---   | 87    | ---   | 47    | 40    | ---   |
| TOTAL       | 2011  | 1982    | 1642     | 2997    | 3023    | 9576  | 5877  | 4222  | 2217  | 1087  | 1249  | 1688  |
| MEAN        | 64.9  | 66.1    | 53.0     | 96.7    | 108     | 309   | 196   | 136   | 73.9  | 35.1  | 40.3  | 56.3  |
| MAX         | 120   | 101     | 65       | 156     | 155     | 759   | 442   | 325   | 150   | 60    | 47    | 129   |
| MIN         | 10    | 12      | 45       | 52      | 60      | 142   | 116   | 87    | 52    | 18    | 16    | 35    |
| (†)         | 144.0 | 136.0   | 188.0    | 179.5   | 194.5   | 250.0 | 250.0 | 236.5 | 253.5 | 253.5 | 203.5 | 168.0 |
| CAL YR 1976 | TOTAL | 43668.2 | MEAN 119 | MAX 575 | MIN 5.2 |       |       |       |       |       |       |       |
| WTR YR 1977 | TOTAL | 37571.0 | MEAN 103 | MAX 759 | MIN 10  |       |       |       |       |       |       |       |

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

NOTE.--No gage-height record Oct. 1 to Nov. 7.

## 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 current year.

REVISED RECORDS.--WSP 971: 1940-42. WSP 1381: 1940-41(M). WRD MA, NH, RI, VT, 1973: 1972 (adjusted monthly and yearly figures only).

GAGE.--Water-stage recorder. Datum of gage is 8.00 ft (2.438 m) above mean sea level.

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 5 smaller reservoirs, and see table with station 01116000 for monthend contents in Flat River Reservoir.

AVERAGE DISCHARGE.--37 years (water years 1941-77), 337 ft<sup>3</sup>/s (9.544 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,110 ft<sup>3</sup>/s (88.1 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 11.53 ft (3.514 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, 1,820 ft<sup>3</sup>/s (51.5 m<sup>3</sup>/s) Mar. 24, gage height, 8.55 ft (2.606 m); minimum daily, 75 ft<sup>3</sup>/s (2.12 m<sup>3</sup>/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|--------|----------|----------|--------|-------|-------|-------|------|------|------|------|
| 1           | 120   | 223    | 174      | 139      | 255    | 465   | 788   | 258   | 160  | 153  | 112  | 120  |
| 2           | 141   | 190    | 165      | 141      | 215    | 383   | 629   | 292   | 195  | 133  | 130  | 120  |
| 3           | 156   | 196    | 153      | 141      | 193    | 349   | 776   | 308   | 155  | 109  | 128  | 120  |
| 4           | 87    | 262    | 125      | 141      | 193    | 353   | 797   | 296   | 125  | 87   | 130  | 112  |
| 5           | 75    | 269    | 117      | 139      | 200    | 820   | 1330  | 304   | 115  | 84   | 133  | 89   |
| 6           | 159   | 196    | 128      | 136      | 159    | 566   | 1380  | 312   | 105  | 107  | 136  | 99   |
| 7           | 141   | 168    | 283      | 153      | 174    | 546   | 1290  | 366   | 175  | 107  | 122  | 139  |
| 8           | 139   | 190    | 345      | 144      | 185    | 570   | 1120  | 240   | 160  | 109  | 107  | 141  |
| 9           | 136   | 206    | 209      | 136      | 187    | 502   | 973   | 469   | 136  | 112  | 99   | 144  |
| 10          | 159   | 206    | 180      | 457      | 187    | 465   | 836   | 896   | 320  | 104  | 114  | 233  |
| 11          | 370   | 206    | 159      | 520      | 251    | 445   | 766   | 1120  | 304  | 84   | 104  | 141  |
| 12          | 216   | 203    | 153      | 365      | 269    | 425   | 743   | 1110  | 304  | 104  | 139  | 104  |
| 13          | 159   | 136    | 168      | 305      | 262    | 469   | 713   | 1020  | 296  | 112  | 125  | 117  |
| 14          | 196   | 89     | 159      | 269      | 288    | 936   | 584   | 764   | 254  | 120  | 104  | 120  |
| 15          | 258   | 156    | 162      | 209      | 292    | 836   | 570   | 550   | 226  | 120  | 104  | 117  |
| 16          | 277   | 206    | 162      | 187      | 273    | 699   | 577   | 480   | 233  | 107  | 122  | 122  |
| 17          | 262   | 200    | 184      | 185      | 262    | 587   | 391   | 450   | 213  | 97   | 144  | 209  |
| 18          | 203   | 196    | 147      | 230      | 258    | 622   | 320   | 350   | 177  | 82   | 156  | 133  |
| 19          | 187   | 171    | 130      | 266      | 254    | 696   | 308   | 500   | 180  | 104  | 133  | 187  |
| 20          | 200   | 130    | 133      | 262      | 226    | 573   | 292   | 430   | 153  | 125  | 117  | 209  |
| 21          | 159   | 84     | 200      | 258      | 219    | 498   | 292   | 380   | 153  | 133  | 102  | 187  |
| 22          | 180   | 128    | 165      | 254      | 269    | 643   | 288   | 360   | 150  | 168  | 102  | 144  |
| 23          | 506   | 177    | 156      | 250      | 288    | 1570  | 304   | 340   | 147  | 128  | 139  | 133  |
| 24          | 216   | 180    | 150      | 216      | 281    | 1640  | 320   | 320   | 147  | 120  | 125  | 171  |
| 25          | 203   | 153    | 144      | 230      | 963    | 1360  | 417   | 300   | 144  | 196  | 141  | 206  |
| 26          | 281   | 156    | 156      | 240      | 682    | 1110  | 417   | 265   | 209  | 251  | 128  | 251  |
| 27          | 240   | 159    | 153      | 258      | 437    | 973   | 400   | 255   | 168  | 177  | 125  | 243  |
| 28          | 226   | 136    | 147      | 266      | 605    | 899   | 383   | 240   | 168  | 150  | 117  | 247  |
| 29          | 226   | 180    | 153      | 281      | ---    | 919   | 357   | 210   | 162  | 136  | 99   | 230  |
| 30          | 216   | 190    | 144      | 230      | ---    | 893   | 340   | 205   | 159  | 133  | 117  | 226  |
| 31          | 203   | ---    | 141      | 250      | ---    | 846   | ---   | 205   | ---  | 125  | 117  | ---  |
| TOTAL       | 6297  | 5342   | 5145     | 7258     | 8327   | 22658 | 18701 | 13595 | 5593 | 3877 | 3771 | 4814 |
| MEAN        | 203   | 178    | 166      | 234      | 297    | 731   | 623   | 439   | 186  | 125  | 122  | 160  |
| MAX         | 506   | 269    | 345      | 520      | 963    | 1640  | 1380  | 1120  | 320  | 251  | 156  | 251  |
| MIN         | 75    | 84     | 117      | 136      | 159    | 349   | 288   | 205   | 105  | 82   | 99   | 89   |
| (†)         | 4362  | 4156   | 4171     | 4254     | 4396   | 5446  | 5451  | 5392  | 5211 | 4833 | 4488 | 4370 |
| (‡)         | 93.7  | 93.5   | 88.2     | 88.2     | 89.2   | 89.2  | 89.8  | 103   | 105  | 116  | 106  | 96.5 |
| CAL YR 1976 | TOTAL | 119514 | MEAN 327 | MAX 1840 | MIN 59 |       |       |       |      |      |      |      |
| WTR YR 1977 | TOTAL | 105378 | MEAN 289 | MAX 1640 | MIN 75 |       |       |       |      |      |      |      |

† Monthend contents, in millions of cubic feet, of Scituate Reservoir and 5 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.

## PAWTUXET RIVER BASIN

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 current year.

WATER TEMPERATURES: November 1961 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 668 micromhos Jan. 10, 1977; minimum, 64 micromhos Dec. 9, 1972.

WATER TEMPERATURES: Maximum, 30.0°C July 1, 1964, Aug. 14, 1973; minimum, 0.0°C on many days during winter periods 1965-70, 1972-77.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 668 micromhos Jan. 10; minimum, 148 micromhos Mar. 24, Apr. 7.

WATER TEMPERATURES: Maximum, 29.0°C July 19-21; minimum, 0.0°C on many days during winter period.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | COLOR (PLATINUM COBALT UNITS) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | OXYGEN DEMAND CHEM 0.025N DICHR-OMATE (MG/L) | OXYGEN DEMAND CHEM T IN 8M DRY WT (MG/KG) | TOTAL CALCIUM (CA) (MG/L) |
|-----------|-------------------------------|----------------------------------|------------|-------------------------|---------------------|-------------------------------|-----------------|-------------------------|----------------------------------------------|-------------------------------------------|---------------------------|
| JUN 28... | 159                           | 365                              | 6.6        | 24.0                    | 21.5                | 50                            | 1               | 6.1                     | 24                                           | 3500                                      | 12                        |
| SEP 23... | 121                           | 297                              | 6.3        | 16.5                    | 17.0                | 35                            | 3               | 6.8                     | 30                                           | 17000                                     | 11                        |

| DATE      | TOTAL MAGNESIUM (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE DISSOLVED (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | SUSPENDED SOLIDS (MG/L) | SOLIDS RESIDUE ON EVAP AT 105C TOTAL (MG/L) | LOSS ON IGNITION IN BOTTOM MATERIAL (MG/KG) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) |
|-----------|------------------------|---------------------------|------------------------|----------------------------|---------------------------------|--------------------------------|--------------------------------|-------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------|
| JUN 28... | 2.6                    | 28                        | 0                      | 23                         | 11                              | 46                             | 58                             | 12                      | 236                                         | 3190                                        | 1.3                                   |
| SEP 23... | 2.5                    | 24                        | 0                      | 20                         | 19                              | 35                             | 48                             | 0                       | 178                                         | 5300                                        | .78                                   |

| DATE      | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | NITROGEN AMMONIA ORGANIC TOTAL AS N (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL CHROMIUM IN BOTTOM MATERIAL (UG/G) | PHENOLS (UG/L) | OIL AND GREASE (MG/L) | CHLOROPHYLL A (UG/L) | CHLOROPHYLL B (UG/L) |
|-----------|-----------------------------------|-----------------------------------|--------------------------------------------|---------------------------|-----------------------------|----------------------------|------------------------------------------|----------------|-----------------------|----------------------|----------------------|
| JUN 28... | 1.1                               | 1.0                               | 2.1                                        | 3.4                       | .37                         | <10                        | <10                                      | 0              | 0                     | 6.77                 | 5.22                 |
| SEP 23... | .94                               | .76                               | 1.7                                        | 2.5                       | .32                         | 40                         | --                                       | 3              | 0                     | 2.85                 | 2.83                 |

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 318 | 286 | 308      | 304 | 267 | 296      | 287 | 254 | 273     | 342 | 332 | 335  |
| 2       | 327 | 283 | 301      | 312 | 267 | 290      | 283 | 258 | 270     | 342 | 332 | 336  |
| 3       | 351 | 301 | 318      | 320 | 279 | 304      | 295 | 262 | 280     | 357 | 340 | 349  |
| 4       | 352 | 327 | 346      | 305 | 250 | 279      | 282 | 277 | 279     | 371 | 357 | 363  |
| 5       | 417 | 327 | 374      | 297 | 255 | 269      | 300 | 282 | 291     | 384 | 371 | 378  |
| 6       | 412 | 320 | 391      | 280 | 260 | 269      | 338 | 300 | 315     | 381 | 362 | 374  |
| 7       | 320 | 280 | 306      | 322 | 277 | 302      | 377 | 340 | 357     | 362 | 338 | 352  |
| 8       | 307 | 279 | 289      | 366 | 322 | 350      | 370 | 327 | 338     | 354 | 340 | 347  |
| 9       | 287 | 179 | 232      | 367 | 283 | 336      | 324 | 285 | 302     | 366 | 349 | 358  |
| 10      | 366 | 228 | 302      | 354 | 284 | 322      | 325 | 282 | 303     | 668 | 367 | 484  |
| 11      | 372 | 303 | 340      | 344 | 280 | 315      | 328 | 285 | 312     | 538 | 352 | 410  |
| 12      | 300 | 289 | 295      | 338 | 277 | 312      | 379 | 326 | 338     | 351 | 314 | 332  |
| 13      | 299 | 245 | 270      | 343 | 303 | 331      | 433 | 386 | 424     | 318 | 306 | 310  |
| 14      | 263 | 215 | 228      | 327 | 310 | 318      | 431 | 388 | 426     | 321 | 308 | 312  |
| 15      | 221 | 202 | 211      | 336 | 279 | 318      | 400 | 376 | 388     | 348 | 323 | 338  |
| 16      | 223 | 206 | 214      | 410 | 282 | 363      | 396 | 384 | 393     | 335 | 325 | 331  |
| 17      | 260 | 214 | 239      | 420 | 291 | 373      | 412 | 371 | 385     | 380 | 336 | 357  |
| 18      | 266 | 256 | 262      | 337 | 281 | 315      | 444 | 389 | 423     | 415 | 382 | 396  |
| 19      | 271 | 258 | 266      | 345 | 277 | 320      | 439 | 395 | 415     | 420 | 296 | 361  |
| 20      | 280 | 218 | 268      | 333 | 277 | 312      | 417 | 394 | 403     | 316 | 287 | 298  |
| 21      | 191 | 165 | 179      | 333 | 306 | 318      | 455 | 419 | 440     | 334 | 304 | 317  |
| 22      | 202 | 188 | 192      | 320 | 309 | 316      | 427 | 422 | 425     | 316 | 304 | 310  |
| 23      | 231 | 205 | 218      | 366 | 310 | 338      | 422 | 398 | 414     | 316 | 303 | 309  |
| 24      | 260 | 234 | 253      | 463 | 344 | 417      | 395 | 362 | 377     | 331 | 315 | 322  |
| 25      | 259 | 244 | 250      | 378 | 354 | 365      | 365 | 361 | 363     | 428 | 318 | 366  |
| 26      | 263 | 239 | 250      | 361 | 325 | 340      | 390 | 365 | 375     | 412 | 322 | 370  |
| 27      | 244 | 215 | 230      | 382 | 324 | 364      | 455 | 392 | 427     | 330 | 302 | 318  |
| 28      | 244 | 225 | 236      | 319 | 299 | 307      | 429 | 411 | 421     | 382 | 282 | 306  |
| 29      | 261 | 228 | 247      | 332 | 302 | 324      | 410 | 362 | 384     | 386 | 314 | 343  |
| 30      | 270 | 233 | 254      | 308 | 253 | 297      | 362 | 355 | 359     | 359 | 347 | 352  |
| 31      | 279 | 229 | 256      | --- | --- | ---      | 355 | 343 | 348     | 355 | 335 | 348  |
| MONTH   | 417 | 165 | 269      | 463 | 250 | 323      | 455 | 254 | 363     | 668 | 282 | 348  |

| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN  | MAX | MIN | MEAN | MAX | MIN | MEAN |
|----------|-----|-----|-------|-----|-----|-------|-----|-----|------|-----|-----|------|
| FEBRUARY |     |     | MARCH |     |     | APRIL |     |     | MAY  |     |     |      |
| 1        | 332 | 272 | 287   | 248 | 228 | 238   | 177 | 172 | 175  | 279 | 221 | 245  |
| 2        | 288 | 258 | 275   | 259 | 240 | 248   | 196 | 173 | 183  | 298 | 265 | 287  |
| 3        | 295 | 262 | 283   | 274 | 251 | 262   | 194 | 178 | 186  | 259 | 233 | 244  |
| 4        | 325 | 280 | 307   | 298 | 261 | 275   | 178 | 174 | 176  | 245 | 220 | 231  |
| 5        | 355 | 288 | 326   | 274 | 202 | 227   | 175 | 152 | 159  | 256 | 219 | 233  |
| 6        | 396 | 327 | 358   | 239 | 201 | 218   | 156 | 153 | 155  | 275 | 224 | 243  |
| 7        | 445 | 339 | 408   | 249 | 212 | 238   | 158 | 148 | 153  | 299 | 231 | 260  |
| 8        | 445 | 321 | 394   | 210 | 197 | 203   | 168 | 159 | 164  | 271 | 235 | 247  |
| 9        | 410 | 307 | 365   | 208 | 197 | 202   | 174 | 168 | 171  | 291 | 203 | 269  |
| 10       | 379 | 322 | 358   | 215 | 205 | 210   | 177 | 174 | 175  | 202 | 161 | 188  |
| 11       | 493 | 357 | 404   | 231 | 211 | 221   | 178 | 175 | 177  | 170 | 157 | 162  |
| 12       | 488 | 382 | 410   | 233 | 224 | 228   | 179 | 175 | 177  | 173 | 156 | 163  |
| 13       | 408 | 354 | 378   | 246 | 211 | 234   | 185 | 174 | 178  | 182 | 158 | 168  |
| 14       | 412 | 362 | 394   | 206 | 174 | 186   | 189 | 181 | 184  | 197 | 163 | 177  |
| 15       | 363 | 310 | 335   | 174 | 164 | 170   | 205 | 189 | 195  | 217 | 171 | 192  |
| 16       | 351 | 302 | 322   | 180 | 166 | 174   | 208 | 206 | 207  | 217 | 174 | 206  |
| 17       | 326 | 288 | 303   | 193 | 180 | 187   | 238 | 205 | 215  | 196 | 170 | 182  |
| 18       | 341 | 292 | 311   | 207 | 186 | 195   | 275 | 241 | 265  | 234 | 185 | 205  |
| 19       | 352 | 288 | 314   | 235 | 196 | 215   | 270 | 253 | 260  | 233 | 192 | 215  |
| 20       | 365 | 298 | 328   | 222 | 197 | 211   | 255 | 246 | 250  | 253 | 204 | 225  |
| 21       | 421 | 351 | 391   | 224 | 208 | 220   | 262 | 249 | 253  | 259 | 214 | 238  |
| 22       | 424 | 349 | 398   | 213 | 181 | 203   | 284 | 262 | 271  | 255 | 230 | 242  |
| 23       | 344 | 296 | 312   | 176 | 152 | 161   | 289 | 277 | 284  | 278 | 255 | 270  |
| 24       | 326 | 286 | 297   | 154 | 148 | 152   | 292 | 272 | 281  | 265 | 239 | 247  |
| 25       | 312 | 211 | 245   | 165 | 154 | 159   | 276 | 215 | 262  | 243 | 237 | 240  |
| 26       | 241 | 213 | 229   | 175 | 166 | 171   | 235 | 197 | 219  | 268 | 245 | 258  |
| 27       | 265 | 232 | 251   | 175 | 172 | 174   | 221 | 196 | 209  | 289 | 270 | 282  |
| 28       | 271 | 232 | 256   | 172 | 168 | 170   | 232 | 199 | 216  | 312 | 290 | 305  |
| 29       | --- | --- | ---   | 171 | 164 | 167   | 246 | 209 | 227  | 322 | 310 | 316  |
| 30       | --- | --- | ---   | 171 | 167 | 169   | 256 | 216 | 233  | 328 | 320 | 324  |
| 31       | --- | --- | ---   | 175 | 170 | 173   | --- | --- | ---  | 325 | 312 | 321  |
| MONTH    | 493 | 211 | 330   | 298 | 148 | 202   | 292 | 148 | 209  | 328 | 156 | 238  |

## PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX | MIN  | MEAN | MAX | MIN  | MEAN | MAX | MIN    | MEAN | MAX | MIN       | MEAN |
|-------|-----|------|------|-----|------|------|-----|--------|------|-----|-----------|------|
|       |     | JUNE |      |     | JULY |      |     | AUGUST |      |     | SEPTEMBER |      |
| 1     | 311 | 298  | 302  | 316 | 285  | 300  | 337 | 306    | 317  | 466 | 361       | 379  |
| 2     | 296 | 250  | 272  | 334 | 295  | 315  | 379 | 339    | 359  | 374 | 348       | 362  |
| 3     | 287 | 250  | 267  | 335 | 313  | 324  | 376 | 357    | 363  | 356 | 346       | 351  |
| 4     | 297 | 289  | 293  | 335 | 322  | 327  | 359 | 337    | 344  | 353 | 335       | 341  |
| 5     | 302 | 290  | 294  | 328 | 315  | 321  | 336 | 322    | 329  | 357 | 349       | 353  |
| 6     | 349 | 303  | 328  | 353 | 324  | 337  | 322 | 316    | 319  | 392 | 354       | 367  |
| 7     | 396 | 350  | 373  | 364 | 354  | 359  | 338 | 307    | 321  | 443 | 400       | 428  |
| 8     | 393 | 366  | 385  | 371 | 356  | 365  | 348 | 330    | 337  | 433 | 379       | 392  |
| 9     | 361 | 340  | 352  | 361 | 333  | 352  | 377 | 350    | 367  | 373 | 298       | 326  |
| 10    | 337 | 270  | 291  | 334 | 319  | 327  | 392 | 374    | 382  | 296 | 223       | 252  |
| 11    | 337 | 274  | 295  | 333 | 317  | 327  | 384 | 329    | 360  | 272 | 237       | 257  |
| 12    | 314 | 276  | 296  | 354 | 326  | 339  | 336 | 318    | 330  | 292 | 270       | 278  |
| 13    | 295 | 249  | 267  | 359 | 305  | 347  | 309 | 277    | 289  | 307 | 291       | 297  |
| 14    | 253 | 237  | 245  | 327 | 307  | 314  | 310 | 290    | 299  | 306 | 299       | 303  |
| 15    | 254 | 244  | 248  | 313 | 296  | 303  | 334 | 294    | 309  | 313 | 297       | 302  |
| 16    | 274 | 248  | 256  | 306 | 298  | 303  | 372 | 335    | 352  | 323 | 295       | 317  |
| 17    | 285 | 259  | 269  | 296 | 282  | 288  | 367 | 303    | 334  | 293 | 268       | 284  |
| 18    | 312 | 281  | 296  | 293 | 275  | 284  | 317 | 295    | 304  | 391 | 292       | 349  |
| 19    | 314 | 286  | 304  | 296 | 269  | 280  | 311 | 283    | 297  | 395 | 280       | 313  |
| 20    | 344 | 313  | 332  | 282 | 257  | 271  | 297 | 263    | 279  | 289 | 266       | 278  |
| 21    | 345 | 314  | 336  | 286 | 254  | 268  | 308 | 291    | 297  | 307 | 269       | 291  |
| 22    | 321 | 299  | 312  | 260 | 231  | 252  | 314 | 275    | 299  | 337 | 294       | 319  |
| 23    | 306 | 287  | 299  | 254 | 231  | 245  | 309 | 277    | 291  | 330 | 310       | 317  |
| 24    | 313 | 283  | 296  | 248 | 236  | 241  | 389 | 290    | 330  | 314 | 279       | 300  |
| 25    | 323 | 292  | 308  | 245 | 208  | 232  | 395 | 318    | 352  | 330 | 276       | 304  |
| 26    | 312 | 282  | 298  | 273 | 217  | 250  | 317 | 293    | 303  | 400 | 337       | 377  |
| 27    | 363 | 296  | 337  | 273 | 217  | 249  | 345 | 309    | 318  | 390 | 301       | 353  |
| 28    | 368 | 318  | 353  | 243 | 216  | 229  | 345 | 327    | 334  | 450 | 296       | 320  |
| 29    | 321 | 288  | 312  | 251 | 235  | 243  | 348 | 341    | 343  | 313 | 275       | 291  |
| 30    | 309 | 284  | 297  | 264 | 233  | 247  | 424 | 349    | 388  | 282 | 267       | 276  |
| 31    | --- | ---  | ---  | 305 | 259  | 279  | 425 | 385    | 400  | --- | ---       | ---  |
| MONTH | 396 | 237  | 304  | 371 | 208  | 294  | 425 | 263    | 331  | 466 | 223       | 323  |
| YEAR  | 668 | 148  | 294  |     |      |      |     |        |      |     |           |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX  | MIN     | MEAN | MAX  | MIN      | MEAN | MAX | MIN      | MEAN | MAX | MIN     | MEAN |
|-------|------|---------|------|------|----------|------|-----|----------|------|-----|---------|------|
|       |      | OCTOBER |      |      | NOVEMBER |      |     | DECEMBER |      |     | JANUARY |      |
| 1     | 16.5 | 16.0    | 16.0 | 10.0 | 8.5      | 9.0  | 4.5 | 3.0      | 4.0  | 1.0 | 0.0     | 0.5  |
| 2     | 16.0 | 15.5    | 15.5 | 8.5  | 7.0      | 8.0  | 4.0 | 2.5      | 3.5  | 1.5 | 0.0     | 0.5  |
| 3     | 16.5 | 15.0    | 15.5 | 8.5  | 7.0      | 7.5  | 2.5 | 0.0      | 1.0  | 1.5 | 0.0     | 0.5  |
| 4     | 17.0 | 14.0    | 15.5 | 9.0  | 7.5      | 8.0  | 1.5 | 0.0      | 1.0  | 1.5 | 0.5     | 1.0  |
| 5     | 16.0 | 15.0    | 15.5 | 9.5  | 8.0      | 8.5  | 2.5 | 0.0      | 1.0  | 1.5 | 0.0     | 0.5  |
| 6     | 16.5 | 15.5    | 16.0 | 9.5  | 8.0      | 8.5  | 3.0 | 0.5      | 1.5  | 2.0 | 0.0     | 1.0  |
| 7     | 18.0 | 16.0    | 17.0 | 9.0  | 7.5      | 8.0  | 5.0 | 1.0      | 3.0  | 1.0 | 0.0     | 0.5  |
| 8     | 19.0 | 17.5    | 18.0 | 8.0  | 6.0      | 7.0  | 3.5 | 2.0      | 3.0  | 1.5 | 0.0     | 0.5  |
| 9     | 19.0 | 18.0    | 18.5 | 6.0  | 5.0      | 5.5  | 1.5 | 0.5      | 1.0  | 1.5 | 0.0     | 0.5  |
| 10    | 18.0 | 15.0    | 16.5 | 6.0  | 5.0      | 5.5  | 3.0 | 0.5      | 1.5  | 1.0 | 0.0     | 0.5  |
| 11    | 15.0 | 13.5    | 14.5 | 6.0  | 4.5      | 5.0  | 3.5 | 2.0      | 2.5  | 1.0 | 0.0     | 0.5  |
| 12    | 14.5 | 12.5    | 13.5 | 6.0  | 4.0      | 4.5  | 3.0 | 2.0      | 3.0  | 1.0 | 0.0     | 0.5  |
| 13    | 13.5 | 12.0    | 13.0 | 5.5  | 3.5      | 4.5  | 3.0 | 0.0      | 2.0  | 1.0 | 0.5     | 0.5  |
| 14    | 13.5 | 12.5    | 13.0 | 6.5  | 4.0      | 5.0  | 1.5 | 0.0      | 0.5  | 1.5 | 0.5     | 0.5  |
| 15    | 13.0 | 12.0    | 12.5 | 6.0  | 4.0      | 5.0  | 3.0 | 1.0      | 1.5  | 1.5 | 0.5     | 1.0  |
| 16    | 14.0 | 12.5    | 13.0 | 6.5  | 4.0      | 5.0  | 3.0 | 1.5      | 2.5  | 1.5 | 0.5     | 1.0  |
| 17    | 12.5 | 11.5    | 12.0 | 6.0  | 4.0      | 5.0  | 3.5 | 2.0      | 2.5  | 1.0 | 0.0     | 0.5  |
| 18    | 11.5 | 10.5    | 11.0 | 7.0  | 4.5      | 5.5  | 3.5 | 2.0      | 2.5  | 0.5 | 0.0     | 0.5  |
| 19    | 11.0 | 9.0     | 10.0 | 7.0  | 5.0      | 6.0  | 3.5 | 1.5      | 2.5  | 1.0 | 0.0     | 0.5  |
| 20    | 11.0 | 9.5     | 10.0 | 6.5  | 5.0      | 5.5  | 4.5 | 2.0      | 3.5  | 1.0 | 0.0     | 0.5  |
| 21    | 12.5 | 11.5    | 12.0 | 6.0  | 4.5      | 5.0  | 4.0 | 1.0      | 3.0  | 1.5 | 0.0     | 0.5  |
| 22    | 12.0 | 10.5    | 11.0 | 5.5  | 3.5      | 4.5  | 1.0 | 0.0      | 0.5  | 1.0 | 0.0     | 0.5  |
| 23    | 10.5 | 9.5     | 10.0 | 4.5  | 3.0      | 3.5  | 2.0 | 0.5      | 1.5  | 1.0 | 0.0     | 0.5  |
| 24    | 9.5  | 8.5     | 9.0  | 4.0  | 3.0      | 3.5  | 2.0 | 0.5      | 1.5  | 1.5 | 0.0     | 1.0  |
| 25    | 9.5  | 9.0     | 9.5  | 4.0  | 2.5      | 3.5  | 2.5 | 0.5      | 1.5  | 1.5 | 1.0     | 1.0  |
| 26    | 10.0 | 8.5     | 9.5  | 5.5  | 3.0      | 4.5  | 2.0 | 1.0      | 1.5  | 2.0 | 0.5     | 1.0  |
| 27    | 8.5  | 7.5     | 8.0  | 7.0  | 5.0      | 6.0  | 1.0 | 0.0      | 0.5  | 1.5 | 0.5     | 1.0  |
| 28    | 8.0  | 6.5     | 7.0  | 8.0  | 6.5      | 7.0  | 1.0 | 0.0      | 0.5  | 1.5 | 0.0     | 0.5  |
| 29    | 8.0  | 6.5     | 7.0  | 7.5  | 6.5      | 7.0  | 1.0 | 0.0      | 0.5  | 1.0 | 0.0     | 0.0  |
| 30    | 8.5  | 6.5     | 7.5  | 6.0  | 4.5      | 5.5  | 0.5 | 0.0      | 0.0  | 1.0 | 0.0     | 0.0  |
| 31    | 9.5  | 8.0     | 8.5  | ---  | ---      | ---  | 1.0 | 0.0      | 0.5  | 1.0 | 0.0     | 0.0  |
| MONTH | 19.0 | 6.5     | 12.5 | 10.0 | 2.5      | 6.0  | 5.0 | 0.0      | 2.0  | 2.0 | 0.0     | 0.5  |



TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY      | MAX  | MIN  | MEAN | MAX   | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
|----------|------|------|------|-------|------|------|--------|------|------|-----------|------|------|
| FEBRUARY |      |      |      | MARCH |      |      | APRIL  |      |      | MAY       |      |      |
| 1        | 1.0  | 0.0  | 0.5  | 3.0   | 1.0  | 2.5  | 8.5    | 7.5  | 8.0  | 15.5      | 12.5 | 14.0 |
| 2        | 1.0  | 0.0  | 0.5  | 3.0   | 1.5  | 2.5  | 8.0    | 7.0  | 7.0  | 15.0      | 13.5 | 14.5 |
| 3        | 1.5  | 0.0  | 0.5  | 3.5   | 1.5  | 2.5  | 9.5    | 7.0  | 8.5  | 16.0      | 13.5 | 15.0 |
| 4        | 1.5  | 0.0  | 0.5  | 3.0   | 2.5  | 2.5  | 9.0    | 7.0  | 8.0  | 15.5      | 13.5 | 14.5 |
| 5        | 1.0  | 0.0  | 0.5  | 4.0   | 2.5  | 3.5  | 7.0    | 6.0  | 6.5  | 14.5      | 14.0 | 14.0 |
| 6        | 1.5  | 0.0  | 0.5  | 4.0   | 3.0  | 3.5  | 7.5    | 6.5  | 7.0  | 16.0      | 13.5 | 15.0 |
| 7        | 1.5  | 0.0  | 0.5  | 3.5   | 2.5  | 3.0  | 7.5    | 6.0  | 7.0  | 17.5      | 15.0 | 16.5 |
| 8        | 2.0  | 0.0  | 0.5  | 3.5   | 1.5  | 2.5  | 7.5    | 6.5  | 7.0  | 17.5      | 15.0 | 16.0 |
| 9        | 2.0  | 0.0  | 0.5  | 4.5   | 2.5  | 3.5  | 6.5    | 5.0  | 6.0  | 15.5      | 9.5  | 13.0 |
| 10       | 2.5  | 0.0  | 1.0  | 5.5   | 3.5  | 4.5  | 7.5    | 5.5  | 6.5  | 9.5       | 8.5  | 8.5  |
| 11       | 2.0  | 0.0  | 0.5  | 6.0   | 4.5  | 5.0  | 8.0    | 6.5  | 7.5  | 12.0      | 8.5  | 10.5 |
| 12       | 2.0  | 0.5  | 1.0  | 6.5   | 5.0  | 5.5  | 10.5   | 7.5  | 8.5  | 14.0      | 11.0 | 12.5 |
| 13       | 2.5  | 1.5  | 2.0  | 7.0   | 6.0  | 6.0  | 11.5   | 10.0 | 10.5 | 15.5      | 13.0 | 14.0 |
| 14       | 3.5  | 1.5  | 2.0  | 7.0   | 6.0  | 6.5  | 12.0   | 11.0 | 11.5 | 15.0      | 13.0 | 14.0 |
| 15       | 2.5  | 1.5  | 2.0  | 6.0   | 4.5  | 5.0  | 11.5   | 9.5  | 10.5 | 15.0      | 13.0 | 14.0 |
| 16       | 2.5  | 0.5  | 1.0  | 5.0   | 4.0  | 4.5  | 11.0   | 10.0 | 10.5 | 16.5      | 14.0 | 15.5 |
| 17       | 1.5  | 0.0  | 0.5  | 4.5   | 3.5  | 4.0  | 12.5   | 10.0 | 11.0 | 18.0      | 15.0 | 16.5 |
| 18       | 2.0  | 0.0  | 0.5  | 3.5   | 1.0  | 2.5  | 14.0   | 11.5 | 13.0 | 18.5      | 17.0 | 18.0 |
| 19       | 1.0  | 0.0  | 0.5  | 3.0   | 1.0  | 2.0  | 15.0   | 12.5 | 13.5 | 17.5      | 16.0 | 16.5 |
| 20       | 1.0  | 0.0  | 0.5  | 3.5   | 2.0  | 3.0  | 15.5   | 13.0 | 14.0 | 18.0      | 15.0 | 16.5 |
| 21       | 2.0  | 0.5  | 1.0  | 5.0   | 3.0  | 4.5  | 16.0   | 14.0 | 15.0 | 18.5      | 16.5 | 17.5 |
| 22       | 1.5  | 0.0  | 0.5  | 5.0   | 4.0  | 4.5  | 18.0   | 15.0 | 16.5 | 20.5      | 17.5 | 19.0 |
| 23       | 2.0  | 0.5  | 1.5  | 4.0   | 3.5  | 3.5  | 17.0   | 15.0 | 16.0 | 22.0      | 19.0 | 20.5 |
| 24       | 2.5  | 1.5  | 2.0  | 4.0   | 2.5  | 3.5  | 14.5   | 12.0 | 13.5 | 22.5      | 20.5 | 21.5 |
| 25       | 2.0  | 1.0  | 1.5  | 3.5   | 2.0  | 3.0  | 12.0   | 10.5 | 11.0 | 23.0      | 21.0 | 22.0 |
| 26       | 3.0  | 1.0  | 2.0  | 4.5   | 2.5  | 3.5  | 11.0   | 10.0 | 10.5 | 23.5      | 20.5 | 22.0 |
| 27       | 2.5  | 1.5  | 2.0  | 5.5   | 4.0  | 5.0  | 12.0   | 10.0 | 11.0 | 21.0      | 20.0 | 20.5 |
| 28       | 3.0  | 2.0  | 2.5  | 5.5   | 5.0  | 5.5  | 12.5   | 11.0 | 12.0 | 22.5      | 19.0 | 20.5 |
| 29       | ---  | ---  | ---  | 8.0   | 5.5  | 7.0  | 13.0   | 11.0 | 12.0 | 21.0      | 19.0 | 20.0 |
| 30       | ---  | ---  | ---  | 10.0  | 7.5  | 9.0  | 14.0   | 11.0 | 12.5 | 21.5      | 18.0 | 19.5 |
| 31       | ---  | ---  | ---  | 10.0  | 8.5  | 9.5  | ---    | ---  | ---  | 22.0      | 18.0 | 19.5 |
| MONTH    | 3.5  | 0.0  | 1.0  | 10.0  | 1.0  | 4.5  | 18.0   | 5.0  | 10.5 | 23.5      | 8.5  | 16.5 |
| DAY      | MAX  | MIN  | MEAN | MAX   | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
| JUNE     |      |      |      | JULY  |      |      | AUGUST |      |      | SEPTEMBER |      |      |
| 1        | 21.0 | 18.5 | 19.5 | 25.0  | 22.5 | 23.5 | 25.0   | 22.5 | 23.5 | 24.0      | 22.5 | 23.0 |
| 2        | 19.5 | 19.0 | 19.0 | 25.5  | 23.0 | 24.0 | 26.0   | 23.5 | 24.5 | 25.0      | 22.5 | 23.5 |
| 3        | 21.0 | 18.5 | 19.5 | 25.0  | 22.0 | 23.5 | 25.0   | 24.0 | 24.5 | 24.5      | 23.0 | 24.0 |
| 4        | 21.0 | 17.5 | 19.0 | 24.5  | 21.5 | 23.0 | 25.5   | 23.0 | 24.0 | 24.5      | 22.5 | 23.5 |
| 5        | 21.0 | 18.5 | 19.5 | 25.5  | 22.0 | 24.0 | 26.0   | 23.5 | 25.0 | 24.0      | 21.5 | 22.5 |
| 6        | 21.0 | 18.5 | 19.5 | 25.5  | 22.5 | 24.0 | 26.5   | 24.5 | 25.5 | 24.0      | 21.5 | 23.0 |
| 7        | 18.5 | 17.5 | 18.0 | 25.0  | 23.0 | 24.0 | 26.5   | 25.0 | 25.5 | 24.0      | 21.0 | 22.5 |
| 8        | 18.5 | 16.5 | 17.5 | 24.0  | 22.0 | 22.5 | 27.5   | 25.0 | 26.0 | 23.0      | 21.5 | 22.0 |
| 9        | 17.5 | 16.5 | 17.0 | 25.0  | 21.5 | 23.0 | 27.5   | 25.5 | 26.5 | 22.5      | 20.5 | 21.5 |
| 10       | 16.5 | 15.0 | 15.5 | 25.0  | 22.5 | 23.5 | 26.5   | 24.5 | 25.5 | 21.0      | 19.5 | 20.5 |
| 11       | 15.0 | 14.5 | 14.5 | 24.5  | 21.5 | 23.0 | 27.5   | 24.5 | 26.0 | 20.5      | 18.5 | 19.5 |
| 12       | 17.0 | 14.5 | 15.5 | 23.5  | 21.5 | 22.5 | 26.0   | 25.5 | 26.0 | 20.5      | 17.5 | 19.0 |
| 13       | 19.0 | 16.5 | 17.5 | 24.5  | 22.0 | 23.0 | 25.5   | 24.0 | 25.0 | 19.5      | 18.0 | 18.5 |
| 14       | 20.5 | 18.0 | 19.0 | 26.0  | 22.5 | 24.0 | 24.5   | 23.5 | 24.0 | 20.0      | 18.5 | 19.0 |
| 15       | 21.5 | 19.0 | 20.5 | 26.5  | 23.5 | 25.0 | 25.5   | 22.5 | 24.0 | 20.0      | 17.5 | 18.5 |
| 16       | 21.5 | 20.0 | 21.0 | 26.5  | 23.5 | 25.0 | 24.5   | 23.0 | 23.5 | 18.5      | 17.5 | 18.0 |
| 17       | 21.0 | 19.5 | 20.0 | 27.5  | 24.5 | 26.0 | 23.5   | 23.0 | 23.5 | 18.5      | 17.5 | 18.0 |
| 18       | 22.5 | 19.5 | 20.5 | 28.0  | 25.5 | 26.5 | 23.5   | 22.0 | 22.5 | 21.0      | 18.0 | 19.5 |
| 19       | 23.0 | 20.5 | 21.5 | 29.0  | 25.5 | 27.0 | 23.5   | 21.5 | 22.5 | 22.0      | 19.5 | 20.5 |
| 20       | 24.0 | 21.0 | 22.5 | 29.0  | 26.5 | 27.5 | 23.0   | 20.5 | 21.5 | 21.0      | 18.0 | 19.5 |
| 21       | 24.0 | 21.5 | 22.5 | 29.0  | 26.5 | 27.5 | 23.5   | 20.0 | 21.5 | 18.0      | 16.0 | 17.0 |
| 22       | 23.0 | 21.0 | 22.0 | 27.5  | 25.0 | 26.5 | 21.0   | 19.5 | 20.5 | 16.0      | 15.5 | 15.5 |
| 23       | 22.0 | 20.0 | 21.0 | 26.0  | 24.0 | 25.0 | 22.0   | 19.0 | 20.5 | 16.5      | 15.0 | 15.5 |
| 24       | 23.0 | 19.5 | 21.0 | 25.5  | 23.0 | 24.0 | 22.0   | 20.0 | 21.0 | 15.5      | 14.5 | 15.0 |
| 25       | 22.0 | 20.5 | 21.5 | 23.5  | 22.5 | 23.0 | 22.5   | 20.0 | 21.0 | 14.5      | 14.0 | 14.0 |
| 26       | 22.0 | 20.5 | 21.0 | 23.5  | 21.5 | 22.5 | 23.0   | 20.0 | 21.0 | 16.0      | 14.0 | 14.5 |
| 27       | 23.0 | 20.5 | 21.5 | 23.5  | 21.5 | 22.5 | 23.5   | 20.0 | 21.5 | 17.5      | 15.5 | 16.5 |
| 28       | 24.0 | 21.5 | 22.5 | 24.0  | 21.5 | 22.5 | 24.5   | 21.0 | 23.0 | 18.0      | 16.5 | 17.0 |
| 29       | 23.5 | 22.5 | 23.0 | 24.0  | 21.0 | 22.5 | 26.0   | 22.5 | 24.5 | 18.0      | 16.5 | 17.0 |
| 30       | 24.5 | 22.0 | 23.5 | 22.5  | 21.5 | 22.0 | 25.5   | 23.5 | 24.5 | 17.5      | 16.0 | 16.5 |
| 31       | ---  | ---  | ---  | 24.0  | 21.5 | 23.0 | 25.0   | 23.5 | 24.0 | ---       | ---  | ---  |
| MONTH    | 24.5 | 14.5 | 20.0 | 29.0  | 21.0 | 24.0 | 27.5   | 19.0 | 23.5 | 25.0      | 14.0 | 19.0 |
| YEAR     | 29.0 | 0.0  | 11.5 |       |      |      |        |      |      |           |      |      |

## 01117000 POTOWOMUT 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.

REVISED RECORDS.--WSP 1621: 1957-58.

GAGE.--Water-stage recorder. Datum of gage is 5.42 ft (1.652 m) above mean sea level.

REMARKS.--Records good except those below 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s), which are fair. Flow affected by diversions for supply of East Greenwich, North Kingstown, Warwick, and Quonset Point (formerly U.S. Naval establishments). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--37 years, 43.7 ft<sup>3</sup>/s (1.238 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 866 ft<sup>3</sup>/s (24.5 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 3.36 ft

(1.024 m), from rating curve extended above 440 ft<sup>3</sup>/s (12.5 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, back-

water from hurricane tidal wave.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 230 ft<sup>3</sup>/s (6.51 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 0800 | 240 6.80                                              | 2.18 0.664              | Apr. 5 | 2030 | 273 7.73                                              | 2.28 0.695              |
| Mar. 23 | 0600 | *291 8.24                                             | *2.33 .710              |        |      |                                                       |                         |

No flow for part of Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC       | JAN     | FEB     | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------------|-------|---------|-----------|---------|---------|------|------|------|------|-------|-------|-------|
| 1           | 4.9   | 27      | 14        | 17      | 23      | 121  | 75   | 49   | 14   | 9.6   | 4.9   | 6.4   |
| 2           | 5.6   | 23      | 13        | 16      | 22      | 94   | 69   | 47   | 17   | 7.5   | 4.9   | 6.1   |
| 3           | 6.5   | 20      | 13        | 16      | 21      | 76   | 111  | 45   | 19   | 5.6   | 4.9   | 6.4   |
| 4           | 4.9   | 24      | 11        | 17      | 21      | 74   | 100  | 42   | 16   | 5.6   | 4.9   | 6.5   |
| 5           | 4.9   | 23      | 11        | 17      | 21      | 178  | 200  | 45   | 13   | 4.9   | 4.9   | 5.6   |
| 6           | 4.9   | 21      | 11        | 16      | 21      | 170  | 223  | 50   | 11   | 3.6   | 4.9   | 5.6   |
| 7           | 4.9   | 20      | 35        | 20      | 21      | 119  | 145  | 62   | 28   | 2.5   | 7.5   | 4.9   |
| 8           | 5.6   | 19      | 79        | 21      | 21      | 95   | 115  | 50   | 30   | 4.9   | 21    | 4.2   |
| 9           | 47    | 17      | 43        | 19      | 21      | 84   | 101  | 79   | 21   | 8.5   | 11    | 4.2   |
| 10          | 94    | 17      | 28        | 62      | 21      | 80   | 91   | 190  | 99   | 8.5   | 5.0   | 25    |
| 11          | 40    | 16      | 26        | 139     | 22      | 76   | 84   | 150  | 119  | 6.5   | 5.6   | 25    |
| 12          | 24    | 16      | 24        | 85      | 26      | 70   | 80   | 102  | 79   | 6.5   | 4.9   | 13    |
| 13          | 16    | 16      | 23        | 62      | 35      | 78   | 77   | 76   | 68   | 7.5   | 4.9   | 9.4   |
| 14          | 13    | 16      | 17        | 52      | 47      | 216  | 74   | 62   | 50   | 7.5   | 5.6   | 6.7   |
| 15          | 11    | 16      | 17        | 47      | 42      | 160  | 72   | 56   | 36   | 5.6   | 6.5   | 5.6   |
| 16          | 11    | 16      | 19        | 40      | 34      | 116  | 70   | 50   | 26   | 5.6   | 5.6   | 5.6   |
| 17          | 9.6   | 14      | 24        | 35      | 32      | 94   | 68   | 47   | 23   | 5.6   | 6.6   | 17    |
| 18          | 9.6   | 16      | 23        | 35      | 30      | 87   | 62   | 42   | 21   | 4.9   | 9.2   | 14    |
| 19          | 7.5   | 14      | 20        | 34      | 29      | 104  | 60   | 49   | 24   | 4.2   | 5.6   | 15    |
| 20          | 12    | 14      | 20        | 32      | 30      | 100  | 58   | 49   | 20   | 4.2   | 5.6   | 21    |
| 21          | 102   | 14      | 38        | 30      | 30      | 93   | 56   | 42   | 17   | 4.2   | 4.9   | 26    |
| 22          | 64    | 13      | 28        | 30      | 29      | 112  | 54   | 36   | 13   | 5.6   | 9.7   | 16    |
| 23          | 36    | 13      | 23        | 29      | 27      | 262  | 56   | 32   | 12   | 4.9   | 14    | 12    |
| 24          | 27    | 13      | 20        | 28      | 28      | 180  | 79   | 28   | 11   | 4.2   | 10    | 20    |
| 25          | 28    | 13      | 17        | 30      | 178     | 129  | 102  | 26   | 11   | 8.5   | 14    | 49    |
| 26          | 42    | 12      | 21        | 28      | 131     | 106  | 83   | 23   | 17   | 16    | 9.6   | 41    |
| 27          | 42    | 13      | 20        | 27      | 99      | 95   | 70   | 20   | 19   | 8.5   | 7.0   | 38    |
| 28          | 32    | 13      | 17        | 26      | 150     | 88   | 60   | 20   | 14   | 5.6   | 6.5   | 27    |
| 29          | 26    | 19      | 19        | 33      | ---     | 98   | 56   | 19   | 13   | 4.9   | 5.6   | 18    |
| 30          | 23    | 19      | 17        | 28      | ---     | 93   | 52   | 17   | 11   | 4.9   | 16    | 13    |
| 31          | 24    | ---     | 17        | 25      | ---     | 83   | ---  | 16   | ---  | 4.9   | 14    | ---   |
| TOTAL       | 782.9 | 507     | 708       | 1096    | 1212    | 3531 | 2603 | 1621 | 872  | 191.5 | 245.3 | 467.2 |
| MEAN        | 25.3  | 16.9    | 22.8      | 35.4    | 43.3    | 114  | 86.8 | 52.3 | 29.1 | 6.18  | 7.91  | 15.6  |
| MAX         | 102   | 27      | 79        | 139     | 178     | 262  | 223  | 190  | 119  | 16    | 21    | 49    |
| MIN         | 4.9   | 12      | 11        | 16      | 21      | 70   | 52   | 16   | 11   | 2.5   | 4.9   | 4.2   |
| CAL YR 1976 | TOTAL | 16061.0 | MEAN 43.9 | MAX 401 | MIN 4.2 |      |      |      |      |       |       |       |
| WTR YR 1977 | TOTAL | 13836.9 | MEAN 37.9 | MAX 262 | MIN 2.5 |      |      |      |      |       |       |       |

## POTOWOMUT RIVER BASIN

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01117000 POTOWOMUT RIVER NEAR EAST GREENWICH, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1963, July to September 1977.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July to September 1977.

WATER TEMPERATURES: July to September 1977.

INSTRUMENTATION.--Water-quality monitor since July 1977.

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

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 178 micromhos July 21; minimum, 107 micromhos Sept. 26.

WATER TEMPERATURES: Maximum, 28.0°C July 19-21; minimum, 13.5°C Sept. 25.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), JULY TO SEPTEMBER 1977

| DAY   | MAX | MIN | MEAN   | MAX | MIN | MEAN      | MAX | MIN | MEAN |
|-------|-----|-----|--------|-----|-----|-----------|-----|-----|------|
| JULY  |     |     | AUGUST |     |     | SEPTEMBER |     |     |      |
| 1     | --- | --- | ---    | 164 | 159 | 162       | 141 | 128 | 133  |
| 2     | --- | --- | ---    | 167 | 161 | 166       | 143 | 128 | 133  |
| 3     | --- | --- | ---    | 171 | 167 | 169       | 142 | 126 | 135  |
| 4     | --- | --- | ---    | 170 | 166 | 168       | 145 | 139 | 142  |
| 5     | 150 | 148 | 149    | 170 | 167 | 168       | 153 | 146 | 150  |
| 6     | 151 | 147 | 149    | 169 | 164 | 167       | 160 | 152 | 157  |
| 7     | 152 | 148 | 150    | 168 | 165 | 167       | 163 | 154 | 159  |
| 8     | 153 | 150 | 152    | 166 | 160 | 164       | 164 | 156 | 160  |
| 9     | 152 | 149 | 151    | 166 | 159 | 163       | 170 | 156 | 164  |
| 10    | 154 | 148 | 151    | 166 | 139 | 157       | 169 | 109 | 148  |
| 11    | 158 | 152 | 155    | 143 | 137 | 140       | 142 | 122 | 133  |
| 12    | 175 | 143 | 155    | 146 | 140 | 143       | 134 | 123 | 128  |
| 13    | 154 | 149 | 151    | 148 | 142 | 146       | 136 | 125 | 130  |
| 14    | 153 | 146 | 150    | 150 | 147 | 148       | 130 | 122 | 125  |
| 15    | 150 | 146 | 148    | --- | --- | ---       | 143 | 131 | 136  |
| 16    | 153 | 147 | 149    | --- | --- | ---       | 150 | 141 | 146  |
| 17    | 150 | 145 | 148    | --- | --- | ---       | 145 | 117 | 130  |
| 18    | 152 | 146 | 149    | --- | --- | ---       | 139 | 120 | 126  |
| 19    | 156 | 146 | 151    | --- | --- | ---       | 141 | 120 | 127  |
| 20    | 156 | 149 | 153    | --- | --- | ---       | 141 | 114 | 128  |
| 21    | 178 | 152 | 163    | --- | --- | ---       | 133 | 119 | 128  |
| 22    | --- | --- | ---    | --- | --- | ---       | 132 | 127 | 129  |
| 23    | --- | --- | ---    | --- | --- | ---       | 133 | 129 | 131  |
| 24    | --- | --- | ---    | --- | --- | ---       | 137 | 111 | 130  |
| 25    | --- | --- | ---    | --- | --- | ---       | 115 | 109 | 112  |
| 26    | 175 | 172 | 173    | --- | --- | ---       | 110 | 107 | 108  |
| 27    | 175 | 172 | 173    | --- | --- | ---       | 111 | 109 | 110  |
| 28    | 174 | 173 | 174    | --- | --- | ---       | 118 | 111 | 115  |
| 29    | 174 | 169 | 171    | --- | --- | ---       | 135 | 119 | 129  |
| 30    | 172 | 164 | 169    | --- | --- | ---       | 143 | 136 | 141  |
| 31    | 166 | 157 | 161    | --- | --- | ---       | --- | --- | ---  |
| MONTH | --- | --- | ---    | --- | --- | ---       | 170 | 107 | 134  |

## POTOWOMUT RIVER BASIN

01117000 POTOWOMUT RIVER NEAR EAST GREENWICH, RI--Continued

TEMPERATURE (DEG. C) OF WATER, JULY TO SEPTEMBER 1977

| DAY   | MAX  | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
|-------|------|------|------|--------|------|------|-----------|------|------|
|       | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |      |
| 1     | ---  | ---  | ---  | 23.5   | 22.0 | 23.0 | 23.0      | 22.0 | 22.5 |
| 2     | ---  | ---  | ---  | 25.5   | 23.5 | 24.0 | 24.0      | 21.5 | 22.5 |
| 3     | ---  | ---  | ---  | 25.0   | 24.0 | 24.5 | 24.5      | 22.5 | 23.0 |
| 4     | ---  | ---  | ---  | 24.5   | 23.5 | 24.0 | 23.0      | 21.0 | 22.0 |
| 5     | 25.0 | 23.5 | 24.5 | 25.0   | 23.5 | 24.5 | 23.0      | 20.0 | 21.5 |
| 6     | 25.0 | 23.0 | 24.0 | 25.5   | 24.5 | 25.0 | 23.0      | 21.0 | 22.0 |
| 7     | 25.0 | 23.0 | 24.0 | 26.0   | 25.5 | 25.5 | 23.5      | 21.0 | 22.5 |
| 8     | 24.5 | 21.5 | 23.0 | 27.0   | 25.5 | 26.0 | 22.5      | 20.0 | 21.5 |
| 9     | 23.5 | 21.0 | 22.0 | 27.5   | 26.5 | 27.0 | 21.5      | 18.5 | 20.0 |
| 10    | 24.5 | 23.0 | 23.5 | 27.0   | 25.0 | 25.5 | 21.5      | 19.5 | 20.0 |
| 11    | 23.5 | 21.0 | 22.0 | 27.0   | 24.5 | 25.5 | 20.5      | 18.0 | 19.0 |
| 12    | 22.5 | 21.5 | 22.0 | 26.5   | 25.0 | 26.0 | 18.0      | 16.5 | 17.5 |
| 13    | 23.5 | 22.0 | 22.5 | 25.5   | 23.5 | 25.0 | 18.0      | 17.5 | 18.0 |
| 14    | 24.5 | 22.5 | 23.5 | 24.0   | 23.0 | 23.5 | 20.0      | 18.0 | 19.0 |
| 15    | 25.5 | 23.5 | 24.5 | ---    | ---  | ---  | 19.0      | 17.0 | 18.0 |
| 16    | 25.0 | 24.0 | 24.5 | ---    | ---  | ---  | 18.0      | 17.0 | 17.5 |
| 17    | 26.5 | 25.0 | 25.5 | ---    | ---  | ---  | 20.5      | 17.5 | 18.5 |
| 18    | 27.5 | 25.5 | 26.5 | ---    | ---  | ---  | 20.5      | 19.0 | 19.5 |
| 19    | 28.0 | 25.5 | 26.5 | ---    | ---  | ---  | 24.0      | 21.0 | 22.5 |
| 20    | 28.0 | 26.5 | 27.5 | ---    | ---  | ---  | 23.0      | 18.5 | 21.0 |
| 21    | 28.0 | 26.5 | 27.5 | ---    | ---  | ---  | 18.5      | 15.5 | 17.0 |
| 22    | 27.5 | 26.0 | 27.0 | ---    | ---  | ---  | 15.5      | 14.5 | 15.0 |
| 23    | 26.0 | 23.5 | 24.5 | ---    | ---  | ---  | 16.0      | 14.5 | 15.0 |
| 24    | 24.0 | 22.5 | 23.5 | ---    | ---  | ---  | 15.5      | 14.0 | 15.0 |
| 25    | 24.0 | 23.0 | 23.5 | ---    | ---  | ---  | 15.0      | 13.5 | 14.0 |
| 26    | 23.5 | 21.0 | 22.5 | ---    | ---  | ---  | 17.5      | 15.0 | 16.0 |
| 27    | 23.0 | 20.5 | 21.5 | ---    | ---  | ---  | 19.0      | 17.0 | 18.0 |
| 28    | 22.0 | 20.0 | 21.0 | ---    | ---  | ---  | 18.5      | 17.0 | 17.5 |
| 29    | 22.0 | 20.0 | 21.0 | ---    | ---  | ---  | 18.0      | 16.0 | 17.0 |
| 30    | 22.0 | 21.0 | 21.5 | ---    | ---  | ---  | 16.5      | 14.0 | 15.5 |
| 31    | 23.0 | 20.5 | 21.5 | ---    | ---  | ---  | ---       | ---  | ---  |
| MONTH | 28.0 | 20.0 | 23.5 | ---    | ---  | ---  | 24.5      | 13.5 | 19.0 |

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.

PERIOD OF RECORD.--February 1958 to July 1960 in Rhode Island Water Resources Board Geologic Bulletin 13.  
September 1973 to current year.

REMARKS.--Records good prior to June and fair thereafter. Diversion upstream for supply of University of Rhode Island.

EXTREMES FOR PERIOD OF RECORD (SINCE 1973).--Maximum discharge, 88 ft<sup>3</sup>/s (2.49 m<sup>3</sup>/s) Jan. 29, 1976; gage height, 6.64 ft (2.024 m); minimum, 2.7 ft<sup>3</sup>/s (0.076 m<sup>3</sup>/s) July 28, 29, 1976.  
Instantaneous maximum and minimum discharges not available prior to Sept. 14, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 69 ft<sup>3</sup>/s (1.95 m<sup>3</sup>/s) Apr. 6, gage height, 6.31 ft (1.923 m); minimum, 3.7 ft<sup>3</sup>/s (0.10 m<sup>3</sup>/s) Nov. 22-25.

| DAY         | OCT   | NOV    | DEC   | JAN   | FEB   | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------------|-------|--------|-------|-------|-------|------|------|------|------|-------|-------|-------|
| 1           | 4.8   | 8.9    | 4.6   | 7.6   | 9.1   | 54   | 37   | 24   | 14   | 13    | 7.3   | 8.4   |
| 2           | 5.2   | 7.1    | 4.6   | 7.3   | 8.6   | 50   | 35   | 24   | 13   | 13    | 7.1   | 8.2   |
| 3           | 5.3   | 6.3    | 4.6   | 7.1   | 8.4   | 44   | 38   | 23   | 14   | 12    | 7.6   | 6.5   |
| 4           | 5.2   | 6.1    | 4.3   | 7.1   | 8.2   | 38   | 41   | 23   | 14   | 12    | 7.6   | 6.5   |
| 5           | 5.0   | 5.9    | 4.4   | 7.1   | 8.2   | 40   | 51   | 23   | 13   | 11    | 7.3   | 7.1   |
| 6           | 4.8   | 5.7    | 4.4   | 6.9   | 8.9   | 46   | 67   | 24   | 13   | 10    | 7.3   | 6.3   |
| 7           | 4.8   | 5.3    | 5.3   | 7.3   | 8.9   | 47   | 68   | 26   | 15   | 9.3   | 7.1   | 4.8   |
| 8           | 4.5   | 5.3    | 7.8   | 7.8   | 8.4   | 43   | 61   | 25   | 15   | 8.4   | 6.7   | 4.6   |
| 9           | 6.5   | 5.3    | 10    | 8.4   | 8.2   | 38   | 54   | 27   | 15   | 8.6   | 6.7   | 4.6   |
| 10          | 9.3   | 5.3    | 9.8   | 12    | 8.2   | 34   | 50   | 36   | 23   | 7.8   | 6.3   | 5.9   |
| 11          | 9.6   | 5.2    | 9.1   | 22    | 8.0   | 32   | 46   | 42   | 33   | 7.3   | 5.3   | 7.3   |
| 12          | 8.9   | 5.0    | 8.2   | 31    | 8.2   | 29   | 43   | 43   | 38   | 7.8   | 4.6   | 6.7   |
| 13          | 8.4   | 5.0    | 8.0   | 30    | 9.1   | 29   | 40   | 40   | 36   | 7.8   | 4.1   | 6.5   |
| 14          | 7.6   | 5.0    | 6.9   | 24    | 12    | 38   | 39   | 35   | 31   | 8.0   | 5.2   | 6.1   |
| 15          | 6.7   | 4.8    | 6.7   | 21    | 14    | 50   | 37   | 32   | 27   | 7.8   | 5.3   | 5.5   |
| 16          | 5.9   | 4.8    | 6.5   | 18    | 14    | 53   | 36   | 29   | 23   | 7.1   | 5.0   | 5.7   |
| 17          | 5.7   | 4.6    | 6.7   | 16    | 13    | 49   | 35   | 27   | 20   | 7.1   | 5.9   | 6.9   |
| 18          | 5.5   | 4.4    | 6.9   | 14    | 12    | 43   | 33   | 26   | 18   | 7.1   | 6.9   | 7.3   |
| 19          | 5.2   | 4.4    | 6.9   | 13    | 11    | 41   | 32   | 25   | 16   | 6.7   | 7.1   | 8.0   |
| 20          | 5.9   | 4.4    | 6.9   | 12    | 11    | 40   | 30   | 24   | 15   | 6.9   | 6.9   | 9.5   |
| 21          | 10    | 4.0    | 8.2   | 11    | 11    | 38   | 29   | 23   | 14   | 6.3   | 6.3   | 10    |
| 22          | 14    | 3.8    | 8.6   | 11    | 10    | 40   | 30   | 23   | 13   | 6.7   | 7.6   | 9.8   |
| 23          | 16    | 3.7    | 9.1   | 10    | 9.8   | 56   | 29   | 22   | 12   | 5.7   | 8.6   | 8.9   |
| 24          | 14    | 3.7    | 8.9   | 10    | 9.5   | 67   | 29   | 21   | 11   | 5.7   | 9.8   | 9.5   |
| 25          | 13    | 3.8    | 8.2   | 10    | 21    | 62   | 29   | 20   | 10   | 5.3   | 13    | 11    |
| 26          | 12    | 4.3    | 8.0   | 10    | 42    | 54   | 30   | 20   | 13   | 6.5   | 13    | 12    |
| 27          | 12    | 4.3    | 8.0   | 9.8   | 47    | 48   | 30   | 19   | 14   | 6.5   | 12    | 11    |
| 28          | 11    | 4.4    | 8.2   | 9.8   | 50    | 44   | 29   | 17   | 14   | 6.5   | 11    | 10    |
| 29          | 10    | 4.4    | 8.0   | 9.8   | ---   | 41   | 27   | 16   | 15   | 8.0   | 11    | 9.5   |
| 30          | 9.8   | 4.6    | 8.0   | 9.8   | ---   | 40   | 26   | 15   | 14   | 7.1   | 10    | 8.4   |
| 31          | 9.1   | ---    | 7.8   | 9.5   | ---   | 39   | ---  | 14   | ---  | 7.8   | 9.1   | ---   |
| TOTAL       | 255.7 | 149.8  | 223.6 | 390.3 | 397.7 | 1367 | 1161 | 788  | 536  | 250.8 | 238.7 | 232.5 |
| MEAN        | 8.25  | 4.99   | 7.21  | 12.6  | 14.2  | 44.1 | 38.7 | 25.4 | 17.9 | 8.09  | 7.70  | 7.75  |
| MAX         | 16    | 8.9    | 10    | 31    | 50    | 67   | 68   | 43   | 38   | 13    | 13    | 12    |
| MIN         | 4.5   | 3.7    | 4.3   | 6.9   | 8.0   | 29   | 26   | 14   | 10   | 5.3   | 4.1   | 4.6   |
| CAL YR 1976 | TOTAL | 6004.5 | MEAN  | 16.4  | MAX   | 85   | MIN  | 2.7  |      |       |       |       |
| WTR YR 1977 | TOTAL | 5991.1 | MEAN  | 16.4  | MAX   | 68   | MIN  | 3.7  |      |       |       |       |

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, 180 micromhos May 7, 1977; minimum, 53 micromhos Apr. 19, 1974.

WATER TEMPERATURES: Maximum, 30.0°C Aug. 2, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 180 micromhos May 7; minimum, 65 micromhos March 8.

WATER TEMPERATURES: Maximum, 28.5°C July 7, minimum not determined, probably 0.0°C on many days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 141     | 139 | 140  | 138      | 132 | 136  | ---      | --- | ---  | 166     | 143 | 154  |
| 2     | 140     | 138 | 139  | 138      | 132 | 134  | 144      | 141 | 143  | 168     | 154 | 163  |
| 3     | 142     | 140 | 141  | 139      | 136 | 138  | 142      | 138 | 140  | 153     | 138 | 144  |
| 4     | 145     | 142 | 143  | 141      | 133 | 138  | 142      | 140 | 141  | 139     | 138 | 139  |
| 5     | 145     | 143 | 144  | 141      | 139 | 140  | 140      | 138 | 139  | 141     | 138 | 139  |
| 6     | 148     | 145 | 146  | 139      | 136 | 138  | 142      | 138 | 140  | 141     | 139 | 140  |
| 7     | 149     | 147 | 148  | 142      | 136 | 139  | 145      | 137 | 143  | 141     | 138 | 140  |
| 8     | 150     | 147 | 148  | 141      | 139 | 141  | 135      | 129 | 132  | 140     | 138 | 139  |
| 9     | 153     | 146 | 149  | 142      | 139 | 140  | 136      | 130 | 133  | 141     | 138 | 139  |
| 10    | 149     | 140 | 143  | 141      | 138 | 140  | 143      | 136 | 139  | 155     | 133 | 139  |
| 11    | 143     | 139 | 140  | 140      | 137 | 138  | 141      | 139 | 140  | 136     | 131 | 133  |
| 12    | 145     | 139 | 141  | 142      | 139 | 140  | 143      | 139 | 141  | 140     | 132 | 136  |
| 13    | 143     | 137 | 141  | 142      | 138 | 140  | 143      | 136 | 141  | 134     | 129 | 131  |
| 14    | 146     | 138 | 143  | 141      | 138 | 139  | 141      | 136 | 139  | 131     | 129 | 130  |
| 15    | 144     | 138 | 141  | 142      | 139 | 140  | 152      | 139 | 144  | 132     | 129 | 130  |
| 16    | 149     | 141 | 146  | 142      | 139 | 140  | 147      | 141 | 143  | 132     | 131 | 132  |
| 17    | 143     | 141 | 142  | 142      | 138 | 140  | 155      | 148 | 153  | 134     | 131 | 132  |
| 18    | 143     | 140 | 142  | 144      | 140 | 142  | 146      | 135 | 140  | 136     | 133 | 134  |
| 19    | 144     | 141 | 142  | 142      | 140 | 141  | 142      | 135 | 138  | 135     | 134 | 135  |
| 20    | 146     | 141 | 144  | 140      | 137 | 138  | 155      | 137 | 147  | 138     | 135 | 136  |
| 21    | 153     | 140 | 146  | 141      | 138 | 139  | 153      | 142 | 148  | 142     | 137 | 139  |
| 22    | 139     | 135 | 137  | 142      | 140 | 140  | 160      | 153 | 156  | 143     | 141 | 142  |
| 23    | 138     | 134 | 136  | 141      | 140 | 141  | 160      | 136 | 147  | 144     | 141 | 142  |
| 24    | 139     | 134 | 135  | 143      | 140 | 141  | 139      | 136 | 137  | 146     | 142 | 143  |
| 25    | 138     | 136 | 137  | 142      | 140 | 141  | 143      | 137 | 140  | 145     | 142 | 143  |
| 26    | 139     | 134 | 136  | 144      | 141 | 143  | 144      | 140 | 142  | 146     | 142 | 144  |
| 27    | 142     | 136 | 139  | 151      | 144 | 147  | 142      | 138 | 140  | 146     | 143 | 145  |
| 28    | 135     | 130 | 132  | 150      | 146 | 148  | 141      | 139 | 140  | 146     | 144 | 145  |
| 29    | 139     | 130 | 134  | 150      | 146 | 148  | 141      | 139 | 140  | 146     | 143 | 144  |
| 30    | 142     | 137 | 138  | 147      | 147 | 147  | 143      | 140 | 142  | 146     | 144 | 145  |
| 31    | 139     | 135 | 137  | ---      | --- | ---  | 142      | 139 | 141  | 145     | 145 | 145  |
| MONTH | 153     | 130 | 141  | 151      | 132 | 141  | 160      | 129 | 142  | 168     | 129 | 140  |



SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1        | 145 | 144 | 144  | 127   | 109 | 117  | 103    | 95  | 98   | 148       | 133 | 142  |
| 2        | 145 | 143 | 144  | 108   | 71  | 90   | 99     | 95  | 97   | 158       | 147 | 154  |
| 3        | 145 | 144 | 145  | 82    | 71  | 75   | 105    | 97  | 101  | 167       | 157 | 162  |
| 4        | 148 | 143 | 144  | 75    | 72  | 73   | 98     | 92  | 94   | 176       | 166 | 171  |
| 5        | 146 | 141 | 143  | 88    | 71  | 77   | 93     | 82  | 88   | 178       | 173 | 176  |
| 6        | 142 | 141 | 142  | 76    | 69  | 73   | 86     | 80  | 83   | 174       | 162 | 170  |
| 7        | 142 | 141 | 141  | 72    | 67  | 69   | 91     | 78  | 82   | 180       | 173 | 176  |
| 8        | 143 | 141 | 142  | 77    | 65  | 70   | 87     | 79  | 84   | 175       | 166 | 171  |
| 9        | 143 | 140 | 142  | 81    | 66  | 71   | 87     | 79  | 82   | 168       | 146 | 161  |
| 10       | 146 | 140 | 141  | 85    | 67  | 73   | 93     | 82  | 88   | 143       | 112 | 127  |
| 11       | 146 | 139 | 141  | 90    | 68  | 76   | 96     | 82  | 88   | 128       | 111 | 121  |
| 12       | 145 | 139 | 141  | 88    | 69  | 76   | 101    | 84  | 94   | 141       | 127 | 136  |
| 13       | 144 | 136 | 140  | 80    | 73  | 76   | 102    | 94  | 98   | 148       | 139 | 143  |
| 14       | 140 | 133 | 136  | 81    | 74  | 78   | 104    | 96  | 99   | 157       | 145 | 151  |
| 15       | 138 | 135 | 136  | 78    | 74  | 77   | 100    | 92  | 97   | 165       | 151 | 158  |
| 16       | 137 | 135 | 135  | 92    | 78  | 84   | 105    | 94  | 99   | 158       | 146 | 154  |
| 17       | 136 | 134 | 135  | 96    | 83  | 89   | 106    | 96  | 101  | 153       | 136 | 149  |
| 18       | 136 | 133 | 134  | 94    | 88  | 92   | 107    | 97  | 102  | 144       | 131 | 140  |
| 19       | 135 | 133 | 134  | 99    | 88  | 94   | 109    | 102 | 105  | 141       | 130 | 136  |
| 20       | 133 | 130 | 132  | 100   | 89  | 94   | 110    | 101 | 104  | 129       | 123 | 126  |
| 21       | 133 | 130 | 132  | 104   | 93  | 98   | 108    | 103 | 104  | 134       | 124 | 129  |
| 22       | 131 | 129 | 130  | 99    | 97  | 98   | 107    | 102 | 104  | 132       | 126 | 129  |
| 23       | 133 | 128 | 131  | 96    | 84  | 90   | 107    | 102 | 104  | 123       | 112 | 119  |
| 24       | 136 | 130 | 132  | 87    | 79  | 81   | 106    | 98  | 101  | 116       | 107 | 112  |
| 25       | 135 | 112 | 124  | 94    | 79  | 85   | 103    | 97  | 99   | 114       | 96  | 107  |
| 26       | 127 | 120 | 124  | 96    | 84  | 88   | 105    | 98  | 101  | 112       | 95  | 104  |
| 27       | 128 | 123 | 126  | 101   | 86  | 91   | 103    | 96  | 100  | 122       | 102 | 116  |
| 28       | 132 | 125 | 129  | 96    | 87  | 90   | 109    | 96  | 104  | 126       | 119 | 122  |
| 29       | --- | --- | ---  | 99    | 87  | 93   | 122    | 106 | 114  | 125       | 119 | 122  |
| 30       | --- | --- | ---  | 103   | 93  | 97   | 136    | 121 | 129  | 129       | 115 | 123  |
| 31       | --- | --- | ---  | 100   | 91  | 95   | ---    | --- | ---  | 121       | 114 | 117  |
| MONTH    | 148 | 112 | 136  | 127   | 65  | 85   | 136    | 78  | 98   | 180       | 95  | 139  |
| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
| JUNE     |     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1        | 116 | 112 | 114  | 104   | 99  | 102  | 114    | 109 | 112  | 127       | 123 | 125  |
| 2        | 116 | 112 | 114  | 106   | 99  | 103  | 118    | 112 | 115  | 127       | 120 | 124  |
| 3        | 116 | 112 | 114  | 106   | 101 | 104  | 118    | 116 | 117  | 129       | 122 | 125  |
| 4        | 114 | 110 | 112  | 107   | 101 | 105  | 121    | 116 | 119  | 127       | 118 | 123  |
| 5        | 116 | 111 | 114  | 108   | 102 | 106  | 123    | 118 | 121  | 119       | 115 | 117  |
| 6        | 117 | 111 | 114  | 109   | 104 | 107  | 123    | 117 | 121  | 119       | 116 | 118  |
| 7        | 117 | 113 | 115  | 110   | 105 | 108  | 125    | 120 | 124  | 121       | 115 | 118  |
| 8        | 115 | 110 | 113  | 109   | 107 | 109  | 126    | 123 | 124  | 121       | 115 | 118  |
| 9        | 112 | 109 | 110  | 114   | 108 | 111  | 126    | 120 | 124  | 123       | 116 | 119  |
| 10       | 108 | 103 | 105  | 114   | 109 | 112  | 126    | 120 | 123  | 124       | 120 | 122  |
| 11       | 102 | 101 | 102  | 114   | 108 | 112  | 123    | 117 | 121  | 121       | 117 | 120  |
| 12       | 102 | 98  | 100  | 113   | 109 | 112  | 120    | 112 | 117  | 122       | 115 | 119  |
| 13       | 102 | 98  | 100  | 114   | 111 | 113  | 121    | 115 | 118  | 125       | 118 | 122  |
| 14       | 100 | 96  | 98   | 114   | 110 | 112  | 126    | 122 | 124  | 128       | 124 | 126  |
| 15       | 100 | 96  | 98   | 117   | 111 | 115  | 131    | 127 | 129  | 124       | 117 | 120  |
| 16       | 100 | 95  | 98   | 118   | 112 | 115  | 129    | 110 | 119  | 126       | 117 | 122  |
| 17       | 97  | 93  | 95   | 119   | 114 | 117  | 115    | 111 | 113  | 125       | 121 | 124  |
| 18       | 93  | 90  | 91   | 121   | 117 | 119  | 120    | 115 | 117  | 129       | 121 | 125  |
| 19       | 95  | 90  | 93   | 124   | 119 | 121  | 126    | 118 | 122  | 135       | 123 | 127  |
| 20       | 97  | 91  | 94   | 125   | 121 | 123  | 129    | 123 | 126  | 128       | 114 | 122  |
| 21       | 97  | 92  | 94   | 126   | 123 | 124  | 130    | 123 | 127  | 115       | 111 | 113  |
| 22       | 99  | 94  | 97   | 126   | 122 | 124  | 129    | 123 | 128  | 125       | 111 | 119  |
| 23       | 100 | 95  | 97   | 124   | 121 | 122  | 124    | 119 | 122  | 124       | 112 | 115  |
| 24       | 101 | 95  | 98   | 123   | 118 | 121  | 130    | 122 | 127  | 114       | 111 | 112  |
| 25       | 100 | 96  | 98   | 121   | 119 | 120  | 131    | 121 | 128  | 113       | 111 | 112  |
| 26       | 100 | 95  | 98   | 122   | 118 | 120  | 121    | 111 | 117  | 115       | 112 | 113  |
| 27       | 102 | 97  | 99   | 121   | 114 | 118  | 116    | 108 | 112  | 117       | 114 | 115  |
| 28       | 103 | 98  | 101  | 118   | 111 | 116  | 122    | 113 | 118  | 115       | 113 | 114  |
| 29       | 103 | 98  | 101  | 117   | 110 | 114  | 125    | 118 | 121  | 115       | 110 | 113  |
| 30       | 104 | 98  | 101  | 118   | 114 | 116  | 127    | 120 | 123  | 113       | 109 | 111  |
| 31       | --- | --- | ---  | 120   | 110 | 116  | 127    | 121 | 124  | ---       | --- | ---  |
| MONTH    | 117 | 90  | 103  | 126   | 99  | 114  | 131    | 108 | 121  | 135       | 109 | 119  |
| YEAR     | 180 | 65  | 123  |       |     |      |        |     |      |           |     |      |

## PAWCATUCK RIVER BASIN

01117350 CHIPUXET RIVER AT WEST KINGSTON, RI--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX  | MIN  | MEAN    | MAX  | MIN | MEAN |          |  |  |
|-------|------|------|---------|------|-----|------|----------|--|--|
|       |      |      | OCTOBER |      |     |      | NOVEMBER |  |  |
| 1     | 18.0 | 16.5 | 17.0    | 9.5  | 7.5 | 9.0  |          |  |  |
| 2     | 17.0 | 16.0 | 16.0    | 8.0  | 6.0 | 7.0  |          |  |  |
| 3     | 17.0 | 15.5 | 16.0    | 8.5  | 6.5 | 7.5  |          |  |  |
| 4     | 18.0 | 15.0 | 16.5    | 9.5  | 8.0 | 9.0  |          |  |  |
| 5     | 17.0 | 15.5 | 16.0    | 10.0 | 8.0 | 9.0  |          |  |  |
| 6     | 18.0 | 16.0 | 16.5    | 9.0  | 7.5 | 8.5  |          |  |  |
| 7     | 19.5 | 17.5 | 18.5    | 8.5  | 6.5 | 7.5  |          |  |  |
| 8     | 19.5 | 17.5 | 18.5    | 7.5  | 5.5 | 6.5  |          |  |  |
| 9     | 19.5 | 18.5 | 19.0    | 6.0  | 4.0 | 5.0  |          |  |  |
| 10    | 18.0 | 15.0 | 16.5    | 6.0  | 5.5 | 5.5  |          |  |  |
| 11    | 16.5 | 13.5 | 15.0    | 5.5  | 4.0 | 5.0  |          |  |  |
| 12    | 16.5 | 12.5 | 14.5    | 5.5  | 3.5 | 4.5  |          |  |  |
| 13    | 16.0 | 13.0 | 14.5    | 5.0  | 3.0 | 4.0  |          |  |  |
| 14    | 15.5 | 14.0 | 15.0    | 5.5  | 3.5 | 4.5  |          |  |  |
| 15    | 15.0 | 12.5 | 13.5    | 5.0  | 3.0 | 4.0  |          |  |  |
| 16    | 16.0 | 13.5 | 14.5    | 5.0  | 3.0 | 4.5  |          |  |  |
| 17    | 14.5 | 12.5 | 13.0    | 5.5  | 3.0 | 4.0  |          |  |  |
| 18    | 12.5 | 10.5 | 12.0    | 5.5  | 4.0 | 5.0  |          |  |  |
| 19    | 11.5 | 9.5  | 10.5    | 5.5  | 3.5 | 5.0  |          |  |  |
| 20    | 12.0 | 10.5 | 11.0    | 5.0  | 3.5 | 4.5  |          |  |  |
| 21    | 13.5 | 11.5 | 12.5    | 4.5  | 2.5 | 3.5  |          |  |  |
| 22    | 12.0 | 10.0 | 11.0    | 4.0  | 2.5 | 3.5  |          |  |  |
| 23    | 11.5 | 9.0  | 10.0    | 4.0  | 2.5 | 3.5  |          |  |  |
| 24    | 10.5 | 9.0  | 9.5     | 4.0  | 2.5 | 3.5  |          |  |  |
| 25    | 12.0 | 10.0 | 11.0    | ---  | --- | ---  |          |  |  |
| 26    | 11.0 | 8.5  | 10.0    | 6.0  | 3.0 | 5.0  |          |  |  |
| 27    | 9.5  | 7.0  | 8.5     | 7.0  | 5.5 | 6.5  |          |  |  |
| 28    | 9.5  | 7.0  | 8.0     | 7.0  | 6.5 | 7.0  |          |  |  |
| 29    | 10.0 | 6.5  | 8.0     | 7.0  | 5.0 | 6.5  |          |  |  |
| 30    | 9.5  | 7.0  | 8.5     | ---  | --- | ---  |          |  |  |
| 31    | 10.0 | 8.5  | 9.0     | ---  | --- | ---  |          |  |  |
| MONTH | 19.5 | 6.5  | 13.0    | 10.0 | 2.5 | 5.5  |          |  |  |

| DAY   | MAX  | MIN | MEAN  | MAX  | MIN  | MEAN | MAX   | MIN  | MEAN |
|-------|------|-----|-------|------|------|------|-------|------|------|
|       |      |     | MARCH |      |      |      | APRIL |      |      |
|       |      |     |       |      |      |      |       | MAY  |      |
| 1     | ---  | --- | ---   | 12.0 | 8.0  | 9.5  | 16.5  | 11.5 | 14.0 |
| 2     | 3.0  | 1.0 | 2.0   | 9.5  | 8.0  | 9.0  | 15.0  | 13.0 | 14.0 |
| 3     | 3.5  | 0.0 | 2.0   | 13.0 | 9.0  | 10.5 | 17.5  | 12.5 | 15.0 |
| 4     | 2.5  | 2.0 | 2.5   | 10.0 | 8.5  | 9.5  | 17.0  | 13.0 | 15.0 |
| 5     | 5.0  | 2.5 | 3.5   | 9.0  | 8.0  | 8.5  | 14.5  | 13.5 | 14.0 |
| 6     | 4.0  | 2.5 | 3.0   | 10.0 | 7.5  | 8.5  | 17.5  | 14.0 | 15.5 |
| 7     | 3.5  | 2.0 | 2.5   | 10.0 | 7.5  | 8.5  | 19.0  | 15.0 | 17.0 |
| 8     | 5.0  | 2.5 | 3.5   | 10.5 | 7.5  | 9.0  | 18.0  | 14.5 | 16.0 |
| 9     | 6.0  | 2.5 | 4.0   | 10.5 | 7.0  | 8.0  | 15.0  | 10.5 | 13.0 |
| 10    | 6.5  | 3.0 | 4.5   | 11.0 | 7.0  | 9.0  | 12.0  | 10.5 | 11.0 |
| 11    | 7.5  | 3.5 | 5.0   | 11.5 | 8.0  | 9.5  | 13.5  | 10.5 | 12.0 |
| 12    | 7.5  | 4.0 | 5.5   | 13.5 | 9.0  | 11.0 | 15.0  | 11.0 | 13.0 |
| 13    | 6.0  | 5.0 | 5.5   | 14.5 | 11.0 | 12.5 | 17.0  | 12.5 | 14.5 |
| 14    | 6.0  | 5.5 | 6.0   | 15.5 | 12.5 | 13.5 | 17.0  | 13.0 | 14.5 |
| 15    | 6.0  | 5.5 | 6.0   | 15.0 | 11.5 | 13.0 | 18.0  | 13.0 | 15.0 |
| 16    | 6.0  | 4.5 | 5.5   | 15.5 | 11.5 | 13.0 | 18.5  | 14.0 | 16.0 |
| 17    | 7.0  | 4.0 | 5.0   | 16.0 | 11.5 | 13.5 | 20.0  | 15.0 | 17.0 |
| 18    | 4.5  | 3.0 | 3.5   | 16.0 | 12.0 | 14.0 | 19.5  | 17.0 | 18.5 |
| 19    | 6.5  | 3.5 | 4.5   | 16.5 | 12.0 | 14.5 | 18.5  | 16.0 | 17.0 |
| 20    | 6.5  | 3.5 | 5.5   | 17.0 | 13.0 | 14.5 | 19.0  | 15.0 | 17.0 |
| 21    | 8.0  | 4.5 | 6.0   | 17.5 | 13.5 | 15.5 | 19.5  | 16.0 | 17.5 |
| 22    | 5.5  | 4.5 | 5.0   | 18.5 | 14.5 | 16.5 | 21.0  | 16.5 | 18.5 |
| 23    | 6.0  | 4.5 | 5.0   | 16.5 | 14.5 | 15.5 | 22.0  | 17.5 | 20.0 |
| 24    | 6.0  | 4.5 | 5.0   | 14.5 | 12.5 | 13.5 | 22.5  | 19.5 | 21.0 |
| 25    | 6.5  | 4.0 | 5.5   | 13.0 | 12.0 | 12.5 | 23.0  | 20.0 | 21.5 |
| 26    | 7.5  | 4.5 | 6.0   | 12.5 | 11.5 | 12.0 | 23.5  | 20.0 | 21.5 |
| 27    | 9.0  | 5.0 | 6.5   | 15.0 | 11.0 | 13.0 | 22.0  | 18.0 | 20.5 |
| 28    | 7.5  | 6.0 | 6.5   | 14.0 | 12.0 | 12.5 | 23.0  | 19.5 | 21.0 |
| 29    | 10.0 | 7.0 | 8.0   | 15.0 | 10.5 | 12.5 | 20.5  | 18.5 | 19.5 |
| 30    | 12.0 | 8.0 | 10.0  | 15.5 | 11.5 | 13.5 | 22.0  | 17.5 | 19.5 |
| 31    | 11.0 | 9.0 | 10.0  | ---  | ---  | ---  | 22.0  | 17.0 | 19.5 |
| MONTH | 12.0 | 0.0 | 5.0   | 18.5 | 7.0  | 12.0 | 23.5  | 10.5 | 16.5 |



## PAWCATUCK RIVER BASIN

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 Kingston.

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) above mean sea level (state of Rhode Island bench mark).

REMARKS.--Records good except those for periods of shifting-control, which are fair. Flow affected at times by irrigation upstream.

EXTREMES FOR PERIOD OF RECORD (SINCE 1974).--Maximum discharge, 353 ft<sup>3</sup>/s (10.0 m<sup>3</sup>/s) Jan. 29, 1976, gage height, 6.84 ft (2.085 m); minimum daily, 4.2 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Sept. 9, 1977.  
Instantaneous maximum and minimum discharges not available prior to Dec. 5, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 330 ft<sup>3</sup>/s (9.35 m<sup>3</sup>/s) Mar. 23, gage height, 6.38 ft (1.945 m); minimum, 3.9 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP   |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1     | 14   | 34   | 23   | 30   | 46   | 179  | 155  | 80   | 42   | 34   | 17   | 9.3   |
| 2     | 15   | 31   | 22   | 31   | 42   | 148  | 141  | 76   | 46   | 32   | 19   | 9.1   |
| 3     | 15   | 28   | 21   | 30   | 40   | 117  | 172  | 74   | 49   | 31   | 15   | 8.2   |
| 4     | 15   | 28   | 20   | 30   | 41   | 104  | 193  | 70   | 45   | 30   | 15   | 7.9   |
| 5     | 14   | 29   | 20   | 31   | 43   | 157  | 242  | 74   | 42   | 28   | 12   | 6.7   |
| 6     | 14   | 28   | 20   | 30   | 43   | 225  | 316  | 82   | 39   | 25   | 12   | 6.3   |
| 7     | 14   | 27   | 28   | 32   | 40   | 206  | 288  | 84   | 51   | 25   | 12   | 5.2   |
| 8     | 14   | 26   | 73   | 34   | 38   | 168  | 239  | 78   | 58   | 25   | 20   | 4.3   |
| 9     | 28   | 25   | 57   | 33   | 38   | 142  | 207  | 97   | 51   | 26   | 20   | 4.2   |
| 10    | 63   | 25   | 38   | 61   | 41   | 128  | 185  | 185  | 93   | 26   | 16   | 11    |
| 11    | 48   | 25   | 35   | 122  | 38   | 121  | 173  | 217  | 160  | 23   | 14   | 22    |
| 12    | 29   | 25   | 32   | 121  | 37   | 115  | 161  | 181  | 161  | 24   | 12   | 16    |
| 13    | 25   | 24   | 32   | 105  | 46   | 116  | 153  | 143  | 116  | 25   | 11   | 10    |
| 14    | 24   | 24   | 28   | 86   | 61   | 200  | 146  | 118  | 75   | 26   | 16   | 7.6   |
| 15    | 23   | 24   | 28   | 79   | 54   | 249  | 136  | 100  | 60   | 24   | 18   | 6.5   |
| 16    | 22   | 24   | 28   | 75   | 48   | 220  | 128  | 89   | 53   | 21   | 14   | 5.1   |
| 17    | 21   | 23   | 32   | 66   | 43   | 181  | 123  | 82   | 48   | 22   | 18   | 14    |
| 18    | 20   | 23   | 34   | 61   | 37   | 159  | 117  | 77   | 46   | 21   | 29   | 15    |
| 19    | 20   | 23   | 32   | 59   | 34   | 163  | 112  | 82   | 46   | 17   | 21   | 18    |
| 20    | 20   | 23   | 31   | 59   | 33   | 165  | 106  | 78   | 45   | 15   | 16   | 17    |
| 21    | 67   | 23   | 44   | 58   | 33   | 159  | 100  | 72   | 41   | 14   | 13   | 23    |
| 22    | 78   | 22   | 40   | 57   | 28   | 172  | 96   | 67   | 38   | 19   | 17   | 19    |
| 23    | 50   | 22   | 36   | 54   | 28   | 301  | 95   | 63   | 35   | 18   | 29   | 13    |
| 24    | 35   | 22   | 32   | 53   | 28   | 324  | 100  | 60   | 34   | 16   | 27   | 13    |
| 25    | 32   | 22   | 30   | 54   | 113  | 269  | 118  | 55   | 34   | 18   | 34   | 30    |
| 26    | 39   | 21   | 32   | 55   | 159  | 221  | 128  | 53   | 41   | 26   | 26   | 36    |
| 27    | 44   | 21   | 33   | 53   | 150  | 195  | 115  | 50   | 47   | 24   | 19   | 33    |
| 28    | 35   | 21   | 30   | 49   | 165  | 178  | 100  | 48   | 45   | 20   | 16   | 24    |
| 29    | 31   | 23   | 31   | 55   | ---  | 176  | 91   | 46   | 40   | 18   | 14   | 17    |
| 30    | 29   | 25   | 31   | 50   | ---  | 180  | 83   | 46   | 38   | 17   | 12   | 13    |
| 31    | 29   | ---  | 31   | 50   | ---  | 169  | ---  | 44   | ---  | 17   | 10   | ---   |
| TOTAL | 927  | 741  | 1004 | 1763 | 1547 | 5607 | 4519 | 2671 | 1719 | 707  | 544  | 424.4 |
| MEAN  | 29.9 | 24.7 | 32.4 | 56.9 | 55.3 | 181  | 151  | 86.2 | 57.3 | 22.8 | 17.5 | 14.1  |
| MAX   | 78   | 34   | 73   | 122  | 165  | 324  | 316  | 217  | 161  | 34   | 34   | 36    |
| MIN   | 14   | 21   | 20   | 30   | 28   | 104  | 83   | 44   | 34   | 14   | 10   | 4.2   |
| CFSM  | .83  | .68  | .90  | 1.58 | 1.53 | 5.01 | 4.18 | 2.39 | 1.59 | .63  | .49  | .39   |
| IN.   | .96  | .76  | 1.03 | 1.82 | 1.59 | 5.78 | 4.66 | 2.75 | 1.77 | .73  | .56  | .44   |

CAL YR 1976 TOTAL 23282.8 MEAN 63.6 MAX 347 MIN 9.8 CFSM 1.76 IN 23.99  
WTR YR 1977 TOTAL 22173.4 MEAN 60.7 MAX 324 MIN 4.2 CFSM 1.68 IN 22.85

NOTE.--Shifting-control method used Dec. 8 to Mar. 1, Mar. 27 to Sept. 30.

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, 250 micromhos June 4, 1977; minimum, 27 micromhos Oct. 19, 1975.

WATER TEMPERATURES: Maximum, 27.0°C Aug. 3, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 250 micromhos June 4; minimum recorded, 49 micromhos June 16, but may have been less during period of missing record.

WATER TEMPERATURES: Maximum recorded, 25.0°C Aug. 7, but may have been higher during period of missing record in July; minimum, 0.0°C on many days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 97      | 97  | 97   | 97       | 88  | 95   | 91       | 88  | 90   | 92      | 91  | 91   |
| 2     | 97      | 97  | 97   | 97       | 92  | 94   | 99       | 90  | 92   | 97      | 90  | 93   |
| 3     | 98      | 97  | 97   | 98       | 92  | 95   | 93       | 91  | 92   | 95      | 92  | 94   |
| 4     | 100     | 97  | 98   | 97       | 92  | 95   | 94       | 91  | 92   | 97      | 90  | 94   |
| 5     | 100     | 99  | 100  | 98       | 94  | 96   | 97       | 92  | 93   | 98      | 91  | 92   |
| 6     | 100     | 100 | 100  | 100      | 97  | 99   | 98       | 91  | 94   | 98      | 92  | 93   |
| 7     | 102     | 100 | 101  | 101      | 97  | 100  | 100      | 57  | 87   | 98      | 75  | 89   |
| 8     | 102     | 100 | 101  | 101      | 68  | 97   | 90       | 80  | 87   | 93      | 82  | 90   |
| 9     | 102     | 98  | 101  | 101      | 94  | 98   | 88       | 86  | 87   | 94      | 91  | 93   |
| 10    | 97      | 90  | 92   | 102      | 94  | 99   | 91       | 70  | 78   | 94      | 68  | 86   |
| 11    | 95      | 91  | 93   | 101      | 94  | 97   | 94       | 69  | 83   | 86      | 76  | 84   |
| 12    | 96      | 94  | 95   | 100      | 94  | 96   | 90       | 72  | 84   | 91      | 85  | 88   |
| 13    | 97      | 94  | 96   | 101      | 94  | 97   | 92       | 70  | 86   | 93      | 91  | 91   |
| 14    | 97      | 95  | 96   | 101      | 95  | 99   | 100      | 92  | 94   | 93      | 90  | 92   |
| 15    | 99      | 96  | 98   | 101      | 94  | 98   | 101      | 90  | 97   | 92      | 82  | 89   |
| 16    | 100     | 96  | 98   | 100      | 95  | 97   | 102      | 74  | 91   | 90      | 87  | 89   |
| 17    | 99      | 97  | 98   | 99       | 94  | 96   | 74       | 70  | 72   | 91      | 89  | 90   |
| 18    | 99      | 97  | 99   | 100      | 97  | 99   | 104      | 71  | 90   | 93      | 90  | 91   |
| 19    | 100     | 96  | 98   | 101      | 94  | 98   | 105      | 98  | 101  | 94      | 93  | 93   |
| 20    | 107     | 98  | 100  | 101      | 94  | 99   | 105      | 77  | 89   | 97      | 92  | 94   |
| 21    | 104     | 86  | 95   | 100      | 93  | 96   | 99       | 78  | 89   | 97      | 93  | 94   |
| 22    | 88      | 85  | 87   | 99       | 92  | 96   | 92       | 89  | 90   | 93      | 92  | 93   |
| 23    | 90      | 87  | 88   | 100      | 93  | 97   | 96       | 88  | 91   | 97      | 91  | 93   |
| 24    | 91      | 88  | 90   | 100      | 92  | 97   | 90       | 87  | 89   | 98      | 92  | 94   |
| 25    | 92      | 90  | 92   | 99       | 92  | 94   | 97       | 89  | 93   | 95      | 81  | 89   |
| 26    | 96      | 92  | 94   | 97       | 71  | 84   | 98       | 79  | 91   | 96      | 91  | 93   |
| 27    | 94      | 87  | 90   | 76       | 68  | 73   | 91       | 89  | 90   | 98      | 92  | 95   |
| 28    | 92      | 87  | 89   | 84       | 66  | 75   | 90       | 90  | 90   | 100     | 82  | 93   |
| 29    | 93      | 88  | 91   | 100      | 76  | 90   | 90       | 87  | 90   | 97      | 95  | 96   |
| 30    | 94      | 89  | 93   | 93       | 90  | 92   | 90       | 89  | 90   | 97      | 95  | 96   |
| 31    | 96      | 82  | 89   | ---      | --- | ---  | 90       | 90  | 90   | 98      | 96  | 97   |
| MONTH | 107     | 82  | 95   | 102      | 66  | 95   | 105      | 57  | 89   | 100     | 68  | 92   |

## PAWCATUCK RIVER BASIN

01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1        | 104 | 97  | 99   | ---   | --- | ---  | 102    | 100 | 101  | 111       | 85  | 98   |
| 2        | 104 | 96  | 97   | 80    | 73  | 77   | 102    | 84  | 99   | 98        | 70  | 84   |
| 3        | 102 | 86  | 94   | 81    | 76  | 79   | 101    | 73  | 92   | 117       | 78  | 105  |
| 4        | 100 | 85  | 94   | 83    | 70  | 78   | 99     | 93  | 98   | 115       | 98  | 111  |
| 5        | 95  | 80  | 90   | ---   | --- | ---  | ---    | --- | ---  | 103       | 71  | 84   |
| 6        | 97  | 92  | 93   | ---   | --- | ---  | 90     | 74  | 85   | ---       | --- | ---  |
| 7        | 97  | 91  | 93   | ---   | --- | ---  | 94     | 81  | 90   | 113       | 98  | 109  |
| 8        | 98  | 91  | 93   | 79    | 74  | 76   | 96     | 76  | 92   | 114       | 101 | 111  |
| 9        | 98  | 92  | 94   | 79    | 68  | 76   | 97     | 95  | 96   | 110       | 76  | 88   |
| 10       | 95  | 81  | 90   | 79    | 72  | 76   | 98     | 80  | 96   | ---       | --- | ---  |
| 11       | 95  | 77  | 90   | 75    | 72  | 73   | 99     | 81  | 95   | 92        | 73  | 81   |
| 12       | 89  | 71  | 79   | ---   | --- | ---  | 97     | 77  | 89   | 98        | 73  | 83   |
| 13       | 92  | 71  | 86   | ---   | --- | ---  | 103    | 74  | 88   | 101       | 73  | 91   |
| 14       | 95  | 76  | 90   | ---   | --- | ---  | 107    | 90  | 99   | 102       | 94  | 99   |
| 15       | 97  | 78  | 89   | 75    | 66  | 73   | 106    | 104 | 105  | 103       | 91  | 99   |
| 16       | 98  | 90  | 92   | 78    | 75  | 78   | 107    | 101 | 105  | 106       | 74  | 93   |
| 17       | 98  | 91  | 92   | 81    | 78  | 80   | 108    | 88  | 103  | 107       | 77  | 90   |
| 18       | 98  | 92  | 93   | 81    | 77  | 79   | 105    | 80  | 89   | 92        | 72  | 81   |
| 19       | 97  | 90  | 92   | 79    | 77  | 78   | 110    | 80  | 95   | 87        | 71  | 80   |
| 20       | 92  | 70  | 85   | 80    | 74  | 77   | 97     | 67  | 85   | 90        | 73  | 82   |
| 21       | 91  | 77  | 86   | 82    | 75  | 80   | ---    | --- | ---  | 88        | 71  | 79   |
| 22       | 89  | 83  | 87   | 81    | 76  | 78   | ---    | --- | ---  | 89        | 72  | 79   |
| 23       | 89  | 74  | 83   | 76    | 65  | 73   | 83     | 80  | 81   | 78        | 63  | 74   |
| 24       | 86  | 69  | 82   | 78    | 73  | 76   | ---    | --- | ---  | 108       | 71  | 85   |
| 25       | --- | --- | ---  | 79    | 76  | 77   | ---    | --- | ---  | 116       | 82  | 94   |
| 26       | --- | --- | ---  | 81    | 78  | 79   | ---    | --- | ---  | 122       | 89  | 110  |
| 27       | --- | --- | ---  | 96    | 77  | 83   | ---    | --- | ---  | 123       | 111 | 117  |
| 28       | --- | --- | ---  | 93    | 79  | 87   | 113    | 70  | 98   | 135       | 107 | 121  |
| 29       | --- | --- | ---  | 89    | 72  | 81   | 116    | 113 | 114  | 132       | 123 | 126  |
| 30       | --- | --- | ---  | 79    | 73  | 76   | 119    | 102 | 114  | 142       | 112 | 129  |
| 31       | --- | --- | ---  | 101   | 68  | 95   | ---    | --- | ---  | 186       | 117 | 142  |
| MONTH    | --- | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | 186       | 63  | 97   |
| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
| JUNE     |     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1        | 121 | 98  | 106  | 110   | 79  | 93   | ---    | --- | ---  | ---       | --- | ---  |
| 2        | 110 | 88  | 95   | 134   | 81  | 100  | ---    | --- | ---  | ---       | --- | ---  |
| 3        | 192 | 100 | 129  | 138   | 112 | 130  | 87     | 79  | 83   | ---       | --- | ---  |
| 4        | 250 | 156 | 190  | 130   | 75  | 94   | 86     | 74  | 81   | ---       | --- | ---  |
| 5        | 188 | 130 | 154  | 98    | 80  | 91   | 88     | 73  | 84   | ---       | --- | ---  |
| 6        | 187 | 69  | 157  | ---   | --- | ---  | 96     | 83  | 90   | ---       | --- | ---  |
| 7        | 75  | 64  | 68   | ---   | --- | ---  | 132    | 88  | 102  | ---       | --- | ---  |
| 8        | 114 | 77  | 94   | ---   | --- | ---  | 128    | 84  | 92   | ---       | --- | ---  |
| 9        | 102 | 71  | 87   | ---   | --- | ---  | 109    | 88  | 94   | ---       | --- | ---  |
| 10       | --- | --- | ---  | ---   | --- | ---  | 109    | 90  | 96   | ---       | --- | ---  |
| 11       | --- | --- | ---  | ---   | --- | ---  | 119    | 85  | 94   | ---       | --- | ---  |
| 12       | --- | --- | ---  | ---   | --- | ---  | 94     | 87  | 91   | ---       | --- | ---  |
| 13       | --- | --- | ---  | ---   | --- | ---  | 139    | 86  | 100  | ---       | --- | ---  |
| 14       | --- | --- | ---  | ---   | --- | ---  | 142    | 87  | 103  | ---       | --- | ---  |
| 15       | --- | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | 97        | 83  | 90   |
| 16       | 84  | 49  | 70   | ---   | --- | ---  | ---    | --- | ---  | 88        | 83  | 85   |
| 17       | --- | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | 86        | 76  | 82   |
| 18       | --- | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | 82        | 75  | 77   |
| 19       | --- | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| 20       | 104 | 62  | 79   | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| 21       | 85  | 69  | 77   | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| 22       | 125 | 73  | 99   | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| 23       | 113 | 87  | 99   | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| 24       | 123 | 70  | 93   | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| 25       | 90  | 68  | 76   | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| 26       | 76  | 61  | 72   | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| 27       | 94  | 61  | 73   | ---   | --- | ---  | ---    | --- | ---  | 75        | 72  | 74   |
| 28       | 107 | 61  | 82   | ---   | --- | ---  | ---    | --- | ---  | 80        | 75  | 77   |
| 29       | --- | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | 83        | 79  | 81   |
| 30       | 127 | 64  | 100  | ---   | --- | ---  | ---    | --- | ---  | 84        | 82  | 83   |
| 31       | --- | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| MONTH    | --- | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |
| YEAR     | 250 | --- | ---  | ---   | --- | ---  | ---    | --- | ---  | ---       | --- | ---  |



01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX  | MIN  | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|------|------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |      |      | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 14.5 | 14.0 | 14.5     | 8.0 | 7.0 | 7.5      | 3.5 | 2.5 | 3.0     | 0.0 | 0.0 | 0.0  |
| 2       | 14.5 | 14.0 | 14.0     | 7.0 | 6.0 | 6.5      | 4.0 | 2.0 | 3.0     | 0.0 | 0.0 | 3.0  |
| 3       | 14.0 | 13.5 | 14.0     | 7.5 | 6.5 | 7.0      | 2.5 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 4       | 14.5 | 13.5 | 14.0     | 8.0 | 7.0 | 7.5      | 1.5 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 5       | 14.0 | 13.5 | 14.0     | 8.5 | 6.5 | 7.5      | 1.5 | 0.0 | 1.0     | 0.0 | 0.0 | 0.0  |
| 6       | 15.0 | 14.0 | 14.5     | 8.0 | 7.5 | 7.5      | 1.5 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 7       | 16.0 | 15.0 | 15.5     | 8.0 | 7.0 | 7.5      | 4.5 | 1.0 | 2.5     | 0.5 | 0.0 | 0.0  |
| 8       | 16.5 | 15.0 | 15.5     | 7.0 | 5.5 | 6.5      | 1.0 | 0.5 | 0.5     | 0.0 | 0.0 | 0.0  |
| 9       | 17.5 | 16.0 | 16.5     | 5.5 | 4.0 | 4.5      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 10      | 17.0 | 14.5 | 15.5     | 5.0 | 4.0 | 4.5      | 1.0 | 0.0 | 0.5     | 0.5 | 0.0 | 0.0  |
| 11      | 14.0 | 12.5 | 13.0     | 4.0 | 3.5 | 4.0      | 1.0 | 0.0 | 1.0     | 0.0 | 0.0 | 0.0  |
| 12      | 12.5 | 11.0 | 11.5     | 4.0 | 3.0 | 3.5      | 1.5 | 0.0 | 1.0     | 0.0 | 0.0 | 0.0  |
| 13      | 11.5 | 9.0  | 10.5     | 4.5 | 3.0 | 3.5      | 1.5 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 14      | 11.5 | 11.0 | 11.5     | 4.5 | 3.5 | 4.0      | 1.5 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 15      | 11.5 | 10.0 | 10.5     | 4.5 | 3.0 | 4.0      | 2.0 | 1.5 | 1.5     | 0.0 | 0.0 | 0.0  |
| 16      | 12.0 | 11.5 | 11.5     | 4.5 | 3.5 | 4.0      | 2.0 | 1.5 | 1.5     | 0.0 | 0.0 | 0.0  |
| 17      | 11.0 | 10.0 | 10.5     | 5.0 | 3.0 | 4.0      | 2.0 | 1.0 | 1.5     | 0.0 | 0.0 | 0.0  |
| 18      | 10.0 | 9.0  | 9.5      | 5.0 | 4.0 | 4.5      | 2.0 | 1.0 | 1.5     | 0.0 | 0.0 | 0.0  |
| 19      | 9.0  | 7.5  | 8.5      | 5.0 | 4.0 | 4.5      | 2.5 | 1.0 | 2.0     | 0.0 | 0.0 | 0.0  |
| 20      | 10.5 | 8.0  | 9.0      | 4.5 | 4.0 | 4.0      | 3.0 | 1.5 | 2.0     | 0.0 | 0.0 | 0.0  |
| 21      | 11.5 | 10.5 | 11.0     | 3.5 | 3.0 | 3.5      | 2.5 | 1.0 | 1.5     | 0.0 | 0.0 | 0.0  |
| 22      | 11.0 | 10.0 | 10.5     | 3.5 | 2.0 | 3.0      | 2.0 | 1.0 | 1.5     | 0.0 | 0.0 | 0.0  |
| 23      | 10.0 | 8.5  | 9.0      | 4.0 | 3.0 | 3.5      | 1.5 | 1.0 | 1.5     | 0.0 | 0.0 | 0.0  |
| 24      | 8.5  | 7.5  | 8.0      | 4.0 | 2.5 | 3.5      | 1.0 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 25      | 9.0  | 8.5  | 8.5      | 3.5 | 2.0 | 2.5      | 2.0 | 0.0 | 1.0     | 0.0 | 0.0 | 0.0  |
| 26      | 9.5  | 8.0  | 9.0      | 5.0 | 2.5 | 3.5      | 2.0 | 1.0 | 1.5     | 0.0 | 0.0 | 0.0  |
| 27      | 8.0  | 7.0  | 7.5      | 6.0 | 5.0 | 5.5      | 1.0 | 1.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 28      | 7.0  | 6.0  | 6.5      | 6.5 | 5.5 | 6.0      | 0.5 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 29      | 6.5  | 5.5  | 6.0      | 7.0 | 6.0 | 6.5      | 0.5 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 30      | 7.0  | 5.5  | 6.5      | 5.5 | 4.0 | 4.5      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 31      | 8.0  | 6.5  | 7.0      | --- | --- | ---      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| MONTH   | 17.5 | 5.5  | 11.0     | 8.5 | 2.0 | 5.0      | 4.5 | 0.0 | 1.0     | 0.5 | 0.0 | 0.0  |

| DAY      | MAX | MIN | MEAN  | MAX  | MIN  | MEAN  | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|-------|------|------|-------|------|------|------|------|------|------|
| FEBRUARY |     |     | MARCH |      |      | APRIL |      |      | MAY  |      |      |      |
| 1        | 0.0 | 0.0 | 0.0   | ---  | ---  | ---   | 12.0 | 9.5  | 10.5 | 14.0 | 11.0 | 12.5 |
| 2        | 0.0 | 0.0 | 0.0   | ---  | ---  | ---   | 9.5  | 7.5  | 8.5  | 13.5 | 12.0 | 13.0 |
| 3        | 0.5 | 0.0 | 0.0   | 3.5  | 1.5  | 2.5   | 11.5 | 7.5  | 9.5  | 14.5 | 12.0 | 13.0 |
| 4        | 0.5 | 0.0 | 0.0   | 3.0  | 2.0  | 3.0   | 10.0 | 8.0  | 9.0  | 14.5 | 12.0 | 13.0 |
| 5        | 0.0 | 0.0 | 0.0   | 5.0  | 2.5  | 3.5   | 7.5  | 7.0  | 7.0  | 13.0 | 12.0 | 12.5 |
| 6        | 0.0 | 0.0 | 0.0   | 3.0  | 2.0  | 2.5   | 8.5  | 6.5  | 7.5  | 14.0 | 11.5 | 12.5 |
| 7        | 0.5 | 0.0 | 0.5   | 2.5  | 1.5  | 2.0   | 8.5  | 6.5  | 7.5  | 17.0 | 13.5 | 15.0 |
| 8        | 0.5 | 0.0 | 0.5   | 4.5  | 1.5  | 3.0   | 8.5  | 6.5  | 7.5  | 16.0 | 14.0 | 15.0 |
| 9        | 0.5 | 0.0 | 0.5   | 5.5  | 3.0  | 4.0   | 7.5  | 5.5  | 6.5  | 14.0 | 8.5  | 12.0 |
| 10       | 0.5 | 0.0 | 0.5   | 7.0  | 4.0  | 5.5   | 8.5  | 5.0  | 6.5  | 8.5  | 6.5  | 7.0  |
| 11       | 0.5 | 0.5 | 0.5   | 8.0  | 5.5  | 6.5   | 9.0  | 6.5  | 7.5  | 9.5  | 6.5  | 8.0  |
| 12       | 1.5 | 0.5 | 1.0   | 8.5  | 6.0  | 7.0   | 12.0 | 7.5  | 9.5  | 13.0 | 9.0  | 11.0 |
| 13       | 1.5 | 1.0 | 1.5   | 8.5  | 7.5  | 8.0   | 14.5 | 10.5 | 12.5 | 15.5 | 12.0 | 13.5 |
| 14       | 2.0 | 1.0 | 1.5   | 8.5  | 7.5  | 8.0   | 15.0 | 13.0 | 13.5 | 15.0 | 13.0 | 14.0 |
| 15       | 2.0 | 1.0 | 1.5   | 7.5  | 7.0  | 7.0   | 13.5 | 11.5 | 12.5 | 15.0 | 12.5 | 13.5 |
| 16       | 2.0 | 1.0 | 1.5   | 7.5  | 6.5  | 7.0   | 13.0 | 10.5 | 11.5 | 15.5 | 12.5 | 14.0 |
| 17       | 1.5 | 0.5 | 0.5   | 7.0  | 5.5  | 6.0   | 13.0 | 10.0 | 11.5 | 16.5 | 14.0 | 15.0 |
| 18       | 1.5 | 0.5 | 1.0   | 5.0  | 2.0  | 3.5   | 13.0 | 10.5 | 11.5 | 17.5 | 16.0 | 17.0 |
| 19       | 2.0 | 0.5 | 1.0   | 4.0  | 1.5  | 3.0   | 14.0 | 11.0 | 12.5 | 16.5 | 15.5 | 16.0 |
| 20       | 1.0 | 0.5 | 1.0   | 5.0  | 2.5  | 3.5   | 14.0 | 11.5 | 12.5 | 15.5 | 14.0 | 14.5 |
| 21       | 2.0 | 0.5 | 1.5   | 6.5  | 3.5  | 5.0   | 14.5 | 12.0 | 13.0 | 16.0 | 15.0 | 15.5 |
| 22       | 2.0 | 0.5 | 1.0   | 5.5  | 4.5  | 5.0   | 15.5 | 13.0 | 14.5 | 17.5 | 15.5 | 16.5 |
| 23       | 2.5 | 1.5 | 2.0   | 4.5  | 4.0  | 4.5   | 15.0 | 13.0 | 14.5 | 19.0 | 17.0 | 17.5 |
| 24       | 2.5 | 1.5 | 2.0   | 4.5  | 3.5  | 4.0   | 13.0 | 9.5  | 11.0 | 19.5 | 18.0 | 18.5 |
| 25       | --- | --- | ---   | 4.5  | 2.5  | 3.5   | 9.5  | 8.5  | 9.0  | 20.0 | 18.5 | 19.0 |
| 26       | --- | --- | ---   | 6.0  | 3.0  | 4.5   | 9.0  | 8.5  | 8.5  | 20.0 | 18.5 | 19.5 |
| 27       | --- | --- | ---   | 8.0  | 5.0  | 6.5   | 11.0 | 8.0  | 9.5  | 18.5 | 17.0 | 18.0 |
| 28       | --- | --- | ---   | 9.0  | 6.5  | 7.5   | 11.5 | 10.5 | 11.0 | 18.5 | 16.5 | 17.0 |
| 29       | --- | --- | ---   | 11.0 | 7.5  | 9.0   | 12.0 | 9.5  | 11.0 | 17.5 | 16.5 | 17.0 |
| 30       | --- | --- | ---   | 14.0 | 10.0 | 12.0  | 13.0 | 10.0 | 11.5 | 17.5 | 15.5 | 16.5 |
| 31       | --- | --- | ---   | 13.5 | 11.0 | 12.5  | ---  | ---  | ---  | 17.0 | 14.5 | 15.5 |
| MONTH    | --- | --- | ---   | 14.0 | 1.5  | 5.5   | 15.5 | 5.0  | 10.5 | 20.0 | 6.5  | 14.5 |



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>).

PERIOD OF RECORD.--December 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 107.68 ft (32.821 m) above mean sea level.

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, 131 ft<sup>3</sup>/s (3.71 m<sup>3</sup>/s) Mar. 23, 1977, gage height, 2.99 ft (0.911 m); minimum, 2.1 ft<sup>3</sup>/s (0.059 m<sup>3</sup>/s) Sept. 6-12, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 65 ft<sup>3</sup>/s (1.84 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s)<br>(m <sup>3</sup> /s) | Gage height<br>(ft)<br>(m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s)<br>(m <sup>3</sup> /s) | Gage height<br>(ft)<br>(m) |
|---------|------|----------------------------------------------------------|----------------------------|---------|------|----------------------------------------------------------|----------------------------|
| Mar. 6  | 0030 | 68 1.93                                                  | 2.52 0.768                 | Mar. 23 | 0945 | *131 3.71                                                | *2.99 0.911                |
| Mar. 14 | 0830 | 76 2.15                                                  | 2.60 .792                  | Apr. 6  | 0015 | 95 2.69                                                  | 2.74 .835                  |

Minimum discharge, 2.6 ft<sup>3</sup>/s (0.074 m<sup>3</sup>/s) Oct. 2-5, Dec. 3, Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC       | JAN     | FEB     | MAR       | APR      | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------------|-------|--------|-----------|---------|---------|-----------|----------|------|------|-------|-------|-------|
| 1           | 2.9   | 8.0    | 6.0       | 7.0     | 9.0     | 39        | 43       | 22   | 13   | 9.9   | 4.3   | 3.7   |
| 2           | 2.6   | 8.0    | 6.0       | 7.0     | 9.0     | 33        | 39       | 21   | 14   | 9.9   | 4.6   | 3.7   |
| 3           | 2.6   | 7.6    | 5.3       | 7.2     | 9.0     | 31        | 54       | 21   | 14   | 8.9   | 4.6   | 3.7   |
| 4           | 2.6   | 7.2    | 5.3       | 7.0     | 9.0     | 32        | 48       | 20   | 14   | 8.9   | 4.6   | 3.6   |
| 5           | 2.9   | 7.2    | 6.0       | 6.8     | 9.0     | 58        | 72       | 22   | 14   | 8.9   | 4.6   | 3.4   |
| 6           | 3.4   | 6.8    | 6.0       | 7.0     | 9.0     | 60        | 85       | 23   | 13   | 8.5   | 4.6   | 3.4   |
| 7           | 3.4   | 6.4    | 11        | 7.2     | 9.0     | 47        | 66       | 24   | 17   | 8.5   | 4.5   | 3.2   |
| 8           | 3.4   | 6.8    | 18        | 7.4     | 9.0     | 42        | 56       | 22   | 18   | 7.6   | 8.5   | 2.9   |
| 9           | 8.9   | 6.8    | 13        | 8.6     | 9.0     | 40        | 52       | 37   | 17   | 7.6   | 8.1   | 2.6   |
| 10          | 13    | 6.4    | 8.9       | 13      | 9.0     | 39        | 48       | 57   | 37   | 6.8   | 5.7   | 6.6   |
| 11          | 8.5   | 6.4    | 8.5       | 21      | 9.4     | 38        | 46       | 46   | 39   | 6.8   | 4.5   | 8.2   |
| 12          | 6.4   | 6.4    | 8.0       | 19      | 10      | 37        | 44       | 36   | 29   | 6.8   | 4.2   | 5.5   |
| 13          | 5.3   | 6.4    | 7.6       | 17      | 13      | 39        | 42       | 31   | 22   | 6.8   | 4.0   | 4.5   |
| 14          | 4.9   | 6.4    | 6.8       | 16      | 14      | 72        | 38       | 28   | 19   | 7.2   | 5.4   | 3.9   |
| 15          | 4.6   | 6.4    | 7.2       | 15      | 14      | 64        | 36       | 27   | 18   | 6.8   | 5.2   | 3.5   |
| 16          | 4.3   | 6.4    | 7.2       | 14      | 13      | 51        | 35       | 25   | 16   | 6.0   | 4.5   | 3.5   |
| 17          | 4.3   | 6.0    | 7.2       | 13      | 11      | 46        | 34       | 24   | 15   | 6.0   | 7.1   | 6.3   |
| 18          | 4.3   | 6.0    | 8.0       | 12      | 10      | 43        | 33       | 24   | 15   | 6.0   | 8.4   | 5.9   |
| 19          | 4.0   | 6.0    | 8.0       | 12      | 9.9     | 48        | 30       | 24   | 15   | 5.3   | 5.9   | 7.0   |
| 20          | 4.3   | 6.0    | 7.6       | 11      | 9.9     | 46        | 30       | 24   | 14   | 4.9   | 5.0   | 7.0   |
| 21          | 18    | 6.0    | 11        | 11      | 9.9     | 43        | 28       | 23   | 13   | 4.9   | 4.3   | 8.3   |
| 22          | 15    | 5.3    | 10        | 11      | 9.9     | 52        | 28       | 22   | 13   | 4.9   | 6.3   | 6.7   |
| 23          | 9.9   | 5.3    | 8.9       | 10      | 11      | 109       | 27       | 20   | 12   | 4.6   | 10    | 5.1   |
| 24          | 7.6   | 5.3    | 7.6       | 10      | 9.9     | 84        | 30       | 20   | 11   | 4.6   | 8.3   | 5.6   |
| 25          | 7.2   | 5.3    | 7.2       | 10      | 31      | 69        | 36       | 20   | 11   | 4.9   | 9.3   | 11    |
| 26          | 8.9   | 5.3    | 8.0       | 9.8     | 35      | 60        | 32       | 18   | 14   | 6.8   | 6.8   | 12    |
| 27          | 10    | 5.3    | 7.2       | 9.5     | 30      | 54        | 28       | 17   | 14   | 6.0   | 5.3   | 9.7   |
| 28          | 9.4   | 5.6    | 7.2       | 9.4     | 40      | 51        | 26       | 17   | 13   | 4.9   | 4.5   | 7.2   |
| 29          | 8.0   | 6.0    | 7.4       | 9.4     | ---     | 54        | 24       | 16   | 12   | 4.6   | 4.2   | 5.9   |
| 30          | 7.6   | 6.4    | 7.2       | 9.2     | ---     | 51        | 22       | 16   | 11   | 4.3   | 4.0   | 5.3   |
| 31          | 7.6   | ---    | 7.0       | 9.0     | ---     | 47        | ---      | 15   | ---  | 4.3   | 3.9   | ---   |
| TOTAL       | 205.8 | 189.4  | 250.3     | 336.5   | 380.9   | 1579      | 1212     | 762  | 497  | 202.9 | 175.2 | 168.9 |
| MEAN        | 6.64  | 6.31   | 8.07      | 10.9    | 13.6    | 50.9      | 40.4     | 24.6 | 16.6 | 6.55  | 5.65  | 5.63  |
| MAX         | 18    | 8.0    | 18        | 21      | 40      | 109       | 85       | 57   | 39   | 9.9   | 10    | 12    |
| MIN         | 2.6   | 5.3    | 5.3       | 6.8     | 9.0     | 31        | 22       | 15   | 11   | 4.3   | 3.9   | 2.6   |
| CFSM        | .75   | .71    | .91       | 1.23    | 1.53    | 5.74      | 4.56     | 2.77 | 1.87 | .74   | .64   | .64   |
| IN.         | .86   | .79    | 1.05      | 1.41    | 1.60    | 6.62      | 5.08     | 3.20 | 2.08 | .85   | .73   | .71   |
| CAL YR 1976 | TOTAL | 6339.6 | MEAN 17.3 | MAX 98  | MIN 2.4 | CFSM 1.95 | IN 26.59 |      |      |       |       |       |
| WTR YR 1977 | TOTAL | 5959.9 | MEAN 16.3 | MAX 109 | MIN 2.6 | CFSM 1.84 | IN 24.99 |      |      |       |       |       |

## PAWCATUCK RIVER BASIN

01117472 BEAVER RIVER AT KENYON, RI

LOCATION.--Lat 41°27'08", long 71°37'43", Washington County, Hydrologic Unit 01090005, on left bank 0.3 mi (0.5 km) upstream from mouth and 0.4 mi (0.6 km) north of Kenyon.

DRAINAGE AREA.--11.7 mi<sup>2</sup> (30.3 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 83.02 ft (25.304 m) above mean sea level (levels by Rhode Island Water Resources Board).

REMARKS.--Records fair except those for August, which are poor. Flow may be affected at times by irrigation upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 128 ft<sup>3</sup>/s (3.62 m<sup>3</sup>/s) Jan. 29, 1976, gage height, 3.06 ft (0.933 m) from rating curve extended above 45 ft<sup>3</sup>/s (1.27 m<sup>3</sup>/s); minimum, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Sept. 10, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 106 ft<sup>3</sup>/s (3.00 m<sup>3</sup>/s) Mar. 23, gage height, 3.05 ft (0.930 m), from rating curve extended as explained above; minimum, 2.8 ft<sup>3</sup>/s (0.079 m<sup>3</sup>/s) Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|------|------|------|------|------|-------|-------|-------|
| 1     | 4.5   | 11    | 7.3   | 8.0   | 11   | 48   | 51   | 35   | 21   | 14    | 4.5   | 5.4   |
| 2     | 4.7   | 11    | 6.8   | 8.0   | 11   | 46   | 48   | 33   | 20   | 13    | 5.6   | 5.3   |
| 3     | 4.7   | 10    | 5.6   | 7.8   | 11   | 43   | 55   | 33   | 20   | 12    | 5.3   | 4.9   |
| 4     | 4.5   | 9.9   | 5.3   | 7.6   | 11   | 43   | 57   | 32   | 19   | 12    | 5.3   | 4.9   |
| 5     | 3.9   | 9.9   | 5.8   | 7.6   | 11   | 58   | 73   | 31   | 18   | 12    | 5.1   | 4.7   |
| 6     | 5.3   | 9.3   | 6.0   | 7.6   | 11   | 63   | 93   | 32   | 18   | 12    | 5.1   | 4.6   |
| 7     | 5.3   | 9.3   | 8.7   | 7.8   | 11   | 58   | 80   | 32   | 21   | 11    | 6.5   | 3.5   |
| 8     | 4.9   | 9.0   | 16    | 8.4   | 11   | 51   | 68   | 32   | 22   | 10    | 12    | 3.1   |
| 9     | 11    | 8.7   | 14    | 9.0   | 11   | 48   | 61   | 36   | 21   | 11    | 15    | 2.9   |
| 10    | 19    | 8.7   | 11    | 15    | 12   | 47   | 56   | 53   | 30   | 9.9   | 10    | 6.7   |
| 11    | 15    | 8.4   | 10    | 24    | 13   | 47   | 53   | 53   | 40   | 8.4   | 7.8   | 11    |
| 12    | 12    | 8.4   | 9.3   | 21    | 14   | 45   | 51   | 45   | 35   | 8.7   | 5.9   | 9.0   |
| 13    | 9.6   | 8.1   | 9.0   | 19    | 17   | 45   | 50   | 39   | 28   | 9.6   | 5.5   | 6.9   |
| 14    | 9.0   | 8.1   | 7.6   | 17    | 19   | 61   | 48   | 37   | 24   | 9.9   | 12    | 6.0   |
| 15    | 7.6   | 7.8   | 8.1   | 16    | 20   | 65   | 47   | 35   | 21   | 9.6   | 13    | 5.4   |
| 16    | 7.0   | 7.8   | 8.1   | 15    | 19   | 56   | 45   | 34   | 20   | 8.1   | 10    | 5.0   |
| 17    | 6.5   | 7.6   | 8.7   | 15    | 17   | 50   | 45   | 33   | 19   | 7.6   | 15    | 9.4   |
| 18    | 6.3   | 7.6   | 9.3   | 14    | 16   | 46   | 44   | 32   | 18   | 6.8   | 26    | 9.6   |
| 19    | 6.5   | 7.3   | 9.3   | 14    | 16   | 48   | 43   | 31   | 18   | 5.8   | 18    | 12    |
| 20    | 7.0   | 7.0   | 9.3   | 13    | 16   | 48   | 42   | 30   | 18   | 5.1   | 13    | 12    |
| 21    | 17    | 6.8   | 12    | 13    | 16   | 48   | 41   | 30   | 18   | 4.3   | 9.8   | 15    |
| 22    | 18    | 6.8   | 12    | 13    | 15   | 52   | 40   | 29   | 15   | 4.3   | 15    | 12    |
| 23    | 15    | 6.5   | 11    | 12    | 15   | 92   | 40   | 28   | 15   | 3.6   | 25    | 9.5   |
| 24    | 12    | 6.5   | 9.3   | 12    | 15   | 98   | 40   | 27   | 13   | 3.6   | 24    | 9.4   |
| 25    | 12    | 6.5   | 8.7   | 12    | 42   | 79   | 42   | 26   | 14   | 4.7   | 24    | 16    |
| 26    | 13    | 6.5   | 9.0   | 12    | 42   | 67   | 42   | 24   | 19   | 9.9   | 14    | 18    |
| 27    | 13    | 6.5   | 9.0   | 12    | 39   | 60   | 41   | 24   | 20   | 8.1   | 9.6   | 16    |
| 28    | 13    | 6.8   | 7.8   | 12    | 51   | 57   | 39   | 23   | 18   | 5.8   | 7.7   | 13    |
| 29    | 12    | 7.3   | 8.1   | 12    | ---  | 56   | 38   | 22   | 16   | 4.9   | 6.7   | 10    |
| 30    | 11    | 7.8   | 8.2   | 12    | ---  | 56   | 37   | 21   | 15   | 4.7   | 6.3   | 9.0   |
| 31    | 11    | ---   | 8.2   | 12    | ---  | 53   | ---  | 21   | ---  | 5.3   | 5.9   | ---   |
| TOTAL | 301.3 | 242.9 | 278.5 | 388.8 | 513  | 1734 | 1510 | 993  | 614  | 255.7 | 348.6 | 260.2 |
| MEAN  | 9.72  | 8.10  | 8.98  | 12.5  | 18.3 | 55.9 | 50.3 | 32.0 | 20.5 | 8.25  | 11.2  | 8.67  |
| MAX   | 19    | 11    | 16    | 24    | 51   | 98   | 93   | 53   | 40   | 14    | 26    | 18    |
| MIN   | 3.9   | 6.5   | 5.3   | 7.6   | 11   | 43   | 37   | 21   | 13   | 3.6   | 4.5   | 2.9   |
| CFSM  | .83   | .69   | .77   | 1.07  | 1.56 | 4.78 | 4.30 | 2.74 | 1.75 | .71   | .96   | .74   |
| IN.   | .96   | .77   | .89   | 1.24  | 1.63 | 5.51 | 4.80 | 3.16 | 1.95 | .81   | 1.11  | .83   |

CAL YR 1976 TOTAL 7637.4 MEAN 20.9 MAX 123 MIN 3.1 CFSM 1.79 IN 24.28  
WTR YR 1977 TOTAL 7440.0 MEAN 20.4 MAX 98 MIN 2.9 CFSM 1.74 IN 23.65

01117472 BEAVER RIVER AT KENYON, RI--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to current year.

WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Water-quality manometer since October 1975.

REMARKS.--Interruptions in the record during August and September were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 111 micromhos Feb. 11, 1977, but may have been higher during periods of missing record; minimum, 43 micromhos Dec. 27, 1975.

WATER TEMPERATURES: Maximum, 23.0°C July 21, 1977; minimum, 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 111 micromhos Feb. 11, 1977, but may have been higher during periods of missing record; minimum, 64 micromhos Sept. 11, 1977.

WATER TEMPERATURES: Maximum, 23.0°C July 21, 1977; minimum, 0.0°C on many days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | ---     | --- | ---  | 97       | 94  | 95   | 103      | 97  | 99   | 102     | 97  | 99   |
| 2     | ---     | --- | ---  | 96       | 93  | 95   | 105      | 100 | 102  | 102     | 93  | 96   |
| 3     | ---     | --- | ---  | 98       | 96  | 97   | 108      | 100 | 103  | 108     | 93  | 96   |
| 4     | ---     | --- | ---  | 99       | 98  | 98   | 106      | 102 | 104  | 105     | 91  | 93   |
| 5     | ---     | --- | ---  | 99       | 96  | 98   | 103      | 101 | 102  | 106     | 90  | 96   |
| 6     | ---     | --- | ---  | 98       | 98  | 98   | 101      | 99  | 101  | 97      | 91  | 93   |
| 7     | ---     | --- | ---  | 98       | 97  | 98   | 103      | 93  | 98   | 104     | 88  | 94   |
| 8     | ---     | --- | ---  | 98       | 98  | 98   | 93       | 85  | 87   | 106     | 89  | 98   |
| 9     | ---     | --- | ---  | 98       | 97  | 97   | 101      | 87  | 94   | 109     | 69  | 94   |
| 10    | ---     | --- | ---  | 98       | 98  | 98   | 102      | 98  | 100  | 104     | 82  | 92   |
| 11    | ---     | --- | ---  | 98       | 97  | 98   | 97       | 95  | 96   | ---     | --- | ---  |
| 12    | ---     | --- | ---  | 97       | 96  | 97   | 97       | 95  | 97   | ---     | --- | ---  |
| 13    | ---     | --- | ---  | 98       | 97  | 97   | 98       | 94  | 96   | ---     | --- | ---  |
| 14    | ---     | --- | ---  | 98       | 98  | 98   | 105      | 96  | 101  | ---     | --- | ---  |
| 15    | ---     | --- | ---  | 99       | 98  | 98   | 99       | 96  | 97   | ---     | --- | ---  |
| 16    | ---     | --- | ---  | 99       | 98  | 98   | 96       | 95  | 96   | ---     | --- | ---  |
| 17    | ---     | --- | ---  | 99       | 98  | 98   | 95       | 94  | 94   | ---     | --- | ---  |
| 18    | ---     | --- | ---  | 100      | 99  | 99   | 102      | 93  | 95   | ---     | --- | ---  |
| 19    | ---     | --- | ---  | 100      | 99  | 99   | 97       | 93  | 94   | ---     | --- | ---  |
| 20    | ---     | --- | ---  | 100      | 99  | 99   | 96       | 95  | 95   | ---     | --- | ---  |
| 21    | ---     | --- | ---  | 99       | 98  | 99   | 95       | 88  | 92   | ---     | --- | ---  |
| 22    | ---     | --- | ---  | 100      | 98  | 99   | 96       | 88  | 91   | ---     | --- | ---  |
| 23    | ---     | --- | ---  | 99       | 99  | 99   | 96       | 90  | 94   | ---     | --- | ---  |
| 24    | ---     | --- | ---  | 100      | 99  | 99   | 100      | 95  | 97   | ---     | --- | ---  |
| 25    | ---     | --- | ---  | 100      | 99  | 99   | 99       | 93  | 96   | ---     | --- | ---  |
| 26    | ---     | --- | ---  | 100      | 99  | 100  | 96       | 91  | 93   | ---     | --- | ---  |
| 27    | ---     | --- | ---  | 101      | 101 | 101  | 95       | 93  | 94   | ---     | --- | ---  |
| 28    | 97      | 95  | 96   | 101      | 101 | 101  | 102      | 94  | 98   | 95      | 91  | 93   |
| 29    | 98      | 97  | 97   | 102      | 100 | 101  | 95       | 93  | 95   | 108     | 92  | 96   |
| 30    | 98      | 97  | 98   | 99       | 96  | 97   | 97       | 93  | 95   | 96      | 93  | 95   |
| 31    | 99      | 97  | 98   | ---      | --- | ---  | 97       | 95  | 96   | 96      | 95  | 95   |
| MONTH | ---     | --- | ---  | 102      | 93  | 98   | 108      | 85  | 97   | ---     | --- | ---  |

01117472 BEAVER RIVER AT KENYON, RI--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1        | 96  | 94  | 95   | ---   | --- | ---  | 82     | 80  | 81   | 84        | 82  | 83   |
| 2        | 96  | 94  | 94   | 85    | 84  | 85   | 81     | 80  | 81   | 84        | 83  | 84   |
| 3        | 96  | 94  | 95   | 86    | 85  | 86   | 80     | 75  | 77   | 85        | 83  | 84   |
| 4        | 96  | 93  | 94   | 86    | 85  | 85   | 78     | 75  | 76   | 85        | 84  | 84   |
| 5        | 98  | 92  | 93   | 83    | 76  | 78   | 77     | 67  | 71   | 86        | 80  | 84   |
| 6        | 92  | 90  | 91   | 80    | 75  | 76   | 69     | 66  | 67   | 83        | 79  | 82   |
| 7        | 94  | 91  | 93   | 82    | 79  | 81   | 75     | 70  | 72   | 85        | 82  | 83   |
| 8        | 96  | 92  | 94   | 83    | 82  | 82   | 77     | 75  | 76   | 85        | 82  | 83   |
| 9        | 95  | 92  | 94   | 84    | 82  | 83   | 77     | 75  | 76   | 87        | 79  | 84   |
| 10       | 93  | 89  | 91   | 84    | 83  | 83   | 78     | 76  | 76   | 78        | 65  | 77   |
| 11       | 95  | 91  | 92   | 84    | 83  | 84   | 79     | 77  | 77   | 72        | 67  | 69   |
| 12       | 111 | 92  | 97   | 84    | 83  | 84   | 80     | 78  | 79   | 77        | 73  | 75   |
| 13       | 104 | 92  | 97   | 84    | 81  | 83   | 80     | 79  | 80   | 79        | 75  | 78   |
| 14       | --- | --- | ---  | 80    | 75  | 77   | 80     | 79  | 80   | 80        | 79  | 80   |
| 15       | --- | --- | ---  | 79    | 75  | 77   | 80     | 79  | 79   | 81        | 80  | 81   |
| 16       | --- | --- | ---  | 80    | 79  | 80   | 80     | 79  | 80   | 82        | 81  | 82   |
| 17       | --- | --- | ---  | 81    | 79  | 80   | 81     | 79  | 80   | 85        | 82  | 83   |
| 18       | --- | --- | ---  | 80    | 76  | 79   | 81     | 79  | 80   | 85        | 83  | 84   |
| 19       | --- | --- | ---  | 96    | 75  | 77   | 81     | 80  | 81   | 85        | 82  | 84   |
| 20       | --- | --- | ---  | 78    | 75  | 77   | 81     | 80  | 81   | 84        | 81  | 84   |
| 21       | --- | --- | ---  | 80    | 78  | 79   | 81     | 79  | 81   | 85        | 82  | 85   |
| 22       | --- | --- | ---  | 80    | 72  | 77   | 82     | 81  | 81   | 86        | 85  | 86   |
| 23       | --- | --- | ---  | 71    | 67  | 68   | 82     | 82  | 82   | 87        | 86  | 86   |
| 24       | --- | --- | ---  | 73    | 67  | 70   | 82     | 78  | 80   | 88        | 87  | 87   |
| 25       | --- | --- | ---  | 77    | 73  | 75   | 80     | 75  | 77   | 89        | 87  | 88   |
| 26       | --- | --- | ---  | 79    | 77  | 77   | 78     | 75  | 77   | 89        | 88  | 89   |
| 27       | --- | --- | ---  | 80    | 78  | 79   | 81     | 76  | 79   | 90        | 87  | 89   |
| 28       | --- | --- | ---  | 80    | 78  | 79   | 82     | 80  | 81   | 91        | 90  | 90   |
| 29       | --- | --- | ---  | 80    | 79  | 80   | 82     | 80  | 81   | 91        | 90  | 91   |
| 30       | --- | --- | ---  | 83    | 79  | 81   | 83     | 81  | 82   | 91        | 90  | 91   |
| 31       | --- | --- | ---  | 84    | 82  | 82   | ---    | --- | ---  | 91        | 87  | 91   |
| MONTH    | --- | --- | ---  | 96    | 67  | 79   | 83     | 66  | 78   | 91        | 65  | 84   |
| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
| JUNE     |     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1        | 92  | 91  | 91   | 79    | 77  | 78   | 84     | 82  | 83   | 81        | 80  | 81   |
| 2        | 93  | 90  | 92   | 80    | 77  | 78   | 84     | 82  | 83   | 82        | 80  | 81   |
| 3        | 92  | 88  | 91   | 79    | 78  | 78   | 82     | 80  | 82   | 82        | 80  | 81   |
| 4        | 93  | 91  | 92   | 80    | 78  | 79   | 83     | 82  | 82   | 81        | 80  | 80   |
| 5        | 95  | 93  | 94   | 82    | 78  | 80   | 85     | 83  | 84   | 81        | 79  | 80   |
| 6        | 96  | 92  | 94   | 83    | 79  | 81   | 85     | 84  | 85   | 81        | 80  | 81   |
| 7        | 93  | 87  | 91   | 81    | 80  | 81   | 86     | 84  | 85   | 83        | 81  | 82   |
| 8        | 88  | 86  | 87   | 81    | 80  | 81   | 85     | 73  | 81   | 85        | 82  | 83   |
| 9        | 89  | 86  | 88   | 82    | 79  | 81   | 86     | 74  | 79   | 85        | 83  | 84   |
| 10       | 90  | 79  | 87   | 81    | 79  | 80   | 93     | 86  | 91   | 86        | 73  | 82   |
| 11       | 79  | 71  | 73   | 81    | 80  | 81   | 92     | 89  | 91   | 70        | 64  | 67   |
| 12       | 81  | 72  | 77   | 82    | 80  | 81   | 89     | 84  | 87   | 76        | 69  | 73   |
| 13       | 85  | 81  | 82   | 81    | 80  | 81   | 85     | 83  | 84   | 81        | 76  | 79   |
| 14       | --- | --- | ---  | 82    | 79  | 81   | 83     | 78  | 81   | 81        | 81  | 81   |
| 15       | --- | --- | ---  | 81    | 78  | 80   | 79     | 77  | 79   | 81        | 80  | 81   |
| 16       | 71  | 71  | 71   | 82    | 79  | 81   | 79     | 77  | 78   | 81        | 79  | 80   |
| 17       | 72  | 71  | 72   | 83    | 81  | 82   | 108    | 77  | 83   | 82        | 72  | 77   |
| 18       | 73  | 72  | 72   | 84    | 81  | 83   | 105    | 79  | 87   | 73        | 69  | 72   |
| 19       | 73  | 71  | 72   | 84    | 81  | 83   | 80     | 78  | 79   | 83        | 71  | 79   |
| 20       | 74  | 71  | 73   | 84    | 82  | 83   | 82     | 79  | 81   | 83        | 75  | 78   |
| 21       | 75  | 73  | 74   | 85    | 82  | 84   | 83     | 81  | 82   | 81        | 75  | 76   |
| 22       | 76  | 74  | 75   | 84    | 82  | 83   | 94     | 77  | 83   | 79        | 75  | 77   |
| 23       | 75  | 74  | 75   | 84    | 81  | 82   | 89     | 72  | 76   | 81        | 79  | 81   |
| 24       | 77  | 74  | 76   | 84    | 82  | 83   | 86     | 73  | 78   | 82        | 79  | 81   |
| 25       | 76  | 74  | 75   | 85    | 82  | 84   | 85     | 77  | 81   | 79        | 70  | 74   |
| 26       | 79  | 72  | 75   | 87    | 79  | 83   | 80     | 77  | 78   | 75        | 69  | 72   |
| 27       | 72  | 71  | 71   | 81    | 79  | 80   | 82     | 80  | 81   | 77        | 75  | 76   |
| 28       | 75  | 71  | 74   | 83    | 80  | 82   | 82     | 81  | 82   | 79        | 76  | 78   |
| 29       | 77  | 76  | 77   | 85    | 83  | 84   | 83     | 81  | 82   | 80        | 79  | 79   |
| 30       | 78  | 77  | 77   | 85    | 84  | 85   | 82     | 81  | 81   | 80        | 79  | 80   |
| 31       | --- | --- | ---  | 85    | 82  | 84   | 81     | 80  | 81   | ---       | --- | ---  |
| MONTH    | 96  | 71  | 80   | 87    | 77  | 82   | 108    | 72  | 82   | 86        | 64  | 79   |
| YEAR     | 111 | 64  | 85   |       |     |      |        |     |      |           |     |      |



01117472 BEAVER RIVER AT KENYON, RI--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | --- | --- | ---      | 8.5 | 6.5 | 8.0      | 0.5 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 2       | --- | --- | ---      | 6.0 | 4.0 | 5.0      | 1.5 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 3       | --- | --- | ---      | 6.5 | 4.0 | 5.5      | 0.5 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 4       | --- | --- | ---      | 8.5 | 6.0 | 7.5      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 5       | --- | --- | ---      | 9.0 | 7.5 | 8.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 6       | --- | --- | ---      | 8.0 | 6.5 | 7.5      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 7       | --- | --- | ---      | 7.5 | 5.5 | 6.5      | 2.0 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 8       | --- | --- | ---      | 5.5 | 3.5 | 5.0      | 1.0 | 0.0 | 0.5     | 0.0 | 0.0 | 0.0  |
| 9       | --- | --- | ---      | 3.5 | 2.0 | 3.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 10      | --- | --- | ---      | 4.5 | 3.0 | 3.5      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 11      | --- | --- | ---      | 3.5 | 2.5 | 3.0      | 1.5 | 0.0 | 1.0     | --- | --- | ---  |
| 12      | --- | --- | ---      | 3.0 | 1.5 | 2.5      | 2.0 | 0.0 | 1.0     | --- | --- | ---  |
| 13      | --- | --- | ---      | 3.0 | 1.0 | 2.0      | 2.5 | 0.0 | 1.5     | --- | --- | ---  |
| 14      | --- | --- | ---      | 3.5 | 1.5 | 2.5      | 0.0 | 0.0 | 0.0     | --- | --- | ---  |
| 15      | --- | --- | ---      | 3.5 | 1.5 | 2.5      | 0.5 | 0.0 | 0.0     | --- | --- | ---  |
| 16      | --- | --- | ---      | 4.0 | 1.5 | 2.5      | 2.0 | 0.5 | 1.0     | --- | --- | ---  |
| 17      | --- | --- | ---      | 3.5 | 1.5 | 2.5      | 3.0 | 1.5 | 2.0     | --- | --- | ---  |
| 18      | --- | --- | ---      | 5.0 | 2.5 | 4.0      | 2.0 | 1.0 | 1.5     | --- | --- | ---  |
| 19      | --- | --- | ---      | 5.0 | 3.5 | 4.0      | 1.5 | 0.0 | 0.5     | --- | --- | ---  |
| 20      | --- | --- | ---      | 4.5 | 3.0 | 4.0      | 3.0 | 0.5 | 1.5     | --- | --- | ---  |
| 21      | --- | --- | ---      | 3.0 | 1.5 | 2.5      | 3.5 | 0.5 | 2.5     | --- | --- | ---  |
| 22      | --- | --- | ---      | 2.0 | 0.5 | 1.0      | 0.0 | 0.0 | 0.0     | --- | --- | ---  |
| 23      | --- | --- | ---      | 2.5 | 0.5 | 1.5      | 0.5 | 0.0 | 0.0     | --- | --- | ---  |
| 24      | --- | --- | ---      | 2.5 | 1.0 | 2.0      | 0.0 | 0.0 | 0.0     | --- | --- | ---  |
| 25      | --- | --- | ---      | 2.0 | 0.5 | 1.5      | 0.0 | 0.0 | 0.0     | --- | --- | ---  |
| 26      | --- | --- | ---      | 4.0 | 1.0 | 2.5      | 1.0 | 0.0 | 0.5     | --- | --- | ---  |
| 27      | --- | --- | ---      | 7.5 | 4.0 | 6.0      | 0.5 | 0.0 | 0.0     | --- | --- | ---  |
| 28      | 5.5 | 4.0 | 4.5      | 8.5 | 7.5 | 8.0      | 0.0 | 0.0 | 0.0     | 0.5 | 0.0 | 0.0  |
| 29      | 6.0 | 3.0 | 4.5      | 8.5 | 6.0 | 7.5      | 0.0 | 0.0 | 0.0     | 0.5 | 0.0 | 0.0  |
| 30      | 6.5 | 4.0 | 5.5      | 5.0 | 1.0 | 3.0      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| 31      | 9.0 | 6.5 | 7.5      | --- | --- | ---      | 0.0 | 0.0 | 0.0     | 0.0 | 0.0 | 0.0  |
| MONTH   | --- | --- | ---      | 9.0 | 0.5 | 4.0      | 3.5 | 0.0 | 0.5     | --- | --- | ---  |

| DAY      | MAX | MIN | MEAN  | MAX  | MIN  | MEAN  | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|-------|------|------|-------|------|------|------|------|------|------|
| FEBRUARY |     |     | MARCH |      |      | APRIL |      |      | MAY  |      |      |      |
| 1        | 0.5 | 0.0 | 0.0   | ---  | ---  | ---   | 11.5 | 8.0  | 9.5  | 14.0 | 9.0  | 11.5 |
| 2        | 0.0 | 0.0 | 0.0   | 2.0  | 0.5  | 1.5   | 9.0  | 6.0  | 7.0  | 13.0 | 10.5 | 11.5 |
| 3        | 0.0 | 0.0 | 0.0   | 3.0  | 0.0  | 1.5   | 12.5 | 7.0  | 9.5  | 15.0 | 10.0 | 12.5 |
| 4        | 0.5 | 0.0 | 0.0   | 2.0  | 1.0  | 1.5   | 10.0 | 7.0  | 8.0  | 13.5 | 9.5  | 12.0 |
| 5        | 0.0 | 0.0 | 0.0   | 4.0  | 1.5  | 2.5   | 7.0  | 5.5  | 6.5  | 12.5 | 10.5 | 11.0 |
| 6        | 0.0 | 0.0 | 0.0   | 3.0  | 1.0  | 2.0   | 9.0  | 6.0  | 7.0  | 15.5 | 10.5 | 12.5 |
| 7        | 0.0 | 0.0 | 0.0   | 2.0  | 0.5  | 1.5   | 8.5  | 5.5  | 7.0  | 17.0 | 13.0 | 15.0 |
| 8        | 0.0 | 0.0 | 0.0   | 4.5  | 0.5  | 2.5   | 9.5  | 6.0  | 7.5  | 15.5 | 11.0 | 13.5 |
| 9        | 0.0 | 0.0 | 0.0   | 5.5  | 1.5  | 3.5   | 7.5  | 3.5  | 5.5  | 13.5 | 7.0  | 10.0 |
| 10       | 0.0 | 0.0 | 0.0   | 7.0  | 3.5  | 5.0   | 9.0  | 3.5  | 6.0  | 7.5  | 5.5  | 6.5  |
| 11       | 0.0 | 0.0 | 0.0   | 8.0  | 4.0  | 6.0   | 9.5  | 5.0  | 7.0  | 10.0 | 6.0  | 8.0  |
| 12       | 0.5 | 0.0 | 0.0   | 8.5  | 4.5  | 6.5   | 13.0 | 6.5  | 9.5  | 13.5 | 8.0  | 10.5 |
| 13       | 0.0 | 0.0 | 0.0   | 8.5  | 7.0  | 7.5   | 15.0 | 10.5 | 12.5 | 16.0 | 11.0 | 13.5 |
| 14       | --- | --- | ---   | 8.0  | 7.0  | 7.5   | 16.0 | 12.5 | 14.0 | 14.5 | 10.5 | 12.5 |
| 15       | --- | --- | ---   | 7.0  | 6.5  | 6.5   | 13.5 | 9.0  | 11.5 | 14.5 | 10.0 | 12.0 |
| 16       | --- | --- | ---   | 7.0  | 5.5  | 6.5   | 12.5 | 8.5  | 10.5 | 15.0 | 10.0 | 12.5 |
| 17       | --- | --- | ---   | 6.5  | 4.0  | 5.0   | 13.5 | 8.5  | 11.0 | 17.0 | 12.0 | 14.5 |
| 18       | --- | --- | ---   | 4.5  | 0.5  | 2.0   | 14.0 | 8.5  | 11.0 | 16.5 | 14.5 | 15.5 |
| 19       | --- | --- | ---   | 4.5  | 0.5  | 2.0   | 14.5 | 9.0  | 12.0 | 16.0 | 13.5 | 14.5 |
| 20       | --- | --- | ---   | 4.5  | 1.0  | 3.0   | 14.5 | 9.5  | 12.0 | 15.0 | 11.5 | 13.0 |
| 21       | --- | --- | ---   | 7.0  | 3.0  | 5.0   | 14.5 | 10.0 | 12.5 | 15.0 | 12.5 | 14.0 |
| 22       | --- | --- | ---   | 5.0  | 3.5  | 4.0   | 16.0 | 12.0 | 14.0 | 17.0 | 13.5 | 15.0 |
| 23       | --- | --- | ---   | 4.5  | 3.5  | 4.0   | 15.0 | 11.0 | 13.0 | 17.5 | 14.0 | 16.0 |
| 24       | --- | --- | ---   | 5.0  | 3.0  | 3.5   | 11.0 | 8.5  | 10.0 | 18.5 | 15.5 | 17.0 |
| 25       | --- | --- | ---   | 5.0  | 1.5  | 3.0   | 9.0  | 8.0  | 8.5  | 18.5 | 16.0 | 17.0 |
| 26       | --- | --- | ---   | 7.0  | 2.5  | 4.5   | 8.5  | 7.5  | 8.0  | 18.0 | 15.0 | 16.5 |
| 27       | --- | --- | ---   | 9.0  | 4.0  | 6.5   | 12.5 | 7.0  | 9.5  | 17.0 | 13.0 | 15.0 |
| 28       | --- | --- | ---   | 7.5  | 5.5  | 6.5   | 11.5 | 9.0  | 10.0 | 16.5 | 13.5 | 15.0 |
| 29       | --- | --- | ---   | 11.5 | 7.0  | 9.0   | 12.5 | 8.0  | 10.0 | 16.5 | 13.5 | 15.0 |
| 30       | --- | --- | ---   | 14.0 | 9.0  | 11.5  | 13.0 | 8.0  | 10.5 | 14.5 | 12.0 | 13.0 |
| 31       | --- | --- | ---   | 13.0 | 10.5 | 12.0  | ---  | ---  | ---  | 14.5 | 11.0 | 13.0 |
| MONTH    | --- | --- | ---   | 14.0 | 0.0  | 5.0   | 16.0 | 3.5  | 9.5  | 18.5 | 5.5  | 13.0 |



## 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) above mean sea level.

REMARKS.--Records excellent. 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.--37 years, 190 ft<sup>3</sup>/s (5.381 m<sup>3</sup>/s), 25.80 in/yr (655 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, 697 ft<sup>3</sup>/s (19.7 m<sup>3</sup>/s) Apr. 6, gage height, 5.07 ft (1.545 m); minimum, 43 ft<sup>3</sup>/s (1.22 m<sup>3</sup>/s) Oct. 1, 5, 8, 9; minimum daily, 43 ft<sup>3</sup>/s (1.22 m<sup>3</sup>/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN     | FEB    | MAR       | APR      | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|---------|--------|-----------|----------|------|------|------|------|------|
| 1           | 44    | 90    | 67       | 79      | 102    | 329       | 367      | 229  | 133  | 105  | 58   | 54   |
| 2           | 44    | 90    | 63       | 78      | 100    | 315       | 344      | 222  | 136  | 99   | 56   | 54   |
| 3           | 44    | 86    | 60       | 77      | 98     | 282       | 402      | 217  | 134  | 94   | 56   | 53   |
| 4           | 44    | 89    | 57       | 79      | 97     | 265       | 420      | 209  | 126  | 90   | 54   | 51   |
| 5           | 44    | 87    | 57       | 78      | 99     | 328       | 540      | 213  | 120  | 88   | 52   | 49   |
| 6           | 44    | 84    | 56       | 76      | 98     | 384       | 666      | 223  | 122  | 85   | 50   | 48   |
| 7           | 44    | 81    | 76       | 82      | 97     | 411       | 690      | 225  | 141  | 81   | 50   | 47   |
| 8           | 43    | 78    | 123      | 84      | 97     | 381       | 648      | 223  | 146  | 81   | 53   | 45   |
| 9           | 60    | 74    | 121      | 83      | 96     | 342       | 571      | 233  | 147  | 83   | 58   | 45   |
| 10          | 93    | 71    | 115      | 134     | 97     | 318       | 502      | 311  | 228  | 81   | 55   | 53   |
| 11          | 102   | 70    | 104      | 171     | 98     | 302       | 452      | 361  | 265  | 77   | 50   | 65   |
| 12          | 98    | 70    | 95       | 170     | 99     | 289       | 416      | 380  | 277  | 77   | 48   | 65   |
| 13          | 80    | 68    | 89       | 174     | 113    | 294       | 388      | 356  | 261  | 78   | 48   | 58   |
| 14          | 71    | 66    | 77       | 174     | 125    | 394       | 364      | 316  | 229  | 79   | 54   | 53   |
| 15          | 65    | 66    | 79       | 166     | 136    | 459       | 339      | 286  | 194  | 76   | 58   | 50   |
| 16          | 60    | 65    | 79       | 158     | 136    | 482       | 321      | 264  | 170  | 72   | 54   | 48   |
| 17          | 57    | 65    | 87       | 149     | 126    | 442       | 305      | 247  | 155  | 69   | 63   | 63   |
| 18          | 56    | 65    | 91       | 139     | 117    | 399       | 293      | 233  | 145  | 70   | 78   | 67   |
| 19          | 55    | 65    | 86       | 132     | 114    | 401       | 283      | 224  | 139  | 63   | 71   | 88   |
| 20          | 58    | 64    | 84       | 128     | 112    | 391       | 274      | 216  | 133  | 62   | 62   | 92   |
| 21          | 120   | 62    | 108      | 125     | 109    | 379       | 266      | 209  | 128  | 59   | 55   | 101  |
| 22          | 135   | 61    | 102      | 122     | 105    | 390       | 257      | 200  | 119  | 62   | 66   | 89   |
| 23          | 140   | 61    | 98       | 119     | 105    | 567       | 253      | 191  | 111  | 60   | 84   | 80   |
| 24          | 118   | 61    | 89       | 117     | 108    | 659       | 258      | 184  | 107  | 58   | 87   | 80   |
| 25          | 103   | 60    | 82       | 118     | 230    | 648       | 273      | 176  | 104  | 60   | 106  | 107  |
| 26          | 106   | 59    | 89       | 117     | 265    | 584       | 278      | 167  | 130  | 69   | 95   | 119  |
| 27          | 111   | 61    | 87       | 116     | 289    | 510       | 276      | 159  | 134  | 68   | 81   | 121  |
| 28          | 108   | 61    | 79       | 113     | 357    | 453       | 266      | 152  | 126  | 68   | 70   | 111  |
| 29          | 98    | 68    | 82       | 113     | ---    | 431       | 252      | 145  | 119  | 62   | 63   | 95   |
| 30          | 90    | 71    | 80       | 111     | ---    | 414       | 239      | 141  | 111  | 59   | 60   | 81   |
| 31          | 89    | ---   | 82       | 106     | ---    | 395       | ---      | 136  | ---  | 58   | 58   | ---  |
| TOTAL       | 2424  | 2119  | 2644     | 3688    | 3725   | 12638     | 11203    | 7048 | 4590 | 2293 | 1953 | 2132 |
| MEAN        | 78.2  | 70.6  | 85.3     | 119     | 133    | 408       | 373      | 227  | 153  | 74.0 | 63.0 | 71.1 |
| MAX         | 140   | 90    | 123      | 174     | 357    | 659       | 690      | 380  | 277  | 105  | 106  | 121  |
| MIN         | 43    | 59    | 56       | 76      | 96     | 265       | 239      | 136  | 104  | 58   | 48   | 45   |
| CFSM        | .78   | .71   | .85      | 1.19    | 1.33   | 4.08      | 3.73     | 2.27 | 1.53 | .74  | .63  | .71  |
| IN.         | .90   | .79   | .98      | 1.37    | 1.39   | 4.70      | 4.17     | 2.62 | 1.71 | .85  | .73  | .79  |
| CAL YR 1976 | TOTAL | 63770 | MEAN 174 | MAX 790 | MIN 40 | CFSM 1.74 | IN 23.72 |      |      |      |      |      |
| WTR YR 1977 | TOTAL | 56457 | MEAN 155 | MAX 690 | MIN 43 | CFSM 1.55 | IN 21.00 |      |      |      |      |      |

## 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 current year.  
Water-quality records: Water years 1967-74.

GAGE.--Water-stage recorder. Altitude of gage is 130 ft (40 m), from topographic map.

REMARKS.--Records excellent except those for June to September, which are good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--13 years, 73.8 ft<sup>3</sup>/s (2.090 m<sup>3</sup>/s), 28.47 in/yr (723 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, about 5.8 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) about Sept. 8, 9, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft<sup>3</sup>/s (7.08 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 6  | 0530 | 313 8.86                                              | 5.68 1.731              | Apr. 5 | 2200 | 315 8.92                                              | 5.70 1.737              |
| Mar. 14 | 2400 | 281 7.96                                              | 5.42 1.652              | May 10 | 2045 | 253 7.16                                              | 5.19 1.582              |
| Mar. 23 | 0745 | *496 14.0                                             | *7.03 2.143             |        |      |                                                       |                         |

Minimum discharge, 8.5 ft<sup>3</sup>/s (0.24 m<sup>3</sup>/s) Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP   |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1     | 20   | 56   | 33   | 39   | 46   | 186  | 160  | 82   | 51   | 31   | 17   | 11    |
| 2     | 20   | 53   | 31   | 38   | 44   | 158  | 146  | 78   | 51   | 28   | 17   | 13    |
| 3     | 20   | 51   | 28   | 38   | 42   | 132  | 190  | 76   | 51   | 26   | 17   | 15    |
| 4     | 19   | 48   | 27   | 38   | 42   | 125  | 173  | 73   | 49   | 25   | 16   | 13    |
| 5     | 19   | 46   | 27   | 37   | 43   | 264  | 258  | 78   | 46   | 25   | 16   | 12    |
| 6     | 19   | 43   | 26   | 36   | 43   | 301  | 306  | 85   | 45   | 25   | 16   | 11    |
| 7     | 18   | 41   | 26   | 39   | 41   | 243  | 260  | 113  | 52   | 23   | 29   | 10    |
| 8     | 18   | 40   | 27   | 41   | 41   | 192  | 216  | 104  | 58   | 23   | 41   | 9.4   |
| 9     | 56   | 38   | 73   | 39   | 41   | 164  | 185  | 159  | 59   | 22   | 22   | 8.9   |
| 10    | 87   | 38   | 71   | 74   | 41   | 152  | 164  | 249  | 114  | 21   | 18   | 25    |
| 11    | 64   | 37   | 63   | 115  | 41   | 144  | 150  | 248  | 125  | 21   | 16   | 28    |
| 12    | 57   | 35   | 56   | 99   | 43   | 137  | 140  | 211  | 105  | 21   | 16   | 21    |
| 13    | 48   | 35   | 53   | 92   | 48   | 152  | 132  | 165  | 82   | 21   | 15   | 16    |
| 14    | 45   | 35   | 47   | 86   | 53   | 271  | 126  | 134  | 70   | 24   | 14   | 16    |
| 15    | 40   | 34   | 47   | 81   | 53   | 264  | 118  | 116  | 60   | 22   | 15   | 15    |
| 16    | 35   | 33   | 43   | 76   | 51   | 216  | 113  | 105  | 54   | 20   | 14   | 16    |
| 17    | 31   | 33   | 45   | 69   | 47   | 180  | 108  | 96   | 49   | 18   | 16   | 22    |
| 18    | 30   | 33   | 44   | 64   | 45   | 162  | 103  | 91   | 46   | 17   | 19   | 22    |
| 19    | 28   | 32   | 42   | 61   | 43   | 165  | 100  | 92   | 43   | 17   | 16   | 26    |
| 20    | 31   | 31   | 41   | 59   | 43   | 154  | 96   | 92   | 40   | 17   | 14   | 37    |
| 21    | 94   | 31   | 60   | 56   | 43   | 150  | 93   | 88   | 37   | 16   | 14   | 43    |
| 22    | 79   | 30   | 53   | 54   | 40   | 188  | 91   | 84   | 35   | 18   | 19   | 39    |
| 23    | 73   | 30   | 51   | 52   | 40   | 483  | 94   | 78   | 33   | 16   | 27   | 34    |
| 24    | 62   | 29   | 46   | 51   | 40   | 429  | 101  | 74   | 31   | 15   | 21   | 39    |
| 25    | 58   | 29   | 42   | 52   | 114  | 319  | 115  | 70   | 31   | 23   | 20   | 67    |
| 26    | 69   | 28   | 44   | 51   | 130  | 251  | 111  | 65   | 44   | 40   | 17   | 65    |
| 27    | 66   | 29   | 41   | 48   | 135  | 211  | 105  | 62   | 45   | 29   | 15   | 60    |
| 28    | 59   | 24   | 39   | 48   | 186  | 190  | 98   | 59   | 40   | 22   | 14   | 51    |
| 29    | 53   | 34   | 41   | 52   | ---  | 200  | 92   | 56   | 38   | 20   | 13   | 45    |
| 30    | 49   | 36   | 40   | 49   | ---  | 187  | 86   | 53   | 34   | 19   | 12   | 38    |
| 31    | 53   | ---  | 39   | 49   | ---  | 173  | ---  | 51   | ---  | 18   | 12   | ---   |
| TOTAL | 1419 | 1097 | 1446 | 1783 | 1619 | 6543 | 4230 | 3187 | 1618 | 683  | 548  | 828.3 |
| MEAN  | 45.8 | 36.6 | 46.6 | 57.5 | 57.8 | 211  | 141  | 103  | 53.9 | 22.0 | 17.7 | 27.6  |
| MAX   | 94   | 56   | 97   | 115  | 186  | 483  | 306  | 249  | 125  | 40   | 41   | 67    |
| MIN   | 18   | 28   | 26   | 36   | 40   | 125  | 86   | 51   | 31   | 15   | 12   | 8.9   |
| CFSM  | 1.30 | 1.04 | 1.32 | 1.63 | 1.64 | 5.99 | 4.01 | 2.93 | 1.53 | .63  | .50  | .78   |
| IN.   | 1.50 | 1.16 | 1.53 | 1.88 | 1.71 | 6.91 | 4.47 | 3.37 | 1.71 | .72  | .58  | .88   |

|             |       |         |           |         |         |           |          |
|-------------|-------|---------|-----------|---------|---------|-----------|----------|
| CAL YR 1976 | TOTAL | 26770.0 | MEAN 73.1 | MAX 486 | MIN 15  | CFSM 2.08 | IN 28.29 |
| WTR YR 1977 | TOTAL | 25001.3 | MEAN 68.5 | MAX 483 | MIN 8.9 | CFSM 1.95 | IN 26.42 |

## 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>).

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.

Water-quality records: Water years 1954, 1957-59, 1968.

REVISED RECORDS.--WSP 1201: 1948(P). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 65 ft (20 m), from topographic map. August to December 1909, nonrecording gage at site 1,000 ft (300 m) upstream at different datum.

REMARKS.--Records excellent except those for period of no gage-height record, 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. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--36 years, 151 ft<sup>3</sup>/s (4.276 m<sup>3</sup>/s), 28.32 in/yr (719 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,720 ft<sup>3</sup>/s (48.7 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 8.26 ft (2.518 m), from rating curve extended above 970 ft<sup>3</sup>/s (27.5 m<sup>3</sup>/s); 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 (15.6 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 5  | 2230 | 676 19.1                                              | 4.91 1.497              | Apr. 6 | -    | 777 22.0                                              | +5.31 1.618             |
| Mar. 14 | 1700 | 607 17.2                                              | 4.63 1.411              | May 10 | -    | 600 17.0                                              | - -                     |
| Mar. 23 | 1600 | *1100 31.2                                            | *6.48 1.975             |        |      |                                                       |                         |

† From peak-stage indicator.

Minimum discharge, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) Sept. 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 1     | 33   | 112  | 51   | 72   | 92   | 391   | 335  | 165  | 98   | 63   | 34   | 29   |
| 2     | 33   | 105  | 49   | 71   | 86   | 337   | 309  | 155  | 95   | 60   | 35   | 28   |
| 3     | 33   | 95   | 47   | 69   | 83   | 284   | 409  | 150  | 92   | 55   | 33   | 29   |
| 4     | 32   | 95   | 43   | 71   | 84   | 269   | 398  | 170  | 89   | 54   | 32   | 30   |
| 5     | 32   | 94   | 44   | 70   | 86   | 524   | 520  | 180  | 86   | 52   | 31   | 29   |
| 6     | 31   | 88   | 43   | 66   | 87   | 632   | 680  | 180  | 88   | 47   | 32   | 28   |
| 7     | 31   | 83   | 68   | 75   | 83   | 500   | 520  | 210  | 105  | 44   | 33   | 27   |
| 8     | 30   | 73   | 180  | 76   | 80   | 415   | 440  | 195  | 120  | 43   | 88   | 26   |
| 9     | 48   | 68   | 145  | 73   | 78   | 357   | 390  | 280  | 111  | 44   | 70   | 26   |
| 10    | 166  | 66   | 118  | 134  | 80   | 319   | 340  | 520  | 219  | 43   | 46   | 34   |
| 11    | 131  | 65   | 110  | 297  | 79   | 299   | 310  | 490  | 302  | 40   | 37   | 72   |
| 12    | 90   | 63   | 100  | 249  | 81   | 282   | 290  | 420  | 232  | 40   | 33   | 57   |
| 13    | 75   | 61   | 100  | 196  | 93   | 301   | 270  | 350  | 180  | 41   | 32   | 46   |
| 14    | 69   | 59   | 81   | 174  | 104  | 549   | 260  | 270  | 146  | 46   | 33   | 39   |
| 15    | 61   | 58   | 86   | 165  | 106  | 534   | 250  | 220  | 125  | 44   | 35   | 35   |
| 16    | 54   | 57   | 82   | 150  | 102  | 457   | 240  | 200  | 110  | 40   | 32   | 32   |
| 17    | 49   | 56   | 87   | 130  | 92   | 386   | 230  | 190  | 99   | 38   | 35   | 45   |
| 18    | 48   | 58   | 89   | 120  | 87   | 350   | 220  | 180  | 94   | 36   | 44   | 58   |
| 19    | 44   | 60   | 81   | 122  | 86   | 370   | 210  | 180  | 93   | 34   | 40   | 64   |
| 20    | 47   | 58   | 81   | 115  | 86   | 348   | 205  | 180  | 87   | 33   | 35   | 71   |
| 21    | 185  | 56   | 116  | 112  | 86   | 329   | 200  | 175  | 79   | 32   | 31   | 109  |
| 22    | 197  | 54   | 109  | 107  | 81   | 410   | 200  | 165  | 73   | 34   | 37   | 92   |
| 23    | 129  | 53   | 102  | 101  | 79   | 979   | 200  | 155  | 67   | 32   | 67   | 72   |
| 24    | 103  | 51   | 88   | 98   | 80   | 916   | 205  | 145  | 65   | 30   | 64   | 74   |
| 25    | 99   | 50   | 79   | 100  | 231  | 677   | 210  | 135  | 62   | 30   | 63   | 162  |
| 26    | 124  | 49   | 85   | 100  | 325  | 539   | 225  | 130  | 89   | 51   | 53   | 181  |
| 27    | 134  | 50   | 81   | 96   | 293  | 490   | 210  | 120  | 105  | 53   | 44   | 147  |
| 28    | 109  | 48   | 74   | 94   | 388  | 450   | 200  | 115  | 86   | 43   | 38   | 112  |
| 29    | 103  | 51   | 78   | 106  | ---  | 420   | 185  | 110  | 75   | 38   | 34   | 88   |
| 30    | 98   | 56   | 77   | 99   | ---  | 390   | 175  | 105  | 70   | 35   | 32   | 71   |
| 31    | 98   | ---  | 76   | 99   | ---  | 366   | ---  | 100  | ---  | 35   | 31   | ---  |
| TOTAL | 2516 | 1992 | 2650 | 3607 | 3318 | 13870 | 8836 | 6340 | 3342 | 1310 | 1284 | 1913 |
| MEAN  | 81.2 | 66.4 | 85.5 | 116  | 119  | 447   | 295  | 205  | 111  | 42.3 | 41.4 | 63.8 |
| MAX   | 197  | 112  | 180  | 297  | 388  | 979   | 680  | 520  | 302  | 63   | 88   | 181  |
| MIN   | 30   | 48   | 43   | 66   | 78   | 269   | 175  | 100  | 62   | 30   | 31   | 26   |
| CFSM  | 1.12 | .92  | 1.18 | 1.60 | 1.64 | 6.17  | 4.08 | 2.83 | 1.53 | .58  | .57  | .88  |
| IN.   | 1.29 | 1.02 | 1.36 | 1.85 | 1.70 | 7.13  | 4.54 | 3.26 | 1.72 | .67  | .66  | .98  |

CAL YR 1976 TOTAL 55149 MEAN 151 MAX 1050 MIN 29 CFSM 2.09 IN 28.34  
WTR YR 1977 TOTAL 50978 MEAN 140 MAX 979 MIN 26 CFSM 1.93 IN 26.19

NOTE.--No gage-height record Apr. 5 to June 7.

01118500 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>).

PERIOD OF RECORD.--Discharge: November 1940 to current year.  
Water-quality records: Water years 1953, 1963.

REVISED RECORDS.--WSP 1051: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.76 ft (0.536 m) below mean sea level.

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

AVERAGE DISCHARGE.--36 years (water years 1942-77), 563 ft<sup>3</sup>/s (15.94 m<sup>3</sup>/s), 25.92 in/yr (658 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, 2,410 ft<sup>3</sup>/s (68.3 m<sup>3</sup>/s) Mar. 23, gage height, 7.20 ft (2.195 m); maximum gage height, 7.35 ft (2.240 m) Mar. 22, backwater from tide; minimum daily discharge, 107 ft<sup>3</sup>/s (3.03 m<sup>3</sup>/s) Aug. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB     | MAR       | APR      | MAY   | JUN   | JUL  | AUG  | SEP  |
|-------------|-------|--------|----------|----------|---------|-----------|----------|-------|-------|------|------|------|
| 1           | 124   | 221    | 204      | 260      | 340     | 1280      | 1220     | 634   | 342   | 259  | 141  | 124  |
| 2           | 124   | 221    | 199      | 255      | 320     | 1130      | 1120     | 620   | 342   | 254  | 134  | 120  |
| 3           | 127   | 208    | 195      | 250      | 310     | 978       | 1350     | 592   | 348   | 244  | 137  | 124  |
| 4           | 127   | 199    | 195      | 250      | 310     | 925       | 1440     | 578   | 336   | 225  | 130  | 137  |
| 5           | 127   | 195    | 191      | 250      | 320     | 1320      | 1870     | 606   | 325   | 221  | 127  | 124  |
| 6           | 127   | 195    | 195      | 250      | 320     | 1580      | 2360     | 662   | 315   | 216  | 124  | 120  |
| 7           | 127   | 191    | 212      | 270      | 300     | 1550      | 2240     | 641   | 336   | 203  | 124  | 117  |
| 8           | 127   | 191    | 371      | 280      | 300     | 1400      | 2050     | 634   | 354   | 199  | 127  | 110  |
| 9           | 144   | 191    | 382      | 270      | 300     | 1220      | 1840     | 692   | 354   | 199  | 141  | 110  |
| 10          | 178   | 191    | 371      | 400      | 300     | 1070      | 1640     | 1040  | 466   | 195  | 141  | 159  |
| 11          | 186   | 186    | 342      | 650      | 300     | 985       | 1450     | 1250  | 634   | 186  | 127  | 212  |
| 12          | 182   | 182    | 336      | 640      | 300     | 932       | 1310     | 1200  | 670   | 178  | 117  | 208  |
| 13          | 167   | 178    | 336      | 620      | 330     | 932       | 1220     | 1090  | 613   | 178  | 107  | 182  |
| 14          | 159   | 178    | 315      | 600      | 380     | 1360      | 1120     | 940   | 522   | 203  | 120  | 167  |
| 15          | 155   | 182    | 304      | 560      | 400     | 1590      | 1040     | 790   | 452   | 195  | 130  | 152  |
| 16          | 152   | 182    | 299      | 520      | 390     | 1560      | 970      | 670   | 382   | 186  | 120  | 141  |
| 17          | 152   | 186    | 294      | 480      | 370     | 1420      | 902      | 634   | 348   | 174  | 134  | 182  |
| 18          | 152   | 186    | 304      | 450      | 360     | 1280      | 858      | 606   | 331   | 171  | 182  | 212  |
| 19          | 152   | 182    | 299      | 440      | 350     | 1260      | 820      | 578   | 320   | 163  | 155  | 273  |
| 20          | 152   | 186    | 304      | 420      | 340     | 1250      | 775      | 564   | 309   | 152  | 137  | 294  |
| 21          | 239   | 182    | 342      | 410      | 340     | 1200      | 745      | 543   | 299   | 148  | 120  | 348  |
| 22          | 325   | 182    | 365      | 395      | 330     | 1340      | 715      | 522   | 289   | 155  | 137  | 331  |
| 23          | 309   | 178    | 342      | 380      | 320     | 2260      | 708      | 501   | 268   | 148  | 203  | 278  |
| 24          | 259   | 186    | 331      | 370      | 320     | 2360      | 715      | 480   | 259   | 144  | 186  | 268  |
| 25          | 235   | 182    | 315      | 380      | 700     | 2290      | 798      | 452   | 249   | 141  | 221  | 388  |
| 26          | 239   | 186    | 310      | 380      | 900     | 2070      | 820      | 432   | 283   | 171  | 203  | 480  |
| 27          | 278   | 186    | 295      | 370      | 1000    | 1800      | 798      | 401   | 342   | 163  | 167  | 459  |
| 28          | 263   | 195    | 290      | 360      | 1150    | 1580      | 752      | 388   | 331   | 163  | 144  | 382  |
| 29          | 225   | 195    | 280      | 380      | ---     | 1480      | 700      | 365   | 294   | 148  | 130  | 320  |
| 30          | 212   | 204    | 275      | 360      | ---     | 1420      | 670      | 359   | 278   | 144  | 137  | 263  |
| 31          | 208   | ---    | 270      | 350      | ---     | 1330      | ---      | 348   | ---   | 144  | 134  | ---  |
| TOTAL       | 5733  | 5707   | 9063     | 12250    | 11700   | 44152     | 35016    | 19812 | 10991 | 5670 | 4437 | 6785 |
| MEAN        | 185   | 190    | 292      | 395      | 418     | 1424      | 1167     | 639   | 366   | 183  | 143  | 226  |
| MAX         | 325   | 221    | 382      | 650      | 1150    | 2360      | 2360     | 1250  | 670   | 259  | 221  | 480  |
| MIN         | 124   | 178    | 191      | 250      | 300     | 925       | 670      | 348   | 249   | 141  | 107  | 110  |
| CFSM        | .63   | .64    | .99      | 1.34     | 1.42    | 4.83      | 3.96     | 2.17  | 1.24  | .62  | .49  | .77  |
| IN.         | .72   | .72    | 1.14     | 1.54     | 1.48    | 5.57      | 4.42     | 2.50  | 1.39  | .71  | .56  | .86  |
| CAL YR 1976 | TOTAL | 179380 | MEAN 490 | MAX 2630 | MIN 95  | CFSM 1.66 | IN 22.62 |       |       |      |      |      |
| WTR YR 1977 | TOTAL | 171316 | MEAN 469 | MAX 2360 | MIN 107 | CFSM 1.59 | IN 21.60 |       |       |      |      |      |



## 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. Altitude of gage is 610 ft (190 m), from topographic map.

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.--5 years, 136 ft<sup>3</sup>/s (3.852 m<sup>3</sup>/s), 27.36 in/yr (695 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, 1,020 ft<sup>3</sup>/s (28.9 m<sup>3</sup>/s) Mar. 17, gage height, 6.52 ft (1.987 m); minimum daily, 8.2 ft<sup>3</sup>/s (0.23 m<sup>3</sup>/s) Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN  | FEB  | MAR   | APR  | MAY  | JUN   | JUL  | AUG   | SEP    |     |       |
|-------------|-------|---------|------|------|------|-------|------|------|-------|------|-------|--------|-----|-------|
| 1           | 17    | 49      | 21   | 35   | 33   | 152   | 417  | 187  | 47    | 41   | 36    | 12     |     |       |
| 2           | 17    | 48      | 20   | 33   | 31   | 162   | 359  | 168  | 55    | 41   | 33    | 12     |     |       |
| 3           | 17    | 46      | 19   | 32   | 30   | 157   | 338  | 152  | 63    | 36   | 30    | 11     |     |       |
| 4           | 31    | 42      | 17   | 31   | 29   | 148   | 309  | 139  | 64    | 31   | 27    | 10     |     |       |
| 5           | 39    | 38      | 16   | 31   | 30   | 179   | 348  | 133  | 59    | 28   | 25    | 9.6    |     |       |
| 6           | 51    | 36      | 15   | 30   | 31   | 238   | 426  | 136  | 53    | 24   | 26    | 9.4    |     |       |
| 7           | 61    | 33      | 32   | 32   | 32   | 272   | 433  | 137  | 56    | 22   | 24    | 9.0    |     |       |
| 8           | 73    | 30      | 84   | 36   | 31   | 260   | 382  | 127  | 60    | 20   | 23    | 8.2    |     |       |
| 9           | 97    | 27      | 89   | 36   | 30   | 242   | 314  | 147  | 64    | 21   | 21    | 12     |     |       |
| 10          | 119   | 27      | 86   | 46   | 29   | 256   | 267  | 245  | 69    | 21   | 17    | 17     |     |       |
| 11          | 112   | 27      | 78   | 53   | 28   | 304   | 233  | 339  | 72    | 19   | 17    | 16     |     |       |
| 12          | 107   | 26      | 71   | 56   | 30   | 351   | 202  | 365  | 74    | 19   | 20    | 18     |     |       |
| 13          | 94    | 25      | 65   | 57   | 59   | 385   | 192  | 333  | 73    | 22   | 22    | 21     |     |       |
| 14          | 82    | 24      | 53   | 57   | 108  | 173   | 178  | 279  | 67    | 39   | 24    | 23     |     |       |
| 15          | 65    | 23      | 48   | 56   | 100  | 385   | 159  | 230  | 60    | 45   | 28    | 23     |     |       |
| 16          | 53    | 23      | 44   | 54   | 70   | 805   | 140  | 200  | 53    | 48   | 26    | 23     |     |       |
| 17          | 47    | 23      | 43   | 51   | 53   | 997   | 132  | 175  | 46    | 46   | 25    | 23     |     |       |
| 18          | 44    | 24      | 43   | 47   | 43   | 821   | 124  | 154  | 48    | 42   | 28    | 23     |     |       |
| 19          | 40    | 24      | 43   | 43   | 34   | 648   | 118  | 150  | 69    | 36   | 25    | 23     |     |       |
| 20          | 38    | 23      | 43   | 40   | 30   | 433   | 108  | 157  | 71    | 30   | 23    | 22     |     |       |
| 21          | 80    | 22      | 53   | 39   | 28   | 338   | 104  | 157  | 70    | 27   | 20    | 31     |     |       |
| 22          | 96    | 20      | 51   | 37   | 26   | 275   | 102  | 143  | 60    | 27   | 19    | 72     |     |       |
| 23          | 97    | 20      | 60   | 36   | 24   | 312   | 104  | 126  | 52    | 24   | 18    | 85     |     |       |
| 24          | 80    | 19      | 59   | 35   | 24   | 359   | 170  | 111  | 46    | 22   | 19    | 83     |     |       |
| 25          | 70    | 19      | 50   | 34   | 53   | 343   | 322  | 98   | 40    | 33   | 21    | 91     |     |       |
| 26          | 65    | 18      | 45   | 35   | 75   | 287   | 420  | 86   | 37    | 64   | 20    | 121    |     |       |
| 27          | 63    | 19      | 41   | 36   | 87   | 246   | 378  | 75   | 34    | 80   | 19    | 184    |     |       |
| 28          | 58    | 19      | 39   | 36   | 125  | 255   | 309  | 67   | 30    | 81   | 18    | 215    |     |       |
| 29          | 52    | 22      | 39   | 37   | ---  | 335   | 253  | 59   | 34    | 67   | 16    | 221    |     |       |
| 30          | 47    | 23      | 39   | 36   | ---  | 433   | 216  | 53   | 41    | 54   | 15    | 203    |     |       |
| 31          | 47    | ---     | 38   | 35   | ---  | 464   | ---  | 49   | ---   | 44   | 13    | ---    |     |       |
| TOTAL       | 1959  | 819     | 1444 | 1252 | 1303 | 11015 | 7557 | 4977 | 1667  | 1154 | 698   | 1631.2 |     |       |
| MEAN        | 63.2  | 27.3    | 46.6 | 40.4 | 46.5 | 355   | 252  | 161  | 55.6  | 37.2 | 22.5  | 54.4   |     |       |
| MAX         | 119   | 49      | 89   | 57   | 125  | 997   | 433  | 365  | 74    | 81   | 36    | 221    |     |       |
| MIN         | 17    | 18      | 15   | 30   | 24   | 148   | 102  | 49   | 30    | 19   | 13    | 8.2    |     |       |
| MEAN†       | 75.5  | 26.7    | 47.2 | 40.4 | 49.2 | 363   | 246  | 156  | 55.6  | 36.6 | 21.3  | 60.7   |     |       |
| CFSM†       | 1.12  | .40     | .70  | .60  | .73  | 5.38  | 3.64 | 2.31 | .82   | .54  | .32   | .90    |     |       |
| IN.†        | 1.29  | .44     | .81  | .69  | .76  | 6.20  | 4.06 | 2.67 | .92   | .63  | .36   | 1.00   |     |       |
| CAL YR 1976 | TOTAL | 42092.0 | MEAN | 115  | MAX  | 975   | MIN  | 8.7  | MEAN† | 115  | CFSM† | 1.70   | IN† | 23.11 |
| WTR YR 1977 | TOTAL | 35476.2 | MEAN | 97.2 | MAX  | 997   | MIN  | 8.2  | MEAN† | 98.6 | CFSM† | 1.46   | IN† | 19.83 |

† Adjusted for change in contents in East Brimfield Lake.

## 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.--WRD MA-RI-75-1: 1963-64 (monthly runoff).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 510 ft (155 m), from topographic map.

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.--15 years, 163 ft<sup>3</sup>/s (4.616 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,540 ft<sup>3</sup>/s (43.6 m<sup>3</sup>/s) Mar. 17, 1977, gage height, 6.58 ft (2.006 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, 1,540 ft<sup>3</sup>/s (43.6 m<sup>3</sup>/s) Mar. 17, gage height, 6.58 ft (2.006 m); minimum daily, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Sept. 7-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR   | APR   | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|-------|-------|------|------|------|------|------|
| 1           | 58    | 67    | 32       | 49       | 50     | 234   | 554   | 256  | 59   | 55   | 37   | 20   |
| 2           | 47    | 63    | 30       | 48       | 48     | 231   | 461   | 228  | 77   | 52   | 33   | 19   |
| 3           | 25    | 59    | 28       | 46       | 47     | 224   | 444   | 210  | 90   | 46   | 31   | 18   |
| 4           | 28    | 55    | 26       | 46       | 46     | 215   | 387   | 191  | 86   | 42   | 29   | 17   |
| 5           | 41    | 51    | 24       | 46       | 46     | 306   | 512   | 187  | 78   | 38   | 27   | 16   |
| 6           | 48    | 57    | 22       | 45       | 48     | 363   | 590   | 195  | 72   | 35   | 28   | 15   |
| 7           | 70    | 47    | 70       | 46       | 49     | 378   | 587   | 187  | 80   | 33   | 25   | 14   |
| 8           | 75    | 42    | 152      | 50       | 48     | 365   | 525   | 170  | 88   | 36   | 25   | 14   |
| 9           | 111   | 39    | 141      | 50       | 47     | 345   | 437   | 214  | 86   | 38   | 25   | 14   |
| 10          | 161   | 37    | 121      | 62       | 47     | 365   | 370   | 380  | 96   | 35   | 22   | 17   |
| 11          | 133   | 38    | 108      | 79       | 47     | 413   | 317   | 444  | 101  | 32   | 20   | 22   |
| 12          | 123   | 39    | 96       | 80       | 51     | 452   | 299   | 537  | 102  | 29   | 27   | 22   |
| 13          | 110   | 41    | 88       | 80       | 73     | 484   | 270   | 457  | 97   | 37   | 31   | 26   |
| 14          | 96    | 37    | 75       | 77       | 123    | 299   | 251   | 372  | 88   | 60   | 30   | 31   |
| 15          | 79    | 36    | 67       | 76       | 133    | 978   | 226   | 305  | 80   | 57   | 31   | 30   |
| 16          | 64    | 36    | 63       | 75       | 99     | 1360  | 207   | 268  | 66   | 57   | 31   | 31   |
| 17          | 53    | 34    | 63       | 65       | 77     | 1420  | 190   | 237  | 55   | 55   | 31   | 41   |
| 18          | 50    | 33    | 62       | 62       | 64     | 1170  | 178   | 210  | 60   | 48   | 35   | 35   |
| 19          | 47    | 33    | 59       | 62       | 55     | 1120  | 167   | 219  | 108  | 42   | 32   | 44   |
| 20          | 52    | 33    | 59       | 59       | 50     | 642   | 155   | 217  | 92   | 37   | 29   | 55   |
| 21          | 143   | 33    | 80       | 57       | 48     | 427   | 149   | 209  | 86   | 34   | 27   | 57   |
| 22          | 148   | 30    | 70       | 55       | 45     | 404   | 143   | 192  | 76   | 37   | 25   | 78   |
| 23          | 123   | 29    | 79       | 52       | 42     | 527   | 151   | 169  | 63   | 30   | 24   | 96   |
| 24          | 106   | 28    | 77       | 51       | 41     | 507   | 274   | 148  | 54   | 27   | 24   | 106  |
| 25          | 94    | 27    | 67       | 52       | 125    | 473   | 551   | 132  | 48   | 44   | 27   | 131  |
| 26          | 88    | 26    | 62       | 53       | 162    | 393   | 582   | 117  | 46   | 82   | 28   | 203  |
| 27          | 83    | 26    | 57       | 53       | 168    | 368   | 531   | 101  | 46   | 81   | 26   | 348  |
| 28          | 77    | 27    | 52       | 52       | 214    | 368   | 423   | 90   | 42   | 80   | 25   | 333  |
| 29          | 68    | 31    | 53       | 53       | ---    | 515   | 339   | 81   | 52   | 67   | 24   | 316  |
| 30          | 63    | 33    | 52       | 52       | ---    | 599   | 300   | 72   | 60   | 53   | 23   | 274  |
| 31          | 63    | ---   | 52       | 52       | ---    | 611   | ---   | 63   | ---  | 44   | 22   | ---  |
| TOTAL       | 2527  | 1167  | 2087     | 1785     | 2093   | 16556 | 10570 | 6858 | 2234 | 1443 | 854  | 2443 |
| MEAN        | 81.5  | 38.9  | 67.3     | 57.6     | 74.8   | 534   | 352   | 221  | 74.5 | 46.5 | 27.5 | 81.4 |
| MAX         | 161   | 67    | 152      | 80       | 214    | 1420  | 590   | 537  | 108  | 82   | 37   | 348  |
| MIN         | 25    | 26    | 22       | 45       | 41     | 215   | 143   | 63   | 42   | 27   | 20   | 14   |
| CAL YR 1976 | TOTAL | 60144 | MEAN 164 | MAX 1260 | MIN 11 |       |       |      |      |      |      |      |
| WTR YR 1977 | TOTAL | 50617 | MEAN 139 | MAX 1420 | MIN 14 |       |       |      |      |      |      |      |

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 current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Water years 1969 to current year.

pH: October 1968 to current year.

WATER TEMPERATURES: October 1968 to current year.

DISSOLVED OXYGEN: October 1968 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1968.

REMARKS.--Prior to October 1971, published as "at Quinebaug, Conn." No winter records in water years 1973-76.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 393 micromhos Sept. 24, 1970; minimum recorded, 56 micromhos Feb. 20, 1972.

pH: Maximum recorded, 9.0 units July 13, 16, 1971; minimum, 4.9 units July 18, 1970.

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, 213 micromhos Oct. 2; minimum recorded, 108 micromhos May 22; but maximum and minimum may have been higher or lower during periods of no record.

pH: Maximum recorded, 8.6 units Sept. 17; minimum recorded, 5.7 units Sept. 22; but maximum and minimum may have been higher or lower during periods of no record.

WATER TEMPERATURES: Maximum recorded, 33.0°C July 21; but may have been higher during periods of no record; minimum, probably 0.0°C on many days during winter period.

DISSOLVED OXYGEN: Maximum recorded, 9.6 mg/L May 20; minimum recorded, 2.2 mg/L Aug. 24; but maximum and minimum may have been higher or lower during periods of no record.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---------|-----|-----|------|-----|-----|------|
| OCTOBER |     |     | MAY  |     |     |      |
| 1       | 209 | 158 | 176  | --- | --- | ---  |
| 2       | 213 | 156 | 168  | --- | --- | ---  |
| 3       | 161 | 157 | 160  | --- | --- | ---  |
| 4       | 162 | 160 | 161  | --- | --- | ---  |
| 5       | 168 | 160 | 164  | --- | --- | ---  |
| 6       | 178 | 167 | 172  | --- | --- | ---  |
| 7       | 177 | 157 | 165  | --- | --- | ---  |
| 8       | 167 | 153 | 158  | --- | --- | ---  |
| 9       | 180 | 148 | 164  | --- | --- | ---  |
| 10      | 194 | 144 | 159  | --- | --- | ---  |
| 11      | 210 | 150 | 160  | --- | --- | ---  |
| 12      | 163 | 149 | 156  | --- | --- | ---  |
| 13      | 162 | 141 | 149  | --- | --- | ---  |
| 14      | 156 | 140 | 147  | --- | --- | ---  |
| 15      | 160 | 152 | 155  | --- | --- | ---  |
| 16      | --- | --- | ---  | --- | --- | ---  |
| 17      | --- | --- | ---  | --- | --- | ---  |
| 18      | --- | --- | ---  | --- | --- | ---  |
| 19      | --- | --- | ---  | --- | --- | ---  |
| 20      | --- | --- | ---  | 112 | 110 | 111  |
| 21      | --- | --- | ---  | 112 | 109 | 110  |
| 22      | --- | --- | ---  | 111 | 108 | 109  |
| 23      | --- | --- | ---  | 112 | 109 | 110  |
| 24      | --- | --- | ---  | 115 | 111 | 113  |
| 25      | --- | --- | ---  | 116 | 113 | 114  |
| 26      | --- | --- | ---  | 134 | 116 | 125  |
| 27      | --- | --- | ---  | --- | --- | ---  |
| 28      | --- | --- | ---  | --- | --- | ---  |
| 29      | --- | --- | ---  | --- | --- | ---  |
| 30      | --- | --- | ---  | --- | --- | ---  |
| 31      | --- | --- | ---  | --- | --- | ---  |
| MONTH   | --- | --- | ---  | --- | --- | ---  |

## THAMES RIVER BASIN

01123990 QUINEBAUG RIVER NEAR DUDLEY, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY    | MAX | MIN<br>JUNE | MEAN | MAX | MIN<br>JULY | MEAN | MAX | MIN<br>AUGUST | MEAN | MAX | MIN<br>SEPTEMBER | MEAN |
|--------|-----|-------------|------|-----|-------------|------|-----|---------------|------|-----|------------------|------|
| 1      | --- | ---         | ---  | 137 | 134         | 135  | 160 | 140           | 145  | 179 | 175              | 177  |
| 2      | --- | ---         | ---  | 139 | 135         | 137  | 153 | 146           | 150  | 184 | 175              | 179  |
| 3      | --- | ---         | ---  | 143 | 137         | 139  | 158 | 149           | 154  | --- | ---              | ---  |
| 4      | --- | ---         | ---  | 154 | 137         | 142  | 159 | 152           | 156  | --- | ---              | ---  |
| 5      | --- | ---         | ---  | 143 | 140         | 141  | 161 | 156           | 159  | --- | ---              | ---  |
| 6      | --- | ---         | ---  | 144 | 139         | 141  | 161 | 158           | 159  | --- | ---              | ---  |
| 7      | --- | ---         | ---  | 141 | 138         | 140  | 169 | 153           | 159  | --- | ---              | ---  |
| 8      | --- | ---         | ---  | 153 | 140         | 142  | 162 | 152           | 156  | --- | ---              | ---  |
| 9      | --- | ---         | ---  | 142 | 139         | 141  | 182 | 159           | 176  | 196 | 189              | 192  |
| 10     | --- | ---         | ---  | 142 | 137         | 140  | 185 | 158           | 169  | 199 | 190              | 194  |
| 11     | --- | ---         | ---  | 139 | 137         | 138  | 186 | 158           | 166  | 196 | 189              | 193  |
| 12     | --- | ---         | ---  | 141 | 138         | 139  | 173 | 159           | 167  | 199 | 187              | 192  |
| 13     | --- | ---         | ---  | 161 | 141         | 145  | 175 | 149           | 167  | --- | ---              | ---  |
| 14     | --- | ---         | ---  | 157 | 151         | 154  | 150 | 144           | 148  | --- | ---              | ---  |
| 15     | --- | ---         | ---  | 166 | 150         | 158  | 157 | 146           | 150  | --- | ---              | ---  |
| 16     | 127 | 125         | 126  | 166 | 154         | 159  | 164 | 151           | 156  | --- | ---              | ---  |
| 17     | 143 | 126         | 135  | --- | ---         | ---  | 172 | 153           | 158  | --- | ---              | ---  |
| 18     | 149 | 141         | 144  | --- | ---         | ---  | 170 | 157           | 165  | --- | ---              | ---  |
| 19     | 141 | 130         | 135  | --- | ---         | ---  | 173 | 167           | 170  | --- | ---              | ---  |
| 20     | 139 | 130         | 134  | 165 | 144         | 151  | 176 | 172           | 174  | --- | ---              | ---  |
| 21     | 141 | 138         | 140  | --- | ---         | ---  | 176 | 172           | 174  | --- | ---              | ---  |
| 22     | 143 | 140         | 141  | 174 | 148         | 157  | 175 | 170           | 172  | 175 | 173              | 174  |
| 23     | 145 | 141         | 143  | 177 | 166         | 170  | 176 | 171           | 174  | 191 | 173              | 178  |
| 24     | 147 | 143         | 145  | 164 | 151         | 156  | 189 | 169           | 174  | --- | ---              | ---  |
| 25     | 148 | 146         | 147  | 173 | 166         | 171  | 173 | 170           | 171  | --- | ---              | ---  |
| 26     | 148 | 142         | 146  | --- | ---         | ---  | 172 | 168           | 170  | --- | ---              | ---  |
| 27     | 143 | 137         | 138  | 156 | 152         | 154  | 172 | 166           | 169  | --- | ---              | ---  |
| 28     | 137 | 135         | 136  | 167 | 151         | 159  | 171 | 163           | 167  | --- | ---              | ---  |
| 29     | 139 | 136         | 137  | --- | ---         | ---  | 174 | 164           | 169  | --- | ---              | ---  |
| 30     | 138 | 135         | 136  | 161 | 150         | 153  | 176 | 169           | 173  | --- | ---              | ---  |
| 31     | --- | ---         | ---  | 157 | 146         | 150  | 178 | 174           | 176  | --- | ---              | ---  |
| MONTH  | --- | ---         | ---  | 177 | 134         | 148  | 189 | 140           | 164  | --- | ---              | ---  |
| PERIOD | --- | ---         | ---  |     |             |      |     |               |      |     |                  |      |

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX | MIN<br>OCTOBER | MEAN | MAX | MIN<br>MAY | MEAN |
|-------|-----|----------------|------|-----|------------|------|
| 1     | 7.2 | 7.0            | 7.0  | --- | ---        | ---  |
| 2     | 7.5 | 7.1            | 7.3  | --- | ---        | ---  |
| 3     | 7.7 | 7.3            | 7.5  | --- | ---        | ---  |
| 4     | 7.8 | 7.5            | 7.6  | --- | ---        | ---  |
| 5     | 7.7 | 7.3            | 7.5  | --- | ---        | ---  |
| 6     | 7.3 | 7.1            | 7.2  | --- | ---        | ---  |
| 7     | 7.4 | 7.1            | 7.2  | --- | ---        | ---  |
| 8     | 7.3 | 7.0            | 7.1  | --- | ---        | ---  |
| 9     | 7.1 | 6.9            | 7.0  | --- | ---        | ---  |
| 10    | 8.1 | 7.1            | 7.4  | --- | ---        | ---  |
| 11    | 8.6 | 7.4            | 7.9  | --- | ---        | ---  |
| 12    | 8.0 | 7.5            | 7.7  | --- | ---        | ---  |
| 13    | 8.1 | 7.4            | 7.7  | --- | ---        | ---  |
| 14    | 7.7 | 7.3            | 7.5  | --- | ---        | ---  |
| 15    | 7.9 | 7.0            | 7.6  | --- | ---        | ---  |
| 16    | --- | ---            | ---  | --- | ---        | ---  |
| 17    | --- | ---            | ---  | --- | ---        | ---  |
| 18    | --- | ---            | ---  | --- | ---        | ---  |
| 19    | --- | ---            | ---  | --- | ---        | ---  |
| 20    | --- | ---            | ---  | 6.2 | 6.0        | 6.1  |
| 21    | --- | ---            | ---  | 6.2 | 6.0        | 6.1  |
| 22    | --- | ---            | ---  | 6.3 | 6.1        | 6.2  |
| 23    | --- | ---            | ---  | 6.4 | 6.1        | 6.2  |
| 24    | --- | ---            | ---  | 6.3 | 6.1        | 6.2  |
| 25    | --- | ---            | ---  | 6.4 | 6.1        | 6.2  |
| 26    | --- | ---            | ---  | 6.2 | 6.0        | 6.1  |
| 27    | --- | ---            | ---  | --- | ---        | ---  |
| 28    | --- | ---            | ---  | --- | ---        | ---  |
| 29    | --- | ---            | ---  | --- | ---        | ---  |
| 30    | --- | ---            | ---  | --- | ---        | ---  |
| 31    | --- | ---            | ---  | --- | ---        | ---  |
| MONTH | --- | ---            | ---  | --- | ---        | ---  |

01123990 QUINEBAUG RIVER NEAR DUDLEY, MA--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY    | MAX | MIN<br>JUNE | MEAN | MAX | MIN<br>JULY | MEAN | MAX | MIN<br>AUGUST | MEAN | MAX | MIN<br>SEPTEMBER | MEAN |
|--------|-----|-------------|------|-----|-------------|------|-----|---------------|------|-----|------------------|------|
| 1      | --- | ---         | ---  | 6.7 | 6.6         | 6.6  | 6.9 | 6.5           | 6.7  | 7.4 | 7.0              | 7.1  |
| 2      | --- | ---         | ---  | 6.7 | 6.5         | 6.6  | 6.7 | 6.5           | 6.6  | 7.7 | 6.9              | 7.2  |
| 3      | --- | ---         | ---  | 6.7 | 6.5         | 6.6  | 6.6 | 6.4           | 6.5  | --- | ---              | ---  |
| 4      | --- | ---         | ---  | 6.8 | 6.6         | 6.7  | 6.7 | 6.4           | 6.5  | --- | ---              | ---  |
| 5      | --- | ---         | ---  | 6.8 | 6.6         | 6.7  | 7.1 | 6.3           | 6.5  | --- | ---              | ---  |
| 6      | --- | ---         | ---  | 6.7 | 6.6         | 6.6  | 7.0 | 6.3           | 6.6  | --- | ---              | ---  |
| 7      | --- | ---         | ---  | 6.7 | 6.5         | 6.6  | 7.2 | 6.5           | 6.8  | --- | ---              | ---  |
| 8      | --- | ---         | ---  | 6.8 | 6.7         | 6.7  | 7.5 | 6.6           | 6.9  | --- | ---              | ---  |
| 9      | --- | ---         | ---  | 6.8 | 6.5         | 6.6  | 7.1 | 6.6           | 6.8  | 8.2 | 6.6              | 7.4  |
| 10     | --- | ---         | ---  | 6.7 | 6.5         | 6.6  | 7.0 | 6.6           | 6.8  | 8.0 | 6.5              | 7.0  |
| 11     | --- | ---         | ---  | 6.7 | 6.5         | 6.6  | 7.2 | 6.7           | 6.9  | 8.2 | 6.6              | 7.2  |
| 12     | --- | ---         | ---  | 6.8 | 6.6         | 6.7  | 7.1 | 6.2           | 6.8  | 8.3 | 6.8              | 7.3  |
| 13     | --- | ---         | ---  | 6.9 | 6.6         | 6.7  | 7.0 | 6.8           | 6.9  | 7.1 | 6.6              | 6.9  |
| 14     | --- | ---         | ---  | 6.7 | 6.6         | 6.6  | 7.0 | 6.8           | 6.9  | 6.9 | 5.9              | 6.2  |
| 15     | --- | ---         | ---  | 7.3 | 6.7         | 7.0  | 7.0 | 6.9           | 7.0  | 7.5 | 6.5              | 6.9  |
| 16     | 7.2 | 6.8         | 7.0  | 7.3 | 6.7         | 7.0  | 7.0 | 6.8           | 6.9  | 7.8 | 7.0              | 7.4  |
| 17     | 7.3 | 7.0         | 7.1  | 7.2 | 5.9         | 6.5  | 7.0 | 6.9           | 7.0  | 8.6 | 6.4              | 7.5  |
| 18     | 7.3 | 6.9         | 7.0  | 7.3 | 6.0         | 6.9  | 7.2 | 6.8           | 7.0  | 7.8 | 6.4              | 6.8  |
| 19     | 7.2 | 7.0         | 7.1  | 7.2 | 6.2         | 6.7  | 7.1 | 6.8           | 6.9  | 6.6 | 5.8              | 6.3  |
| 20     | 7.3 | 6.9         | 7.1  | 7.2 | 6.5         | 6.8  | 7.3 | 6.8           | 7.0  | 6.5 | 5.8              | 6.1  |
| 21     | 7.2 | 7.0         | 7.1  | 7.2 | 6.3         | 6.6  | 7.4 | 7.0           | 7.2  | 6.4 | 5.8              | 6.1  |
| 22     | 7.1 | 6.9         | 7.0  | 6.7 | 6.3         | 6.4  | 7.4 | 7.1           | 7.2  | 7.3 | 5.7              | 6.6  |
| 23     | 6.9 | 6.8         | 6.9  | 6.8 | 6.3         | 6.6  | 7.6 | 7.1           | 7.3  | 6.8 | 6.7              | 6.7  |
| 24     | 6.8 | 6.7         | 6.8  | 7.1 | 6.2         | 6.9  | 7.3 | 6.9           | 7.1  | 6.8 | 6.5              | 6.7  |
| 25     | 6.8 | 6.7         | 6.7  | 6.6 | 6.5         | 6.6  | 7.3 | 7.0           | 7.2  | --- | ---              | ---  |
| 26     | 6.8 | 6.6         | 6.7  | 6.6 | 6.0         | 6.5  | 7.3 | 7.0           | 7.2  | --- | ---              | ---  |
| 27     | 7.0 | 6.7         | 6.8  | 6.7 | 6.5         | 6.6  | 7.4 | 7.0           | 7.2  | --- | ---              | ---  |
| 28     | 6.7 | 6.6         | 6.6  | 6.7 | 6.4         | 6.5  | 7.5 | 7.0           | 7.2  | --- | ---              | ---  |
| 29     | 6.6 | 6.5         | 6.6  | 6.7 | 6.4         | 6.5  | 7.8 | 6.9           | 7.2  | --- | ---              | ---  |
| 30     | 6.7 | 6.6         | 6.6  | 6.6 | 6.4         | 6.5  | 8.0 | 6.9           | 7.3  | --- | ---              | ---  |
| 31     | --- | ---         | ---  | 6.7 | 6.5         | 6.6  | 7.8 | 6.9           | 7.3  | --- | ---              | ---  |
| MONTH  | --- | ---         | ---  | 7.3 | 5.9         | 6.6  | 8.0 | 6.2           | 6.9  | --- | ---              | ---  |
| PERIOD | --- | ---         | ---  |     |             |      |     |               |      |     |                  |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX  | MIN<br>OCTOBER | MEAN | MAX  | MIN<br>MAY | MEAN |
|-------|------|----------------|------|------|------------|------|
| 1     | 19.0 | 16.5           | 17.5 | ---  | ---        | ---  |
| 2     | 16.5 | 15.5           | 16.0 | ---  | ---        | ---  |
| 3     | 17.0 | 15.0           | 16.0 | ---  | ---        | ---  |
| 4     | 18.5 | 14.0           | 16.0 | ---  | ---        | ---  |
| 5     | 17.5 | 15.0           | 16.5 | ---  | ---        | ---  |
| 6     | 20.5 | 17.0           | 18.5 | ---  | ---        | ---  |
| 7     | 21.5 | 18.0           | 19.0 | ---  | ---        | ---  |
| 8     | 21.0 | 19.0           | 20.0 | ---  | ---        | ---  |
| 9     | 21.0 | 18.0           | 20.0 | ---  | ---        | ---  |
| 10    | 18.0 | 9.5            | 15.0 | ---  | ---        | ---  |
| 11    | 14.5 | 6.5            | 11.0 | ---  | ---        | ---  |
| 12    | 15.0 | 10.0           | 12.5 | ---  | ---        | ---  |
| 13    | 14.5 | 9.5            | 12.5 | ---  | ---        | ---  |
| 14    | 15.5 | 12.0           | 14.0 | ---  | ---        | ---  |
| 15    | ---  | ---            | ---  | ---  | ---        | ---  |
| 16    | ---  | ---            | ---  | ---  | ---        | ---  |
| 17    | ---  | ---            | ---  | ---  | ---        | ---  |
| 18    | ---  | ---            | ---  | ---  | ---        | ---  |
| 19    | ---  | ---            | ---  | ---  | ---        | ---  |
| 20    | ---  | ---            | ---  | 19.0 | 17.0       | 18.0 |
| 21    | ---  | ---            | ---  | 18.5 | 17.0       | 18.0 |
| 22    | ---  | ---            | ---  | 20.5 | 17.0       | 19.0 |
| 23    | ---  | ---            | ---  | 22.0 | 18.5       | 20.5 |
| 24    | ---  | ---            | ---  | 23.0 | 20.5       | 22.0 |
| 25    | ---  | ---            | ---  | 23.5 | 21.5       | 22.5 |
| 26    | ---  | ---            | ---  | ---  | ---        | ---  |
| 27    | ---  | ---            | ---  | ---  | ---        | ---  |
| 28    | ---  | ---            | ---  | ---  | ---        | ---  |
| 29    | ---  | ---            | ---  | ---  | ---        | ---  |
| 30    | ---  | ---            | ---  | ---  | ---        | ---  |
| 31    | ---  | ---            | ---  | ---  | ---        | ---  |
| MONTH | ---  | ---            | ---  | ---  | ---        | ---  |

## THAMES RIVER BASIN

01123990 QUINEBAUG RIVER NEAR DUDLEY, MA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY    | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN | MAX  | MIN    | MEAN | MAX  | MIN       | MEAN |
|--------|------|------|------|------|------|------|------|--------|------|------|-----------|------|
|        |      | JUNE |      |      | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |
| 1      | ---  | ---  | ---  | 26.5 | 23.5 | 25.0 | 26.5 | 22.5   | 24.0 | ---  | ---       | ---  |
| 2      | ---  | ---  | ---  | 27.5 | 23.5 | 25.5 | 29.0 | 23.5   | 26.0 | ---  | ---       | ---  |
| 3      | ---  | ---  | ---  | 27.0 | 22.0 | 24.5 | 27.5 | 23.5   | 25.0 | ---  | ---       | ---  |
| 4      | ---  | ---  | ---  | 26.5 | 22.0 | 24.5 | 29.0 | 23.0   | 25.5 | ---  | ---       | ---  |
| 5      | ---  | ---  | ---  | 28.0 | 23.0 | 25.0 | 27.5 | 23.5   | 25.0 | ---  | ---       | ---  |
| 6      | ---  | ---  | ---  | 26.0 | 23.0 | 24.5 | 28.0 | 23.0   | 25.5 | ---  | ---       | ---  |
| 7      | ---  | ---  | ---  | 27.5 | 23.0 | 25.0 | 28.0 | 25.0   | 26.5 | ---  | ---       | ---  |
| 8      | ---  | ---  | ---  | 24.0 | 23.0 | 23.5 | 30.0 | 24.5   | 27.0 | ---  | ---       | ---  |
| 9      | ---  | ---  | ---  | 28.0 | 22.5 | 25.0 | 30.0 | 24.5   | 27.0 | ---  | ---       | ---  |
| 10     | ---  | ---  | ---  | 28.0 | 23.0 | 25.0 | 27.5 | 22.5   | 25.0 | 23.5 | 22.0      | 22.5 |
| 11     | ---  | ---  | ---  | 28.0 | 22.0 | 24.5 | 30.0 | 24.0   | 27.0 | 23.0 | 22.0      | 22.5 |
| 12     | ---  | ---  | ---  | 24.0 | 22.5 | 23.5 | 26.5 | 24.0   | 25.5 | 23.0 | 21.0      | 22.0 |
| 13     | ---  | ---  | ---  | 28.0 | 22.5 | 24.5 | 25.0 | 23.5   | 24.0 | 22.5 | 22.0      | 22.5 |
| 14     | ---  | ---  | ---  | 28.0 | 23.0 | 26.0 | ---  | ---    | ---  | 23.5 | 21.5      | 22.5 |
| 15     | ---  | ---  | ---  | 28.0 | 24.0 | 26.0 | ---  | ---    | ---  | 22.0 | 20.0      | 21.0 |
| 16     | ---  | ---  | ---  | 29.0 | 25.0 | 27.0 | ---  | ---    | ---  | 22.0 | 20.5      | 21.5 |
| 17     | 22.5 | 20.0 | 21.0 | 30.5 | 26.0 | 28.0 | ---  | ---    | ---  | 23.0 | 21.0      | 22.0 |
| 18     | 24.5 | 20.5 | 22.0 | 30.0 | 26.5 | 28.0 | ---  | ---    | ---  | 23.5 | 22.0      | 23.0 |
| 19     | 24.0 | 22.0 | 23.0 | 31.0 | 26.5 | 28.5 | ---  | ---    | ---  | 24.0 | 22.5      | 23.0 |
| 20     | 24.5 | 21.5 | 23.0 | 31.0 | 27.0 | 29.0 | ---  | ---    | ---  | 23.5 | 20.0      | 22.0 |
| 21     | 25.0 | 22.5 | 23.5 | 33.0 | 27.5 | 29.5 | ---  | ---    | ---  | 21.0 | 19.0      | 20.0 |
| 22     | 24.0 | 21.0 | 22.5 | 29.5 | 24.5 | 27.5 | ---  | ---    | ---  | ---  | ---       | ---  |
| 23     | 23.5 | 20.5 | 22.0 | 28.5 | 23.0 | 25.5 | ---  | ---    | ---  | ---  | ---       | ---  |
| 24     | 25.0 | 21.0 | 22.5 | 28.5 | 22.0 | 25.0 | ---  | ---    | ---  | ---  | ---       | ---  |
| 25     | 24.0 | 21.5 | 22.5 | 24.5 | 21.5 | 23.5 | ---  | ---    | ---  | ---  | ---       | ---  |
| 26     | 24.5 | 22.0 | 22.5 | 24.0 | 19.5 | 22.0 | ---  | ---    | ---  | ---  | ---       | ---  |
| 27     | 26.5 | 22.0 | 24.0 | 23.5 | 21.0 | 22.0 | ---  | ---    | ---  | ---  | ---       | ---  |
| 28     | 27.5 | 23.0 | 25.0 | 24.0 | 20.0 | 22.0 | ---  | ---    | ---  | ---  | ---       | ---  |
| 29     | 25.0 | 23.5 | 24.5 | 24.0 | 20.5 | 22.0 | ---  | ---    | ---  | ---  | ---       | ---  |
| 30     | 26.0 | 22.5 | 24.5 | 23.5 | 21.5 | 22.0 | ---  | ---    | ---  | ---  | ---       | ---  |
| 31     | ---  | ---  | ---  | 26.5 | 21.0 | 23.5 | ---  | ---    | ---  | ---  | ---       | ---  |
| MONTH  | ---  | ---  | ---  | 33.0 | 19.5 | 25.0 | ---  | ---    | ---  | ---  | ---       | ---  |
| PERIOD | 33.0 | ---  | ---  |      |      |      |      |        |      |      |           |      |

DISSOLVED OXYGEN (DO), MG/L, MAY TO SEPTEMBER 1977

| DAY   | MAX | MIN | MEAN |
|-------|-----|-----|------|
|       |     | MAY |      |
| 1     | --- | --- | ---  |
| 2     | --- | --- | ---  |
| 3     | --- | --- | ---  |
| 4     | --- | --- | ---  |
| 5     | --- | --- | ---  |
| 6     | --- | --- | ---  |
| 7     | --- | --- | ---  |
| 8     | --- | --- | ---  |
| 9     | --- | --- | ---  |
| 10    | --- | --- | ---  |
| 11    | --- | --- | ---  |
| 12    | --- | --- | ---  |
| 13    | --- | --- | ---  |
| 14    | --- | --- | ---  |
| 15    | --- | --- | ---  |
| 16    | --- | --- | ---  |
| 17    | --- | --- | ---  |
| 18    | --- | --- | ---  |
| 19    | --- | --- | ---  |
| 20    | 9.6 | 7.9 | 8.8  |
| 21    | 9.5 | 8.2 | 8.8  |
| 22    | 9.6 | 7.5 | 8.8  |
| 23    | 9.0 | 6.5 | 7.7  |
| 24    | 7.6 | 6.2 | 6.9  |
| 25    | 7.7 | 6.1 | 6.9  |
| 26    | --- | --- | ---  |
| 27    | --- | --- | ---  |
| 28    | --- | --- | ---  |
| 29    | --- | --- | ---  |
| 30    | --- | --- | ---  |
| 31    | --- | --- | ---  |
| MONTH | --- | --- | ---  |





## 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.--Discharge: September 1931 to current year.

Chemical analyses: September 1952, March 1953, October 1959 to September 1960, January 1962 to November 1963, January to April 1969.

Water temperatures: October 1959 to September 1960.

REVISED RECORDS.--WSP 851: 1936(M), WSP 1201: 1939-43, 1947, 1949. WSP 1381: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 341.52 ft (104.095 m) above mean sea level.

REMARKS.--Records good. Flow regulated by East Brimfield and Westville Lakes (Reservoirs in Thames River basin), and by smaller reservoirs upstream.

AVERAGE DISCHARGE.--46 years, 267 ft<sup>3</sup>/s (7.561 m<sup>3</sup>/s), 23.26 in/yr (591 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 (0.028 m<sup>3</sup>/s) Sept. 9, 1943, July 12, 1949, Sept. 17, 18, 1950, July 9, 1951, Sept. 4, Oct. 29, 1956; minimum daily, about 1 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) Sept. 4, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,170 ft<sup>3</sup>/s (61.4 m<sup>3</sup>/s) Mar. 13, gage height, 5.66 ft (1.725 m); minimum, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR       | APR       | MAY        | JUN        | JUL       | AUG       | SEP  |
|-------------|-------|-------|----------|----------|--------|-----------|-----------|------------|------------|-----------|-----------|------|
| 1           | 63    | 104   | 48       | 80       | 75     | 416       | 831       | 368        | 88         | 97        | 62        | 25   |
| 2           | 56    | 90    | 48       | 80       | 74     | 384       | 687       | 321        | 120        | 86        | 54        | 25   |
| 3           | 31    | 85    | 48       | 80       | 73     | 359       | 687       | 296        | 129        | 72        | 50        | 22   |
| 4           | 29    | 80    | 40       | 80       | 72     | 345       | 593       | 268        | 118        | 65        | 40        | 21   |
| 5           | 45    | 73    | 41       | 80       | 70     | 650       | 953       | 268        | 112        | 62        | 35        | 20   |
| 6           | 52    | 80    | 46       | 79       | 68     | 696       | 991       | 271        | 105        | 58        | 45        | 18   |
| 7           | 73    | 71    | 172      | 79       | 66     | 637       | 903       | 264        | 126        | 52        | 40        | 17   |
| 8           | 73    | 67    | 295      | 79       | 64     | 588       | 823       | 238        | 137        | 60        | 40        | 16   |
| 9           | 157   | 63    | 238      | 80       | 63     | 576       | 680       | 379        | 132        | 67        | 40        | 15   |
| 10          | 200   | 61    | 211      | 82       | 63     | 650       | 570       | 793        | 156        | 54        | 30        | 17   |
| 11          | 153   | 67    | 161      | 150      | 61     | 744       | 484       | 793        | 165        | 47        | 20        | 26   |
| 12          | 137   | 65    | 137      | 240      | 67     | 787       | 450       | 778        | 159        | 50        | 62        | 25   |
| 13          | 121   | 69    | 128      | 220      | 87     | 1080      | 405       | 667        | 143        | 81        | 52        | 30   |
| 14          | 107   | 65    | 114      | 170      | 133    | 1370      | 368       | 531        | 126        | 118       | 45        | 38   |
| 15          | 90    | 58    | 100      | 130      | 157    | 1350      | 326       | 427        | 115        | 105       | 45        | 35   |
| 16          | 73    | 54    | 83       | 120      | 127    | 1400      | 300       | 373        | 97         | 95        | 44        | 38   |
| 17          | 61    | 52    | 82       | 110      | 101    | 1320      | 275       | 321        | 83         | 88        | 50        | 67   |
| 18          | 56    | 52    | 80       | 100      | 90     | 1190      | 260       | 283        | 88         | 81        | 54        | 45   |
| 19          | 54    | 52    | 78       | 98       | 71     | 1120      | 241       | 321        | 159        | 74        | 45        | 77   |
| 20          | 63    | 52    | 85       | 96       | 65     | 870       | 224       | 300        | 132        | 60        | 38        | 115  |
| 21          | 313   | 50    | 153      | 94       | 64     | 674       | 209       | 279        | 120        | 58        | 37        | 110  |
| 22          | 230   | 46    | 176      | 90       | 62     | 714       | 199       | 256        | 107        | 74        | 35        | 107  |
| 23          | 183   | 45    | 183      | 84       | 60     | 982       | 227       | 227        | 90         | 47        | 35        | 120  |
| 24          | 146   | 43    | 105      | 82       | 58     | 925       | 525       | 202        | 79         | 38        | 44        | 172  |
| 25          | 140   | 41    | 91       | 80       | 295    | 785       | 1010      | 179        | 72         | 118       | 47        | 223  |
| 26          | 146   | 41    | 84       | 80       | 326    | 680       | 903       | 159        | 81         | 156       | 42        | 414  |
| 27          | 130   | 41    | 82       | 80       | 313    | 661       | 771       | 137        | 81         | 129       | 37        | 595  |
| 28          | 113   | 45    | 81       | 80       | 416    | 687       | 617       | 123        | 72         | 120       | 33        | 453  |
| 29          | 101   | 52    | 81       | 79       | ---    | 962       | 489       | 110        | 118        | 102       | 32        | 391  |
| 30          | 93    | 54    | 80       | 78       | ---    | 1010      | 421       | 97         | 115        | 88        | 30        | 320  |
| 31          | 101   | ---   | 80       | 76       | ---    | 939       | ---       | 88         | ---        | 74        | 27        | ---  |
| TOTAL       | 3390  | 1818  | 3431     | 3136     | 3241   | 25551     | 16422     | 10117      | 3425       | 2476      | 1290      | 3597 |
| MEAN        | 109   | 60.6  | 111      | 101      | 116    | 824       | 547       | 326        | 114        | 79.9      | 41.6      | 120  |
| MAX         | 313   | 104   | 295      | 240      | 416    | 1400      | 1010      | 793        | 165        | 156       | 62        | 595  |
| MIN         | 29    | 41    | 40       | 76       | 58     | 345       | 199       | 88         | 72         | 38        | 20        | 15   |
| (+)         | +12.2 | -0.7  | +0.6     | 0        | +3.2   | +8.7      | -6.8      | -5.0       | 0          | -0.6      | -1.4      | +7.2 |
| MEAN†       | 121   | 61.3  | 112      | 101      | 119    | 833       | 554       | 331        | 114        | 80.5      | 43.0      | 127  |
| CFSM†       | 0.78  | 0.39  | 0.72     | 0.65     | 0.76   | 5.34      | 3.55      | 2.12       | 0.73       | 0.52      | 0.28      | 0.81 |
| IN†         | 0.90  | 0.44  | 0.83     | 0.75     | 0.79   | 6.16      | 3.96      | 2.44       | 0.81       | 0.60      | 0.32      | 0.90 |
| CAL YR 1976 | TOTAL | 86998 | MEAN 238 | MAX 1880 | MIN 23 |           |           |            |            |           |           |      |
| WTR YR 1977 | TOTAL | 77894 | MEAN 213 | MAX 1400 | MIN 15 | MEAN† 238 | MEAN† 216 | CFSM† 1.53 | CFSM† 1.38 | IN† 20.70 | IN† 18.90 |      |

† Change in contents, equivalent in cubic feet per second, in East Brimfield and Westville Lakes; furnished by Corps of Engineers.

‡ 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. Altitude of gage is 480 ft (146 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. 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.--15 years, 52.4 ft<sup>3</sup>/s (1.484 m<sup>3</sup>/s), 22.95 in/yr (583 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 531 ft<sup>3</sup>/s (15.0 m<sup>3</sup>/s) Mar. 17, 1977, gage height, 3.28 ft (1.000 m); no flow for part of July 17, 1968, caused by unusual regulation; minimum daily discharge, 2.0 ft<sup>3</sup>/s (0.057 m<sup>3</sup>/s) Aug. 7, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 531 ft<sup>3</sup>/s (15.0 m<sup>3</sup>/s) Mar. 17, gage height, 3.28 ft (1.000 m); minimum, 1.9 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s) Apr. 21; minimum daily, 4.0 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Sept. 6-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV  | DEC   | JAN  | FEB   | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------------------|---------|------|-------|------|-------|------|------|------|------|-------|-------|-------|
| 1                 | 16      | 44   | 14    | 11   | 10    | 81   | 258  | 67   | 16   | 18    | 9.4   | 4.6   |
| 2                 | 15      | 42   | 11    | 11   | 10    | 69   | 200  | 59   | 17   | 15    | 8.7   | 4.5   |
| 3                 | 15      | 37   | 10    | 11   | 9.0   | 61   | 158  | 53   | 19   | 11    | 7.8   | 4.4   |
| 4                 | 15      | 37   | 9.0   | 11   | 8.5   | 56   | 141  | 50   | 16   | 9.4   | 7.8   | 4.4   |
| 5                 | 15      | 42   | 8.7   | 11   | 8.2   | 86   | 105  | 47   | 16   | 9.0   | 6.9   | 4.2   |
| 6                 | 15      | 42   | 8.4   | 10   | 8.0   | 130  | 181  | 48   | 14   | 9.0   | 7.5   | 4.0   |
| 7                 | 14      | 37   | 21    | 12   | 8.0   | 122  | 225  | 48   | 14   | 9.0   | 8.4   | 4.0   |
| 8                 | 9.0     | 33   | 83    | 13   | 8.0   | 101  | 193  | 45   | 13   | 9.0   | 7.8   | 4.0   |
| 9                 | 14      | 33   | 67    | 12   | 9.0   | 98   | 158  | 52   | 11   | 8.7   | 6.9   | 4.0   |
| 10                | 27      | 30   | 42    | 13   | 10    | 122  | 123  | 127  | 12   | 9.4   | 6.7   | 4.1   |
| 11                | 20      | 31   | 33    | 19   | 10    | 165  | 100  | 207  | 21   | 9.0   | 6.1   | 4.3   |
| 12                | 13      | 28   | 26    | 16   | 12    | 200  | 88   | 205  | 25   | 8.1   | 6.4   | 4.5   |
| 13                | 10      | 27   | 22    | 15   | 26    | 156  | 80   | 172  | 24   | 10    | 7.5   | 4.6   |
| 14                | 9.4     | 27   | 16    | 15   | 27    | 228  | 72   | 129  | 19   | 16    | 7.5   | 4.6   |
| 15                | 9.0     | 27   | 15    | 15   | 11    | 316  | 66   | 98   | 16   | 17    | 7.0   | 5.0   |
| 16                | 9.4     | 26   | 15    | 14   | 8.0   | 447  | 55   | 76   | 16   | 13    | 6.6   | 5.0   |
| 17                | 11      | 25   | 15    | 14   | 7.0   | 451  | 54   | 61   | 16   | 10    | 6.5   | 7.2   |
| 18                | 11      | 24   | 15    | 14   | 8.1   | 339  | 49   | 52   | 15   | 8.7   | 8.6   | 8.1   |
| 19                | 11      | 24   | 14    | 14   | 11    | 282  | 47   | 52   | 18   | 8.7   | 8.9   | 12    |
| 20                | 12      | 24   | 14    | 14   | 12    | 215  | 43   | 55   | 18   | 8.7   | 7.3   | 18    |
| 21                | 64      | 24   | 24    | 13   | 13    | 147  | 41   | 52   | 17   | 8.4   | 6.4   | 33    |
| 22                | 77      | 23   | 21    | 13   | 13    | 96   | 41   | 47   | 15   | 7.5   | 5.8   | 21    |
| 23                | 46      | 21   | 18    | 13   | 13    | 154  | 41   | 42   | 13   | 7.2   | 5.4   | 13    |
| 24                | 33      | 21   | 15    | 12   | 12    | 193  | 74   | 36   | 12   | 6.2   | 5.4   | 14    |
| 25                | 30      | 21   | 13    | 12   | 35    | 156  | 167  | 32   | 12   | 9.0   | 6.4   | 30    |
| 26                | 33      | 21   | 14    | 12   | 56    | 135  | 244  | 27   | 11   | 33    | 6.7   | 45    |
| 27                | 42      | 21   | 14    | 12   | 70    | 127  | 212  | 22   | 14   | 26    | 6.4   | 110   |
| 28                | 45      | 21   | 12    | 11   | 80    | 146  | 148  | 20   | 14   | 16    | 5.4   | 92    |
| 29                | 44      | 21   | 13    | 11   | ---   | 201  | 96   | 18   | 15   | 11    | 5.2   | 57    |
| 30                | 42      | 21   | 13    | 11   | ---   | 272  | 82   | 16   | 19   | 9.4   | 5.2   | 38    |
| 31                | 42      | ---  | 13    | 11   | ---   | 289  | ---  | 16   | ---  | 9.4   | 4.7   | ---   |
| TOTAL             | 768.8   | 855  | 629.1 | 396  | 512.8 | 5641 | 3542 | 2031 | 478  | 359.8 | 213.3 | 568.5 |
| MEAN              | 24.8    | 28.5 | 20.3  | 12.8 | 18.3  | 182  | 118  | 65.5 | 15.9 | 11.6  | 6.88  | 19.0  |
| MAX               | 77      | 44   | 83    | 19   | 80    | 451  | 258  | 207  | 25   | 33    | 9.4   | 110   |
| MIN               | 9.0     | 21   | 8.4   | 10   | 7.0   | 56   | 41   | 16   | 11   | 6.2   | 4.7   | 4.0   |
| MEAN†             | 24.9    | 28.4 | 20.3  | 12.8 | 18.8  | 187  | 113  | 65.0 | 16.0 | 11.5  | 6.84  | 19.2  |
| CFSM†             | .80     | .92  | .65   | .41  | .61   | 6.03 | 3.65 | 2.10 | .52  | .37   | .22   | .62   |
| IN.†              | .93     | 1.02 | .75   | .48  | .63   | 6.94 | 4.08 | 2.42 | .57  | .43   | .25   | .69   |
| CAL YR 1976 TOTAL | 17325.6 |      |       |      |       |      |      |      |      |       |       |       |
| WTR YR 1977 TOTAL | 15995.3 |      |       |      |       |      |      |      |      |       |       |       |
| MEAN 47.3         |         |      |       |      |       |      |      |      |      |       |       |       |
| MAX 421           |         |      |       |      |       |      |      |      |      |       |       |       |
| MIN 3.1           |         |      |       |      |       |      |      |      |      |       |       |       |
| MEAN† 43.8        |         |      |       |      |       |      |      |      |      |       |       |       |
| MAX 451           |         |      |       |      |       |      |      |      |      |       |       |       |
| MIN 4.0           |         |      |       |      |       |      |      |      |      |       |       |       |
| MEAN† 47.3        |         |      |       |      |       |      |      |      |      |       |       |       |
| CFSM† 1.53        |         |      |       |      |       |      |      |      |      |       |       |       |
| IN† 20.78         |         |      |       |      |       |      |      |      |      |       |       |       |
| CFSM† 1.41        |         |      |       |      |       |      |      |      |      |       |       |       |
| IN† 19.20         |         |      |       |      |       |      |      |      |      |       |       |       |

† Adjusted for change in contents in Hodges Village Reservoir.

## 01124500 LITTLE RIVER AT BUFFUMVILLE, 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, 0.8 mi (1.3 km) east of Buffumville, 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.  
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) above mean sea level, unadjusted (levels by Corps of Engineers).

REMARKS.--Records good. 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.--38 years, 47.1 ft<sup>3</sup>/s (1.334 m<sup>3</sup>/s), 23.09 in/yr (586 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 (34.0 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, 294 ft<sup>3</sup>/s (8.33 m<sup>3</sup>/s) Mar. 18, gage height, 4.50 ft (1.372 m); minimum, 2.3 ft<sup>3</sup>/s (0.065 m<sup>3</sup>/s) Aug. 20-22, 23, 24, 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV  | DEC   | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------------------|---------|------|-------|------|------|------|------|------|------|-------|-------|-------|
| 1                 | 5.2     | 26   | 12    | 18   | 17   | 90   | 189  | 77   | 18   | 20    | 9.8   | 4.3   |
| 2                 | 5.2     | 25   | 11    | 17   | 16   | 92   | 154  | 67   | 20   | 18    | 9.1   | 4.4   |
| 3                 | 5.2     | 23   | 11    | 16   | 15   | 86   | 139  | 61   | 21   | 15    | 7.6   | 4.5   |
| 4                 | 5.2     | 21   | 9.3   | 15   | 15   | 81   | 129  | 55   | 20   | 13    | 7.0   | 4.1   |
| 5                 | 5.5     | 20   | 8.8   | 15   | 15   | 99   | 134  | 53   | 19   | 12    | 6.8   | 4.0   |
| 6                 | 6.0     | 19   | 8.4   | 15   | 16   | 129  | 161  | 52   | 18   | 11    | 6.1   | 3.7   |
| 7                 | 6.3     | 18   | 17    | 17   | 15   | 142  | 233  | 52   | 21   | 12    | 5.7   | 3.5   |
| 8                 | 6.6     | 17   | 48    | 19   | 15   | 132  | 193  | 48   | 21   | 12    | 5.7   | 3.5   |
| 9                 | 11      | 15   | 68    | 19   | 15   | 122  | 154  | 59   | 21   | 9.8   | 5.7   | 3.7   |
| 10                | 12      | 15   | 61    | 24   | 14   | 132  | 130  | 123  | 25   | 9.4   | 5.5   | 3.9   |
| 11                | 16      | 15   | 46    | 29   | 14   | 158  | 113  | 179  | 28   | 8.9   | 5.5   | 3.9   |
| 12                | 18      | 14   | 37    | 28   | 14   | 180  | 101  | 178  | 29   | 8.9   | 5.4   | 3.9   |
| 13                | 18      | 14   | 31    | 27   | 15   | 180  | 91   | 153  | 28   | 10    | 3.1   | 3.9   |
| 14                | 18      | 13   | 26    | 26   | 17   | 126  | 82   | 123  | 26   | 12    | 2.8   | 3.9   |
| 15                | 17      | 14   | 21    | 26   | 18   | 226  | 75   | 97   | 24   | 13    | 2.7   | 3.7   |
| 16                | 15      | 14   | 19    | 25   | 19   | 264  | 67   | 79   | 21   | 13    | 2.6   | 4.0   |
| 17                | 14      | 14   | 19    | 23   | 18   | 269  | 61   | 66   | 19   | 12    | 2.7   | 4.4   |
| 18                | 12      | 13   | 18    | 22   | 18   | 249  | 56   | 57   | 20   | 12    | 2.6   | 4.0   |
| 19                | 11      | 13   | 18    | 21   | 18   | 289  | 52   | 56   | 23   | 11    | 2.4   | 4.5   |
| 20                | 11      | 12   | 18    | 20   | 18   | 275  | 49   | 55   | 22   | 9.8   | 2.4   | 7.4   |
| 21                | 34      | 12   | 24    | 19   | 18   | 259  | 45   | 53   | 22   | 9.1   | 2.3   | 13    |
| 22                | 55      | 12   | 26    | 18   | 18   | 220  | 43   | 49   | 21   | 8.4   | 2.4   | 15    |
| 23                | 55      | 11   | 25    | 18   | 17   | 203  | 45   | 44   | 19   | 7.2   | 2.4   | 14    |
| 24                | 47      | 11   | 23    | 17   | 16   | 233  | 76   | 39   | 18   | 6.7   | 2.6   | 18    |
| 25                | 42      | 11   | 21    | 18   | 31   | 191  | 158  | 35   | 16   | 11    | 2.4   | 29    |
| 26                | 40      | 10   | 21    | 18   | 45   | 159  | 200  | 31   | 15   | 12    | 3.1   | 48    |
| 27                | 38      | 10   | 20    | 18   | 64   | 147  | 175  | 27   | 15   | 13    | 3.7   | 93    |
| 28                | 33      | 10   | 18    | 17   | 81   | 153  | 140  | 24   | 14   | 13    | 3.4   | 109   |
| 29                | 29      | 11   | 19    | 18   | ---  | 191  | 112  | 22   | 18   | 12    | 3.4   | 86    |
| 30                | 27      | 12   | 18    | 18   | ---  | 230  | 92   | 19   | 19   | 12    | 3.5   | 60    |
| 31                | 26      | ---  | 18    | 18   | ---  | 225  | ---  | 18   | ---  | 11    | 4.1   | ---   |
| TOTAL             | 644.2   | 445  | 740.5 | 619  | 612  | 5532 | 3449 | 2051 | 621  | 358.2 | 134.5 | 568.2 |
| MEAN              | 20.8    | 14.8 | 23.9  | 20.0 | 21.9 | 178  | 115  | 66.2 | 20.7 | 11.6  | 4.34  | 18.9  |
| MAX               | 55      | 26   | 68    | 29   | 81   | 289  | 233  | 179  | 29   | 20    | 9.8   | 109   |
| MIN               | 5.2     | 10   | 8.4   | 15   | 14   | 81   | 43   | 18   | 14   | 6.7   | 2.3   | 3.5   |
| MEAN†             | 22.1    | 14.8 | 24.2  | 19.6 | 24.4 | 183  | 110  | 63.5 | 20.7 | 10.9  | 4.00  | 22.0  |
| CFSM†             | .80     | .53  | .87   | .71  | .88  | 6.61 | 3.97 | 2.29 | .75  | .39   | .14   | .79   |
| IN.†              | .92     | .60  | 1.01  | .82  | .92  | 7.63 | 4.44 | 2.65 | .83  | .45   | .17   | .88   |
| CAL YR 1976 TOTAL | 16679.8 |      |       |      |      |      |      |      |      |       |       |       |
| WTR YR 1977 TOTAL | 15774.6 |      |       |      |      |      |      |      |      |       |       |       |
| MEAN 45.6         |         |      |       |      |      |      |      |      |      |       |       |       |
| MAX 317           |         |      |       |      |      |      |      |      |      |       |       |       |
| MIN 3.6           |         |      |       |      |      |      |      |      |      |       |       |       |
| MEAN† 43.5        |         |      |       |      |      |      |      |      |      |       |       |       |
| MAX 289           |         |      |       |      |      |      |      |      |      |       |       |       |
| MIN 2.3           |         |      |       |      |      |      |      |      |      |       |       |       |
| MEAN† 45.3        |         |      |       |      |      |      |      |      |      |       |       |       |
| CFSM† 1.64        |         |      |       |      |      |      |      |      |      |       |       |       |
| IN† 22.28         |         |      |       |      |      |      |      |      |      |       |       |       |
| MEAN† 43.5        |         |      |       |      |      |      |      |      |      |       |       |       |
| CFSM† 1.57        |         |      |       |      |      |      |      |      |      |       |       |       |
| IN† 21.32         |         |      |       |      |      |      |      |      |      |       |       |       |

† Adjusted for change in contents in Buffumville Lake.

01124750 BROWNS BROOK NEAR WEBSTER, MA

LOCATION.--Lat 42°03'24", long 71°49'51", Worcester County, Hydrologic Unit 01100001, on left bank 15 ft (5 m) downstream from culvert on State Highway 16 and 1.8 mi (2.9 km) east of Webster.

DRAINAGE AREA.--0.49 mi<sup>2</sup> (1.27 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1962 to September 1977 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 630 ft (192 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Recording rain gage at station April 1963 to December 1974 (no winter records).

AVERAGE DISCHARGE.--14 years (water years 1964-77), 1.11 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s), 30.76 in/yr (781 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125 ft<sup>3</sup>/s (3.54 m<sup>3</sup>/s) Mar. 18, 1968, gage height, 2.46 ft (0.750 m); no flow at times during water years 1963-65, 1968-71, 1974-75.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 5.0 ft<sup>3</sup>/s (0.14 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------------|------|-------------------------------------------------------|-------------------------|
| Oct. 21 | 0200 | 6.0 0.17                                              | 1.77 0.539              | Mar. 22       | -    | 11 0.31                                               | - -                     |
| Dec. 7  | -    | 8.0 .23                                               | - -                     | Mar. 29       | 0145 | 8.0 .23                                               | 1.81 0.552              |
| Mar. 4  | 2345 | 7.5 .21                                               | 1.80 .549               | Apr. 5        | 0600 | 6.5 .18                                               | 1.78 .543               |
| Mar. 13 | 2045 | *23 .65                                               | *2.01 .613              | May 11, 12-14 | -    | 5.6 .16                                               | 1.76 .536               |

Minimum discharge, 0.02 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL  | AUG  | SEP  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| 1     | .16   | .49   | .40   | .49   | .40   | 2.4   | 3.2   | 2.0   | .59   | .30  | .07  | .05  |
| 2     | .16   | .49   | .40   | .49   | .40   | 2.6   | 2.8   | 1.8   | .59   | .25  | .06  | .06  |
| 3     | .16   | .49   | .40   | .40   | .40   | 2.6   | 2.6   | 1.8   | .59   | .21  | .05  | .05  |
| 4     | .16   | .49   | .35   | .40   | .40   | 2.7   | 2.0   | 1.4   | .54   | .18  | .04  | .05  |
| 5     | .13   | .49   | .32   | .44   | .40   | 4.9   | 5.2   | 1.4   | .54   | .16  | .04  | .04  |
| 6     | .13   | .49   | .30   | .44   | .36   | 5.2   | 3.8   | 1.4   | .44   | .16  | .05  | .04  |
| 7     | .13   | .49   | 1.4   | .44   | .36   | 4.8   | 3.2   | 1.4   | .44   | .17  | .04  | .04  |
| 8     | .13   | .44   | 2.0   | .44   | .36   | 4.5   | 3.0   | 1.2   | .44   | .17  | .04  | .03  |
| 9     | .54   | .40   | 1.3   | .44   | .36   | 4.6   | 2.6   | 1.7   | .44   | .18  | .03  | .03  |
| 10    | .44   | .40   | .90   | .79   | .36   | 4.6   | 2.6   | 3.5   | .59   | .20  | .03  | .04  |
| 11    | .24   | .40   | .70   | .79   | .36   | 4.5   | 2.6   | 4.1   | .65   | .18  | .03  | .04  |
| 12    | .22   | .40   | .62   | .65   | .36   | 4.5   | 2.4   | 5.2   | .60   | .16  | .04  | .03  |
| 13    | .20   | .40   | .57   | .59   | .36   | 8.7   | 2.1   | 5.6   | .55   | .17  | .06  | .03  |
| 14    | .24   | .36   | .55   | .59   | .36   | 17    | 2.0   | 3.8   | .50   | .21  | .05  | .04  |
| 15    | .27   | .33   | .55   | .54   | .36   | 9.6   | 1.8   | 3.0   | .46   | .18  | .05  | .04  |
| 16    | .30   | .33   | .54   | .54   | .36   | 6.0   | 1.5   | 2.6   | .42   | .16  | .05  | .04  |
| 17    | .30   | .33   | .52   | .54   | .36   | 4.1   | 1.4   | 2.4   | .38   | .14  | .08  | .08  |
| 18    | .33   | .33   | .50   | .54   | .36   | 3.2   | 1.4   | 2.2   | .36   | .15  | .08  | .07  |
| 19    | .33   | .33   | .50   | .44   | .36   | 3.2   | 1.2   | 2.2   | .45   | .14  | .07  | .20  |
| 20    | .49   | .30   | .48   | .44   | .36   | 4.0   | 1.2   | 1.8   | .41   | .12  | .06  | .59  |
| 21    | 1.3   | .30   | .90   | .44   | .36   | 3.8   | .99   | 1.8   | .35   | .11  | .05  | .40  |
| 22    | 4     | .30   | .70   | .44   | .37   | 9.0   | .94   | 1.8   | .29   | .12  | .05  | .20  |
| 23    | 6     | .30   | .59   | .44   | .33   | 5.0   | 1.0   | 1.4   | .26   | .11  | .06  | .14  |
| 24    | .36   | .30   | .56   | .44   | .33   | 3.5   | 2.0   | 1.4   | .23   | .10  | .08  | .33  |
| 25    | .36   | .30   | .57   | .44   | 1.5   | 3.5   | 3.8   | 1.0   | .22   | .09  | .10  | .54  |
| 26    | .49   | .30   | .54   | .44   | 1.2   | 3.0   | 2.8   | .94   | .21   | .17  | .07  | .59  |
| 27    | .49   | .30   | .54   | .40   | 1.2   | 3.2   | 2.8   | .72   | .24   | .14  | .06  | .86  |
| 28    | .49   | .30   | .54   | .40   | 2.0   | 4.1   | 2.8   | .65   | .27   | .11  | .06  | .36  |
| 29    | .49   | .36   | .54   | .40   | ---   | 7.0   | 2.2   | .65   | .35   | .09  | .06  | .22  |
| 30    | .44   | .40   | .49   | .40   | ---   | 5.2   | 2.2   | .65   | .32   | .09  | .05  | .20  |
| 31    | .49   | ---   | .49   | .36   | ---   | 4.8   | ---   | .65   | ---   | .08  | .05  | ---  |
| TOTAL | 10.87 | 11.34 | 19.76 | 15.03 | 14.69 | 155.8 | 70.13 | 62.16 | 12.72 | 4.80 | 1.71 | 5.43 |
| MEAN  | .35   | .38   | .64   | .48   | .52   | 5.03  | 2.34  | 2.01  | .42   | .15  | .055 | .18  |
| MAX   | 1.3   | .49   | 2.0   | .79   | 2.0   | 17    | 5.2   | 5.6   | .65   | .30  | .10  | .86  |
| MIN   | .13   | .30   | .30   | .36   | 2.3   | 2.4   | .94   | .65   | .21   | .08  | .03  | .03  |
| CFSM  | .71   | .78   | 1.31  | .98   | 1.06  | 10.3  | 4.78  | 4.10  | .86   | .31  | .11  | .37  |
| IN.   | .82   | .86   | 1.50  | 1.14  | 1.11  | 11.80 | 5.31  | 4.71  | .96   | .36  | .13  | .41  |

CAL YR 1976 TOTAL 395.68 MEAN 1.08 MAX 14 MIN .06 CFSM 2.20 IN 30.04  
WTR YR 1977 TOTAL 384.44 MEAN 1.05 MAX 17 MIN .03 CFSM 2.14 IN 29.13

NOTE.--No gage-height record Dec. 4-26, Mar. 14-23, June 11 to Aug. 14.

## THAMES RIVER BASIN

01124750 BROWNS BROOK NEAR WEBSTER, MA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to September 1977 (discontinued).

PERIOD OF DAILY RECORD. --

SPECIFIC CONDUCTANCE: November 1971 to September 1977 (discontinued).

WATER TEMPERATURES: November 1971 to September 1977 (discontinued).

INSTRUMENTATION.--Water-quality monitor since November 1971.

REMARKS.--Interruptions in the record due to malfunctions of the instrument. Periods of missing specific conductance record during the 1976-77 water years were due to malfunction of instrument at low specific conductance; maximum specific conductance during these periods were generally known to be less than 80 micromhos.

EXTREMES FOR PERIOD OF DAILY RECORD. --

SPECIFIC CONDUCTANCE: Maximum, 188 micromhos Jan. 19, 1974; minimum recorded, 26 micromhos Mar. 8, 1976.

WATER TEMPERATURES: Maximum, 27.0°C July 21, 1977; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 174 micromhos Feb. 24; minimum recorded, 29 micromhos Jan. 8, but may have been lower during periods of missing record.

WATER TEMPERATURES: Maximum, 27.0°C July 21; minimum, 0.0°C on many days during winter period.

REVISIONS.--Revised figures of specific conductance for the water year 1976, superseding those published in the report for 1976, are given herein.

EXTREMES FOR 1976 WATER YEAR.--Maximum, 169 micromhos Mar. 13; minimum recorded, 26 micromhos Mar. 8, 1976.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]



SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN   | MAX | MIN | MEAN      | MAX | MIN | MEAN |
|----------|-----|-----|-------|-----|-----|--------|-----|-----|-----------|-----|-----|------|
| FEBRUARY |     |     | MARCH |     |     | APRIL  |     |     | MAY       |     |     |      |
| 1        | --- | --- | ---   | 58  | 56  | 57     | 60  | 53  | 56        | 57  | 51  | 55   |
| 2        | --- | --- | ---   | 58  | 56  | 56     | 58  | 52  | 55        | 57  | 53  | 55   |
| 3        | --- | --- | ---   | 59  | 56  | 58     | 58  | 54  | 56        | 60  | 52  | 55   |
| 4        | --- | --- | ---   | 61  | 57  | 58     | 57  | 54  | 55        | 57  | 52  | 54   |
| 5        | --- | --- | ---   | 63  | 58  | 60     | 59  | 53  | 56        | 60  | 52  | 56   |
| 6        | --- | --- | ---   | 63  | 60  | 61     | 59  | 51  | 55        | 61  | 53  | 57   |
| 7        | --- | --- | ---   | 65  | 60  | 61     | 58  | 51  | 54        | 59  | 55  | 57   |
| 8        | --- | --- | ---   | 62  | 26  | 60     | 57  | 52  | 54        | 59  | 55  | 57   |
| 9        | --- | --- | ---   | 61  | 55  | 57     | 56  | 51  | 54        | 61  | 53  | 56   |
| 10       | --- | --- | ---   | 60  | 55  | 57     | 58  | 51  | 54        | 61  | 54  | 57   |
| 11       | --- | --- | ---   | 90  | 55  | 60     | 56  | 50  | 54        | 63  | 59  | 58   |
| 12       | --- | --- | ---   | 61  | 56  | 58     | 55  | 49  | 52        | 60  | 54  | 57   |
| 13       | 60  | 57  | 58    | 169 | 56  | 81     | 57  | 49  | 53        | 61  | 55  | 58   |
| 14       | 59  | 58  | 59    | 69  | 61  | 64     | 60  | 50  | 54        | 61  | 55  | 58   |
| 15       | 70  | 52  | 59    | 63  | 58  | 61     | 58  | 50  | 53        | 62  | 56  | 59   |
| 16       | 60  | 59  | 59    | 58  | 54  | 57     | 62  | 53  | 56        | 60  | 54  | 56   |
| 17       | 116 | 60  | 70    | 56  | 54  | 55     | 60  | 53  | 56        | 61  | 55  | 59   |
| 18       | 76  | 60  | 67    | 56  | 54  | 55     | 62  | 53  | 57        | 61  | 56  | 59   |
| 19       | 76  | 64  | 70    | 60  | 55  | 57     | 60  | 53  | 56        | 58  | 53  | 56   |
| 20       | 71  | 60  | 65    | 68  | 56  | 61     | 59  | 53  | 56        | 58  | 54  | 56   |
| 21       | 62  | 60  | 61    | 64  | 59  | 61     | 58  | 53  | 55        | 58  | 53  | 55   |
| 22       | 63  | 60  | 61    | 62  | 58  | 60     | 59  | 53  | 55        | 56  | 53  | 55   |
| 23       | 61  | 59  | 60    | 64  | 57  | 60     | 58  | 52  | 55        | 58  | 53  | 56   |
| 24       | 60  | 58  | 59    | 61  | 55  | 58     | 57  | 52  | 54        | 59  | 54  | 56   |
| 25       | 61  | 57  | 59    | 58  | 55  | 56     | 58  | 52  | 53        | 58  | 53  | 56   |
| 26       | 60  | 57  | 58    | 63  | 54  | 58     | 58  | 54  | 55        | 57  | 53  | 55   |
| 27       | 61  | 57  | 58    | 60  | 54  | 57     | 58  | 54  | 55        | 59  | 54  | 56   |
| 28       | 61  | 56  | 58    | 63  | 57  | 60     | 59  | 54  | 56        | 61  | 52  | 58   |
| 29       | 59  | 56  | 58    | 62  | 56  | 59     | 58  | 54  | 55        | 59  | 54  | 56   |
| 30       | --- | --- | ---   | 60  | 54  | 57     | 58  | 53  | 55        | 60  | 55  | 57   |
| 31       | --- | --- | ---   | 59  | 54  | 57     | --- | --- | ---       | 60  | 55  | 58   |
| MONTH    | --- | --- | ---   | 169 | 26  | 59     | 62  | 49  | 55        | 63  | 51  | 57   |
| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN   | MAX | MIN | MEAN      | MAX | MIN | MEAN |
| JUNE     |     |     | JULY  |     |     | AUGUST |     |     | SEPTEMBER |     |     |      |
| 1        | 60  | 55  | 58    | 64  | 62  | 63     | 56  | 53  | 55        | 59  | 54  | 57   |
| 2        | 58  | 54  | 56    | 65  | 61  | 63     | 58  | 55  | 56        | 60  | 54  | 56   |
| 3        | 60  | 51  | 57    | 66  | 62  | 64     | 57  | 47  | 53        | 59  | 54  | 56   |
| 4        | 57  | 55  | 57    | 66  | 59  | 64     | 56  | 51  | 54        | 58  | 54  | 56   |
| 5        | 60  | 50  | 56    | 68  | 62  | 66     | 56  | 54  | 55        | 58  | 55  | 57   |
| 6        | 58  | 55  | 56    | --- | --- | ---    | 56  | 54  | 55        | 58  | 54  | 56   |
| 7        | 59  | 55  | 58    | --- | --- | ---    | 55  | 53  | 54        | 59  | 55  | 56   |
| 8        | 61  | 56  | 59    | 67  | 59  | 64     | 55  | 51  | 53        | 59  | 54  | 56   |
| 9        | 64  | 57  | 59    | 65  | 62  | 63     | 56  | 52  | 54        | 59  | 54  | 56   |
| 10       | 63  | 59  | 61    | 64  | 59  | 62     | 57  | 54  | 55        | 59  | 54  | 56   |
| 11       | 64  | 60  | 62    | --- | --- | ---    | 56  | 53  | 54        | 58  | 54  | 55   |
| 12       | 62  | 58  | 59    | --- | --- | ---    | 55  | 52  | 53        | 57  | 54  | 55   |
| 13       | 60  | 57  | 59    | --- | --- | ---    | 57  | 53  | 55        | 58  | 54  | 56   |
| 14       | 62  | 58  | 60    | --- | --- | ---    | 58  | 54  | 56        | 60  | 55  | 58   |
| 15       | 62  | 59  | 70    | 53  | 45  | 48     | 56  | 52  | 54        | 59  | 55  | 57   |
| 16       | 64  | 60  | 62    | 56  | 52  | 54     | 55  | 51  | 54        | 58  | 55  | 57   |
| 17       | 62  | 60  | 61    | 55  | 47  | 53     | 56  | 53  | 54        | 58  | 54  | 56   |
| 18       | 63  | 59  | 61    | 57  | 51  | 55     | 57  | 52  | 55        | 58  | 55  | 56   |
| 19       | 62  | 60  | 61    | 66  | 55  | 59     | 57  | 53  | 55        | 58  | 55  | 57   |
| 20       | 63  | 61  | 62    | 64  | 49  | 58     | 55  | 60  | 56        | 59  | 55  | 57   |
| 21       | 64  | 61  | 62    | 64  | 60  | 62     | 61  | 56  | 59        | 58  | 56  | 57   |
| 22       | 64  | 60  | 62    | 64  | 50  | 54     | 61  | 57  | 59        | 58  | 53  | 55   |
| 23       | 65  | 62  | 63    | 53  | 50  | 51     | 61  | 57  | 59        | 58  | 52  | 55   |
| 24       | 65  | 62  | 64    | 53  | 50  | 51     | 60  | 56  | 58        | 57  | 52  | 54   |
| 25       | 65  | 62  | 63    | 55  | 51  | 53     | 61  | 55  | 58        | 56  | 52  | 54   |
| 26       | 65  | 62  | 64    | 54  | 51  | 53     | 61  | 55  | 59        | 56  | 51  | 54   |
| 27       | 65  | 63  | 64    | 54  | 51  | 52     | 62  | 55  | 57        | 57  | 52  | 55   |
| 28       | 66  | 63  | 64    | 50  | 41  | 47     | 59  | 55  | 57        | 54  | 51  | 52   |
| 29       | 65  | 63  | 64    | 52  | 49  | 51     | 59  | 55  | 57        | 53  | 50  | 51   |
| 30       | 65  | 58  | 64    | 57  | 52  | 55     | 59  | 55  | 56        | 54  | 49  | 52   |
| 31       | --- | --- | ---   | 56  | 54  | 55     | 59  | 54  | 56        | --- | --- | ---  |
| MONTH    | 66  | 50  | 61    | 68  | 41  | 58     | 62  | 47  | 56        | 60  | 49  | 56   |
| YEAR     | 169 | 26  | 58    |     |     |        |     |     |           |     |     |      |

## THAMES RIVER BASIN

01124750 BROWNS BROOK NEAR WEBSTER, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 66  | 62  | 64       | 67  | 65  | 67       | 63  | 61  | 61      | 38  | 34  | 36   |
| 2       | 66  | 62  | 64       | 68  | 65  | 66       | 62  | 59  | 60      | 37  | 34  | 35   |
| 3       | 66  | 61  | 63       | 68  | 64  | 66       | --- | --- | ---     | 36  | 33  | 35   |
| 4       | 65  | 60  | 62       | 68  | 66  | 67       | 59  | 54  | 58      | 35  | 32  | 34   |
| 5       | 64  | 60  | 62       | 68  | 66  | 67       | --- | --- | ---     | 35  | 32  | 34   |
| 6       | 64  | 60  | 62       | 69  | 66  | 67       | --- | --- | ---     | 34  | 32  | 33   |
| 7       | 64  | 59  | 62       | 67  | 61  | 66       | 107 | 59  | 76      | 33  | 31  | 32   |
| 8       | 64  | 61  | 62       | 68  | 67  | 67       | 64  | 62  | 63      | 33  | 29  | 31   |
| 9       | 63  | 60  | 62       | 69  | 65  | 68       | 62  | 59  | 61      | 31  | 31  | 31   |
| 10      | 62  | 59  | 60       | 89  | 65  | 75       | 60  | 57  | 58      | 106 | 30  | 64   |
| 11      | 61  | 58  | 59       | 72  | 69  | 70       | 58  | 56  | 56      | 57  | 39  | 45   |
| 12      | 61  | 56  | 59       | 70  | 69  | 70       | 82  | 54  | 59      | 43  | 37  | 39   |
| 13      | 61  | 57  | 59       | 70  | 67  | 70       | 55  | 53  | 54      | 41  | 34  | 37   |
| 14      | 60  | 56  | 58       | 70  | 67  | 69       | 54  | 51  | 52      | 37  | 32  | 35   |
| 15      | 60  | 56  | 58       | 71  | 62  | 69       | 51  | 50  | 51      | 36  | 32  | 34   |
| 16      | 61  | 60  | 61       | 70  | 67  | 69       | 51  | 48  | 49      | 36  | 33  | 35   |
| 17      | 61  | 60  | 61       | 71  | 64  | 69       | 52  | 45  | 49      | 38  | 34  | 36   |
| 18      | 62  | 60  | 61       | 71  | 63  | 68       | 48  | 47  | 48      | 39  | 35  | 37   |
| 19      | 62  | 61  | 61       | 71  | 67  | 69       | 48  | 46  | 47      | 38  | 34  | 36   |
| 20      | 63  | 61  | 62       | 70  | 68  | 69       | 67  | 44  | 51      | 37  | 35  | 36   |
| 21      | 68  | 60  | 65       | 72  | 68  | 70       | 53  | 47  | 48      | 38  | 36  | 37   |
| 22      | 66  | 63  | 64       | 72  | 67  | 70       | 47  | 44  | 45      | 40  | 37  | 38   |
| 23      | 65  | 63  | 64       | 70  | 68  | 69       | 45  | 43  | 44      | 40  | 37  | 39   |
| 24      | 64  | 63  | 64       | 70  | 62  | 67       | 43  | 41  | 42      | 41  | 37  | 39   |
| 25      | 65  | 64  | 65       | 69  | 66  | 67       | 42  | 40  | 41      | 41  | 37  | 40   |
| 26      | 66  | 64  | 65       | 68  | 65  | 67       | 40  | 36  | 39      | 42  | 38  | 41   |
| 27      | 66  | 64  | 65       | 68  | 64  | 66       | 42  | 38  | 39      | 43  | 41  | 42   |
| 28      | 66  | 64  | 65       | 66  | 63  | 65       | 41  | 39  | 40      | 44  | 40  | 43   |
| 29      | 66  | 64  | 66       | 66  | 63  | 64       | 40  | 36  | 38      | 47  | 45  | 46   |
| 30      | 67  | 65  | 66       | 64  | 61  | 63       | 39  | 36  | 38      | 48  | 44  | 46   |
| 31      | 67  | 65  | 66       | --- | --- | ---      | 38  | 36  | 37      | 49  | 45  | 47   |
| MONTH   | 68  | 56  | 62       | 89  | 61  | 68       | 107 | 36  | 50      | 106 | 29  | 38   |

| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN  | MAX | MIN | MEAN | MAX | MIN | MEAN |
|----------|-----|-----|-------|-----|-----|-------|-----|-----|------|-----|-----|------|
| FEBRUARY |     |     | MARCH |     |     | APRIL |     |     | MAY  |     |     |      |
| 1        | 49  | 45  | 48    | 86  | 78  | 82    | 75  | 71  | 73   | 69  | 63  | 66   |
| 2        | 50  | 47  | 49    | 82  | 78  | 80    | 74  | 70  | 73   | 67  | 64  | 66   |
| 3        | 51  | 45  | 48    | 82  | 78  | 80    | 77  | 71  | 73   | 69  | 63  | 66   |
| 4        | 50  | 47  | 49    | 82  | 78  | 79    | 76  | 71  | 73   | 68  | 63  | 66   |
| 5        | 51  | 48  | 49    | 83  | 77  | 79    | 73  | 61  | 71   | 66  | 63  | 65   |
| 6        | 52  | 49  | 51    | 79  | 73  | 76    | 72  | 63  | 70   | 69  | 64  | 66   |
| 7        | 53  | 51  | 52    | 75  | 69  | 73    | --- | --- | ---  | 68  | 64  | 66   |
| 8        | 55  | 51  | 53    | 76  | 72  | 73    | --- | --- | ---  | 67  | 62  | 65   |
| 9        | 57  | 53  | 54    | 77  | 64  | 74    | --- | --- | ---  | 64  | 60  | 63   |
| 10       | 57  | 54  | 56    | 77  | 71  | 74    | 72  | 68  | 69   | --- | --- | ---  |
| 11       | 90  | 56  | 67    | 78  | 73  | 75    | 71  | 68  | 69   | --- | --- | ---  |
| 12       | 124 | 66  | 83    | 79  | 74  | 76    | 75  | 65  | 71   | --- | --- | ---  |
| 13       | 163 | 80  | 117   | 86  | 75  | 80    | 76  | 69  | 73   | --- | --- | ---  |
| 14       | 122 | 87  | 98    | 86  | 75  | 81    | 74  | 69  | 72   | --- | --- | ---  |
| 15       | 96  | 86  | 90    | 79  | 73  | 78    | 74  | 69  | 71   | --- | --- | ---  |
| 16       | 93  | 80  | 85    | 78  | 71  | 74    | 74  | 69  | 71   | --- | --- | ---  |
| 17       | 86  | 78  | 81    | 77  | 72  | 74    | 76  | 69  | 72   | 62  | 58  | 60   |
| 18       | 87  | 77  | 82    | 76  | 71  | 74    | 76  | 69  | 72   | --- | --- | ---  |
| 19       | 83  | 77  | 79    | 78  | 72  | 75    | 76  | 69  | 72   | --- | --- | ---  |
| 20       | 81  | 75  | 78    | 81  | 74  | 77    | 75  | 69  | 72   | --- | --- | ---  |
| 21       | 81  | 77  | 79    | 83  | 75  | 78    | 77  | 69  | 73   | --- | --- | ---  |
| 22       | 83  | 77  | 80    | 82  | 64  | 77    | 77  | 69  | 73   | 60  | 55  | 57   |
| 23       | 82  | 78  | 80    | 78  | 72  | 76    | 72  | 68  | 71   | 58  | 54  | 57   |
| 24       | 174 | 78  | 94    | 78  | 74  | 76    | 70  | 67  | 68   | 59  | 56  | 57   |
| 25       | 156 | 94  | 119   | 80  | 70  | 75    | 68  | 58  | 65   | --- | --- | ---  |
| 26       | 107 | 88  | 95    | 79  | 73  | 75    | 67  | 64  | 65   | --- | --- | ---  |
| 27       | 116 | 89  | 96    | 78  | 72  | 75    | 67  | 64  | 65   | --- | --- | ---  |
| 28       | 113 | 82  | 90    | 78  | 69  | 74    | 67  | 63  | 65   | 58  | 56  | 57   |
| 29       | --- | --- | ---   | 82  | 74  | 78    | 67  | 57  | 64   | --- | --- | ---  |
| 30       | --- | --- | ---   | 80  | 72  | 76    | 68  | 63  | 65   | --- | --- | ---  |
| 31       | --- | --- | ---   | 76  | 71  | 73    | --- | --- | ---  | --- | --- | ---  |
| MONTH    | 174 | 45  | 75    | 86  | 64  | 76    | 77  | 57  | 70   | --- | --- | ---  |

01124750 BROWNS BROOK NEAR WEBSTER, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX | MIN  | MEAN | MAX | MIN  | MEAN | MAX | MIN    | MEAN | MAX | MIN       | MEAN |
|-------|-----|------|------|-----|------|------|-----|--------|------|-----|-----------|------|
|       |     | JUNE |      |     | JULY |      |     | AUGUST |      |     | SEPTEMBER |      |
| 1     | --- | ---  | ---  | 60  | 53   | 58   | --- | ---    | ---  | --- | ---       | ---  |
| 2     | --- | ---  | ---  | 62  | 57   | 59   | --- | ---    | ---  | --- | ---       | ---  |
| 3     | --- | ---  | ---  | 62  | 57   | 60   | --- | ---    | ---  | --- | ---       | ---  |
| 4     | --- | ---  | ---  | 63  | 59   | 61   | --- | ---    | ---  | --- | ---       | ---  |
| 5     | 55  | 50   | 54   | 66  | 58   | 62   | --- | ---    | ---  | --- | ---       | ---  |
| 6     | --- | ---  | ---  | 63  | 61   | 62   | 73  | 70     | 71   | --- | ---       | ---  |
| 7     | --- | ---  | ---  | --- | ---  | ---  | 74  | 68     | 71   | --- | ---       | ---  |
| 8     | --- | ---  | ---  | 63  | 60   | 61   | --- | ---    | ---  | --- | ---       | ---  |
| 9     | --- | ---  | ---  | 63  | 60   | 61   | --- | ---    | ---  | --- | ---       | ---  |
| 10    | --- | ---  | ---  | 63  | 56   | 61   | --- | ---    | ---  | --- | ---       | ---  |
| 11    | --- | ---  | ---  | --- | ---  | ---  | --- | ---    | ---  | --- | ---       | ---  |
| 12    | --- | ---  | ---  | 64  | 61   | 62   | --- | ---    | ---  | --- | ---       | ---  |
| 13    | 54  | 46   | 52   | 62  | 57   | 61   | --- | ---    | ---  | --- | ---       | ---  |
| 14    | 54  | 53   | 54   | 63  | 53   | 59   | --- | ---    | ---  | --- | ---       | ---  |
| 15    | 56  | 52   | 55   | 63  | 56   | 61   | 65  | 63     | 64   | --- | ---       | ---  |
| 16    | 57  | 53   | 55   | --- | ---  | ---  | 67  | 64     | 66   | --- | ---       | ---  |
| 17    | 56  | 51   | 54   | --- | ---  | ---  | 65  | 58     | 63   | --- | ---       | ---  |
| 18    | 57  | 47   | 54   | --- | ---  | ---  | --- | ---    | ---  | 67  | 63        | 66   |
| 19    | 57  | 47   | 55   | --- | ---  | ---  | --- | ---    | ---  | 67  | 59        | 63   |
| 20    | 59  | 53   | 57   | 66  | 63   | 65   | 64  | 58     | 62   | 65  | 53        | 61   |
| 21    | 57  | 49   | 55   | 72  | 65   | 69   | --- | ---    | ---  | 65  | 62        | 63   |
| 22    | 56  | 48   | 55   | 74  | 67   | 72   | --- | ---    | ---  | 65  | 61        | 63   |
| 23    | 57  | 55   | 56   | --- | ---  | ---  | --- | ---    | ---  | --- | ---       | ---  |
| 24    | 58  | 55   | 57   | --- | ---  | ---  | 68  | 60     | 64   | 67  | 60        | 62   |
| 25    | 57  | 50   | 56   | 71  | 63   | 67   | 63  | 55     | 61   | 65  | 62        | 63   |
| 26    | 58  | 54   | 56   | 65  | 60   | 64   | 61  | 56     | 58   | 65  | 60        | 64   |
| 27    | 58  | 52   | 57   | --- | ---  | ---  | 64  | 61     | 63   | 68  | 64        | 66   |
| 28    | 60  | 50   | 57   | --- | ---  | ---  | --- | ---    | ---  | 69  | 66        | 67   |
| 29    | --- | ---  | ---  | --- | ---  | ---  | --- | ---    | ---  | 69  | 66        | 67   |
| 30    | 59  | 55   | 58   | 69  | 58   | 67   | --- | ---    | ---  | 66  | 59        | 62   |
| 31    | --- | ---  | ---  | 66  | 64   | 65   | --- | ---    | ---  | --- | ---       | ---  |
| MONTH | --- | ---  | ---  | --- | ---  | ---  | --- | ---    | ---  | --- | ---       | ---  |
| YEAR  | 174 | 29   | 62   |     |      |      |     |        |      |     |           |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX  | MIN     | MEAN | MAX | MIN      | MEAN | MAX | MIN      | MEAN | MAX | MIN     | MEAN |
|-------|------|---------|------|-----|----------|------|-----|----------|------|-----|---------|------|
|       |      | OCTOBER |      |     | NOVEMBER |      |     | DECEMBER |      |     | JANUARY |      |
| 1     | 13.5 | 12.5    | 13.0 | 9.0 | 7.0      | 8.0  | 4.0 | 2.0      | 3.0  | 1.5 | 0.5     | 1.0  |
| 2     | 12.5 | 12.5    | 12.5 | 8.0 | 6.0      | 7.0  | 4.0 | 1.5      | 3.0  | 2.5 | 1.0     | 1.5  |
| 3     | 13.5 | 12.5    | 13.0 | 8.0 | 7.0      | 7.5  | 2.0 | 1.0      | 1.5  | 3.0 | 1.0     | 2.0  |
| 4     | 14.5 | 12.0    | 13.0 | 9.5 | 7.5      | 8.5  | 2.0 | 0.5      | 1.5  | 3.0 | 1.5     | 2.5  |
| 5     | 13.0 | 12.0    | 12.5 | 9.0 | 7.5      | 8.5  | 3.0 | 1.0      | 2.0  | 2.5 | 1.0     | 1.5  |
| 6     | 14.5 | 13.0    | 13.5 | 8.5 | 7.0      | 7.5  | 3.5 | 1.0      | 2.5  | 2.5 | 0.5     | 1.5  |
| 7     | 15.5 | 13.5    | 14.5 | 8.0 | 7.0      | 7.5  | 5.0 | 3.0      | 4.0  | 2.0 | 0.5     | 1.5  |
| 8     | 16.0 | 14.0    | 15.0 | 7.0 | 5.0      | 6.0  | 4.0 | 2.0      | 3.0  | 2.0 | 1.0     | 1.5  |
| 9     | 16.0 | 14.0    | 15.0 | 6.0 | 5.0      | 5.5  | 2.5 | 1.5      | 2.0  | 2.0 | 1.0     | 1.5  |
| 10    | 13.5 | 11.0    | 12.5 | 5.5 | 5.0      | 5.5  | 3.5 | 1.5      | 2.5  | 2.5 | 0.5     | 1.5  |
| 11    | 12.5 | 9.5     | 11.0 | 6.5 | 4.5      | 5.5  | 4.0 | 2.5      | 3.0  | 1.5 | 1.0     | 1.0  |
| 12    | 13.0 | 9.5     | 11.0 | 6.5 | 4.5      | 5.0  | 3.5 | 2.5      | 3.5  | 1.5 | 0.5     | 1.0  |
| 13    | 13.5 | 9.5     | 11.5 | 6.0 | 4.0      | 5.0  | 3.5 | 1.0      | 2.0  | 1.5 | 0.5     | 1.0  |
| 14    | 12.5 | 10.0    | 11.5 | 6.5 | 4.5      | 5.0  | 2.0 | 0.5      | 1.5  | 1.5 | 1.0     | 1.5  |
| 15    | 13.0 | 9.5     | 11.0 | 6.5 | 4.5      | 5.5  | 4.0 | 2.0      | 3.0  | 2.0 | 1.0     | 1.5  |
| 16    | 13.5 | 10.5    | 11.5 | 6.5 | 4.5      | 5.0  | 4.0 | 2.5      | 3.5  | 2.0 | 1.0     | 1.5  |
| 17    | 11.0 | 9.0     | 10.0 | 6.5 | 4.0      | 5.0  | 4.0 | 2.5      | 3.0  | 1.0 | 0.5     | 0.5  |
| 18    | 10.5 | 8.0     | 9.0  | 6.5 | 5.0      | 5.5  | 3.5 | 2.0      | 3.0  | 0.5 | 0.5     | 0.5  |
| 19    | 10.0 | 6.5     | 8.0  | 7.0 | 5.0      | 5.5  | 3.0 | 2.0      | 2.5  | 1.0 | 0.5     | 1.0  |
| 20    | 10.5 | 8.0     | 9.0  | 6.0 | 4.0      | 5.0  | 4.0 | 2.5      | 3.5  | 2.0 | 1.0     | 1.5  |
| 21    | 11.5 | 10.0    | 11.0 | 5.0 | 3.5      | 4.5  | 3.5 | 1.0      | 2.5  | 2.5 | 1.0     | 1.5  |
| 22    | 10.0 | 8.5     | 9.5  | 5.0 | 3.5      | 4.0  | 2.0 | 0.5      | 1.5  | 2.0 | 0.5     | 1.0  |
| 23    | 9.5  | 8.0     | 8.5  | 5.0 | 4.0      | 4.5  | 3.0 | 1.5      | 2.0  | 1.5 | 0.5     | 1.0  |
| 24    | 8.5  | 7.5     | 8.0  | 5.0 | 3.5      | 4.5  | 2.5 | 1.0      | 1.5  | 2.5 | 1.0     | 1.5  |
| 25    | 10.0 | 8.5     | 9.5  | 5.0 | 3.5      | 4.0  | 2.5 | 1.0      | 2.0  | 2.5 | 1.5     | 2.0  |
| 26    | 9.5  | 7.0     | 9.0  | 6.5 | 4.0      | 5.5  | 2.5 | 1.5      | 2.0  | 2.0 | 0.5     | 1.5  |
| 27    | 8.5  | 6.5     | 7.0  | 8.0 | 5.5      | 7.0  | 1.5 | 0.5      | 1.0  | 2.5 | 0.5     | 1.0  |
| 28    | 8.0  | 6.0     | 7.0  | 8.0 | 7.0      | 7.5  | 1.5 | 0.5      | 1.0  | 2.0 | 0.0     | 0.5  |
| 29    | 8.5  | 6.5     | 7.5  | 7.0 | 3.5      | 6.0  | 2.0 | 0.5      | 1.0  | 1.0 | 0.0     | 0.0  |
| 30    | 9.0  | 6.5     | 8.0  | 4.5 | 2.5      | 3.5  | 1.5 | 0.5      | 1.0  | 0.0 | 0.0     | 0.0  |
| 31    | 9.5  | 8.0     | 8.5  | --- | ---      | ---  | 1.5 | 0.5      | 1.0  | 0.0 | 0.0     | 0.0  |
| MONTH | 16.0 | 6.0     | 10.5 | 9.5 | 2.5      | 6.0  | 5.0 | 0.5      | 2.5  | 3.0 | 0.0     | 1.0  |

01124750 BROWNS BROOK NEAR WEBSTER, MA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX   | MIN | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|------|-------|-----|------|-------|-----|------|------|------|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL |     |      | MAY  |      |      |
| 1        | 0.5 | 0.0 | 0.0  | 3.0   | 1.0 | 2.0  | 8.0   | 6.0 | 7.0  | 11.5 | 7.0  | 9.5  |
| 2        | 0.0 | 0.0 | 0.0  | 3.5   | 1.0 | 2.0  | 6.0   | 5.0 | 5.5  | 10.5 | 8.0  | 9.5  |
| 3        | 1.0 | 0.0 | 0.5  | 3.5   | 1.0 | 2.0  | 8.5   | 5.5 | 7.0  | 12.0 | 8.0  | 10.0 |
| 4        | 1.5 | 1.0 | 1.5  | 2.0   | 2.0 | 2.0  | 6.5   | 5.0 | 6.0  | 11.0 | 7.5  | 9.0  |
| 5        | 1.5 | 1.0 | 1.0  | 3.5   | 1.5 | 2.5  | 5.0   | 4.5 | 5.0  | 9.5  | 9.0  | 9.0  |
| 6        | 1.0 | 0.5 | 0.5  | 3.5   | 2.0 | 2.5  | 6.5   | 4.0 | 5.0  | 13.0 | 9.0  | 10.5 |
| 7        | 1.5 | 0.5 | 0.5  | 3.0   | 2.0 | 2.5  | 5.5   | 3.5 | 4.5  | 12.5 | 9.0  | 10.5 |
| 8        | 1.5 | 0.0 | 0.5  | 4.0   | 1.5 | 2.5  | 6.0   | 3.0 | 4.5  | 12.0 | 8.0  | 10.0 |
| 9        | 1.5 | 0.0 | 0.5  | 5.0   | 2.0 | 3.5  | 5.0   | 2.5 | 3.5  | 9.0  | 5.5  | 7.0  |
| 10       | 2.5 | 1.0 | 1.5  | 6.0   | 3.0 | 4.5  | 6.0   | 2.5 | 4.0  | 6.5  | 5.0  | 5.5  |
| 11       | 3.0 | 1.0 | 2.0  | 7.0   | 4.0 | 5.5  | 6.5   | 3.5 | 5.0  | 7.5  | 5.0  | 6.5  |
| 12       | 3.5 | 2.0 | 2.5  | 7.5   | 4.5 | 6.0  | 9.5   | 4.5 | 7.0  | 10.5 | 6.0  | 8.0  |
| 13       | 3.0 | 2.0 | 2.5  | 7.5   | 6.0 | 6.5  | 10.5  | 6.5 | 8.5  | 11.0 | 8.5  | 10.0 |
| 14       | 4.0 | 1.5 | 2.5  | 7.5   | 6.0 | 6.5  | 10.5  | 7.0 | 8.5  | 10.5 | 8.5  | 9.5  |
| 15       | 3.0 | 1.0 | 2.0  | 6.0   | 5.5 | 6.0  | 10.0  | 6.0 | 8.0  | 11.0 | 8.5  | 10.0 |
| 16       | 2.5 | 0.0 | 1.0  | 6.0   | 5.0 | 5.5  | 10.0  | 5.5 | 7.5  | 12.0 | 9.0  | 10.5 |
| 17       | 1.0 | 0.0 | 0.0  | 4.5   | 3.5 | 4.0  | 11.0  | 6.0 | 8.0  | 13.0 | 10.0 | 11.5 |
| 18       | 1.5 | 0.0 | 0.5  | 3.5   | 1.0 | 2.0  | 11.5  | 6.0 | 8.5  | 12.5 | 11.5 | 12.0 |
| 19       | 1.5 | 0.0 | 1.0  | 3.5   | 1.0 | 2.0  | 12.0  | 6.5 | 9.0  | 11.5 | 11.0 | 11.0 |
| 20       | 1.0 | 0.0 | 0.5  | 4.0   | 1.0 | 2.5  | 11.5  | 6.5 | 9.0  | 13.0 | 10.5 | 11.5 |
| 21       | 2.5 | 0.5 | 1.0  | 5.0   | 2.0 | 3.5  | 12.5  | 7.5 | 10.0 | 12.5 | 11.0 | 12.0 |
| 22       | 1.5 | 0.0 | 1.0  | 3.5   | 0.0 | 2.5  | 14.0  | 8.5 | 11.0 | 14.5 | 11.5 | 12.5 |
| 23       | 2.5 | 1.0 | 1.5  | 2.0   | 1.0 | 1.5  | 10.5  | 8.5 | 9.5  | 14.5 | 11.5 | 13.0 |
| 24       | 2.0 | 1.5 | 2.0  | 3.0   | 1.5 | 2.0  | 9.0   | 7.0 | 8.0  | 15.0 | 12.5 | 13.5 |
| 25       | 3.0 | 1.5 | 2.0  | 3.5   | 1.0 | 2.0  | 7.5   | 7.0 | 7.0  | 15.5 | 12.5 | 13.5 |
| 26       | 4.0 | 2.0 | 2.5  | 4.5   | 1.5 | 2.5  | 8.0   | 7.0 | 7.5  | 15.0 | 12.0 | 13.5 |
| 27       | 3.0 | 2.0 | 2.5  | 5.5   | 2.5 | 4.0  | 9.5   | 7.0 | 8.0  | 13.5 | 11.0 | 12.5 |
| 28       | 3.5 | 1.5 | 2.5  | 5.5   | 3.5 | 4.5  | 10.5  | 7.5 | 8.5  | 14.5 | 11.5 | 13.0 |
| 29       | --- | --- | ---  | 8.5   | 5.0 | 6.5  | 10.0  | 6.5 | 8.0  | 13.0 | 11.5 | 12.0 |
| 30       | --- | --- | ---  | 10.0  | 6.5 | 8.5  | 11.0  | 6.5 | 8.5  | 13.0 | 10.5 | 12.0 |
| 31       | --- | --- | ---  | 9.5   | 7.0 | 8.5  | ---   | --- | ---  | 14.0 | 10.5 | 12.5 |
| MONTH    | 4.0 | 0.0 | 1.5  | 10.0  | 0.0 | 4.0  | 14.0  | 2.5 | 7.0  | 15.5 | 5.0  | 10.5 |

| DAY   | MAX  | MIN  | MEAN | MAX  | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
|-------|------|------|------|------|------|------|--------|------|------|-----------|------|------|
| JUNE  |      |      |      | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |      |
| 1     | 12.5 | 11.5 | 12.0 | 19.5 | 16.5 | 18.0 | 23.0   | 18.5 | 20.5 | ---       | ---  | ---  |
| 2     | 13.0 | 12.0 | 12.5 | 20.0 | 16.5 | 18.0 | 23.5   | 19.0 | 21.0 | ---       | ---  | ---  |
| 3     | 13.5 | 11.0 | 12.0 | 19.5 | 15.5 | 17.5 | 22.5   | 18.0 | 20.0 | ---       | ---  | ---  |
| 4     | 13.5 | 10.5 | 12.0 | 20.5 | 16.0 | 18.0 | 24.0   | 18.5 | 21.0 | ---       | ---  | ---  |
| 5     | 14.5 | 11.5 | 13.0 | 21.5 | 17.0 | 19.0 | 24.5   | 19.5 | 21.5 | ---       | ---  | ---  |
| 6     | 13.5 | 11.0 | 12.0 | 19.0 | 17.0 | 17.5 | 23.5   | 19.5 | 21.5 | ---       | ---  | ---  |
| 7     | 12.0 | 11.0 | 11.5 | 20.0 | 16.5 | 18.0 | 23.0   | 20.5 | 21.5 | ---       | ---  | ---  |
| 8     | 11.5 | 10.0 | 11.0 | 17.5 | 16.5 | 17.0 | 24.0   | 20.0 | 22.0 | ---       | ---  | ---  |
| 9     | 11.5 | 9.5  | 10.5 | 20.5 | 16.5 | 18.0 | ---    | ---  | ---  | ---       | ---  | ---  |
| 10    | 11.0 | 10.5 | 10.5 | 20.0 | 17.0 | 18.0 | ---    | ---  | ---  | ---       | ---  | ---  |
| 11    | 11.0 | 10.5 | 10.5 | 20.5 | 16.0 | 18.0 | ---    | ---  | ---  | ---       | ---  | ---  |
| 12    | 13.0 | 10.5 | 11.5 | 18.0 | 16.5 | 17.5 | 22.0   | 18.5 | 20.5 | ---       | ---  | ---  |
| 13    | 13.5 | 11.0 | 12.5 | 19.5 | 18.0 | 18.5 | 20.0   | 18.0 | 19.0 | ---       | ---  | ---  |
| 14    | 14.5 | 11.5 | 13.0 | 20.5 | 17.0 | 18.5 | 20.5   | 19.0 | 19.5 | ---       | ---  | ---  |
| 15    | 15.5 | 12.0 | 13.5 | 21.5 | 17.0 | 19.0 | 21.5   | 17.0 | 19.5 | ---       | ---  | ---  |
| 16    | 16.0 | 12.0 | 14.0 | 22.0 | 17.5 | 19.5 | 20.0   | 15.5 | 18.0 | ---       | ---  | ---  |
| 17    | 14.5 | 12.0 | 13.5 | 22.5 | 18.5 | 20.0 | 19.5   | 17.5 | 19.0 | 16.5      | 14.0 | 15.0 |
| 18    | 16.5 | 13.5 | 14.5 | 23.5 | 19.0 | 21.0 | 18.5   | 15.0 | 17.0 | 19.0      | 15.0 | 16.5 |
| 19    | 17.0 | 14.0 | 15.0 | 24.5 | 19.0 | 21.5 | 19.5   | 13.5 | 16.0 | 18.0      | 16.0 | 17.0 |
| 20    | 18.0 | 13.0 | 15.5 | 25.5 | 19.5 | 22.5 | 20.0   | 14.0 | 16.0 | 17.0      | 13.0 | 14.5 |
| 21    | 17.5 | 14.0 | 15.5 | 27.0 | 20.5 | 23.5 | 19.5   | 12.0 | 15.5 | 13.0      | 12.0 | 12.5 |
| 22    | 16.5 | 13.5 | 15.0 | 24.0 | 17.0 | 21.0 | 18.0   | 14.0 | 16.0 | 13.5      | 11.5 | 12.5 |
| 23    | 16.0 | 13.0 | 14.5 | 22.0 | 15.5 | 18.0 | 19.5   | 14.0 | 16.5 | 13.5      | 11.5 | 12.5 |
| 24    | 18.0 | 13.5 | 15.5 | 23.5 | 16.0 | 19.5 | 18.0   | 15.0 | 16.0 | 12.5      | 12.0 | 12.5 |
| 25    | 17.0 | 14.5 | 15.5 | 19.5 | 17.5 | 18.5 | 17.0   | 13.5 | 15.0 | 12.5      | 12.0 | 12.0 |
| 26    | 18.0 | 15.0 | 16.0 | 19.5 | 16.5 | 17.5 | 18.0   | 12.0 | 15.0 | 14.5      | 12.0 | 13.0 |
| 27    | 17.5 | 15.0 | 16.0 | 19.5 | 15.0 | 17.5 | 20.0   | 14.0 | 16.5 | 15.0      | 13.0 | 14.0 |
| 28    | 19.0 | 15.5 | 17.5 | 20.5 | 14.5 | 17.5 | ---    | ---  | ---  | 14.5      | 12.5 | 13.5 |
| 29    | 17.0 | 16.0 | 16.5 | 21.0 | 15.5 | 18.0 | ---    | ---  | ---  | 14.0      | 11.5 | 13.0 |
| 30    | 19.5 | 15.0 | 17.0 | 18.5 | 17.0 | 17.5 | ---    | ---  | ---  | 14.0      | 10.5 | 12.5 |
| 31    | ---  | ---  | ---  | 21.0 | 16.5 | 18.5 | ---    | ---  | ---  | ---       | ---  | ---  |
| MONTH | 19.5 | 9.5  | 13.5 | 27.0 | 14.5 | 19.0 | ---    | ---  | ---  | ---       | ---  | ---  |
| YEAR  | 27.0 | 0.0  | 8.5  |      |      |      |        |      |      |           |      |      |

## 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 current year.  
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) above mean sea level.

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.--28 years (water years 1950-77), 156 ft<sup>3</sup>/s (4.418 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 (68.0 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, 7.92 ft (2.414 m) Mar. 21, 1968.

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, 851 ft<sup>3</sup>/s (24.1 m<sup>3</sup>/s) Mar. 16, gage height, 7.67 ft (2.338 m); minimum daily, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Sept. 6-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN     | FEB    | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|---------|--------|-------|------|------|------|------|------|------|
| 1           | 29    | 86    | 38       | 42      | 42     | 195   | 625  | 193  | 58   | 53   | 36   | 20   |
| 2           | 29    | 79    | 33       | 40      | 39     | 191   | 523  | 178  | 63   | 50   | 33   | 19   |
| 3           | 29    | 69    | 32       | 39      | 39     | 185   | 454  | 175  | 65   | 48   | 32   | 15   |
| 4           | 29    | 64    | 29       | 38      | 40     | 189   | 398  | 167  | 61   | 47   | 30   | 13   |
| 5           | 28    | 69    | 28       | 38      | 42     | 238   | 488  | 162  | 57   | 45   | 30   | 13   |
| 6           | 27    | 69    | 27       | 37      | 42     | 309   | 413  | 156  | 53   | 43   | 29   | 12   |
| 7           | 27    | 66    | 72       | 40      | 40     | 329   | 633  | 143  | 61   | 42   | 29   | 12   |
| 8           | 26    | 57    | 168      | 44      | 40     | 303   | 586  | 138  | 63   | 41   | 29   | 12   |
| 9           | 45    | 50    | 177      | 45      | 39     | 272   | 483  | 170  | 59   | 40   | 27   | 12   |
| 10          | 57    | 52    | 154      | 61      | 40     | 296   | 403  | 280  | 78   | 40   | 26   | 14   |
| 11          | 49    | 50    | 125      | 76      | 40     | 373   | 329  | 464  | 83   | 37   | 25   | 13   |
| 12          | 40    | 50    | 92       | 68      | 42     | 456   | 276  | 526  | 91   | 37   | 35   | 13   |
| 13          | 37    | 49    | 72       | 61      | 54     | 548   | 242  | 467  | 86   | 41   | 29   | 14   |
| 14          | 33    | 49    | 52       | 60      | 61     | 550   | 231  | 378  | 75   | 40   | 30   | 14   |
| 15          | 31    | 48    | 48       | 60      | 50     | 662   | 213  | 288  | 65   | 40   | 28   | 13   |
| 16          | 31    | 47    | 45       | 59      | 44     | 839   | 193  | 231  | 54   | 40   | 27   | 17   |
| 17          | 31    | 45    | 48       | 54      | 42     | 845   | 184  | 193  | 50   | 40   | 32   | 21   |
| 18          | 30    | 45    | 47       | 50      | 41     | 775   | 170  | 181  | 61   | 38   | 25   | 23   |
| 19          | 27    | 47    | 45       | 52      | 42     | 728   | 151  | 181  | 81   | 36   | 25   | 28   |
| 20          | 42    | 47    | 45       | 49      | 47     | 662   | 143  | 178  | 66   | 34   | 26   | 50   |
| 21          | 162   | 47    | 64       | 47      | 47     | 573   | 134  | 167  | 62   | 33   | 25   | 66   |
| 22          | 187   | 43    | 59       | 45      | 44     | 545   | 134  | 136  | 57   | 32   | 27   | 58   |
| 23          | 159   | 40    | 52       | 47      | 43     | 539   | 141  | 124  | 53   | 30   | 26   | 45   |
| 24          | 125   | 40    | 49       | 43      | 44     | 614   | 184  | 109  | 54   | 28   | 27   | 59   |
| 25          | 102   | 40    | 45       | 44      | 147    | 548   | 313  | 96   | 52   | 42   | 24   | 81   |
| 26          | 104   | 40    | 47       | 44      | 181    | 451   | 499  | 83   | 48   | 41   | 25   | 130  |
| 27          | 98    | 40    | 45       | 43      | 187    | 408   | 507  | 72   | 47   | 48   | 26   | 207  |
| 28          | 100   | 42    | 40       | 43      | 193    | 418   | 396  | 65   | 48   | 43   | 25   | 228  |
| 29          | 90    | 44    | 43       | 42      | ---    | 509   | 292  | 62   | 53   | 37   | 22   | 200  |
| 30          | 81    | 43    | 43       | 42      | ---    | 633   | 235  | 58   | 54   | 44   | 21   | 156  |
| 31          | 88    | ---   | 42       | 43      | ---    | 685   | ---  | 56   | ---  | 41   | 21   | ---  |
| TOTAL       | 173   | 1557  | 1906     | 1496    | 1752   | 14868 | 9978 | 5877 | 1858 | 1251 | 852  | 1578 |
| MEAN        | 63.6  | 51.9  | 61.5     | 48.3    | 62.6   | 480   | 333  | 190  | 61.9 | 40.4 | 27.5 | 52.6 |
| MAX         | 187   | 86    | 177      | 76      | 193    | 845   | 633  | 526  | 91   | 53   | 36   | 228  |
| MIN         | 26    | 40    | 27       | 37      | 39     | 185   | 134  | 56   | 47   | 28   | 21   | 12   |
| CAL YR 1976 | TOTAL | 49615 | MEAN 136 | MAX 920 | MIN 16 |       |      |      |      |      |      |      |
| WTR YR 1977 | TOTAL | 44946 | MEAN 123 | MAX 845 | MIN 12 |       |      |      |      |      |      |      |

## 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, 31.1 mi<sup>2</sup> (80.5 km<sup>2</sup>). PERIOD OF RECORD, Feb. 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 Buffumville, 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 1976 TO SEPTEMBER 1977

|                      | East Brimfield<br>Lake | Westville<br>Lake | Hodges Village<br>Reservoir | Buffumville<br>Lake |
|----------------------|------------------------|-------------------|-----------------------------|---------------------|
| Sept. 30, 1976 ..... | 73.2                   | 5.0               | 0.6                         | 60.1                |
| Oct. 31.....         | 106.0                  | 5.0               | .9                          | 63.6                |
| Nov. 30.....         | 104.4                  | 4.8               | .6                          | 63.6                |
| Dec. 31.....         | 106.0                  | 4.9               | .5                          | 64.5                |
| Jan. 31, 1977.....   | 106.0                  | 5.0               | .6                          | 63.6                |
| Feb. 28.....         | 112.6                  | 6.1               | 1.7                         | 69.7                |
| Mar. 31.....         | 133.5                  | 8.5               | 14.2                        | 82.9                |
| Apr. 30.....         | 117.6                  | 6.8               | 2.1                         | 70.6                |
| May 31.....          | 106.0                  | 5.0               | .6                          | 63.6                |
| June 30.....         | 106.0                  | 4.9               | .7                          | 63.6                |
| July 31.....         | 104.4                  | 4.9               | .5                          | 61.9                |
| Aug. 31.....         | 101.1                  | 4.4               | .4                          | 61.0                |
| Sept. 30.....        | 117.6                  | 6.6               | 1.1                         | 68.8                |



01161280 CONNECTICUT RIVER NEAR NORTHFIELD, MA

LOCATION (REVISED).--Lat 42°41'00", long 72°28'19", Franklin County, Hydrologic Unit 01080201, near center of span on upstream side of bridge on State Highway 10, 1.0 mi (1.6 km) downstream from Mallory Brook, 1.1 mi (1.8 km) southwest of Northfield Town Hall, and 2.6 mi (4.2 km) downstream from Pauchaug Brook.

DRAINAGE AREA.--7,025 mi<sup>2</sup> (18,205 km<sup>2</sup>).

PERIOD OF RECORD.--October 1974 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L) | COD IN BOTTOM MATERIAL (MG/KG) | IMMEDIATE COLIFORM (COL. PER 100 ML) | FECAL COLIFORM (COL. / 100 ML) |
|-----------|------|-------------------------------|----------------------------------|------------|-------------------------|---------------------|-----------------|-------------------------|-------------------------------------------|--------------------------------|--------------------------------------|--------------------------------|
| OCT 12... | 0830 | 18000                         | 96                               | 6.7        | 5.0                     | 11.5                | 11              | 10.8                    | 13                                        | 39000                          | 5100                                 | 320                            |
| NOV 23... | 1400 | 11300                         | 134                              | 6.7        | 4.5                     | 3.0                 | 1               | 12.7                    | <10                                       | --                             | 3800                                 | 54                             |
| APR 12... | 1330 | 17800                         | 115                              | 6.7        | 26.0                    | 5.5                 | 5               | 11.7                    | <10                                       | --                             | 470                                  | 54                             |
| 26...     | 1530 | 50000                         | 82                               | 6.7        | 16.5                    | 7.0                 | 1               | 13.4                    | 15                                        | 18000                          | 2600                                 | 270                            |
| MAY 26... | 1530 | 8500                          | 108                              | 7.1        | 24.0                    | 21.5                | 1               | 8.5                     | 10                                        | --                             | 2900                                 | 150                            |
| JUN 21... | 1600 | 9000                          | 124                              | 7.3        | 22.0                    | 21.0                | 1               | 9.4                     | 8                                         | 16000                          | 7300                                 | 160                            |
| JUL 26... | 1600 | 4800                          | 120                              | 7.2        | 19.5                    | 24.5                | 1               | 7.3                     | 10                                        | --                             | 5600                                 | 360                            |
| AUG 08... | 1130 | 1100                          | 137                              | 6.8        | 31.5                    | 25.0                | 1               | 8.5                     | 10                                        | 14000                          | 18000                                | 27                             |
| SEP 14... | 0900 | 8500                          | 117                              | 6.9        | 20.5                    | 19.5                | 2               | 8.3                     | 15                                        | --                             | 43000                                | 710                            |

| DATE      | FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML) | TOTAL CALCIUM (CA) (MG/L) | TOTAL MAGNESIUM (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) | TOTAL RESIDUE (MG/L) | LOSS ON IGNITION IN BOTTOM MATERIAL (MG/KG) |
|-----------|----------------------------------------------|---------------------------|------------------------|---------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------------|----------------------|---------------------------------------------|
| OCT 12... | 180                                          | 12                        | 1.7                    | 20                        | 0                      | 16                         | 6.4                         | 5.2                            | 5.2                            | 15                                  | 92                   | 37600                                       |
| NOV 23... | 79                                           | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 2                                   | 73                   | --                                          |
| APR 12... | 89                                           | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 16                                  | 70                   | --                                          |
| 26...     | --                                           | 3.8                       | 1.4                    | 19                        | 0                      | 16                         | 6.1                         | 7.3                            | 5.2                            | 41                                  | 89                   | 0                                           |
| MAY 26... | --                                           | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 3                                   | 60                   | --                                          |
| JUN 21... | --                                           | 3.5                       | .9                     | 41                        | 0                      | 34                         | 3.3                         | 9.2                            | 9.0                            | 8                                   | 71                   | 0                                           |
| JUL 26... | 150                                          | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 8                                   | 74                   | --                                          |
| AUG 08... | 62                                           | 12                        | 1.9                    | 41                        | 0                      | 34                         | 10                          | 11                             | 2.0                            | 0                                   | 78                   | 25700                                       |
| SEP 14... | 220                                          | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 0                                   | 85                   | --                                          |

| DATE      | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | PHENOLS (UG/L) | OIL AND GREASE (MG/L) | CHLOROPHYLL A (UG/L) | CHLOROPHYLL B (UG/L) |
|-----------|--------------------------|--------------------------|---------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|---------------------------|-----------------------------|----------------|-----------------------|----------------------|----------------------|
| OCT 12... | .16                      | .00                      | .16                                   | .04                               | .19                               | .23                                | .39                       | .06                         | 0              | 0                     | .000                 | .000                 |
| NOV 23... | .26                      | .01                      | .27                                   | .02                               | .13                               | .15                                | .42                       | .03                         | --             | 0                     | .000                 | .000                 |
| APR 12... | .33                      | .00                      | .33                                   | .01                               | .39                               | .40                                | .73                       | .12                         | --             | --                    | .657                 | .110                 |
| 26...     | .26                      | .00                      | .26                                   | .02                               | .30                               | .32                                | .58                       | .06                         | 0              | 1                     | .582                 | .000                 |
| MAY 26... | .20                      | .00                      | .20                                   | .07                               | .17                               | .24                                | .44                       | .03                         | --             | --                    | 7.85                 | 1.15                 |
| JUN 21... | .19                      | .00                      | .19                                   | .07                               | .21                               | .28                                | .47                       | .02                         | 0              | 1                     | --                   | --                   |
| JUL 26... | .15                      | .01                      | .16                                   | .03                               | .57                               | .60                                | .76                       | .02                         | --             | 2                     | 2.67                 | .093                 |
| AUG 08... | .20                      | .01                      | .21                                   | .05                               | .32                               | .37                                | .58                       | .02                         | 0              | 2                     | 1.59                 | .000                 |
| SEP 14... | .17                      | .01                      | .18                                   | .06                               | .23                               | .29                                | .47                       | .03                         | --             | 0                     | 3.21                 | .000                 |

B, NON-IDEAL COLONY COUNT.

## CONNECTICUT RIVER BASIN

01161280 CONNECTICUT RIVER NEAR NORTHFIELD, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE       | TIME | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ALUMINUM IN BOTTOM MATERIAL (UG/G) | TOTAL BARIUM (BA) (UG/L) | TOTAL BARIUM IN BOTTOM MATERIAL (UG/G) | TOTAL BERYLLIUM (BE) (UG/L) | TOTAL BERYLLIUM IN BOTTOM MATERIAL (UG/G) | TOTAL BISMUTH (BI) (UG/L) | TOTAL BORON (B) (UG/L) | TOTAL BORON IN BOTTOM MATERIAL (UG/G) | TOTAL CADMIUM (CD) (UG/L) |
|------------|------|----------------------------|------------------------------------------|--------------------------|----------------------------------------|-----------------------------|-------------------------------------------|---------------------------|------------------------|---------------------------------------|---------------------------|
| APR , 1976 |      |                            |                                          |                          |                                        |                             |                                           |                           |                        |                                       |                           |
| 14...      | 1200 | 140                        | >1200                                    | 5                        | 10                                     | <0                          | 1                                         | <0                        | 40                     | 6                                     | <10                       |
| OCT        |      |                            |                                          |                          |                                        |                             |                                           |                           |                        |                                       |                           |
| 12...      | 0830 | 530                        | >78                                      | 10                       | 3                                      | <0                          | <0                                        | <1                        | 130                    | <0                                    | <10                       |

| DATE       | TOTAL CADMIUM IN BOTTOM MATERIAL (UG/G) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL CHROMIUM IN BOTTOM MATERIAL (UG/G) | TOTAL COBALT (CO) (UG/L) | TOTAL COBALT IN BOTTOM MATERIAL (UG/G) | TOTAL COPPER (CU) (UG/L) | TOTAL COPPER IN BOTTOM MATERIAL (UG/G) | TOTAL GALLIUM (GA) (UG/L) | TOTAL GERMANIUM (GE) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL IRON IN BOTTOM MATERIAL (UG/G) |
|------------|-----------------------------------------|----------------------------|------------------------------------------|--------------------------|----------------------------------------|--------------------------|----------------------------------------|---------------------------|-----------------------------|------------------------|--------------------------------------|
| APR , 1976 |                                         |                            |                                          |                          |                                        |                          |                                        |                           |                             |                        |                                      |
| 14...      | --                                      | 5                          | 8                                        | 1                        | 3                                      | 2                        | 10                                     | <0                        | <1                          | 180                    | >1200                                |
| OCT        |                                         |                            |                                          |                          |                                        |                          |                                        |                           |                             |                        |                                      |
| 12...      | <1                                      | 12                         | 4                                        | 2                        | 1                                      | 3                        | 4                                      | 2                         | <1                          | >260                   | >78                                  |

| DATE       | TOTAL LEAD (PB) (UG/L) | TOTAL LEAD IN BOTTOM MATERIAL (UG/G) | TOTAL LITHIUM (LI) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | TOTAL MANGANESE IN BOTTOM MATERIAL (UG/G) | TOTAL MOLYBDENUM (MO) (UG/L) | TOTAL MOLYBDENUM IN BOTTOM MATERIAL (UG/G) | TOTAL NICKEL (NI) (UG/L) | TOTAL NICKEL IN BOTTOM MATERIAL (UG/G) | TOTAL SILVER (AG) (UG/L) | TOTAL SILVER IN BOTTOM MATERIAL (UG/G) |
|------------|------------------------|--------------------------------------|---------------------------|-----------------------------|-------------------------------------------|------------------------------|--------------------------------------------|--------------------------|----------------------------------------|--------------------------|----------------------------------------|
| APR , 1976 |                        |                                      |                           |                             |                                           |                              |                                            |                          |                                        |                          |                                        |
| 14...      | 10                     | 15                                   | --                        | 30                          | >600                                      | <0                           | <0                                         | 5                        | >12                                    | 1                        | 0                                      |
| OCT        |                        |                                      |                           |                             |                                           |                              |                                            |                          |                                        |                          |                                        |
| 12...      | 6                      | 5                                    | 0                         | 70                          | >78                                       | <1                           | 1                                          | 18                       | 9                                      | <0                       | <0                                     |

| DATE       | TOTAL STRONTIUM (SR) (UG/L) | TOTAL STRONTIUM IN BOTTOM MATERIAL (UG/G) | TOTAL TIN (SN) (UG/L) | TOTAL TANTANIUM (TI) (UG/L) | TOTAL TITANIUM IN BOTTOM MATERIAL (UG/G) | TOTAL VANADIUM (V) (UG/L) | TOTAL VANADIUM IN BOTTOM MATERIAL (UG/G) | TOTAL ZINC (ZN) (UG/L) | TOTAL ZINC IN BOTTOM MATERIAL (UG/G) | TOTAL ZIRCONIUM (ZR) (UG/L) |
|------------|-----------------------------|-------------------------------------------|-----------------------|-----------------------------|------------------------------------------|---------------------------|------------------------------------------|------------------------|--------------------------------------|-----------------------------|
| APR , 1976 |                             |                                           |                       |                             |                                          |                           |                                          |                        |                                      |                             |
| 14...      | 30                          | 2                                         | <0                    | 20                          | >120                                     | 6.3                       | 14                                       | --                     | --                                   | <1                          |
| OCT        |                             |                                           |                       |                             |                                          |                           |                                          |                        |                                      |                             |
| 12...      | 50                          | 1                                         | <0                    | >30                         | 78                                       | 4.0                       | 5.5                                      | 10                     | 135                                  | <1                          |

01161280 CONNECTICUT RIVER NEAR NORTHFIELD, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE       | TIME | DIS-<br>SOLVED<br>GROSS<br>ALPHA<br>AS<br>U-NAT.<br>(UG/L) | SUS-<br>PENED<br>GROSS<br>ALPHA<br>AS<br>U-NAT.<br>(UG/L) | DIS-<br>SOLVED<br>GROSS<br>BETA<br>AS<br>CS-137<br>(PC/L) | SUS-<br>PENED<br>GROSS<br>BETA<br>AS<br>CS-137<br>(PC/L) | DIS-<br>SOLVED<br>GROSS<br>BETA<br>AS SR90<br>/Y90<br>(PC/L) | SUS-<br>PENED<br>GROSS<br>BETA<br>AS SR90<br>/Y90<br>(PC/L) |
|------------|------|------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------|
| APR , 1976 |      |                                                            |                                                           |                                                           |                                                          |                                                              |                                                             |
| 14...      | 1200 | <.7                                                        | <.4                                                       | 2.1                                                       | <.4                                                      | 1.6                                                          | <.4                                                         |
| OCT        |      |                                                            |                                                           |                                                           |                                                          |                                                              |                                                             |
| 12...      | 0830 | 1.0                                                        | 1.1                                                       | 2.4                                                       | 1.0                                                      | 1.9                                                          | .9                                                          |

| DATE  | TOTAL<br>PCB<br>(UG/L) | POLY-<br>CHLO-<br>RINATED<br>NAPH-<br>THA-<br>LENES<br>(UG/L) | TOTAL<br>ALDRIN<br>(UG/L) | TOTAL<br>CHLOR-<br>DANE<br>(UG/L) | TOTAL<br>DDD<br>(UG/L) | TOTAL<br>DDE<br>(UG/L) | TOTAL<br>DDT<br>(UG/L) |
|-------|------------------------|---------------------------------------------------------------|---------------------------|-----------------------------------|------------------------|------------------------|------------------------|
| OCT   |                        |                                                               |                           |                                   |                        |                        |                        |
| 12... | .0                     | .00                                                           | .00                       | .0                                | .00                    | .00                    | .00                    |
| APR   |                        |                                                               |                           |                                   |                        |                        |                        |
| 26... | .0                     | .00                                                           | .00                       | .0                                | .00                    | .00                    | .00                    |
| AUG   |                        |                                                               |                           |                                   |                        |                        |                        |
| 08... | .0                     | .00                                                           | .00                       | .0                                | .00                    | .00                    | .00                    |

| DATE  | TOTAL<br>DI-<br>ELDRIN<br>(UG/L) | TOTAL<br>ENDO-<br>SULFAN<br>(UG/L) | TOTAL<br>ENDRIN<br>(UG/L) | TOTAL<br>HEPTA-<br>CHLOR<br>(UG/L) | TOTAL<br>HEPTA-<br>CHLOR<br>EPOXIDE<br>(UG/L) | TOTAL<br>LINDANE<br>(UG/L) | TOTAL<br>TOX-<br>APHENE<br>(UG/L) |
|-------|----------------------------------|------------------------------------|---------------------------|------------------------------------|-----------------------------------------------|----------------------------|-----------------------------------|
| OCT   |                                  |                                    |                           |                                    |                                               |                            |                                   |
| 12... | .00                              | --                                 | .00                       | .00                                | .00                                           | .00                        | 0                                 |
| APR   |                                  |                                    |                           |                                    |                                               |                            |                                   |
| 26... | .00                              | .00                                | .00                       | .00                                | .00                                           | .00                        | 0                                 |
| AUG   |                                  |                                    |                           |                                    |                                               |                            |                                   |
| 08... | .00                              | .00                                | .00                       | .00                                | .00                                           | .00                        | 0                                 |

## CONNECTICUT RIVER BASIN

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) above mean sea level. 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 excellent except those for winter period and period of no gage-height record, which are fair. 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.--61 years, 29.4 ft<sup>3</sup>/s (0.833 m<sup>3</sup>/s), 21.94 in/yr (557 mm/yr).

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 (34.0 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.--Peak discharges above base of 150 ft<sup>3</sup>/s (4.25 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 15 |      | *450 12.7                                             | *Unknown                | Apr. 6 | 1630 | 158 4.47                                              | 8.25 2.515              |
| Apr. 1  | 0200 | 213 6.03                                              | 8.78 2.676              |        |      |                                                       |                         |

Minimum discharge, 1.3 ft<sup>3</sup>/s (0.037 m<sup>3</sup>/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY  | JUN  | JUL   | AUG  | SEP   |
|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|------|-------|
| 1     | 5.0   | 11    | 7.9   | 7.7   | 6.3   | 17   | 206  | 62   | 16   | 11    | 2.4  | 1.8   |
| 2     | 1.8   | 10    | 7.7   | 7.3   | 6.2   | 16   | 169  | 57   | 17   | 11    | 4.0  | 1.7   |
| 3     | 1.7   | 9.6   | 7.3   | 6.7   | 6.1   | 16   | 140  | 53   | 18   | 10    | 5.8  | 1.9   |
| 4     | 1.8   | 9.3   | 6.7   | 6.4   | 6.0   | 16   | 124  | 49   | 16   | 9.9   | 5.0  | 1.9   |
| 5     | 3.5   | 8.8   | 6.4   | 5.6   | 6.0   | 21   | 123  | 46   | 15   | 9.6   | 3.0  | 1.8   |
| 6     | 3.1   | 11    | 6.1   | 5.1   | 5.9   | 21   | 152  | 43   | 13   | 9.2   | 2.9  | 1.7   |
| 7     | 4.8   | 17    | 13    | 6.1   | 5.8   | 21   | 146  | 38   | 11   | 9.1   | 2.8  | 1.6   |
| 8     | 3.9   | 15    | 20    | 6.9   | 5.8   | 20   | 123  | 36   | 16   | 9.1   | 2.7  | 1.4   |
| 9     | 3.9   | 13    | 19    | 6.7   | 5.9   | 23   | 102  | 36   | 15   | 8.7   | 2.5  | 1.4   |
| 10    | 7.3   | 11    | 18    | 7.5   | 6.1   | 26   | 86   | 51   | 16   | 8.3   | 2.5  | 1.5   |
| 11    | 3.5   | 11    | 17    | 8.5   | 6.4   | 30   | 74   | 53   | 19   | 7.4   | 3.1  | 1.5   |
| 12    | 4.8   | 10    | 17    | 8.4   | 6.6   | 40   | 67   | 53   | 19   | 6.9   | 2.5  | 1.4   |
| 13    | 5.3   | 9.6   | 18    | 8.0   | 6.7   | 90   | 63   | 52   | 17   | 6.6   | 2.9  | 1.5   |
| 14    | 9.7   | 9.3   | 15    | 7.7   | 6.8   | 300  | 60   | 50   | 16   | 6.6   | 3.9  | 2.1   |
| 15    | 9.0   | 8.8   | 13    | 7.4   | 7.0   | 400  | 57   | 46   | 15   | 5.8   | 3.4  | 1.9   |
| 16    | 6.1   | 8.6   | 13    | 7.2   | 6.9   | 250  | 55   | 44   | 15   | 5.3   | 2.6  | 1.9   |
| 17    | 4.8   | 8.4   | 12    | 7.0   | 6.8   | 200  | 52   | 41   | 13   | 7.3   | 2.9  | 2.7   |
| 18    | 4.6   | 8.6   | 11    | 6.8   | 6.6   | 150  | 49   | 41   | 14   | 16    | 2.9  | 2.5   |
| 19    | 4.1   | 9.3   | 12    | 6.7   | 6.8   | 120  | 47   | 48   | 16   | 18    | 2.2  | 2.9   |
| 20    | 4.1   | 9.1   | 17    | 6.5   | 7.2   | 100  | 44   | 45   | 14   | 14    | 2.0  | 6.6   |
| 21    | 13    | 8.4   | 17    | 6.4   | 7.6   | 80   | 41   | 43   | 15   | 11    | 1.8  | 5.5   |
| 22    | 13    | 7.5   | 15    | 6.2   | 7.1   | 70   | 38   | 41   | 14   | 9.4   | 1.8  | 5.4   |
| 23    | 12    | 7.3   | 14    | 6.2   | 6.8   | 65   | 40   | 39   | 13   | 5.5   | 1.8  | 5.0   |
| 24    | 12    | 7.0   | 12    | 6.4   | 6.6   | 80   | 57   | 36   | 12   | 3.2   | 1.9  | 6.2   |
| 25    | 12    | 6.8   | 10    | 7.6   | 12    | 80   | 86   | 33   | 12   | 4.3   | 2.1  | 6.9   |
| 26    | 13    | 6.6   | 9.6   | 8.0   | 14    | 74   | 123  | 30   | 15   | 4.3   | 2.0  | 11    |
| 27    | 12    | 7.1   | 9.1   | 7.4   | 14    | 70   | 124  | 26   | 15   | 3.3   | 2.0  | 12    |
| 28    | 11    | 7.3   | 8.4   | 7.1   | 18    | 80   | 104  | 24   | 15   | 2.8   | 2.1  | 9.6   |
| 29    | 10    | 8.0   | 7.9   | 6.8   | ---   | 100  | 83   | 22   | 12   | 2.4   | 2.0  | 9.3   |
| 30    | 9.8   | 8.1   | 7.6   | 6.6   | ---   | 135  | 71   | 19   | 12   | 1.4   | 2.0  | 9.0   |
| 31    | 11    | ---   | 7.7   | 6.4   | ---   | 190  | ---  | 17   | ---  | 1.9   | 1.8  | ---   |
| TOTAL | 221.6 | 282.5 | 375.4 | 215.3 | 214.0 | 2901 | 2706 | 1274 | 446  | 239.3 | 83.3 | 121.6 |
| MEAN  | 7.15  | 9.42  | 12.1  | 6.95  | 7.64  | 93.6 | 90.2 | 41.1 | 14.9 | 7.72  | 2.69 | 4.05  |
| MAX   | 13    | 17    | 20    | 8.5   | 18    | 400  | 206  | 62   | 19   | 18    | 5.8  | 12    |
| MIN   | 1.7   | 6.6   | 6.1   | 5.1   | 5.8   | 16   | 38   | 17   | 11   | 1.4   | 1.8  | 1.4   |
| CFSM  | .39   | .52   | .67   | .38   | .42   | 5.14 | 4.96 | 2.26 | .82  | .42   | .15  | .22   |
| IN.   | .45   | .58   | .77   | .44   | .44   | 5.93 | 5.53 | 2.60 | .91  | .49   | .17  | .25   |

|             |       |         |      |      |     |     |     |     |      |      |    |       |
|-------------|-------|---------|------|------|-----|-----|-----|-----|------|------|----|-------|
| CAL YR 1976 | TOTAL | 10722.3 | MEAN | 29.3 | MAX | 212 | MIN | 1.7 | CFSM | 1.61 | IN | 21.92 |
| WTR YR 1977 | TOTAL | 9080.0  | MEAN | 24.9 | MAX | 400 | MIN | 1.4 | CFSM | 1.37 | IN | 18.56 |

NOTE.--No gage-height record Mar. 12-30.

## 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) above mean sea level. Prior to July 27, 1916, nonrecording gage at bridge at same datum.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by Lake Monomonac 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.--61 years, 142 ft<sup>3</sup>/s (4.021 m<sup>3</sup>/s), 23.23 in/yr (590 mm/yr).

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 (56.6 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.--Peak discharges above base of 690 ft<sup>3</sup>/s (19.5 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 15 | 1230 | *1410 39.9                                            | *10.05 3.063            | Apr. 26 | 1915 | 713 20.2                                              | 7.21 2.198              |
| Apr. 1  | 0430 | 972 27.5                                              | 8.22 2.505              |         |      |                                                       |                         |

Minimum daily discharge, 8.2 ft<sup>3</sup>/s (0.23 m<sup>3</sup>/s) Sept. 9-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC      | JAN      | FEB     | MAR       | APR      | MAY  | JUN  | JUL  | AUG   | SEP    |
|-------------|-------|---------|----------|----------|---------|-----------|----------|------|------|------|-------|--------|
| 1           | 39    | 71      | 27       | 21       | 25      | 104       | 950      | 276  | 75   | 78   | 23    | 9.1    |
| 2           | 35    | 59      | 26       | 20       | 25      | 101       | 817      | 189  | 76   | 70   | 24    | 8.6    |
| 3           | 30    | 63      | 23       | 19       | 24      | 98        | 676      | 165  | 75   | 64   | 21    | 9.5    |
| 4           | 27    | 95      | 23       | 19       | 24      | 94        | 582      | 184  | 78   | 63   | 27    | 10     |
| 5           | 25    | 93      | 22       | 19       | 24      | 136       | 593      | 167  | 71   | 61   | 16    | 9.5    |
| 6           | 25    | 87      | 21       | 18       | 23      | 140       | 682      | 160  | 66   | 57   | 13    | 9.1    |
| 7           | 27    | 89      | 123      | 19       | 23      | 123       | 642      | 145  | 65   | 49   | 15    | 9.1    |
| 8           | 49    | 82      | 199      | 22       | 23      | 116       | 553      | 133  | 84   | 36   | 15    | 8.6    |
| 9           | 95    | 73      | 130      | 24       | 23      | 126       | 462      | 143  | 67   | 32   | 14    | 8.2    |
| 10          | 121   | 71      | 110      | 25       | 24      | 181       | 390      | 296  | 61   | 28   | 25    | 8.2    |
| 11          | 93    | 70      | 94       | 29       | 25      | 277       | 344      | 381  | 70   | 24   | 35    | 8.2    |
| 12          | 84    | 66      | 85       | 35       | 25      | 332       | 311      | 390  | 66   | 23   | 21    | 8.2    |
| 13          | 78    | 63      | 76       | 34       | 26      | 550       | 290      | 365  | 57   | 22   | 17    | 8.2    |
| 14          | 84    | 42      | 70       | 32       | 27      | 1100      | 274      | 317  | 51   | 24   | 17    | 12     |
| 15          | 82    | 35      | 70       | 30       | 27      | 1400      | 242      | 260  | 45   | 21   | 21    | 13     |
| 16          | 76    | 32      | 67       | 28       | 27      | 1350      | 219      | 204  | 37   | 21   | 20    | 8.7    |
| 17          | 53    | 29      | 64       | 27       | 26      | 1150      | 202      | 172  | 29   | 42   | 19    | 11     |
| 18          | 31    | 30      | 62       | 27       | 26      | 910       | 184      | 165  | 35   | 42   | 17    | 12     |
| 19          | 26    | 31      | 59       | 27       | 26      | 720       | 158      | 233  | 56   | 35   | 15    | 18     |
| 20          | 26    | 34      | 65       | 25       | 28      | 570       | 138      | 208  | 56   | 40   | 14    | 22     |
| 21          | 109   | 30      | 72       | 25       | 30      | 475       | 128      | 197  | 64   | 42   | 12    | 61     |
| 22          | 99    | 28      | 62       | 25       | 29      | 394       | 118      | 182  | 57   | 56   | 13    | 64     |
| 23          | 78    | 26      | 59       | 24       | 29      | 408       | 140      | 160  | 51   | 36   | 13    | 49     |
| 24          | 66    | 26      | 37       | 25       | 28      | 425       | 356      | 140  | 43   | 23   | 13    | 56     |
| 25          | 70    | 25      | 31       | 26       | 35      | 365       | 676      | 124  | 39   | 29   | 14    | 77     |
| 26          | 73    | 23      | 30       | 27       | 49      | 350       | 702      | 95   | 51   | 30   | 12    | 99     |
| 27          | 70    | 25      | 27       | 27       | 89      | 325       | 653      | 91   | 53   | 24   | 13    | 170    |
| 28          | 57    | 25      | 25       | 27       | 105     | 340       | 523      | 104  | 48   | 20   | 12    | 117    |
| 29          | 49    | 30      | 24       | 27       | ---     | 486       | 412      | 98   | 59   | 17   | 10    | 85     |
| 30          | 46    | 31      | 23       | 26       | ---     | 645       | 336      | 90   | 89   | 15   | 9.5   | 69     |
| 31          | 54    | ---     | 23       | 26       | ---     | 870       | ---      | 84   | ---  | 14   | 9.1   | ---    |
| TOTAL       | 1877  | 1484    | 1829     | 785      | 895     | 14661     | 12753    | 5918 | 1774 | 1138 | 519.6 | 1058.2 |
| MEAN        | 60.5  | 49.5    | 59.0     | 25.3     | 32.0    | 473       | 425      | 191  | 59.1 | 36.7 | 16.8  | 35.3   |
| MAX         | 121   | 95      | 199      | 35       | 105     | 1400      | 950      | 390  | 89   | 78   | 35    | 170    |
| MIN         | 25    | 23      | 21       | 18       | 23      | 94        | 118      | 84   | 29   | 14   | 9.1   | 8.2    |
| CFSM        | .73   | .60     | .71      | .31      | .39     | 5.70      | 5.12     | 2.30 | .71  | .44  | .20   | .43    |
| IN.         | .84   | .67     | .82      | .35      | .40     | 6.57      | 5.72     | 2.65 | .80  | .51  | .23   | .47    |
| CAL YR 1976 | TOTAL | 57026.0 | MEAN 156 | MAX 1000 | MIN 15  | CFSM 1.88 | IN 25.56 |      |      |      |       |        |
| WTR YR 1977 | TOTAL | 44691.8 | MEAN 122 | MAX 1400 | MIN 8.2 | CFSM 1.47 | IN 20.03 |      |      |      |       |        |

## CONNECTICUT RIVER BASIN

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) above mean sea level. Prior to Sept. 11, 1936, nonrecording gage on left bank at same datum.

REMARKS.--Records good except those for winter period, which are fair. 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.--61 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 (17.6 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 (5.38 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 2345 | *664 18.8                                             | *6.01 1.832             | Apr. 25 | 1200 | 211 5.98                                              | 4.24 1.292              |
| Apr. 1  | 0230 | 288 8.16                                              | 4.63 1.411              |         |      |                                                       |                         |

Minimum discharge, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC       | JAN     | FEB     | MAR       | APR      | MAY    | JUN   | JUL   | AUG   | SEP   |
|-------------|-------|---------|-----------|---------|---------|-----------|----------|--------|-------|-------|-------|-------|
| 1           | 4.4   | 21      | 6.9       | 5.3     | 5.4     | 27        | 267      | 50     | 9.3   | 10    | 6.0   | 3.1   |
| 2           | 3.6   | 19      | 6.3       | 5.3     | 5.4     | 25        | 196      | 42     | 16    | 15    | 8.6   | 3.1   |
| 3           | 3.2   | 16      | 5.8       | 5.1     | 5.4     | 22        | 148      | 38     | 19    | 15    | 6.9   | 3.7   |
| 4           | 3.1   | 14      | 5.3       | 5.1     | 5.6     | 19        | 127      | 33     | 15    | 14    | 6.3   | 3.5   |
| 5           | 2.8   | 13      | 5.3       | 5.1     | 5.6     | 23        | 121      | 31     | 14    | 11    | 5.4   | 3.3   |
| 6           | 2.3   | 13      | 5.1       | 4.8     | 5.6     | 31        | 172      | 29     | 13    | 9.0   | 5.1   | 3.3   |
| 7           | 2.3   | 12      | 13        | 4.9     | 5.5     | 33        | 158      | 28     | 14    | 7.6   | 5.1   | 23    |
| 8           | 2.0   | 11      | 44        | 6.7     | 5.4     | 31        | 126      | 25     | 25    | 7.9   | 4.9   | 31    |
| 9           | 3.6   | 10      | 46        | 6.9     | 5.4     | 51        | 101      | 31     | 25    | 9.7   | 4.6   | 25    |
| 10          | 16    | 9.7     | 34        | 7.9     | 5.4     | 43        | 82       | 62     | 26    | 8.2   | 4.4   | 18    |
| 11          | 13    | 9.3     | 27        | 8.7     | 5.5     | 58        | 67       | 104    | 35    | 6.9   | 6.6   | 14    |
| 12          | 9.1   | 8.7     | 20        | 9.7     | 5.6     | 71        | 59       | 99     | 35    | 6.6   | 6.6   | 21    |
| 13          | 6.9   | 8.1     | 18        | 8.6     | 5.8     | 114       | 55       | 78     | 25    | 7.2   | 5.7   | 17    |
| 14          | 6.1   | 7.8     | 13        | 7.9     | 6.0     | 513       | 54       | 58     | 22    | 10    | 5.4   | 14    |
| 15          | 6.2   | 8.5     | 12        | 7.2     | 6.1     | 543       | 51       | 43     | 18    | 9.3   | 6.0   | 12    |
| 16          | 5.6   | 7.8     | 11        | 6.7     | 6.2     | 323       | 45       | 34     | 13    | 9.3   | 4.9   | 10    |
| 17          | 5.0   | 7.4     | 11        | 6.4     | 6.2     | 231       | 41       | 23     | 11    | 9.3   | 4.9   | 9.7   |
| 18          | 4.4   | 7.2     | 10        | 6.2     | 6.1     | 164       | 36       | 20     | 9.7   | 7.9   | 5.4   | 9.3   |
| 19          | 4.0   | 7.5     | 9.1       | 6.0     | 6.0     | 121       | 24       | 34     | 18    | 6.3   | 4.9   | 8.6   |
| 20          | 3.9   | 7.8     | 8.8       | 5.8     | 6.0     | 117       | 25       | 40     | 14    | 5.7   | 4.1   | 13    |
| 21          | 23    | 7.7     | 12        | 5.7     | 5.9     | 95        | 23       | 31     | 18    | 7.2   | 3.8   | 35    |
| 22          | 35    | 7.0     | 12        | 5.7     | 5.8     | 73        | 21       | 26     | 17    | 7.6   | 3.9   | 25    |
| 23          | 31    | 6.7     | 11        | 5.6     | 5.7     | 48        | 28       | 22     | 12    | 6.0   | 4.9   | 18    |
| 24          | 25    | 6.6     | 9.4       | 5.6     | 5.6     | 69        | 71       | 20     | 9.3   | 5.1   | 4.4   | 20    |
| 25          | 24    | 6.3     | 8.3       | 5.7     | 9.7     | 71        | 188      | 17     | 8.6   | 7.6   | 4.1   | 28    |
| 26          | 25    | 6.0     | 7.5       | 5.7     | 13      | 54        | 164      | 14     | 14    | 11    | 4.1   | 31    |
| 27          | 25    | 6.1     | 7.3       | 5.7     | 16      | 54        | 153      | 12     | 16    | 7.2   | 3.7   | 57    |
| 28          | 20    | 6.4     | 6.4       | 5.6     | 21      | 62        | 121      | 11     | 15    | 5.7   | 3.7   | 63    |
| 29          | 17    | 7.4     | 6.3       | 5.5     | ---     | 93        | 95       | 9.3    | 11    | 5.1   | 3.5   | 57    |
| 30          | 15    | 8.2     | 6.1       | 5.4     | ---     | 165       | 69       | 9.3    | 11    | 5.7   | 3.1   | 37    |
| 31          | 15    | ---     | 5.7       | 5.4     | ---     | 261       | ---      | 9.3    | ---   | 5.7   | 3.1   | ---   |
| TOTAL       | 362.5 | 287.2   | 403.6     | 191.9   | 196.9   | 3605      | 2888     | 1082.9 | 508.9 | 259.8 | 154.1 | 616.6 |
| MEAN        | 11.7  | 9.57    | 13.0      | 6.19    | 7.03    | 116       | 96.3     | 34.9   | 17.0  | 8.38  | 4.97  | 20.6  |
| MAX         | 35    | 21      | 46        | 9.7     | 21      | 543       | 267      | 104    | 35    | 15    | 8.6   | 63    |
| MIN         | 2.0   | 6.0     | 5.1       | 4.8     | 5.4     | 19        | 21       | 9.3    | 8.6   | 5.1   | 3.1   | 3.1   |
| CFSM        | .60   | .49     | .67       | .32     | .36     | 5.98      | 4.96     | 1.80   | .88   | .43   | .26   | 1.06  |
| IN.         | .70   | .55     | .77       | .37     | .38     | 6.91      | 5.54     | 2.08   | .98   | .50   | .30   | 1.18  |
| CAL YR 1976 | TOTAL | 11570.2 | MEAN 31.6 | MAX 285 | MIN 1.6 | CFSM 1.63 | IN 22.19 |        |       |       |       |       |
| WTR YR 1977 | TOTAL | 10557.4 | MEAN 28.9 | MAX 543 | MIN 2.0 | CFSM 1.49 | IN 20.24 |        |       |       |       |       |



## 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 and period of no gage-height record, which are fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--12 years (water years 1966-77), 59.9 ft<sup>3</sup>/s (1.696 m<sup>3</sup>/s), 23.79 in/yr (604 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 738 ft<sup>3</sup>/s (20.9 m<sup>3</sup>/s) Mar. 14, 1977, gage height, 4.48 ft (1.366 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, 738 ft<sup>3</sup>/s (20.9 m<sup>3</sup>/s) Mar. 14; gage height, 4.48 ft (1.366 m); minimum discharge, 8.9 ft<sup>3</sup>/s (0.25 m<sup>3</sup>/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1     | 11    | 36   | 17   | 13   | 13   | 40   | 322  | 70   | 17   | 25   | 15   | 13   |
| 2     | 11    | 35   | 19   | 12   | 13   | 38   | 251  | 59   | 28   | 24   | 32   | 13   |
| 3     | 16    | 32   | 17   | 13   | 13   | 35   | 199  | 57   | 35   | 21   | 48   | 16   |
| 4     | 11    | 29   | 15   | 14   | 13   | 32   | 174  | 55   | 33   | 18   | 53   | 19   |
| 5     | 9.4   | 28   | 14   | 14   | 13   | 50   | 158  | 54   | 28   | 16   | 46   | 17   |
| 6     | 9.1   | 27   | 13   | 15   | 13   | 84   | 196  | 53   | 24   | 18   | 40   | 15   |
| 7     | 9.2   | 24   | 40   | 16   | 13   | 78   | 205  | 46   | 23   | 17   | 35   | 14   |
| 8     | 9.5   | 23   | 98   | 20   | 13   | 70   | 174  | 40   | 30   | 19   | 31   | 13   |
| 9     | 15    | 20   | 55   | 17   | 13   | 68   | 142  | 48   | 32   | 22   | 28   | 12   |
| 10    | 44    | 20   | 40   | 20   | 13   | 80   | 112  | 102  | 37   | 21   | 25   | 13   |
| 11    | 42    | 19   | 33   | 24   | 13   | 100  | 92   | 169  | 45   | 18   | 26   | 14   |
| 12    | 33    | 19   | 29   | 20   | 13   | 140  | 82   | 192  | 45   | 22   | 25   | 13   |
| 13    | 26    | 18   | 24   | 18   | 13   | 180  | 75   | 175  | 40   | 25   | 23   | 14   |
| 14    | 22    | 17   | 20   | 17   | 14   | 514  | 72   | 145  | 33   | 24   | 22   | 16   |
| 15    | 23    | 17   | 19   | 16   | 14   | 684  | 66   | 112  | 29   | 21   | 20   | 18   |
| 16    | 24    | 17   | 20   | 15   | 14   | 510  | 60   | 86   | 24   | 18   | 18   | 20   |
| 17    | 17    | 16   | 19   | 15   | 14   | 360  | 55   | 71   | 21   | 16   | 19   | 22   |
| 18    | 14    | 16   | 18   | 15   | 14   | 269  | 50   | 64   | 21   | 20   | 19   | 21   |
| 19    | 14    | 16   | 18   | 14   | 14   | 205  | 48   | 63   | 27   | 18   | 18   | 25   |
| 20    | 14    | 16   | 26   | 14   | 14   | 162  | 45   | 63   | 30   | 16   | 17   | 30   |
| 21    | 51    | 17   | 21   | 13   | 13   | 135  | 44   | 58   | 35   | 18   | 16   | 55   |
| 22    | 63    | 16   | 19   | 13   | 13   | 120  | 43   | 49   | 30   | 20   | 17   | 55   |
| 23    | 55    | 16   | 16   | 13   | 13   | 87   | 49   | 42   | 25   | 17   | 22   | 45   |
| 24    | 43    | 15   | 15   | 13   | 13   | 148  | 98   | 36   | 23   | 15   | 24   | 39   |
| 25    | 39    | 15   | 14   | 14   | 43   | 120  | 237  | 35   | 19   | 17   | 21   | 44   |
| 26    | 39    | 14   | 15   | 14   | 50   | 110  | 251  | 31   | 22   | 35   | 16   | 55   |
| 27    | 40    | 14   | 15   | 14   | 35   | 102  | 192  | 31   | 25   | 37   | 17   | 90   |
| 28    | 36    | 14   | 14   | 13   | 37   | 105  | 145  | 27   | 23   | 32   | 17   | 94   |
| 29    | 32    | 14   | 13   | 13   | ---  | 128  | 107  | 23   | 22   | 25   | 17   | 78   |
| 30    | 28    | 15   | 13   | 13   | ---  | 233  | 84   | 20   | 24   | 19   | 16   | 60   |
| 31    | 30    | ---  | 13   | 13   | ---  | 320  | ---  | 18   | ---  | 15   | 14   | ---  |
| TOTAL | 830.2 | 595  | 722  | 468  | 484  | 5307 | 3828 | 2094 | 850  | 649  | 757  | 953  |
| MEAN  | 26.8  | 19.8 | 23.3 | 15.1 | 17.3 | 171  | 128  | 67.5 | 28.3 | 20.9 | 24.4 | 31.8 |
| MAX   | 63    | 36   | 98   | 24   | 50   | 684  | 322  | 192  | 45   | 37   | 53   | 94   |
| MIN   | 9.1   | 14   | 13   | 12   | 13   | 32   | 43   | 18   | 17   | 15   | 14   | 12   |
| CFSM  | .78   | .58  | .68  | .44  | .51  | 5.00 | 3.74 | 1.97 | .83  | .61  | .71  | .93  |
| IN.   | .90   | .65  | .79  | .51  | .53  | 5.77 | 4.16 | 2.28 | .92  | .71  | .82  | 1.04 |

CAL YR 1976 TOTAL 21024.2 MEAN 57.4 MAX 492 MIN 7.9 CFSM 1.68 IN 22.87  
WTR YR 1977 TOTAL 17537.2 MEAN 48.0 MAX 684 MIN 9.1 CFSM 1.40 IN 19.07

NOTE.--No gage-height record Aug. 26 to Sept. 22.

## CONNECTICUT RIVER BASIN

## 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) above mean sea level (levels by Corps of Engineers).

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by Lake Monomonac 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 were made during the year.

AVERAGE DISCHARGE.--38 years, 318 ft<sup>3</sup>/s (9.006 m<sup>3</sup>/s), 23.09 in/yr (586 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, 2,370 ft<sup>3</sup>/s (67.1 m<sup>3</sup>/s) Mar. 16, gage height, 7.42 ft (2.262 m); minimum daily discharge, 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s) Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR       | APR       | MAY        | JUN        | JUL       | AUG       | SEP  |
|-------------|-------|--------|----------|----------|--------|-----------|-----------|------------|------------|-----------|-----------|------|
| 1           | 88    | 211    | 97       | 70       | 77     | 275       | 1770      | 647        | 155        | 162       | 66        | 41   |
| 2           | 89    | 197    | 96       | 69       | 75     | 272       | 1790      | 530        | 190        | 148       | 107       | 40   |
| 3           | 83    | 175    | 99       | 69       | 73     | 255       | 1680      | 415        | 192        | 136       | 114       | 41   |
| 4           | 76    | 191    | 99       | 70       | 75     | 238       | 1480      | 424        | 196        | 126       | 119       | 49   |
| 5           | 67    | 204    | 94       | 70       | 76     | 312       | 1280      | 404        | 173        | 121       | 109       | 48   |
| 6           | 66    | 191    | 88       | 68       | 76     | 407       | 1450      | 391        | 155        | 115       | 91        | 47   |
| 7           | 64    | 187    | 165      | 66       | 75     | 387       | 1470      | 364        | 152        | 107       | 83        | 49   |
| 8           | 73    | 177    | 516      | 76       | 75     | 355       | 1300      | 329        | 217        | 93        | 80        | 68   |
| 9           | 140   | 162    | 540      | 88       | 74     | 363       | 1090      | 341        | 215        | 106       | 78        | 64   |
| 10          | 246   | 154    | 435      | 80       | 74     | 476       | 912       | 574        | 209        | 94        | 75        | 57   |
| 11          | 224   | 154    | 296      | 120      | 76     | 644       | 773       | 838        | 237        | 81        | 102       | 52   |
| 12          | 183   | 146    | 230      | 125      | 79     | 783       | 674       | 933        | 245        | 75        | 95        | 51   |
| 13          | 156   | 140    | 205      | 105      | 80     | 998       | 613       | 906        | 206        | 82        | 86        | 52   |
| 14          | 150   | 127    | 180      | 96       | 83     | 857       | 573       | 795        | 172        | 90        | 81        | 52   |
| 15          | 146   | 113    | 165      | 94       | 80     | 1230      | 535       | 652        | 153        | 87        | 94        | 50   |
| 16          | 148   | 109    | 155      | 90       | 79     | 2030      | 486       | 526        | 130        | 81        | 81        | 50   |
| 17          | 124   | 103    | 149      | 84       | 78     | 2320      | 445       | 438        | 108        | 85        | 78        | 52   |
| 18          | 92    | 102    | 146      | 79       | 79     | 2120      | 412       | 383        | 104        | 100       | 87        | 58   |
| 19          | 78    | 104    | 135      | 78       | 77     | 1950      | 373       | 428        | 158        | 86        | 76        | 64   |
| 20          | 77    | 111    | 139      | 78       | 74     | 1970      | 337       | 450        | 156        | 81        | 68        | 86   |
| 21          | 246   | 106    | 170      | 76       | 82     | 2120      | 314       | 414        | 178        | 85        | 64        | 158  |
| 22          | 328   | 100    | 150      | 74       | 86     | 1900      | 299       | 379        | 169        | 98        | 61        | 187  |
| 23          | 279   | 97     | 130      | 71       | 82     | 1570      | 320       | 336        | 142        | 88        | 67        | 154  |
| 24          | 225   | 93     | 115      | 72       | 78     | 1600      | 588       | 301        | 123        | 70        | 67        | 144  |
| 25          | 211   | 91     | 100      | 73       | 160    | 1230      | 952       | 274        | 108        | 77        | 67        | 184  |
| 26          | 221   | 88     | 90       | 80       | 220    | 847       | 1510      | 235        | 126        | 126       | 63        | 220  |
| 27          | 222   | 90     | 83       | 81       | 250    | 735       | 1580      | 200        | 138        | 110       | 59        | 345  |
| 28          | 194   | 95     | 79       | 80       | 264    | 746       | 1390      | 207        | 130        | 92        | 54        | 359  |
| 29          | 169   | 104    | 76       | 82       | ---    | 955       | 1070      | 197        | 123        | 82        | 50        | 316  |
| 30          | 153   | 112    | 74       | 82       | ---    | 1350      | 823       | 184        | 176        | 69        | 46        | 249  |
| 31          | 160   | ---    | 72       | 80       | ---    | 1680      | ---       | 171        | ---        | 63        | 43        | ---  |
| TOTAL       | 4778  | 4034   | 5168     | 2526     | 2757   | 32975     | 28289     | 13666      | 4936       | 3016      | 2411      | 3387 |
| MEAN        | 154   | 134    | 167      | 81.5     | 98.5   | 1064      | 943       | 441        | 165        | 97.3      | 77.8      | 113  |
| MAX         | 328   | 211    | 540      | 125      | 264    | 2320      | 1790      | 933        | 245        | 162       | 119       | 359  |
| MIN         | 64    | 88     | 72       | 66       | 73     | 238       | 299       | 171        | 104        | 63        | 43        | 40   |
| MEAN†       | 154   | 134    | 167      | 81.7     | 99.0   | 1080      | 931       | 436        | 165        | 96.7      | 77.8      | 114  |
| CFSM†       | .82   | .72    | .89      | .44      | .53    | 5.78      | 4.98      | 2.33       | .88        | .52       | .42       | .61  |
| IN.†        | .95   | .80    | 1.03     | .50      | .55    | 6.66      | 5.56      | 2.69       | .98        | .60       | .48       | .68  |
| CAL YR 1976 | TOTAL | 136134 | MEAN 372 | MAX 1980 | MIN 48 |           |           |            |            |           |           |      |
| WTR YR 1977 | TOTAL | 107943 | MEAN 296 | MAX 2320 | MIN 40 | MEAN† 372 | MEAN† 296 | CFSM† 1.99 | CFSM† 1.58 | IN† 27.07 | IN† 21.48 |      |

† Adjusted for change in contents in Birch Hill Reservoir.

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) above mean sea level (Corps of Engineers bench mark). 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.--62 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 (42.5 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. 22, gage height, 4.79 ft (1.460 m); minimum, 7.7 ft<sup>3</sup>/s (0.22 m<sup>3</sup>/s) Sept. 12-14; minimum daily, 7.7 ft<sup>3</sup>/s (0.22 m<sup>3</sup>/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV  | DEC  | JAN       | FEB     | MAR     | APR        | MAY        | JUN       | JUL  | AUG   | SEP   |
|-------------------|---------|------|------|-----------|---------|---------|------------|------------|-----------|------|-------|-------|
| 1                 | 13      | 36   | 18   | 15        | 12      | 66      | 530        | 90         | 14        | 44   | 15    | 9.7   |
| 2                 | 13      | 36   | 18   | 15        | 12      | 66      | 415        | 130        | 14        | 44   | 14    | 9.7   |
| 3                 | 13      | 36   | 18   | 15        | 12      | 66      | 459        | 130        | 14        | 44   | 11    | 9.7   |
| 4                 | 13      | 36   | 18   | 15        | 12      | 64      | 336        | 126        | 35        | 44   | 10    | 9.7   |
| 5                 | 13      | 36   | 18   | 15        | 26      | 64      | 333        | 127        | 45        | 25   | 10    | 9.7   |
| 6                 | 13      | 36   | 18   | 15        | 33      | 66      | 338        | 115        | 46        | 15   | 10    | 9.7   |
| 7                 | 13      | 26   | 18   | 15        | 33      | 66      | 362        | 96         | 46        | 15   | 10    | 9.7   |
| 8                 | 13      | 21   | 29   | 15        | 25      | 67      | 382        | 59         | 46        | 16   | 10    | 9.7   |
| 9                 | 13      | 21   | 83   | 15        | 21      | 95      | 283        | 44         | 46        | 16   | 10    | 9.7   |
| 10                | 13      | 21   | 104  | 15        | 16      | 107     | 238        | 137        | 130       | 16   | 11    | 9.7   |
| 11                | 13      | 21   | 102  | 14        | 11      | 123     | 97         | 295        | 121       | 16   | 9.8   | 10    |
| 12                | 13      | 30   | 99   | 14        | 11      | 152     | 16         | 343        | 77        | 16   | 10    | 8.8   |
| 13                | 13      | 36   | 74   | 27        | 11      | 178     | 127        | 235        | 16        | 15   | 11    | 7.7   |
| 14                | 13      | 35   | 64   | 35        | 11      | 101     | 191        | 181        | 17        | 15   | 11    | 8.0   |
| 15                | 13      | 35   | 42   | 35        | 11      | 157     | 188        | 156        | 17        | 15   | 11    | 8.5   |
| 16                | 13      | 35   | 33   | 35        | 11      | 292     | 127        | 91         | 36        | 15   | 11    | 8.8   |
| 17                | 13      | 35   | 24   | 33        | 11      | 397     | 92         | 91         | 45        | 15   | 11    | 10    |
| 18                | 13      | 33   | 15   | 33        | 11      | 399     | 92         | 91         | 45        | 15   | 11    | 10    |
| 19                | 32      | 26   | 15   | 19        | 11      | 397     | 91         | 91         | 45        | 15   | 11    | 10    |
| 20                | 56      | 21   | 15   | 12        | 11      | 393     | 91         | 91         | 45        | 15   | 11    | 10    |
| 21                | 74      | 21   | 15   | 12        | 11      | 424     | 91         | 91         | 46        | 15   | 10    | 10    |
| 22                | 129     | 18   | 15   | 12        | 11      | 448     | 70         | 90         | 116       | 15   | 9.9   | 10    |
| 23                | 151     | 17   | 27   | 12        | 12      | 457     | 46         | 43         | 68        | 15   | 9.7   | 10    |
| 24                | 151     | 17   | 35   | 12        | 12      | 549     | 114        | 18         | 18        | 15   | 9.7   | 10    |
| 25                | 148     | 17   | 35   | 12        | 27      | 597     | 331        | 18         | 18        | 15   | 9.7   | 10    |
| 26                | 116     | 17   | 35   | 12        | 35      | 528     | 442        | 34         | 18        | 15   | 9.7   | 10    |
| 27                | 66      | 17   | 35   | 12        | 35      | 268     | 443        | 43         | 18        | 15   | 9.7   | 11    |
| 28                | 66      | 17   | 26   | 12        | 56      | 16      | 366        | 43         | 18        | 15   | 9.7   | 124   |
| 29                | 54      | 17   | 14   | 12        | ---     | 204     | 173        | 43         | 34        | 15   | 9.7   | 178   |
| 30                | 35      | 18   | 14   | 12        | ---     | 401     | 45         | 23         | 45        | 15   | 9.7   | 123   |
| 31                | 35      | ---  | 14   | 12        | ---     | 531     | ---        | 13         | ---       | 15   | 9.7   | ---   |
| TOTAL             | 1347    | 788  | 1090 | 539       | 511     | 7739    | 6909       | 3180       | 1299      | 596  | 326.0 | 684.8 |
| MEAN              | 43.5    | 26.3 | 35.2 | 17.4      | 18.3    | 250     | 230        | 103        | 43.3      | 19.2 | 10.5  | 22.8  |
| MAX               | 151     | 36   | 104  | 35        | 56      | 597     | 530        | 343        | 130       | 44   | 15    | 178   |
| MIN               | 13      | 17   | 14   | 12        | 11      | 16      | 16         | 13         | 14        | 15   | 9.7   | 7.7   |
| MEAN†             | 31.7    | 25.7 | 35.5 | 17.8      | 19.6    | 272     | 221        | 101        | 45.4      | 149  | 12.0  | 24.1  |
| CFSM†             | .63     | .51  | .70  | .35       | .39     | 5.40    | 4.38       | 2.00       | .90       | .30  | .24   | .48   |
| IN.†              | .72     | .57  | .81  | .41       | .41     | 6.23    | 4.89       | 2.31       | 1.01      | .34  | .27   | .53   |
| CAL YR 1976 TOTAL | 29650.2 |      |      | MEAN 81.0 | MAX 549 | MIN 3.2 |            |            |           |      |       |       |
| WTR YR 1977 TOTAL | 25008.8 |      |      | MEAN 68.5 | MAX 597 | MIN 7.7 | MEAN† 80.9 | CFSM† 1.61 | IN† 21.85 |      |       |       |
|                   |         |      |      |           |         |         | MEAN† 68.7 | CFSM† 1.36 | IN† 18.51 |      |       |       |

† Adjusted for change in contents in Tully Reservoir.

## CONNECTICUT RIVER BASIN

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 503.32 ft (153.412 m) above mean sea level.

REMARKS.--Records good. Flow regulated by Lake Rohunta. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--12 years (water years 1966-77), 35.1 ft<sup>3</sup>/s (0.994 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 496 ft<sup>3</sup>/s (14.0 m<sup>3</sup>/s) June 29, 1972, gage height, 5.52 ft (1.682 m), from rating curve extended above 240 ft<sup>3</sup>/s (6.80 m<sup>3</sup>/s); minimum daily, 0.17 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) June 3, 4, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 393 ft<sup>3</sup>/s (11.1 m<sup>3</sup>/s) Mar. 15, gage height, 4.57 ft (1.393 m); minimum daily, 0.24 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s) June 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV      | DEC   | JAN   | FEB   | MAR  | APR  | MAY     | JUN    | JUL   | AUG   | SEP   |
|-------------|-------|----------|-------|-------|-------|------|------|---------|--------|-------|-------|-------|
| 1           | 6.4   | 23       | 10    | 11    | 9.2   | 26   | 160  | 67      | 12     | 13    | 7.2   | 4.0   |
| 2           | 5.7   | 21       | 9.5   | 10    | 8.9   | 23   | 131  | 26      | 8.2    | 10    | 20    | 4.0   |
| 3           | 6.8   | 18       | 9.5   | 10    | 8.5   | 19   | 109  | 4.2     | .24    | 8.5   | 23    | 4.2   |
| 4           | 12    | 15       | 7.5   | 10    | 9.8   | 20   | 99   | .56     | .24    | 8.2   | 21    | 3.7   |
| 5           | 16    | 13       | 7.9   | 10    | 10    | 35   | 102  | 8.2     | .25    | 9.2   | 17    | 3.7   |
| 6           | 18    | 13       | 7.9   | 9.8   | 11    | 40   | 127  | 26      | .29    | 12    | 15    | 3.7   |
| 7           | 19    | 12       | 18    | 12    | 10    | 42   | 126  | 34      | 14     | 11    | 15    | 2.9   |
| 8           | 17    | 9.7      | 40    | 15    | 9.8   | 40   | 107  | 38      | 39     | 12    | 16    | 2.5   |
| 9           | 23    | 11       | 48    | 14    | 9.2   | 40   | 90   | 43      | 33     | 13    | 15    | 2.5   |
| 10          | 21    | 11       | 42    | 15    | 8.9   | 45   | 78   | 72      | 30     | 12    | 13    | 2.1   |
| 11          | 18    | 11       | 34    | 17    | 8.9   | 56   | 76   | 103     | 30     | 11    | 17    | 2.0   |
| 12          | 17    | 10       | 28    | 14    | 8.9   | 70   | 62   | 117     | 29     | 16    | 16    | 1.9   |
| 13          | 16    | 9.7      | 24    | 4.5   | 8.9   | 108  | 58   | 106     | 27     | 23    | 17    | 2.0   |
| 14          | 13    | 9.3      | 20    | 12    | 8.9   | 311  | 50   | 91      | 25     | 28    | 17    | 3.0   |
| 15          | 13    | 9.2      | 17    | 12    | 9.5   | 370  | 47   | 77      | 21     | 27    | 15    | 2.0   |
| 16          | 9.2   | 8.8      | 16    | 1.8   | 9.8   | 283  | 45   | 94      | 19     | 21    | 13    | 2.4   |
| 17          | 8.7   | 8.6      | 16    | 12    | 9.5   | 211  | 44   | 73      | 17     | 17    | 13    | 3.9   |
| 18          | 7.2   | 8.2      | 16    | 12    | 9.5   | 160  | 42   | 60      | 16     | 13    | 13    | 4.0   |
| 19          | 7.1   | 8.2      | 14    | 11    | 9.2   | 128  | 40   | 54      | 20     | 11    | 12    | 6.4   |
| 20          | 6.9   | 7.9      | 14    | 10    | 9.2   | 103  | 39   | 54      | 20     | 10    | 10    | 10    |
| 21          | 30    | 8.6      | 18    | 10    | 10    | 90   | 36   | 51      | 28     | 9.2   | 9.5   | 16    |
| 22          | 35    | 8.8      | 18    | 10    | 11    | 85   | 33   | 56      | 34     | 7.2   | 13    | 17    |
| 23          | 29    | 8.5      | 17    | 9.5   | 10    | 112  | 43   | 55      | 32     | 6.1   | 13    | 15    |
| 24          | 25    | 8.1      | 15    | 9.2   | 9.5   | 117  | 74   | 38      | 29     | 6.7   | 12    | 16    |
| 25          | 23    | 7.6      | 14    | 9.8   | 16    | 100  | 156  | 29      | 22     | 9.2   | 10    | 19    |
| 26          | 24    | 7.8      | 14    | 10    | 20    | 88   | 194  | 21      | 19     | 9.2   | 9.8   | 30    |
| 27          | 22    | 9.5      | 14    | 10    | 23    | 84   | 158  | 19      | 17     | 7.2   | 8.5   | 45    |
| 28          | 20    | 8.4      | 12    | 9.8   | 27    | 85   | 117  | 17      | 16     | 6.7   | 6.7   | 47    |
| 29          | 18    | 9.3      | 13    | 11    | ---   | 106  | 90   | 14      | 14     | 5.1   | 5.9   | 40    |
| 30          | 18    | 11       | 13    | 10    | ---   | 155  | 76   | 14      | 13     | 4.5   | 4.5   | 34    |
| 31          | 20    | ---      | 12    | 9.5   | ---   | 172  | ---  | 13      | ---    | 4.5   | 4.0   | ---   |
| TOTAL       | 525.0 | 325.2    | 559.3 | 331.9 | 314.1 | 3324 | 2609 | 1474.96 | 585.22 | 361.5 | 402.1 | 349.9 |
| MEAN        | 16.9  | 10.8     | 18.0  | 10.7  | 11.2  | 107  | 87.0 | 47.6    | 19.5   | 11.7  | 13.0  | 11.7  |
| MAX         | 35    | 23       | 48    | 17    | 27    | 370  | 194  | 117     | 39     | 28    | 23    | 47    |
| MIN         | 5.7   | 7.6      | 7.5   | 1.8   | 8.5   | 19   | 33   | .56     | .24    | 4.5   | 4.0   | 1.9   |
| CAL YR 1976 | TOTAL | 13293.35 | MEAN  | 36.3  | MAX   | 267  | MIN  | .35     |        |       |       |       |
| WTR YR 1977 | TOTAL | 11162.18 | MEAN  | 30.6  | MAX   | 370  | MIN  | .24     |        |       |       |       |

## 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) above mean sea level. 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 fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--61 years (water years 1917-77), 20.1 ft<sup>3</sup>/s (0.569 m<sup>3</sup>/s), 22.19 in/yr (564 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 (11.3 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 (4.53 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 0315 | *474 13.4                                             | *4.35 1.326             | Apr. 25 | 1000 | 165 4.67                                              | 3.21 0.978              |
| Mar. 31 | 0145 | 161 4.56                                              | 3.38 1.030              |         |      |                                                       |                         |

Minimum discharge, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|
| 1     | 2.7   | 11    | 5.6   | 4.0   | 3.6   | 16   | 97   | 22    | 4.1   | 7.2   | 4.3   | 1.5   |
| 2     | 2.6   | 11    | 5.2   | 3.9   | 3.6   | 15   | 63   | 21    | 9.5   | 5.6   | 8.4   | 1.7   |
| 3     | 2.5   | 9.1   | 5.1   | 3.7   | 3.6   | 14   | 56   | 21    | 13    | 4.3   | 4.7   | 1.7   |
| 4     | 2.4   | 8.1   | 4.9   | 3.7   | 3.7   | 12   | 55   | 18    | 9.7   | 3.5   | 3.3   | 2.0   |
| 5     | 2.2   | 7.8   | 4.6   | 3.6   | 3.7   | 22   | 75   | 17    | 7.2   | 3.3   | 2.9   | 2.1   |
| 6     | 2.2   | 9.6   | 4.4   | 3.5   | 3.7   | 27   | 133  | 17    | 5.8   | 3.1   | 3.5   | 2.6   |
| 7     | 2.2   | 9.9   | 26    | 3.6   | 3.7   | 28   | 85   | 16    | 8.9   | 2.8   | 3.1   | 2.1   |
| 8     | 2.2   | 8.8   | 38    | 3.9   | 3.7   | 25   | 58   | 14    | 17    | 3.5   | 2.7   | 1.8   |
| 9     | 12    | 7.6   | 20    | 4.7   | 3.7   | 24   | 44   | 26    | 14    | 5.4   | 2.4   | 1.6   |
| 10    | 21    | 6.8   | 14    | 5.2   | 3.7   | 29   | 37   | 113   | 16    | 4.1   | 2.7   | 1.5   |
| 11    | 12    | 6.7   | 12    | 6.0   | 3.7   | 39   | 32   | 101   | 15    | 3.3   | 8.1   | 1.8   |
| 12    | 7.6   | 6.2   | 10    | 6.6   | 3.7   | 55   | 30   | 55    | 12    | 3.4   | 6.7   | 1.5   |
| 13    | 5.9   | 5.8   | 9.0   | 6.0   | 4.1   | 131  | 28   | 37    | 9.5   | 6.5   | 6.1   | 1.6   |
| 14    | 5.9   | 5.8   | 8.5   | 5.2   | 4.6   | 379  | 28   | 28    | 7.4   | 8.1   | 5.5   | 2.5   |
| 15    | 5.6   | 5.8   | 7.8   | 4.7   | 4.4   | 203  | 23   | 23    | 6.3   | 5.2   | 7.6   | 2.7   |
| 16    | 4.4   | 5.8   | 7.2   | 4.5   | 4.4   | 121  | 20   | 20    | 5.1   | 3.9   | 5.2   | 2.1   |
| 17    | 3.9   | 5.5   | 6.6   | 4.4   | 4.1   | 96   | 18   | 17    | 4.4   | 3.3   | 4.6   | 3.5   |
| 18    | 3.6   | 5.2   | 6.2   | 4.3   | 4.0   | 60   | 16   | 16    | 14    | 2.7   | 5.5   | 3.9   |
| 19    | 3.3   | 5.2   | 6.0   | 4.3   | 4.0   | 46   | 16   | 19    | 41    | 2.3   | 4.3   | 4.6   |
| 20    | 3.6   | 5.2   | 5.6   | 4.2   | 4.0   | 44   | 14   | 19    | 22    | 2.0   | 3.3   | 9.5   |
| 21    | 21    | 5.1   | 7.8   | 4.1   | 4.0   | 38   | 13   | 16    | 18    | 1.7   | 6.3   | 16    |
| 22    | 20    | 4.7   | 7.7   | 4.1   | 4.0   | 34   | 13   | 14    | 13    | 1.6   | 5.7   | 10    |
| 23    | 12    | 4.7   | 6.4   | 3.9   | 3.9   | 44   | 18   | 11    | 9.2   | 1.3   | 5.8   | 6.7   |
| 24    | 8.6   | 4.7   | 5.8   | 3.9   | 3.9   | 52   | 76   | 9.7   | 7.2   | 1.2   | 3.3   | 7.4   |
| 25    | 9.4   | 4.6   | 5.4   | 3.9   | 10    | 39   | 144  | 8.4   | 6.3   | 6.1   | 3.2   | 13    |
| 26    | 12    | 4.8   | 5.0   | 3.9   | 20    | 32   | 83   | 7.2   | 12    | 7.2   | 2.8   | 24    |
| 27    | 12    | 4.7   | 4.8   | 3.9   | 15    | 33   | 52   | 6.3   | 14    | 3.7   | 2.3   | 60    |
| 28    | 9.8   | 4.7   | 4.5   | 3.8   | 17    | 41   | 40   | 5.4   | 10    | 2.6   | 1.9   | 36    |
| 29    | 8.4   | 5.8   | 4.4   | 3.6   | ---   | 96   | 32   | 4.7   | 8.4   | 2.5   | 1.7   | 18    |
| 30    | 7.4   | 6.0   | 4.2   | 3.6   | ---   | 151  | 26   | 4.1   | 9.5   | 1.8   | 1.6   | 12    |
| 31    | 8.4   | ---   | 4.1   | 3.6   | ---   | 144  | ---  | 3.9   | ---   | 1.7   | 1.5   | ---   |
| TOTAL | 236.8 | 196.7 | 266.8 | 132.3 | 155.5 | 2090 | 1425 | 710.7 | 349.5 | 114.9 | 131.0 | 255.4 |
| MEAN  | 7.64  | 6.56  | 8.61  | 4.27  | 5.55  | 67.4 | 47.5 | 22.9  | 11.7  | 3.71  | 4.23  | 8.51  |
| MAX   | 21    | 11    | 38    | 6.6   | 20    | 379  | 144  | 113   | 41    | 8.1   | 8.4   | 60    |
| MIN   | 2.2   | 4.6   | 4.1   | 3.5   | 3.6   | 12   | 13   | 3.9   | 4.1   | 1.2   | 1.5   | 1.5   |
| CFSM  | .62   | .53   | .70   | .35   | .45   | 5.48 | 3.86 | 1.86  | .95   | .30   | .34   | .69   |
| IN.   | .72   | .59   | .81   | .40   | .47   | 6.32 | 4.31 | 2.15  | 1.06  | .35   | .40   | .77   |

CAL YR 1976 TOTAL 7047.0 MEAN 19.3 MAX 260 MIN 1.1 CFSM 1.57 IN 21.31  
WTR YR 1977 TOTAL 6064.6 MEAN 16.6 MAX 379 MIN 1.2 CFSM 1.35 IN 18.34

NOTE.--No gage-height record Dec. 15 to Jan. 24.



## CONNECTICUT RIVER BASIN

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 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 and period of no gage-height record, which are fair. Flow regulated by powerplants, Lake Monomonic 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.--63 years, 623 ft<sup>3</sup>/s (17.64 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, 5,640 ft<sup>3</sup>/s (160 m<sup>3</sup>/s) Mar. 14, gage height, 7.05 ft (2.149 m); minimum daily, 55 ft<sup>3</sup>/s (1.56 m<sup>3</sup>/s) Sept. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN  | FEB  | MAR    | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|--------|----------|------|------|--------|-------|-------|------|------|------|------|
| 1           | 143   | 382    | 185      | 135  | 135  | 520    | 3400  | 1000  | 250  | 277  | 136  | 57   |
| 2           | 128   | 356    | 152      | 130  | 135  | 500    | 2900  | 860   | 307  | 244  | 194  | 124  |
| 3           | 131   | 318    | 111      | 130  | 130  | 470    | 2700  | 806   | 335  | 233  | 198  | 55   |
| 4           | 164   | 305    | 170      | 130  | 135  | 450    | 2400  | 755   | 294  | 221  | 189  | 55   |
| 5           | 129   | 320    | 170      | 130  | 150  | 700    | 2400  | 744   | 291  | 229  | 182  | 73   |
| 6           | 109   | 319    | 160      | 125  | 160  | 800    | 3200  | 735   | 241  | 205  | 147  | 121  |
| 7           | 124   | 312    | 397      | 125  | 155  | 780    | 2700  | 681   | 265  | 152  | 134  | 104  |
| 8           | 133   | 301    | 1050     | 130  | 150  | 728    | 2300  | 618   | 437  | 176  | 154  | 81   |
| 9           | 216   | 262    | 900      | 160  | 145  | 730    | 1900  | 669   | 446  | 183  | 154  | 65   |
| 10          | 418   | 250    | 820      | 160  | 140  | 993    | 1600  | 1400  | 449  | 175  | 130  | 91   |
| 11          | 378   | 243    | 680      | 210  | 135  | 1320   | 1250  | 1740  | 539  | 170  | 188  | 94   |
| 12          | 304   | 230    | 580      | 220  | 135  | 1610   | 1050  | 1810  | 497  | 155  | 203  | 118  |
| 13          | 257   | 211    | 390      | 210  | 140  | 2630   | 1050  | 1680  | 416  | 205  | 178  | 69   |
| 14          | 241   | 227    | 320      | 200  | 150  | 5120   | 1050  | 1360  | 320  | 234  | 164  | 115  |
| 15          | 233   | 240    | 290      | 180  | 145  | 3150   | 980   | 1160  | 325  | 180  | 207  | 106  |
| 16          | 207   | 208    | 270      | 170  | 145  | 3510   | 840   | 968   | 207  | 139  | 174  | 102  |
| 17          | 203   | 198    | 250      | 165  | 140  | 3920   | 750   | 820   | 177  | 144  | 161  | 72   |
| 18          | 209   | 192    | 240      | 165  | 140  | 3460   | 700   | 717   | 261  | 166  | 172  | 93   |
| 19          | 160   | 186    | 220      | 150  | 135  | 3050   | 650   | 768   | 406  | 168  | 155  | 153  |
| 20          | 138   | 169    | 220      | 140  | 135  | 2960   | 600   | 784   | 354  | 133  | 115  | 179  |
| 21          | 406   | 178    | 270      | 145  | 145  | 3100   | 560   | 725   | 390  | 140  | 100  | 296  |
| 22          | 602   | 203    | 250      | 145  | 145  | 2800   | 540   | 612   | 383  | 134  | 140  | 297  |
| 23          | 586   | 167    | 240      | 140  | 145  | 2600   | 580   | 624   | 403  | 133  | 132  | 270  |
| 24          | 518   | 160    | 220      | 135  | 145  | 2800   | 1500  | 505   | 276  | 121  | 129  | 253  |
| 25          | 578   | 117    | 200      | 135  | 300  | 2300   | 2900  | 423   | 222  | 105  | 122  | 331  |
| 26          | 607   | 147    | 190      | 135  | 430  | 1800   | 3000  | 369   | 264  | 194  | 119  | 523  |
| 27          | 498   | 147    | 180      | 140  | 500  | 1400   | 2500  | 343   | 272  | 189  | 97   | 842  |
| 28          | 421   | 153    | 170      | 140  | 520  | 1300   | 2100  | 323   | 219  | 168  | 86   | 727  |
| 29          | 371   | 204    | 160      | 140  | ---  | 2200   | 1600  | 320   | 222  | 133  | 123  | 724  |
| 30          | 315   | 186    | 150      | 140  | ---  | 3400   | 1200  | 302   | 260  | 106  | 113  | 624  |
| 31          | 314   | ---    | 140      | 140  | ---  | 3300   | ---   | 278   | ---  | 95   | 93   | ---  |
| TOTAL       | 9241  | 6891   | 9745     | 4700 | 5165 | 64401  | 50900 | 24899 | 9728 | 5307 | 4589 | 6814 |
| MEAN        | 298   | 230    | 314      | 152  | 184  | 2077   | 1697  | 803   | 324  | 171  | 148  | 227  |
| MAX         | 607   | 382    | 1050     | 220  | 520  | 5120   | 3400  | 1810  | 539  | 277  | 207  | 842  |
| MIN         | 109   | 117    | 111      | 125  | 130  | 450    | 540   | 278   | 177  | 95   | 86   | 55   |
| CAL YR 1976 | TOTAL | 249844 | MEAN 683 | MAX  | 2950 | MIN 72 |       |       |      |      |      |      |
| WTR YR 1977 | TOTAL | 202380 | MEAN 554 | MAX  | 5120 | MIN 55 |       |       |      |      |      |      |

NOTE.--No gage-height record Mar. 21 to May 2.



## CONNECTICUT RIVER BASIN

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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.--62 years, 11,840 ft<sup>3</sup>/s (335.3 m<sup>3</sup>/s).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT    | NOV       | DEC    | JAN    | FEB    | MAR    | APR     | MAY    | JUN    | JUL    | AUG    | SEP      |
|-------------|--------|-----------|--------|--------|--------|--------|---------|--------|--------|--------|--------|----------|
| 1           | 5400   | 16900     | 12000  | 1430   | 4990   | 6530   | 69500   | 17500  | 6770   | 10000  | 3760   | 4340     |
| 2           | 8300   | 17700     | 10100  | 3530   | 4620   | 7450   | 61800   | 14500  | 7260   | 7840   | 5790   | 4040     |
| 3           | 3900   | 16400     | 8720   | 8360   | 5460   | 7490   | 44900   | 13100  | 7730   | 2840   | 2950   | 2440     |
| 4           | 5420   | 15700     | 5210   | 4900   | 4700   | 8120   | 46500   | 13400  | 3980   | 1450   | 3450   | .0       |
| 5           | 6490   | 15600     | 2260   | 4990   | 2070   | 9880   | 44500   | 13300  | 2440   | 5030   | 1700   | 987      |
| 6           | 6610   | 18600     | 6560   | 6220   | 2390   | 9210   | 43100   | 13100  | 5560   | 5580   | 3290   | 3390     |
| 7           | 8110   | 17100     | 9260   | 5280   | 4940   | 7150   | 41900   | 11400  | 6870   | 5560   | 1910   | 3330     |
| 8           | 8300   | 17800     | 19000  | 6050   | 5490   | 9050   | 37500   | 10900  | 6990   | 5010   | 4050   | 2930     |
| 9           | 9010   | 15200     | 16100  | 2830   | 5370   | 11600  | 25700   | 11600  | 5770   | 2790   | 1510   | 2870     |
| 10          | 25700  | 15300     | 14000  | 6250   | 6120   | 11200  | 20900   | 16500  | 9120   | 3910   | 3460   | 1550     |
| 11          | 29100  | 13200     | 13200  | 6220   | 6970   | 12600  | 21500   | 19400  | 10700  | 5700   | 3950   | 1590     |
| 12          | 18400  | 13300     | 9980   | 7090   | 6500   | 19600  | 20200   | 16200  | 5870   | 6110   | 2230   | 2980     |
| 13          | 15300  | 12900     | 12100  | 6370   | 4280   | 29600  | 22000   | 16000  | 6710   | 3590   | 1490   | 2550     |
| 14          | 16400  | 6130      | 9750   | 4490   | 4820   | 75400  | 29300   | 12100  | 8590   | 3170   | 928    | 6470     |
| 15          | 12500  | 8950      | 8620   | 4140   | 5060   | 82400  | 35300   | 9680   | 6430   | 2480   | 2180   | 9940     |
| 16          | 11500  | 11500     | 7690   | 2830   | 3750   | 67600  | 34200   | 8370   | 6300   | 2590   | 4520   | 10100    |
| 17          | 13100  | 10800     | 9320   | 6600   | 3770   | 66900  | 29000   | 10100  | 7370   | 1470   | 6170   | 10800    |
| 18          | 12900  | 10400     | 8560   | 7640   | 3860   | 64800  | 22500   | 9580   | 3290   | 4010   | 10800  | 7630     |
| 19          | 11000  | 10100     | 9150   | 6450   | 4280   | 47900  | 21700   | 9280   | 2630   | 3500   | 11200  | 7840     |
| 20          | 11200  | 7970      | 6490   | 6780   | 2180   | 40200  | 19300   | 15800  | 6920   | 4100   | 10800  | 10800    |
| 21          | 23300  | 5360      | 9900   | 6340   | 1330   | 33800  | 20100   | 8690   | 6000   | 4570   | 7290   | 10800    |
| 22          | 28300  | 8530      | 11400  | 3500   | 5220   | 33800  | 19700   | 3660   | 3710   | 2610   | 5320   | 10800    |
| 23          | 27500  | 9560      | 7280   | 1000   | 5290   | 26400  | 21000   | 6750   | 5610   | 2630   | 7580   | 10700    |
| 24          | 19700  | 9420      | 5440   | 5980   | 6390   | 20300  | 38800   | 8320   | 7490   | 175    | 4180   | 10800    |
| 25          | 17100  | 6270      | 4430   | 5300   | 5900   | 18900  | 62000   | 7530   | 5720   | 175    | 5410   | 8490     |
| 26          | 19400  | 6700      | 3610   | 4430   | 6640   | 17900  | 56200   | 7610   | 5930   | 2730   | 5900   | 9660     |
| 27          | 18700  | 6330      | 6430   | 4310   | 4920   | 18500  | 37700   | 4670   | 9140   | 3020   | 3880   | 10800    |
| 28          | 17400  | 6440      | 6620   | 4470   | 5040   | 17300  | 26900   | 1910   | 10800  | 2350   | 2590   | 11900    |
| 29          | 15200  | 6960      | 5850   | 3210   | ---    | 23500  | 24300   | 2350   | 10700  | 2830   | 5730   | 14800    |
| 30          | 14500  | 10200     | 5420   | 1540   | ---    | 44400  | 21200   | 3230   | 10800  | 1940   | 6670   | 10900    |
| 31          | 15300  | ---       | 4050   | 5290   | ---    | 61700  | ---     | 4630   | ---    | 1470   | 5300   | ---      |
| TOTAL       | 455040 | 347320    | 268500 | 153820 | 132350 | 911180 | 1019200 | 321160 | 203200 | 111230 | 145988 | 206227.0 |
| MEAN        | 14680  | 11580     | 8661   | 4962   | 4727   | 29390  | 33970   | 10360  | 6773   | 3588   | 4709   | 6874     |
| MAX         | 29100  | 18600     | 19000  | 8360   | 6970   | 82400  | 69500   | 19400  | 10800  | 10000  | 11200  | 14800    |
| MIN         | 3900   | 5360      | 2260   | 1000   | 1330   | 6530   | 19300   | 1910   | 2440   | 175    | 928    | .0       |
| CAL YR 1976 | TOTAL  | 5751760.0 | MEAN   | 15720  | MAX    | 85700  | MIN     | 150    |        |        |        |          |
| WTR YR 1977 | TOTAL  | 4275215.0 | MEAN   | 11710  | MAX    | 82400  | MIN     | .00    |        |        |        |          |

## 01167800 BEAVER BROOK AT WILMINGTON, VT

LOCATION.--Lat 42°51'38", long 72°51'04", Windham County, Hydrologic Unit 01080203, on right bank 20 ft (6 m) downstream from bridge on State Highway 9, 1.0 mi (1.6 km) southeast of Wilmington, and 1.7 mi (2.7 km) upstream from mouth.

DRAINAGE AREA.--6.38 mi<sup>2</sup> (16.52 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1963 to September 1977 (discontinued).

REVISED RECORDS.--WRD MA, NH, RI, VT, 1972: 1963(M), 1964(P), 1967-68(P), 1969-70, 1971(P).

GAGE.--Water-stage recorder. Altitude of gage is 1,560 ft (475 m), from topographic map.

REMARKS.--Records fair except those for winter period and periods of no gage-height record, which are poor. Recording rain gage at station April 1964 to November 1974 (no winter records).

AVERAGE DISCHARGE.--14 years, 15.7 ft<sup>3</sup>/s (0.445 m<sup>3</sup>/s), 33.42 in/yr (849 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,170 ft<sup>3</sup>/s (33.1 m<sup>3</sup>/s) Aug. 10, 1976, gage height, 8.76 ft (2.670 m), from rating curve extended above 160 ft<sup>3</sup>/s (4.53 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 8.61 ft (2.624 m); minimum, 0.06 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) Aug 1, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 230 ft<sup>3</sup>/s (6.51 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 1745 | a*662 18.7                                            | *6.35 1.935             | Apr. 24 | 0900 | 247 7.00                                              | 4.22 1.286              |
| Mar. 30 | 1745 | 243 6.88                                              | 4.20 1.280              |         |      |                                                       |                         |

a From rating curve extended as explained above.

Minimum discharge, 0.92 ft<sup>3</sup>/s (0.026 m<sup>3</sup>/s) May 29-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN  | FEB   | MAR    | APR  | MAY   | JUN   | JUL  | AUG   | SEP   |
|-------|-------|-------|-------|------|-------|--------|------|-------|-------|------|-------|-------|
| 1     | 2.8   | 26    | 6.1   | 2.7  | 2.0   | 8.5    | 85   | 15    | 1.2   | 3.0  | 11    | 1.5   |
| 2     | 2.5   | 18    | 4.5   | 2.6  | 2.0   | 7.5    | 50   | 14    | 3.3   | 2.6  | 13    | 1.5   |
| 3     | 2.3   | 18    | 4.3   | 2.6  | 1.9   | 6.7    | 85   | 13    | 3.3   | 2.1  | 3.6   | 1.5   |
| 4     | 2.1   | 18    | 4.0   | 2.6  | 1.9   | 7.5    | 61   | 12    | 3.5   | 2.1  | 2.4   | 1.3   |
| 5     | 2.0   | 19    | 4.0   | 2.6  | 1.9   | 30     | 77   | 11    | 2.5   | 2.1  | 2.2   | 1.2   |
| 6     | 2.2   | 23    | 5.0   | 2.5  | 1.9   | 27     | 84   | 11    | 2.7   | 2.1  | 4.1   | 1.2   |
| 7     | 2.3   | 18    | 4.0   | 2.5  | 1.9   | 15     | 51   | 8.9   | 9.3   | 2.1  | 4.1   | 1.2   |
| 8     | 3.0   | 17    | 25    | 2.4  | 1.9   | 10     | 35   | 8.5   | 7.4   | 2.2  | 3.4   | 1.2   |
| 9     | 50    | 14    | 10    | 2.3  | 1.9   | 11     | 31   | 20    | 6.9   | 3.1  | 2.4   | 1.0   |
| 10    | 35    | 13    | 7.0   | 2.8  | 1.9   | 20     | 26   | 38    | 15    | 2.4  | 2.8   | 1.0   |
| 11    | 17    | 12    | 7.0   | 2.6  | 2.0   | 29     | 26   | 59    | 17    | 2.0  | 12    | 1.0   |
| 12    | 13    | 12    | 6.0   | 2.5  | 2.0   | 40     | 62   | 58    | 9.6   | 1.9  | 5.8   | 1.0   |
| 13    | 12    | 12    | 5.0   | 2.4  | 2.1   | 298    | 89   | 41    | 7.3   | 1.9  | 5.3   | 1.2   |
| 14    | 15    | 11    | 4.3   | 2.3  | 2.1   | 316    | 80   | 25    | 5.7   | 2.1  | 3.7   | 4.1   |
| 15    | 13    | 10    | 4.0   | 2.3  | 2.1   | 97     | 43   | 21    | 5.1   | 2.0  | 3.4   | 3.0   |
| 16    | 11    | 10    | 4.2   | 2.2  | 2.0   | 83     | 34   | 17    | 3.9   | 1.7  | 2.7   | 2.3   |
| 17    | 11    | 9.7   | 4.5   | 2.2  | 1.9   | 55     | 26   | 14    | 3.5   | 1.7  | 2.2   | 4.2   |
| 18    | 10    | 10    | 4.5   | 2.2  | 1.9   | 44     | 25   | 12    | 4.7   | 3.5  | 2.4   | 4.0   |
| 19    | 9.3   | 10    | 4.3   | 2.2  | 1.9   | 35     | 20   | 21    | 6.6   | 2.7  | 2.0   | 3.5   |
| 20    | 23    | 9.7   | 4.0   | 2.3  | 1.9   | 31     | 21   | 14    | 4.4   | 2.3  | 1.6   | 5.8   |
| 21    | 83    | 8.5   | 5.0   | 2.3  | 1.9   | 20     | 17   | 16    | 6.9   | 1.9  | 1.5   | 7.1   |
| 22    | 31    | 7.8   | 4.2   | 2.3  | 1.9   | 28     | 16   | 14    | 4.8   | 1.7  | 4.0   | 7.1   |
| 23    | 20    | 8.2   | 3.7   | 2.2  | 1.9   | 21     | 46   | 12    | 3.9   | 1.4  | 3.4   | 6.3   |
| 24    | 17    | 8.2   | 3.4   | 2.1  | 1.9   | 18     | 151  | 10    | 3.5   | 1.3  | 2.4   | 8.0   |
| 25    | 25    | 8.2   | 3.2   | 2.2  | 15    | 16     | 88   | 10    | 3.3   | 2.5  | 2.3   | 12    |
| 26    | 43    | 8.2   | 3.1   | 2.3  | 20    | 15     | 50   | 8.2   | 4.6   | 3.5  | 2.2   | 18    |
| 27    | 23    | 10    | 3.0   | 2.3  | 11    | 14     | 34   | 7.8   | 3.5   | 2.3  | 1.7   | 20    |
| 28    | 17    | 10    | 2.9   | 2.2  | 11    | 18     | 26   | 7.4   | 2.9   | 2.1  | 1.7   | 10    |
| 29    | 16    | 11    | 2.8   | 2.2  | ---   | 79     | 19   | 4.1   | 3.4   | 1.7  | 1.6   | 7.0   |
| 30    | 15    | 7.8   | 2.7   | 2.1  | ---   | 147    | 17   | 1.5   | 4.0   | 1.7  | 1.5   | 6.0   |
| 31    | 33    | ---   | 2.7   | 2.1  | ---   | 170    | ---  | 1.7   | ---   | 1.3  | 1.5   | ---   |
| TOTAL | 561.5 | 378.3 | 194.4 | 73.1 | 103.7 | 1717.2 | 1475 | 526.1 | 163.7 | 67.0 | 113.9 | 144.2 |
| MEAN  | 18.1  | 12.6  | 6.27  | 2.36 | 3.70  | 55.4   | 49.2 | 17.0  | 5.46  | 2.16 | 3.67  | 4.81  |
| MAX   | 83    | 26    | 40    | 2.8  | 20    | 316    | 151  | 59    | 17    | 3.5  | 13    | 20    |
| MIN   | 2.0   | 7.8   | 2.7   | 2.1  | 1.9   | 6.7    | 16   | 1.5   | 1.2   | 1.3  | 1.5   | 1.0   |
| CFSM  | 2.84  | 1.98  | .98   | .37  | .58   | 8.68   | 7.71 | 2.67  | .86   | .34  | .58   | .75   |
| IN.   | 3.27  | 2.21  | 1.13  | .43  | .60   | 10.01  | 8.60 | 3.07  | .95   | .39  | .66   | .84   |

CAL YR 1976 TOTAL 6191.86 MEAN 16.9 MAX 351 MIN .92 CFSM 2.65 IN 36.10  
WTR YR 1977 TOTAL 5518.10 MEAN 15.1 MAX 316 MIN 1.0 CFSM 2.37 IN 32.17

NOTE.--No gage-height record Oct. 1-13, Jan. 19 to Feb. 17, Sept. 24-30.

01167800 BEAVER BROOK AT WILMINGTON, VT--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to September 1977 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1972 to September 1977 (discontinued).

WATER TEMPERATURES: August 1972 to September 1977 (discontinued).

INSTRUMENTATION.--Water-quality monitor since August 1972.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Daily records are considered fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 387 micromhos Feb. 25, 1977; minimum recorded, 22 micromhos Nov. 30, 1974.

WATER TEMPERATURES: Maximum, 26.0°C July 20, 21, 1977, June 10, 1974, July 8, Aug. 2, 1975, July 6, 1976; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 387 micromhos Feb. 25; minimum recorded, 31 micromhos Oct. 9; but maximum and minimum may have been higher or lower during periods of missing record.

WATER TEMPERATURES: Maximum, 26.0°C July 20, 21; minimum, 0.0°C on many days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     |      |
| 1       | 65  | 63  | 64       | 45  | 44  | 44   |
| 2       | 67  | 65  | 65       | 46  | 44  | 45   |
| 3       | 72  | 67  | 68       | 44  | 42  | 43   |
| 4       | 74  | 68  | 71       | 42  | 41  | 42   |
| 5       | 92  | 71  | 73       | 44  | 42  | 43   |
| 6       | 73  | 70  | 72       | 55  | 43  | 45   |
| 7       | 74  | 72  | 73       | 46  | 44  | 45   |
| 8       | 74  | 58  | 70       | 46  | 45  | 45   |
| 9       | 58  | 31  | 42       | 46  | 43  | 44   |
| 10      | 42  | 40  | 41       | 46  | 43  | 43   |
| 11      | 84  | 42  | 47       | 46  | 41  | 44   |
| 12      | 53  | 46  | 47       | 46  | 42  | 44   |
| 13      | 52  | 48  | 48       | 47  | 45  | 46   |
| 14      | 50  | 49  | 49       | 49  | 44  | 45   |
| 15      | 52  | 48  | 50       | 46  | 43  | 44   |
| 16      | 53  | 49  | 50       | 49  | 45  | 47   |
| 17      | 54  | 51  | 52       | 49  | 45  | 47   |
| 18      | 55  | 52  | 53       | --- | --- | ---  |
| 19      | 55  | 52  | 54       | --- | --- | ---  |
| 20      | 56  | 53  | 54       | --- | --- | ---  |
| 21      | 54  | 44  | 48       | --- | --- | ---  |
| 22      | 53  | 39  | 44       | --- | --- | ---  |
| 23      | 47  | 39  | 44       | --- | --- | ---  |
| 24      | 45  | 42  | 44       | --- | --- | ---  |
| 25      | 44  | 41  | 42       | --- | --- | ---  |
| 26      | 44  | 42  | 43       | --- | --- | ---  |
| 27      | 50  | 44  | 45       | --- | --- | ---  |
| 28      | 45  | 41  | 42       | --- | --- | ---  |
| 29      | 43  | 41  | 40       | --- | --- | ---  |
| 30      | 43  | 40  | 43       | --- | --- | ---  |
| 31      | 44  | 43  | 43       | --- | --- | ---  |
| MONTH   | 92  | 31  | 52       | --- | --- | ---  |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1        | --- | --- | ---  | 110   | 100 | 103  | 56     | 52  | 54   | 74        | 71  | 72   |
| 2        | --- | --- | ---  | 100   | 97  | 99   | 61     | 56  | 57   | 75        | 73  | 74   |
| 3        | --- | --- | ---  | 107   | 96  | 101  | 67     | 57  | 62   | 76        | 74  | 75   |
| 4        | --- | --- | ---  | 132   | 93  | 103  | 59     | 55  | 57   | 77        | 75  | 76   |
| 5        | --- | --- | ---  | 134   | 111 | 125  | 68     | 59  | 64   | 78        | 76  | 77   |
| 6        | --- | --- | ---  | 129   | 108 | 122  | 65     | 60  | 62   | 80        | 77  | 79   |
| 7        | --- | --- | ---  | 106   | 97  | 100  | 62     | 60  | 61   | 81        | 79  | 80   |
| 8        | --- | --- | ---  | 104   | 95  | 99   | 65     | 62  | 63   | 81        | 80  | 81   |
| 9        | --- | --- | ---  | 119   | 99  | 108  | 65     | 63  | 64   | 80        | 69  | 75   |
| 10       | --- | --- | ---  | 123   | 112 | 117  | 67     | 64  | 65   | 78        | 72  | 75   |
| 11       | --- | --- | ---  | 117   | 103 | 109  | 67     | 64  | 65   | 73        | 66  | 71   |
| 12       | --- | --- | ---  | 101   | 93  | 97   | 65     | 55  | 62   | 66        | 65  | 66   |
| 13       | --- | --- | ---  | 93    | 60  | 80   | 57     | 52  | 54   | 72        | 63  | 68   |
| 14       | --- | --- | ---  | 60    | 56  | 58   | 55     | 52  | 54   | 74        | 70  | 72   |
| 15       | --- | --- | ---  | 62    | 60  | 61   | 58     | 54  | 56   | 73        | 71  | 71   |
| 16       | --- | --- | ---  | 62    | 61  | 61   | 61     | 58  | 60   | ---       | --- | ---  |
| 17       | 90  | 89  | 89   | 62    | 60  | 61   | 64     | 59  | 62   | ---       | --- | ---  |
| 18       | 92  | 84  | 90   | 63    | 61  | 62   | 66     | 61  | 63   | ---       | --- | ---  |
| 19       | 95  | 92  | 93   | 66    | 63  | 64   | 67     | 63  | 65   | ---       | --- | ---  |
| 20       | 94  | 90  | 93   | 68    | 64  | 65   | 67     | 64  | 66   | ---       | --- | ---  |
| 21       | 91  | 86  | 88   | 74    | 65  | 68   | 69     | 66  | 67   | ---       | --- | ---  |
| 22       | 91  | 88  | 89   | 70    | 65  | 68   | 70     | 67  | 68   | ---       | --- | ---  |
| 23       | 92  | 89  | 91   | 70    | 65  | 67   | 69     | 65  | 67   | ---       | --- | ---  |
| 24       | 92  | 89  | 90   | 71    | 69  | 70   | 66     | 58  | 61   | ---       | --- | ---  |
| 25       | 387 | 105 | 167  | 73    | 71  | 71   | 61     | 59  | 60   | ---       | --- | ---  |
| 26       | 130 | 111 | 123  | 74    | 71  | 73   | 64     | 62  | 63   | ---       | --- | ---  |
| 27       | 114 | 101 | 106  | 80    | 74  | 77   | 66     | 64  | 65   | ---       | --- | ---  |
| 28       | 117 | 105 | 109  | 83    | 78  | 80   | 67     | 65  | 67   | ---       | --- | ---  |
| 29       | --- | --- | ---  | 82    | 61  | 74   | 69     | 66  | 68   | ---       | --- | ---  |
| 30       | --- | --- | ---  | 61    | 52  | 58   | 72     | 69  | 71   | ---       | --- | ---  |
| 31       | --- | --- | ---  | 55    | 52  | 53   | ---    | --- | ---  | ---       | --- | ---  |
| MONTH    | --- | --- | ---  | 134   | 52  | 82   | 72     | 52  | 62   | ---       | --- | ---  |
| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
| JUNE     |     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1        | --- | --- | ---  | 83    | 80  | 81   | 108    | 62  | 89   | 96        | 93  | 94   |
| 2        | --- | --- | ---  | 88    | 82  | 85   | 75     | 65  | 71   | 100       | 97  | 99   |
| 3        | --- | --- | ---  | 89    | 87  | 88   | 85     | 74  | 78   | 101       | 97  | 100  |
| 4        | --- | --- | ---  | 91    | 87  | 89   | 88     | 80  | 84   | 103       | 97  | 101  |
| 5        | --- | --- | ---  | 92    | 87  | 90   | 93     | 87  | 90   | 104       | 102 | 103  |
| 6        | --- | --- | ---  | 94    | 89  | 91   | 88     | 81  | 85   | 102       | 98  | 91   |
| 7        | --- | --- | ---  | 93    | 86  | 90   | 90     | 84  | 87   | 106       | 101 | 105  |
| 8        | --- | --- | ---  | 90    | 79  | 84   | 97     | 90  | 93   | 109       | 106 | 107  |
| 9        | --- | --- | ---  | 82    | 75  | 77   | 97     | 93  | 95   | 113       | 106 | 110  |
| 10       | --- | --- | ---  | 82    | 80  | 81   | 97     | 71  | 90   | 108       | 103 | 106  |
| 11       | --- | --- | ---  | 83    | 81  | 82   | 71     | 61  | 66   | 106       | 103 |      |

## CONNECTICUT RIVER BASIN

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01167800 BEAVER BROOK AT WILMINGTON, VT--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX  | MIN  | MEAN |
|---------|------|------|------|
| OCTOBER |      |      |      |
| 1       | 12.5 | 10.5 | 11.5 |
| 2       | 12.5 | 10.5 | 11.5 |
| 3       | 12.5 | 9.0  | 10.5 |
| 4       | 12.5 | 8.0  | 10.0 |
| 5       | 12.5 | 10.5 | 11.5 |
| 6       | 14.0 | 12.5 | 13.0 |
| 7       | 15.5 | 13.0 | 14.0 |
| 8       | 15.5 | 14.0 | 14.5 |
| 9       | 15.0 | 10.5 | 13.5 |
| 10      | 11.0 | 7.5  | 9.5  |
| 11      | 10.0 | 6.0  | 8.0  |
| 12      | 9.5  | 5.5  | 7.5  |
| 13      | 11.0 | 7.0  | 9.5  |
| 14      | ---  | ---  | ---  |
| 15      | ---  | ---  | ---  |
| 16      | ---  | ---  | ---  |
| 17      | ---  | ---  | ---  |
| 18      | ---  | ---  | ---  |
| 19      | ---  | ---  | ---  |
| 20      | ---  | ---  | ---  |
| 21      | ---  | ---  | ---  |
| 22      | ---  | ---  | ---  |
| 23      | ---  | ---  | ---  |
| 24      | ---  | ---  | ---  |
| 25      | ---  | ---  | ---  |
| 26      | ---  | ---  | ---  |
| 27      | ---  | ---  | ---  |
| 28      | ---  | ---  | ---  |
| 29      | ---  | ---  | ---  |
| 30      | ---  | ---  | ---  |
| 31      | ---  | ---  | ---  |
| MONTH   | ---  | ---  | ---  |

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX   | MIN | MEAN | MAX  | MIN  | MEAN |
|----------|-----|-----|------|-------|-----|------|-------|-----|------|------|------|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL |     |      | MAY  |      |      |
| 1        | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 3.0   | 0.0 | 1.0  | 13.5 | 5.5  | 9.5  |
| 2        | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 1.0   | 0.0 | 0.5  | 11.0 | 8.5  | 9.5  |
| 3        | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 3.0   | 0.5 | 1.5  | 13.0 | 6.5  | 9.5  |
| 4        | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 2.0   | 0.0 | 1.0  | 12.5 | 5.5  | 9.0  |
| 5        | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 1.0   | 0.0 | 0.5  | 12.5 | 9.0  | 10.5 |
| 6        | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 2.5   | 0.0 | 1.0  | 16.5 | 10.0 | 13.0 |
| 7        | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 1.5   | 0.0 | 0.5  | 15.5 | 10.5 | 13.0 |
| 8        | --- | --- | ---  | 0.5   | 0.0 | 0.0  | 2.0   | 0.0 | 0.5  | 13.0 | 7.0  | 10.5 |
| 9        | --- | --- | ---  | 1.5   | 0.0 | 0.0  | 1.5   | 0.0 | 0.0  | 10.0 | 4.0  | 5.5  |
| 10       | --- | --- | ---  | 1.0   | 0.0 | 0.0  | 4.0   | 0.0 | 1.0  | 6.0  | 4.0  | 5.0  |
| 11       | --- | --- | ---  | 1.0   | 0.0 | 0.0  | 5.0   | 0.0 | 2.0  | 9.5  | 4.0  | 6.5  |
| 12       | --- | --- | ---  | 1.5   | 0.0 | 0.0  | 6.0   | 1.0 | 3.0  | ---  | ---  | ---  |
| 13       | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 6.0   | 1.5 | 3.5  | ---  | ---  | ---  |
| 14       | --- | --- | ---  | 0.0   | 0.0 | 0.0  | 6.0   | 2.5 | 4.0  | ---  | ---  | ---  |
| 15       | --- | --- | ---  | 0.5   | 0.0 | 0.5  | 7.0   | 1.5 | 4.0  | ---  | ---  | ---  |
| 16       | --- | --- | ---  | 0.5   | 0.0 | 0.5  | 1.5   | 2.0 | 4.5  | ---  | ---  | ---  |
| 17       | 0.0 | 0.0 | 0.0  | 0.5   | 0.0 | 0.0  | 9.0   | 2.0 | 5.5  | ---  | ---  | ---  |
| 18       | 0.0 | 0.0 | 0.0  | 0.0   | 0.0 | 0.0  | 10.0  | 2.5 | 6.0  | ---  | ---  | ---  |
| 19       | 0.0 | 0.0 | 0.0  | 0.0   | 0.0 | 0.0  | 11.0  | 3.5 | 7.0  | ---  | ---  | ---  |
| 20       | 0.0 | 0.0 | 0.0  | 0.0   | 0.0 | 0.0  | 10.0  | 5.0 | 7.5  | ---  | ---  | ---  |
| 21       | 0.0 | 0.0 | 0.0  | 1.0   | 0.0 | 0.0  | 12.5  | 6.5 | 9.0  | ---  | ---  | ---  |
| 22       | 0.0 | 0.0 | 0.0  | 0.0   | 0.0 | 0.0  | 14.0  | 8.5 | 11.0 | ---  | ---  | ---  |
| 23       | 0.0 | 0.0 | 0.0  | 0.0   | 0.0 | 0.0  | 11.5  | 7.0 | 9.5  | ---  | ---  | ---  |
| 24       | 0.0 | 0.0 | 0.0  | 0.0   | 0.0 | 0.0  | 7.0   | 4.5 | 5.5  | ---  | ---  | ---  |
| 25       | 0.0 | 0.0 | 0.0  | 0.0   | 0.0 | 0.0  | 5.5   | 4.0 | 5.0  | ---  | ---  | ---  |
| 26       | 0.0 | 0.0 | 0.0  | 0.0   | 0.0 | 0.0  | 7.0   | 4.5 | 5.5  | ---  | ---  | ---  |
| 27       | 0.0 | 0.0 | 0.0  | 1.0   | 0.0 | 0.0  | 8.5   | 5.5 | 6.5  | ---  | ---  | ---  |
| 28       | 0.0 | 0.0 | 0.0  | 2.0   | 0.0 | 0.5  | 9.5   | 5.5 | 7.0  | ---  | ---  | ---  |
| 29       | --- | --- | ---  | 1.0   | 0.0 | 0.5  | 9.5   | 3.5 | 6.0  | ---  | ---  | ---  |
| 30       | --- | --- | ---  | 2.5   | 0.0 | 1.0  | 11.5  | 4.5 | 7.5  | ---  | ---  | ---  |
| 31       | --- | --- | ---  | 1.5   | 0.5 | 1.0  | ---   | --- | ---  | ---  | ---  | ---  |
| MONTH    | --- | --- | ---  | 2.5   | 0.0 | 0.0  | 14.0  | 0.0 | 4.0  | ---  | ---  | ---  |





01168151 DEERFIELD RIVER NEAR ROWE, MA

LOCATION.--Lat 42°40'57", long 72°58'37", Franklin County, Hydrologic Unit 01080203, on left bank 400 ft (120 m) downstream from Fife Brook, 600 ft (180 m) downstream from Fife Brook Dam, 1.2 mi (1.9 km) northeast of Hoosac Tunnel, and 4 mi (6 km) west of Rowe.

DRAINAGE AREA.--254 mi<sup>2</sup> (658 km<sup>2</sup>).

PERIOD OF RECORD.--May 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 745.00 ft (227.076 m) above mean sea level.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Somerset and Harriman Reservoirs (Reservoirs in Connecticut River basin) and by several powerplants upstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,400 ft<sup>3</sup>/s (464 m<sup>3</sup>/s) Aug. 10, 1976, gage height, 14.79 ft (4.508 m), from rating curve extended above 2,800 ft<sup>3</sup>/s (79.3 m<sup>3</sup>/s); minimum daily, 42 ft<sup>3</sup>/s (1.19 m<sup>3</sup>/s) Feb. 17, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,870 ft<sup>3</sup>/s (251 m<sup>3</sup>/s) Mar. 14, gage height, 11.59 ft (3.533 m), from rating curve extended above 2,800 ft<sup>3</sup>/s (79.3 m<sup>3</sup>/s); minimum daily, 80 ft<sup>3</sup>/s (2.27 m<sup>3</sup>/s) Feb. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| 1     | 367   | 976   | 552   | 186   | 462   | 711   | 2750  | 248   | 229  | 359  | 481  | 155   |
| 2     | 228   | 901   | 447   | 221   | 582   | 821   | 2100  | 600   | 292  | 141  | 324  | 184   |
| 3     | 240   | 748   | 508   | 368   | 863   | 863   | 2110  | 265   | 248  | 110  | 247  | 107   |
| 4     | 217   | 913   | 169   | 485   | 825   | 755   | 2270  | 580   | 146  | 106  | 215  | 103   |
| 5     | 459   | 1010  | 87    | 560   | 913   | 600   | 2220  | 710   | 136  | 204  | 275  | 121   |
| 6     | 161   | 941   | 611   | 549   | 212   | 565   | 2650  | 800   | 402  | 211  | 109  | 385   |
| 7     | 665   | 924   | 611   | 556   | 632   | 894   | 2170  | 720   | 307  | 267  | 139  | 283   |
| 8     | 530   | 935   | 964   | 255   | 914   | 881   | 1330  | 740   | 308  | 205  | 327  | 235   |
| 9     | 770   | 993   | 935   | 236   | 954   | 885   | 1070  | 880   | 290  | 153  | 309  | 343   |
| 10    | 552   | 999   | 879   | 720   | 771   | 942   | 929   | 1100  | 331  | 161  | 319  | 162   |
| 11    | 890   | 907   | 597   | 776   | 961   | 924   | 867   | 1660  | 169  | 222  | 303  | 105   |
| 12    | 890   | 711   | 288   | 615   | 879   | 879   | 821   | 1680  | 84   | 380  | 379  | 300   |
| 13    | 504   | 930   | 597   | 590   | 884   | 1760  | 1680  | 1840  | 160  | 394  | 104  | 297   |
| 14    | 579   | 896   | 323   | 724   | 889   | 6000  | 2160  | 1840  | 210  | 258  | 97   | 328   |
| 15    | 690   | 716   | 281   | 412   | 871   | 2500  | 2450  | 1430  | 324  | 199  | 329  | 415   |
| 16    | 245   | 670   | 503   | 278   | 924   | 1800  | 1870  | 391   | 222  | 110  | 534  | 422   |
| 17    | 250   | 814   | 619   | 698   | 910   | 1400  | 1450  | 483   | 198  | 109  | 523  | 402   |
| 18    | 447   | 621   | 235   | 751   | 807   | 1000  | 1280  | 425   | 170  | 205  | 543  | 460   |
| 19    | 597   | 592   | 320   | 727   | 85    | 700   | 1260  | 487   | 143  | 252  | 468  | 494   |
| 20    | 879   | 344   | 661   | 800   | 80    | 400   | 265   | 478   | 195  | 270  | 310  | 524   |
| 21    | 1100  | 250   | 927   | 853   | 604   | 700   | 654   | 415   | 243  | 303  | 407  | 723   |
| 22    | 970   | 293   | 874   | 406   | 613   | 1200  | 568   | 297   | 172  | 186  | 310  | 644   |
| 23    | 781   | 463   | 820   | 229   | 750   | 1400  | 752   | 307   | 142  | 96   | 456  | 470   |
| 24    | 630   | 406   | 365   | 313   | 744   | 1400  | 3030  | 298   | 224  | 99   | 454  | 508   |
| 25    | 792   | 85    | 84    | 315   | 722   | 1200  | 2710  | 451   | 206  | 310  | 259  | 571   |
| 26    | 1040  | 83    | 164   | 250   | 504   | 1270  | 1490  | 296   | 85   | 323  | 238  | 649   |
| 27    | 970   | 217   | 163   | 505   | 470   | 1290  | 269   | 396   | 366  | 96   | 105  | 642   |
| 28    | 953   | 253   | 217   | 443   | 639   | 1320  | 115   | 109   | 401  | 244  | 97   | 603   |
| 29    | 935   | 645   | 230   | 85    | ---   | 1270  | 340   | 105   | 301  | 118  | 331  | 431   |
| 30    | 935   | 874   | 223   | 172   | ---   | 2160  | 113   | 96    | 368  | 109  | 373  | 543   |
| 31    | 1010  | ---   | 193   | 546   | ---   | 3810  | ---   | 262   | ---  | 106  | 135  | ---   |
| TOTAL | 20276 | 20110 | 14447 | 14624 | 19464 | 42300 | 43743 | 20389 | 7072 | 6306 | 9500 | 11609 |
| MEAN  | 654   | 670   | 466   | 472   | 695   | 1365  | 1458  | 658   | 236  | 203  | 306  | 387   |
| MAX   | 1100  | 1010  | 964   | 853   | 961   | 6000  | 3030  | 1840  | 402  | 394  | 543  | 723   |
| MIN   | 161   | 83    | 84    | 85    | 80    | 400   | 113   | 96    | 84   | 96   | 97   | 103   |

CAL YR 1976 TOTAL 308155 MEAN 842 MAX 9140 MIN 45  
WTR YR 1977 TOTAL 229840 MEAN 630 MAX 6000 MIN 80

NOTE.--No gage-height record Mar. 14-24, May 4-10.

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) above mean sea level.

REMARKS.--Records excellent. 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 were made during the year.

AVERAGE DISCHARGE.--64 years, 894 ft<sup>3</sup>/s (25.32 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 (878 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, 15,000 ft<sup>3</sup>/s (425 m<sup>3</sup>/s) Mar. 14, gage height, 10.15 ft (3.094 m); minimum daily, 121 ft<sup>3</sup>/s (3.43 m<sup>3</sup>/s) July 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL  | AUG   | SEP   |
|-------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| 1           | 545   | 1260   | 597   | 180   | 400   | 796   | 4190  | 439   | 476   | 674  | 629   | 232   |
| 2           | 302   | 1140   | 554   | 200   | 500   | 910   | 2860  | 894   | 563   | 323  | 607   | 289   |
| 3           | 288   | 857    | 623   | 360   | 850   | 937   | 2950  | 504   | 472   | 147  | 387   | 199   |
| 4           | 288   | 1090   | 237   | 530   | 836   | 851   | 3140  | 753   | 251   | 140  | 396   | 147   |
| 5           | 508   | 1170   | 228   | 600   | 885   | 927   | 3140  | 1070  | 178   | 201  | 409   | 132   |
| 6           | 239   | 1210   | 621   | 570   | 335   | 861   | 4190  | 1090  | 542   | 381  | 174   | 510   |
| 7           | 581   | 1110   | 944   | 600   | 646   | 1040  | 2980  | 937   | 538   | 308  | 150   | 416   |
| 8           | 611   | 1120   | 1420  | 310   | 902   | 1040  | 1980  | 946   | 504   | 303  | 552   | 211   |
| 9           | 1060  | 1140   | 1130  | 280   | 955   | 1040  | 1590  | 1500  | 520   | 236  | 520   | 361   |
| 10          | 956   | 1160   | 1090  | 430   | 801   | 1410  | 1350  | 1830  | 667   | 197  | 494   | 305   |
| 11          | 850   | 1040   | 800   | 959   | 921   | 1640  | 1370  | 2940  | 404   | 381  | 730   | 143   |
| 12          | 1000  | 954    | 465   | 675   | 937   | 1890  | 1420  | 2940  | 182   | 360  | 524   | 320   |
| 13          | 677   | 983    | 702   | 600   | 894   | 5520  | 2490  | 2990  | 201   | 650  | 223   | 363   |
| 14          | 735   | 995    | 466   | 691   | 909   | 10100 | 2790  | 2320  | 469   | 342  | 164   | 443   |
| 15          | 800   | 859    | 293   | 532   | 900   | 3640  | 3020  | 1980  | 393   | 441  | 521   | 410   |
| 16          | 409   | 800    | 682   | 336   | 913   | 2550  | 2320  | 1060  | 289   | 165  | 546   | 512   |
| 17          | 350   | 926    | 673   | 654   | 919   | 2100  | 1790  | 1170  | 322   | 139  | 963   | 497   |
| 18          | 544   | 722    | 409   | 788   | 898   | 1510  | 1550  | 1140  | 210   | 289  | 961   | 514   |
| 19          | 555   | 732    | 369   | 789   | 227   | 1100  | 1590  | 1290  | 357   | 376  | 946   | 699   |
| 20          | 903   | 511    | 680   | 864   | 136   | 608   | 537   | 1260  | 371   | 389  | 564   | 1080  |
| 21          | 1680  | 312    | 1010  | 815   | 495   | 1030  | 903   | 1130  | 315   | 573  | 470   | 1540  |
| 22          | 1260  | 450    | 970   | 549   | 617   | 1660  | 860   | 678   | 261   | 328  | 620   | 1210  |
| 23          | 1030  | 564    | 908   | 220   | 786   | 1740  | 1000  | 786   | 229   | 133  | 705   | 607   |
| 24          | 796   | 523    | 574   | 425   | 760   | 1580  | 4360  | 670   | 307   | 121  | 679   | 771   |
| 25          | 1070  | 204    | 195   | 346   | 888   | 1500  | 4030  | 684   | 280   | 542  | 447   | 1300  |
| 26          | 1360  | 171    | 140   | 333   | 738   | 1510  | 2230  | 617   | 218   | 581  | 423   | 1740  |
| 27          | 1230  | 305    | 170   | 400   | 583   | 1570  | 964   | 623   | 540   | 162  | 155   | 1610  |
| 28          | 1160  | 234    | 210   | 450   | 751   | 1680  | 544   | 238   | 763   | 277  | 139   | 1130  |
| 29          | 1110  | 773    | 290   | 160   | ---   | 2400  | 652   | 199   | 657   | 161  | 545   | 1030  |
| 30          | 1080  | 987    | 220   | 180   | ---   | 4200  | 477   | 182   | 665   | 136  | 564   | 919   |
| 31          | 1250  | ---    | 240   | 380   | ---   | 6510  | ---   | 500   | ---   | 129  | 192   | ---   |
| TOTAL       | 25227 | 24302  | 17910 | 15206 | 20382 | 65850 | 63267 | 35360 | 12144 | 9585 | 15399 | 19640 |
| MEAN        | 814   | 810    | 578   | 491   | 728   | 2124  | 2109  | 1141  | 405   | 309  | 497   | 655   |
| MAX         | 1680  | 1260   | 1420  | 959   | 955   | 10100 | 4360  | 2990  | 763   | 674  | 963   | 1740  |
| MIN         | 239   | 171    | 140   | 160   | 136   | 608   | 477   | 182   | 178   | 121  | 139   | 132   |
| CAL YR 1976 | TOTAL | 401958 | MEAN  | 1098  | MAX   | 12000 | MIN   | 129   |       |      |       |       |
| WTR YR 1977 | TOTAL | 324272 | MEAN  | 888   | MAX   | 10100 | MIN   | 121   |       |      |       |       |

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) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair. 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.--38 years, 181 ft<sup>3</sup>/s (5.126 m<sup>3</sup>/s), 27.81 in/yr (706 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 (161 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 (62.3 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 1845 | *6850 194                                             | *8.47 2.582             | Mar. 30 | 1930 | 2830 80.1                                             | 6.37 1.942              |

Minimum discharge, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) July 31; minimum daily, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) Sept. 9.

# DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977 MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR   | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1     | 41   | 195  | 50   | 51   | 39   | 115   | 949   | 188  | 54   | 48   | 33   | 21   |
| 2     | 36   | 134  | 62   | 50   | 38   | 89    | 565   | 178  | 64   | 43   | 244  | 21   |
| 3     | 32   | 118  | 52   | 50   | 38   | 80    | 753   | 170  | 61   | 37   | 89   | 23   |
| 4     | 30   | 124  | 47   | 49   | 37   | 74    | 617   | 151  | 52   | 36   | 50   | 21   |
| 5     | 34   | 126  | 49   | 48   | 37   | 212   | 972   | 153  | 47   | 33   | 39   | 20   |
| 6     | 37   | 248  | 54   | 47   | 37   | 222   | 1150  | 146  | 47   | 30   | 46   | 19   |
| 7     | 42   | 160  | 300  | 49   | 37   | 149   | 575   | 129  | 62   | 30   | 39   | 18   |
| 8     | 43   | 137  | 334  | 46   | 37   | 123   | 436   | 118  | 76   | 38   | 34   | 17   |
| 9     | 278  | 117  | 134  | 45   | 37   | 137   | 341   | 546  | 63   | 58   | 31   | 15   |
| 10    | 215  | 108  | 92   | 45   | 37   | 272   | 306   | 802  | 124  | 45   | 27   | 18   |
| 11    | 95   | 103  | 100  | 48   | 38   | 465   | 303   | 633  | 212  | 38   | 108  | 25   |
| 12    | 68   | 93   | 80   | 50   | 41   | 596   | 404   | 487  | 109  | 34   | 73   | 18   |
| 13    | 61   | 96   | 67   | 48   | 42   | 2860  | 532   | 327  | 79   | 40   | 50   | 18   |
| 14    | 63   | 91   | 60   | 46   | 43   | 4230  | 522   | 235  | 64   | 61   | 43   | 38   |
| 15    | 62   | 89   | 65   | 44   | 40   | 1520  | 359   | 197  | 58   | 39   | 57   | 42   |
| 16    | 55   | 87   | 75   | 43   | 38   | 1190  | 269   | 176  | 50   | 30   | 42   | 28   |
| 17    | 49   | 84   | 83   | 42   | 36   | 741   | 229   | 151  | 45   | 27   | 53   | 38   |
| 18    | 45   | 84   | 78   | 42   | 37   | 465   | 210   | 146  | 83   | 26   | 53   | 50   |
| 19    | 44   | 83   | 74   | 43   | 37   | 377   | 192   | 269  | 124  | 25   | 35   | 41   |
| 20    | 70   | 80   | 71   | 44   | 37   | 303   | 178   | 182  | 71   | 23   | 30   | 141  |
| 21    | 450  | 69   | 84   | 45   | 36   | 275   | 160   | 144  | 81   | 22   | 27   | 156  |
| 22    | 200  | 70   | 68   | 43   | 36   | 263   | 158   | 129  | 70   | 24   | 61   | 92   |
| 23    | 130  | 69   | 64   | 41   | 36   | 266   | 260   | 112  | 55   | 21   | 68   | 64   |
| 24    | 110  | 68   | 61   | 40   | 36   | 229   | 1390  | 100  | 48   | 18   | 44   | 143  |
| 25    | 160  | 66   | 59   | 42   | 88   | 203   | 957   | 93   | 45   | 21   | 41   | 219  |
| 26    | 250  | 67   | 58   | 44   | 170  | 197   | 482   | 81   | 129  | 47   | 39   | 313  |
| 27    | 170  | 71   | 56   | 44   | 134  | 222   | 389   | 73   | 103  | 30   | 39   | 385  |
| 28    | 130  | 76   | 54   | 42   | 137  | 287   | 303   | 67   | 67   | 24   | 32   | 151  |
| 29    | 117  | 91   | 53   | 41   | ---  | 1000  | 243   | 61   | 57   | 21   | 28   | 111  |
| 30    | 106  | 71   | 52   | 40   | ---  | 1740  | 212   | 59   | 59   | 18   | 24   | 85   |
| 31    | 172  | ---  | 52   | 39   | ---  | 1820  | ---   | 55   | ---  | 16   | 21   | ---  |
| TOTAL | 3395 | 3075 | 2588 | 1391 | 1436 | 20722 | 14416 | 6358 | 2259 | 1003 | 1600 | 2351 |
| MEAN  | 110  | 103  | 83.5 | 44.9 | 51.3 | 668   | 481   | 205  | 75.3 | 32.4 | 51.6 | 78.4 |
| MAX   | 450  | 248  | 334  | 51   | 170  | 4230  | 1390  | 802  | 212  | 61   | 244  | 385  |
| MIN   | 30   | 66   | 47   | 39   | 36   | 74    | 158   | 55   | 45   | 16   | 21   | 15   |
| CFSM  | 1.24 | 1.17 | .95  | .51  | .58  | 7.56  | 5.44  | 2.32 | .85  | .37  | .58  | .89  |
| IN.   | 1.43 | 1.29 | 1.09 | .59  | .60  | 8.72  | 6.07  | 2.68 | .95  | .42  | .67  | .99  |

CAL YR 1976 TOTAL 68204 MEAN 186 MAX 2900 MIN 16 CFSM 2.10 IN 28.70  
WTR YR 1977 TOTAL 60594 MEAN 166 MAX 4230 MIN 15 CFSM 1.88 IN 25.50

## 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>).

RECORDS AVAILABLE.--Discharge: June 1966 to current year.  
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WRD MA, NH, RI, VT, 1973: 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, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--11 years, 54.2 ft<sup>3</sup>/s (1.535 m<sup>3</sup>/s), 30.67 in/yr (779 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,480 ft<sup>3</sup>/s (70.2 m<sup>3</sup>/s) Dec. 21, 1973, gage height, 7.77 ft (2.368 m), from rating curve extended above 750 ft<sup>3</sup>/s (21.2 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; maximum gage height, 8.26 ft (2.518 m) Jan. 27, 1976, ice jam; minimum discharge, 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) Aug. 21, 22, Sept. 2, 3, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 660 ft<sup>3</sup>/s (18.7 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) | Discharge<br>(m <sup>3</sup> /s) | Gage height<br>(m) | Date     | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) | Discharge<br>(m <sup>3</sup> /s) | Gage height<br>(m) |
|---------|------|-----------------------------------|---------------------|----------------------------------|--------------------|----------|------|-----------------------------------|---------------------|----------------------------------|--------------------|
| Mar. 13 | 1745 | *1900                             | 53.8                | a*7.06                           | 2.152              | Apr. 24  | 1200 | 724                               | 20.5                | 5.21                             | 1.588              |
| Mar. 30 | 1615 | 665                               | 18.8                | 5.12                             | 1.561              | Sept. 26 | 2100 | 842                               | 23.8                | 5.43                             | 1.655              |

a From rating curve extended above 750 ft<sup>3</sup>/s (21.2 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 7.77 ft (2.368 m).

Minimum discharge, 4.5 ft<sup>3</sup>/s (0.13 m<sup>3</sup>/s) July 23, 24, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC       | JAN     | FEB     | MAR       | APR      | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------------|-------|---------|-----------|---------|---------|-----------|----------|------|------|-------|-------|-------|
| 1           | 10    | 35      | 15        | 13      | 8.8     | 36        | 153      | 71   | 24   | 13    | 16    | 5.6   |
| 2           | 9.5   | 27      | 19        | 13      | 8.7     | 27        | 124      | 65   | 34   | 12    | 48    | 5.6   |
| 3           | 9.2   | 27      | 16        | 13      | 8.7     | 24        | 156      | 58   | 27   | 11    | 12    | 11    |
| 4           | 9.2   | 27      | 15        | 12      | 8.7     | 23        | 116      | 53   | 22   | 11    | 10    | 8.7   |
| 5           | 8.8   | 34      | 16        | 12      | 9.1     | 70        | 260      | 60   | 20   | 10    | 8.6   | 7.0   |
| 6           | 8.7   | 51      | 17        | 12      | 8.7     | 60        | 212      | 57   | 19   | 9.5   | 12    | 15    |
| 7           | 8.7   | 34      | 100       | 12      | 9.6     | 45        | 124      | 49   | 31   | 9.4   | 10    | 8.3   |
| 8           | 8.7   | 30      | 56        | 12      | 9.4     | 38        | 111      | 45   | 31   | 19    | 8.2   | 6.3   |
| 9           | 94    | 28      | 45        | 12      | 9.2     | 60        | 91       | 293  | 27   | 19    | 7.2   | 5.6   |
| 10          | 45    | 27      | 28        | 12      | 9.2     | 114       | 81       | 266  | 44   | 12    | 6.7   | 7.0   |
| 11          | 23    | 27      | 30        | 13      | 9.2     | 135       | 76       | 160  | 45   | 10    | 26    | 8.3   |
| 12          | 18    | 26      | 25        | 13      | 9.6     | 153       | 78       | 121  | 31   | 22    | 13    | 6.0   |
| 13          | 15    | 27      | 21        | 12      | 10      | 707       | 78       | 92   | 24   | 22    | 12    | 6.0   |
| 14          | 19    | 24      | 18        | 12      | 10      | 644       | 74       | 80   | 20   | 30    | 10    | 8.7   |
| 15          | 17    | 24      | 19        | 12      | 9.6     | 270       | 62       | 69   | 23   | 14    | 11    | 8.7   |
| 16          | 14    | 24      | 22        | 12      | 9.4     | 227       | 56       | 63   | 20   | 11    | 8.3   | 6.7   |
| 17          | 13    | 25      | 25        | 11      | 9.2     | 148       | 52       | 58   | 18   | 9.6   | 23    | 13    |
| 18          | 12    | 26      | 24        | 11      | 9.0     | 110       | 49       | 56   | 23   | 11    | 20    | 12    |
| 19          | 12    | 25      | 23        | 12      | 9.1     | 101       | 46       | 97   | 33   | 8.7   | 11    | 41    |
| 20          | 21    | 24      | 21        | 12      | 9.2     | 87        | 46       | 64   | 21   | 7.0   | 8.7   | 47    |
| 21          | 116   | 24      | 20        | 12      | 9.1     | 85        | 43       | 55   | 20   | 7.4   | 7.8   | 53    |
| 22          | 38    | 23      | 14        | 12      | 8.7     | 84        | 41       | 47   | 18   | 8.7   | 13    | 25    |
| 23          | 28    | 21      | 17        | 11      | 8.8     | 89        | 71       | 43   | 15   | 6.3   | 13    | 18    |
| 24          | 24    | 20      | 16        | 11      | 8.8     | 74        | 435      | 55   | 14   | 5.6   | 9.2   | 43    |
| 25          | 37    | 19      | 16        | 11      | 55      | 69        | 266      | 46   | 16   | 8.7   | 8.7   | 76    |
| 26          | 47    | 19      | 15        | 11      | 50      | 71        | 122      | 36   | 31   | 11    | 7.0   | 185   |
| 27          | 32    | 20      | 15        | 11      | 42      | 81        | 116      | 33   | 20   | 6.7   | 6.3   | 108   |
| 28          | 27    | 19      | 14        | 10      | 42      | 103       | 95       | 30   | 15   | 5.6   | 6.3   | 44    |
| 29          | 25    | 26      | 14        | 10      | ---     | 300       | 82       | 27   | 16   | 5.0   | 6.0   | 33    |
| 30          | 23    | 22      | 13        | 9.3     | ---     | 388       | 74       | 26   | 19   | 4.7   | 5.6   | 27    |
| 31          | 39    | ---     | 13        | 9.0     | ---     | 263       | ---      | 24   | ---  | 5.3   | 5.3   | ---   |
| TOTAL       | 811.8 | 785     | 722       | 360.3   | 408.8   | 4686      | 3390     | 2299 | 721  | 346.2 | 369.9 | 849.5 |
| MEAN        | 26.2  | 26.2    | 23.3      | 11.6    | 14.6    | 151       | 113      | 74.2 | 24.0 | 11.2  | 11.9  | 28.3  |
| MAX         | 116   | 51      | 100       | 13      | 55      | 707       | 435      | 293  | 45   | 30    | 48    | 185   |
| MIN         | 8.7   | 19      | 13        | 9.0     | 8.7     | 23        | 41       | 24   | 14   | 4.7   | 5.3   | 5.6   |
| CFSM        | 1.09  | 1.09    | .97       | .48     | .61     | 6.29      | 4.71     | 3.09 | 1.00 | .47   | .50   | 1.18  |
| IN.         | 1.26  | 1.22    | 1.12      | .56     | .63     | 7.26      | 5.25     | 3.56 | 1.12 | .54   | .57   | 1.32  |
| CAL YR 1976 | TOTAL | 18127.7 | MEAN 49.5 | MAX 440 | MIN 4.5 | CFSM 2.06 | IN 28.10 |      |      |       |       |       |
| WTR YR 1977 | TOTAL | 15749.5 | MEAN 43.1 | MAX 707 | MIN 4.7 | CFSM 1.80 | IN 24.41 |      |      |       |       |       |

## 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 excellent except those for winter period and periods of no gage-height record, which are fair. 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 were made during the year.

AVERAGE DISCHARGE.--37 years (water years 1941-77), 1,279 ft<sup>3</sup>/s (36.22 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, 21,800 ft<sup>3</sup>/s (617 m<sup>3</sup>/s) Mar. 13, gage height, 9.91 ft (3.021 m); minimum daily, 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s) July 24, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN   | FEB   | MAR    | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|
| 1     | 523   | 1590  | 685   | 270   | 600   | 1100   | 6820  | 841   | 705   | 655   | 860   | 279   |
| 2     | 416   | 1330  | 628   | 270   | 600   | 1150   | 4540  | 993   | 645   | 576   | 940   | 238   |
| 3     | 310   | 991   | 670   | 400   | 1050  | 1160   | 4560  | 1110  | 634   | 231   | 460   | 302   |
| 4     | 349   | 1350  | 450   | 760   | 1050  | 1130   | 4860  | 1090  | 382   | 223   | 440   | 188   |
| 5     | 478   | 1300  | 500   | 640   | 1200  | 1660   | 5400  | 1360  | 366   | 223   | 500   | 207   |
| 6     | 430   | 1610  | 712   | 700   | 500   | 1430   | 6970  | 1390  | 559   | 535   | 230   | 432   |
| 7     | 527   | 1320  | 1590  | 780   | 650   | 1350   | 4720  | 1250  | 745   | 412   | 270   | 565   |
| 8     | 672   | 1390  | 2060  | 600   | 1050  | 1270   | 3470  | 1270  | 666   | 411   | 560   | 188   |
| 9     | 1530  | 1220  | 1340  | 320   | 1200  | 1450   | 2730  | 2960  | 672   | 319   | 600   | 369   |
| 10    | 1660  | 1300  | 1170  | 700   | 1000  | 1920   | 2290  | 3330  | 878   | 291   | 560   | 377   |
| 11    | 829   | 1210  | 1100  | 1050  | 1150  | 2660   | 2310  | 4050  | 896   | 492   | 920   | 231   |
| 12    | 1120  | 1270  | 791   | 850   | 1200  | 2950   | 2150  | 3940  | 472   | 410   | 620   | 310   |
| 13    | 799   | 902   | 621   | 740   | 1000  | 9120   | 3740  | 3880  | 405   | 725   | 300   | 389   |
| 14    | 729   | 1150  | 560   | 900   | 1000  | 16900  | 3840  | 2940  | 566   | 613   | 290   | 396   |
| 15    | 923   | 981   | 510   | 760   | 1050  | 6740   | 4160  | 2540  | 459   | 404   | 640   | 538   |
| 16    | 664   | 945   | 783   | 500   | 1080  | 4640   | 3330  | 1690  | 465   | 382   | 680   | 584   |
| 17    | 419   | 1030  | 751   | 700   | 1000  | 3730   | 2680  | 1330  | 409   | 213   | 1100  | 502   |
| 18    | 588   | 815   | 708   | 840   | 1030  | 2410   | 2290  | 1470  | 478   | 348   | 1200  | 712   |
| 19    | 600   | 832   | 476   | 940   | 399   | 1940   | 2330  | 1750  | 537   | 354   | 960   | 786   |
| 20    | 1080  | 748   | 699   | 1200  | 230   | 1420   | 1320  | 1730  | 529   | 495   | 553   | 1390  |
| 21    | 2490  | 450   | 1290  | 950   | 396   | 1440   | 1030  | 1580  | 437   | 664   | 549   | 1970  |
| 22    | 1660  | 560   | 971   | 750   | 753   | 2270   | 1240  | 906   | 510   | 327   | 809   | 1570  |
| 23    | 1260  | 584   | 1120  | 410   | 947   | 2430   | 1310  | 1030  | 360   | 270   | 847   | 523   |
| 24    | 967   | 681   | 740   | 520   | 876   | 2170   | 6090  | 910   | 264   | 150   | 771   | 1070  |
| 25    | 1340  | 469   | 501   | 480   | 1460  | 1970   | 6600  | 1020  | 449   | 660   | 484   | 1810  |
| 26    | 1710  | 318   | 270   | 400   | 1160  | 1940   | 3460  | 846   | 405   | 620   | 428   | 2530  |
| 27    | 1540  | 350   | 270   | 480   | 938   | 2080   | 2160  | 686   | 700   | 160   | 261   | 2570  |
| 28    | 1350  | 430   | 300   | 680   | 1030  | 2340   | 1320  | 577   | 1000  | 250   | 187   | 1490  |
| 29    | 1280  | 779   | 340   | 300   | ---   | 4010   | 1160  | 321   | 800   | 220   | 475   | 1150  |
| 30    | 1230  | 1100  | 300   | 200   | ---   | 6540   | 1090  | 327   | 900   | 170   | 738   | 1070  |
| 31    | 1420  | ---   | 270   | 500   | ---   | 9410   | ---   | 531   | ---   | 150   | 211   | ---   |
| TOTAL | 30893 | 29005 | 23176 | 19590 | 25599 | 102730 | 99970 | 49648 | 17293 | 11953 | 18443 | 24736 |
| MEAN  | 997   | 967   | 748   | 632   | 914   | 3314   | 3332  | 1602  | 576   | 386   | 595   | 825   |
| MAX   | 2490  | 1610  | 2060  | 1200  | 1460  | 16900  | 6970  | 4050  | 1000  | 725   | 1200  | 2570  |
| MIN   | 310   | 318   | 270   | 200   | 230   | 1100   | 1030  | 321   | 264   | 150   | 187   | 188   |

CAL YR 1977 TOTAL 527981 MEAN 1443 MAX 14500 MIN 214  
WTR YR 1977 TOTAL 453036 MEAN 1241 MAX 16900 MIN 150

NOTE.--No gage-height record June 27-30, July 23 to Aug. 19.



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.--WRD MA, NH, RI, VT, 1971: 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, which are fair.  
Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--10 years, 96.6 ft<sup>3</sup>/s (2.736 m<sup>3</sup>/s), 31.69 in/yr (805 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 (25.2 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.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft<sup>3</sup>/s (22.7 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 1845 | a*2830 80.1                                           | *6.89 2.100             | Apr. 24 | -    | 1200 34                                               | - -                     |
| Mar. 30 | -    | 1000 28                                               | - -                     |         |      |                                                       |                         |

a From rating curve extended as explained above.

Minimum discharge, 8.2 ft<sup>3</sup>/s (0.23 m<sup>3</sup>/s) July 24, 25, Sept. 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 1     | 19   | 104  | 24   | 22   | 19   | 52   | 450  | 112  | 26   | 21    | 41    | 9.8   |
| 2     | 20   | 69   | 27   | 22   | 17   | 40   | 310  | 103  | 30   | 22    | 92    | 9.8   |
| 3     | 20   | 62   | 24   | 22   | 17   | 33   | 380  | 97   | 28   | 19    | 31    | 9.8   |
| 4     | 16   | 65   | 22   | 21   | 17   | 30   | 320  | 85   | 24   | 18    | 20    | 9.8   |
| 5     | 14   | 66   | 23   | 21   | 17   | 105  | 400  | 81   | 23   | 18    | 19    | 9.5   |
| 6     | 14   | 127  | 25   | 21   | 17   | 121  | 500  | 80   | 23   | 24    | 20    | 9.5   |
| 7     | 13   | 81   | 130  | 21   | 17   | 65   | 300  | 69   | 36   | 19    | 19    | 9.1   |
| 8     | 13   | 69   | 140  | 20   | 17   | 47   | 230  | 62   | 39   | 23    | 17    | 8.5   |
| 9     | 174  | 58   | 52   | 20   | 17   | 53   | 180  | 208  | 33   | 28    | 15    | 8.2   |
| 10    | 117  | 54   | 40   | 20   | 17   | 97   | 160  | 317  | 71   | 21    | 14    | 9.5   |
| 11    | 51   | 53   | 45   | 21   | 17   | 164  | 160  | 237  | 127  | 18    | 50    | 12    |
| 12    | 39   | 46   | 35   | 22   | 18   | 231  | 200  | 177  | 58   | 16    | 28    | 10    |
| 13    | 33   | 49   | 30   | 21   | 18   | 1120 | 250  | 133  | 41   | 19    | 22    | 9.1   |
| 14    | 34   | 45   | 26   | 21   | 18   | 1480 | 240  | 106  | 34   | 19    | 19    | 15    |
| 15    | 33   | 44   | 28   | 20   | 18   | 600  | 170  | 90   | 30   | 15    | 22    | 17    |
| 16    | 29   | 42   | 32   | 20   | 16   | 527  | 140  | 78   | 26   | 13    | 17    | 13    |
| 17    | 26   | 41   | 35   | 19   | 15   | 374  | 120  | 70   | 24   | 13    | 19    | 19    |
| 18    | 25   | 41   | 34   | 19   | 19   | 244  | 110  | 65   | 43   | 13    | 20    | 21    |
| 19    | 23   | 40   | 33   | 19   | 17   | 209  | 100  | 120  | 47   | 12    | 16    | 20    |
| 20    | 38   | 39   | 31   | 20   | 17   | 174  | 90   | 83   | 31   | 11    | 13    | 67    |
| 21    | 281  | 33   | 36   | 20   | 18   | 154  | 83   | 69   | 36   | 13    | 12    | 69    |
| 22    | 109  | 36   | 32   | 20   | 17   | 147  | 80   | 63   | 29   | 11    | 20    | 36    |
| 23    | 69   | 34   | 29   | 19   | 16   | 146  | 130  | 54   | 24   | 8.9   | 28    | 27    |
| 24    | 57   | 34   | 27   | 18   | 16   | 133  | 550  | 48   | 22   | 8.2   | 19    | 43    |
| 25    | 87   | 32   | 26   | 19   | 40   | 117  | 370  | 51   | 25   | 13    | 17    | 67    |
| 26    | 135  | 31   | 28   | 20   | 80   | 113  | 230  | 41   | 54   | 16    | 14    | 136   |
| 27    | 90   | 33   | 27   | 20   | 65   | 129  | 192  | 36   | 39   | 11    | 13    | 142   |
| 28    | 67   | 37   | 24   | 20   | 60   | 161  | 165  | 33   | 28   | 9.7   | 12    | 54    |
| 29    | 59   | 40   | 23   | 19   | ---  | 400  | 139  | 31   | 26   | 8.9   | 12    | 36    |
| 30    | 55   | 30   | 22   | 19   | ---  | 710  | 124  | 29   | 27   | 8.5   | 11    | 31    |
| 31    | 96   | ---  | 22   | 19   | ---  | 750  | ---  | 27   | ---  | 9.7   | 9.8   | ---   |
| TOTAL | 1856 | 1535 | 1132 | 625  | 657  | 8726 | 6873 | 2855 | 1104 | 479.9 | 681.8 | 937.6 |
| MEAN  | 59.9 | 51.2 | 36.5 | 20.2 | 23.5 | 281  | 229  | 92.1 | 36.8 | 15.5  | 22.0  | 31.3  |
| MAX   | 281  | 127  | 140  | 22   | 80   | 1480 | 550  | 317  | 127  | 28    | 92    | 142   |
| MIN   | 13   | 30   | 22   | 18   | 15   | 30   | 80   | 27   | 22   | 8.2   | 9.8   | 8.2   |
| CFSM  | 1.45 | 1.24 | .88  | .49  | .57  | 6.79 | 5.53 | 2.23 | .89  | .37   | .53   | .76   |
| IN.   | 1.67 | 1.38 | 1.02 | .56  | .59  | 7.84 | 6.18 | 2.57 | .99  | .43   | .61   | .84   |

CAL YR 1976 TOTAL 32476.6 MEAN 88.7 MAX 1180 MIN 9.1 CFSM 2.14 IN 29.18  
WTR YR 1977 TOTAL 27462.3 MEAN 75.2 MAX 1480 MIN 8.2 CFSM 1.82 IN 24.68

NOTE.--No gage-height record Jan. 9 to Feb. 1, Mar. 29 to Apr. 26, Sept. 28, 29.



## 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 Penn Central 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) above mean sea level. 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 except those for winter period, which are good. 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 were made during the year.

AVERAGE DISCHARGE.--73 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.--Peak discharges above base of 61,000 ft<sup>3</sup>/s (1,730 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s) | Gage height<br>(ft) |
|---------|------|-----------------------------------|---------------------|---------|------|-----------------------------------|---------------------|
| Mar. 14 | 2100 | *108000                           | 3060                | Apr. 25 | 1430 | 76300                             | 2160                |
| Apr. 1  | 1245 | 87800                             | 2490                |         |      |                                   | 27.49 8.379         |
|         |      |                                   | 29.69 9.050         |         |      |                                   |                     |

Minimum daily discharge, 463 ft<sup>3</sup>/s (13.1 m<sup>3</sup>/s) Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT    | NOV     | DEC    | JAN    | FEB    | MAR     | APR     | MAY    | JUN    | JUL    | AUG    | SEP    |
|-------------|--------|---------|--------|--------|--------|---------|---------|--------|--------|--------|--------|--------|
| 1           | 6800   | 19800   | 12900  | 1900   | 5800   | 8000    | 85700   | 20300  | 7770   | 11200  | 4470   | 5500   |
| 2           | 8820   | 21200   | 11400  | 4070   | 5400   | 9000    | 76000   | 17200  | 8550   | 9010   | 7100   | 4760   |
| 3           | 4440   | 18500   | 9340   | 9000   | 6800   | 9180    | 57800   | 15900  | 8660   | 3420   | 4080   | 2870   |
| 4           | 5940   | 18300   | 6290   | 6200   | 6200   | 9650    | 58200   | 15700  | 4800   | 1930   | 3870   | 463    |
| 5           | 7220   | 17400   | 2970   | 5800   | 3400   | 12300   | 55600   | 15800  | 3070   | 5420   | 2320   | 1340   |
| 6           | 7480   | 21700   | 6750   | 6960   | 3000   | 11800   | 55800   | 15700  | 6260   | 6120   | 3740   | 4170   |
| 7           | 8630   | 20100   | 10700  | 6420   | 5800   | 9200    | 53900   | 13800  | 8210   | 6060   | 2170   | 4470   |
| 8           | 9440   | 20900   | 22700  | 6950   | 6800   | 11100   | 48500   | 13000  | 8390   | 5380   | 4660   | 3530   |
| 9           | 10600  | 17900   | 19100  | 2900   | 6900   | 13700   | 34900   | 15200  | 6980   | 3450   | 2470   | 3480   |
| 10          | 28900  | 17700   | 16700  | 7200   | 7400   | 14400   | 26100   | 21600  | 10400  | 4260   | 4210   | 2230   |
| 11          | 32500  | 15300   | 14700  | 7600   | 8400   | 16600   | 26500   | 25900  | 12400  | 6560   | 5520   | 4160   |
| 12          | 22500  | 15100   | 11200  | 8300   | 8110   | 24000   | 24600   | 22600  | 7050   | 6990   | 3570   | 5390   |
| 13          | 18300  | 14300   | 12800  | 7600   | 5500   | 38700   | 27600   | 20400  | 7340   | 4650   | 2410   | 3460   |
| 14          | 18300  | 8000    | 10800  | 5600   | 5600   | 92700   | 36000   | 16900  | 9460   | 3900   | 1290   | 7260   |
| 15          | 14200  | 10200   | 10200  | 5200   | 6390   | 99100   | 42300   | 13400  | 7540   | 3020   | 3050   | 10900  |
| 16          | 13700  | 12800   | 8720   | 3600   | 5080   | 83400   | 39700   | 10800  | 7030   | 3110   | 5600   | 11000  |
| 17          | 13800  | 12200   | 10400  | 7600   | 5000   | 81400   | 36000   | 12000  | 8020   | 1440   | 7490   | 11700  |
| 18          | 14200  | 11800   | 9960   | 8700   | 4200   | 78700   | 28300   | 11800  | 4240   | 4810   | 12300  | 8420   |
| 19          | 11700  | 11400   | 10400  | 7600   | 4780   | 58400   | 26800   | 11700  | 3410   | 4120   | 12200  | 9130   |
| 20          | 12600  | 9330    | 7580   | 8200   | 2580   | 44900   | 22400   | 19000  | 7430   | 4580   | 11800  | 12400  |
| 21          | 27900  | 6770    | 11400  | 7600   | 1880   | 37400   | 23700   | 11400  | 6610   | 5150   | 8120   | 13500  |
| 22          | 33800  | 9250    | 12700  | 4800   | 5990   | 39100   | 23800   | 5250   | 4500   | 3440   | 6400   | 13000  |
| 23          | 32500  | 10400   | 9230   | 1400   | 6290   | 33300   | 25300   | 8380   | 6300   | 3180   | 8610   | 12000  |
| 24          | 23800  | 10400   | 7010   | 5600   | 7940   | 25800   | 47700   | 9690   | 8030   | 829    | 5630   | 12200  |
| 25          | 19800  | 8010    | 5480   | 6000   | 7940   | 22500   | 71300   | 9220   | 6330   | 732    | 6000   | 10800  |
| 26          | 23600  | 7650    | 4200   | 5200   | 8280   | 22100   | 62900   | 8650   | 6670   | 3630   | 6760   | 12500  |
| 27          | 22400  | 7370    | 7150   | 4900   | 6200   | 23000   | 46200   | 6290   | 9910   | 3950   | 4590   | 14900  |
| 28          | 20500  | 7190    | 7410   | 5200   | 5400   | 22400   | 33500   | 3040   | 12200  | 2990   | 2940   | 14300  |
| 29          | 17500  | 7890    | 6570   | 3700   | ---    | 29500   | 29700   | 2980   | 12000  | 3370   | 6400   | 16800  |
| 30          | 16500  | 11400   | 6540   | 1900   | ---    | 54800   | 25300   | 3900   | 12100  | 2210   | 7630   | 12500  |
| 31          | 16900  | ---     | 4710   | 6000   | ---    | 77200   | ---     | 5500   | ---    | 1750   | 6130   | ---    |
| TOTAL       | 525270 | 400260  | 308010 | 179700 | 163060 | 1113330 | 1252100 | 403000 | 231660 | 130661 | 173530 | 249133 |
| MEAN        | 16940  | 13340   | 9936   | 5797   | 5824   | 35910   | 41740   | 13000  | 7722   | 4215   | 5598   | 8304   |
| MAX         | 33800  | 21700   | 22700  | 9000   | 8400   | 99100   | 85700   | 25900  | 12400  | 11200  | 12300  | 16800  |
| MIN         | 4440   | 6770    | 2970   | 1400   | 1880   | 8000    | 22400   | 2980   | 3070   | 732    | 1290   | 463    |
| CAL YR 1976 | TOTAL  | 6739300 | MEAN   | 18410  | MAX    | 96700   | MIN     | 760    |        |        |        |        |
| WTR YR 1977 | TOTAL  | 5129714 | MEAN   | 14050  | MAX    | 99100   | MIN     | 463    |        |        |        |        |

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.--WRD 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 winter period, which are fair. Diversions upstream for municipal supply of Amherst. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--11 years, 64.4 ft<sup>3</sup>/s (1.824 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), from rating curve extended above 690 ft<sup>3</sup>/s (19.5 m<sup>3</sup>/s); minimum, 1.9 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s) Sept. 3, 1966.

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 (14.2 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 0045 | *1580 44.7                                            | *7.78 2.371             | May 10 | 0100 | 542 15.3                                              | 4.61 1.405              |
| Apr. 25 | 0615 | 683 19.3                                              | 5.17 1.576              |        |      |                                                       |                         |

Minimum discharge, 9.6 ft<sup>3</sup>/s (0.27 m<sup>3</sup>/s) Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC       | JAN  | FEB  | MAR    | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|-----------|------|------|--------|------|------|------|------|------|------|
| 1           | 15    | 43    | 17        | 17   | 18   | 110    | 113  | 67   | 20   | 21   | 143  | 13   |
| 2           | 14    | 33    | 16        | 18   | 18   | 85     | 92   | 62   | 29   | 16   | 270  | 13   |
| 3           | 17    | 27    | 14        | 20   | 19   | 70     | 105  | 58   | 29   | 13   | 83   | 16   |
| 4           | 49    | 25    | 13        | 21   | 20   | 60     | 95   | 53   | 24   | 13   | 38   | 18   |
| 5           | 34    | 25    | 14        | 21   | 20   | 150    | 159  | 55   | 20   | 13   | 48   | 18   |
| 6           | 22    | 30    | 14        | 20   | 19   | 120    | 228  | 55   | 20   | 12   | 50   | 42   |
| 7           | 18    | 27    | 95        | 19   | 18   | 100    | 142  | 47   | 27   | 12   | 34   | 25   |
| 8           | 17    | 24    | 190       | 22   | 17   | 90     | 105  | 60   | 41   | 19   | 28   | 19   |
| 9           | 17    | 23    | 73        | 24   | 17   | 110    | 88   | 360  | 34   | 23   | 24   | 16   |
| 10          | 78    | 22    | 46        | 28   | 17   | 140    | 77   | 428  | 39   | 17   | 25   | 16   |
| 11          | 55    | 23    | 38        | 35   | 18   | 190    | 71   | 206  | 39   | 14   | 69   | 16   |
| 12          | 34    | 22    | 34        | 30   | 19   | 230    | 63   | 136  | 33   | 40   | 43   | 16   |
| 13          | 25    | 20    | 30        | 27   | 20   | 501    | 58   | 91   | 28   | 47   | 39   | 16   |
| 14          | 23    | 20    | 23        | 25   | 21   | 1000   | 54   | 80   | 25   | 48   | 32   | 16   |
| 15          | 21    | 21    | 23        | 24   | 20   | 443    | 49   | 69   | 23   | 27   | 31   | 16   |
| 16          | 19    | 22    | 24        | 23   | 19   | 250    | 46   | 60   | 20   | 18   | 27   | 16   |
| 17          | 17    | 20    | 24        | 22   | 18   | 185    | 44   | 53   | 19   | 16   | 27   | 16   |
| 18          | 16    | 20    | 25        | 21   | 18   | 136    | 42   | 69   | 22   | 26   | 31   | 16   |
| 19          | 15    | 20    | 23        | 21   | 17   | 113    | 41   | 89   | 33   | 17   | 25   | 70   |
| 20          | 17    | 20    | 25        | 20   | 17   | 108    | 39   | 64   | 27   | 13   | 21   | 100  |
| 21          | 83    | 19    | 48        | 20   | 16   | 107    | 37   | 50   | 30   | 13   | 19   | 88   |
| 22          | 60    | 17    | 31        | 19   | 16   | 125    | 34   | 42   | 25   | 13   | 24   | 53   |
| 23          | 36    | 17    | 23        | 19   | 16   | 387    | 50   | 34   | 20   | 11   | 32   | 37   |
| 24          | 28    | 17    | 22        | 20   | 15   | 230    | 253  | 33   | 19   | 11   | 25   | 49   |
| 25          | 34    | 17    | 20        | 21   | 100  | 142    | 535  | 31   | 18   | 19   | 23   | 108  |
| 26          | 51    | 17    | 21        | 21   | 120  | 116    | 222  | 27   | 20   | 20   | 20   | 179  |
| 27          | 45    | 17    | 20        | 20   | 100  | 114    | 147  | 25   | 19   | 13   | 17   | 321  |
| 28          | 33    | 17    | 19        | 19   | 130  | 131    | 113  | 24   | 17   | 11   | 16   | 143  |
| 29          | 29    | 20    | 19        | 19   | ---  | 224    | 91   | 22   | 24   | 11   | 15   | 92   |
| 30          | 26    | 23    | 19        | 18   | ---  | 252    | 75   | 21   | 32   | 11   | 14   | 65   |
| 31          | 34    | ---   | 18        | 18   | ---  | 155    | ---  | 20   | ---  | 11   | 13   | ---  |
| TOTAL       | 982   | 668   | 1021      | 672  | 883  | 6174   | 3268 | 2491 | 776  | 569  | 1306 | 1629 |
| MEAN        | 31.7  | 22.3  | 32.9      | 21.7 | 31.5 | 199    | 109  | 80.4 | 25.9 | 18.4 | 42.1 | 54.3 |
| MAX         | 83    | 43    | 190       | 35   | 130  | 1000   | 535  | 428  | 41   | 48   | 270  | 321  |
| MIN         | 14    | 17    | 13        | 17   | 15   | 50     | 34   | 20   | 17   | 11   | 13   | 13   |
| CAL YR 1976 | TOTAL | 24549 | MEAN 67.1 | MAX  | 900  | MIN 11 |      |      |      |      |      |      |
| WTR YR 1977 | TOTAL | 20439 | MEAN 56.0 | MAX  | 1000 | MIN 11 |      |      |      |      |      |      |

## CONNECTICUT RIVER BASIN

175

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. Flow regulated by mill upstream prior to 1956. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--39 years, 95.6 ft<sup>3</sup>/s (2.707 m<sup>3</sup>/s), 24.04 in/yr (611 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 (105 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 1,250 ft<sup>3</sup>/s (35.4 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 2315 | *2460 69.7                                            | *6.91 2.106             | Apr. 24 | 2345 | 1260 35.7                                             | 4.95 1.509              |

Minimum discharge, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Aug. 31, Sept. 1, 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1     | 22   | 74   | 29   | 32   | 27   | 132  | 285  | 127  | 38   | 28   | 52   | 15   |
| 2     | 21   | 57   | 33   | 34   | 28   | 110  | 224  | 122  | 84   | 23   | 159  | 15   |
| 3     | 49   | 53   | 31   | 37   | 29   | 93   | 276  | 108  | 61   | 20   | 55   | 20   |
| 4     | 46   | 54   | 31   | 37   | 30   | 87   | 213  | 97   | 44   | 19   | 42   | 19   |
| 5     | 30   | 54   | 35   | 36   | 30   | 141  | 500  | 113  | 36   | 18   | 38   | 31   |
| 6     | 40   | 80   | 35   | 33   | 28   | 203  | 445  | 107  | 35   | 19   | 33   | 67   |
| 7     | 40   | 61   | 218  | 33   | 27   | 187  | 262  | 90   | 64   | 18   | 28   | 38   |
| 8     | 25   | 54   | 171  | 36   | 26   | 155  | 216  | 80   | 78   | 43   | 27   | 36   |
| 9     | 132  | 50   | 73   | 37   | 26   | 144  | 177  | 644  | 56   | 54   | 26   | 34   |
| 10    | 135  | 48   | 66   | 41   | 27   | 163  | 162  | 730  | 81   | 31   | 25   | 42   |
| 11    | 53   | 46   | 66   | 52   | 28   | 201  | 150  | 382  | 88   | 24   | 72   | 43   |
| 12    | 39   | 40   | 59   | 48   | 28   | 244  | 142  | 268  | 66   | 67   | 61   | 40   |
| 13    | 34   | 39   | 52   | 42   | 30   | 970  | 137  | 195  | 51   | 84   | 59   | 39   |
| 14    | 36   | 38   | 46   | 40   | 32   | 1470 | 126  | 160  | 43   | 151  | 48   | 42   |
| 15    | 33   | 41   | 53   | 37   | 29   | 645  | 111  | 136  | 39   | 55   | 53   | 39   |
| 16    | 29   | 40   | 49   | 35   | 29   | 484  | 102  | 118  | 35   | 36   | 37   | 25   |
| 17    | 27   | 37   | 48   | 34   | 27   | 350  | 96   | 105  | 31   | 30   | 41   | 30   |
| 18    | 25   | 37   | 46   | 33   | 26   | 253  | 90   | 90   | 40   | 80   | 59   | 29   |
| 19    | 24   | 37   | 45   | 32   | 24   | 231  | 86   | 144  | 59   | 46   | 36   | 83   |
| 20    | 30   | 36   | 45   | 31   | 22   | 194  | 80   | 112  | 39   | 31   | 30   | 121  |
| 21    | 176  | 34   | 57   | 30   | 23   | 190  | 76   | 91   | 39   | 27   | 25   | 112  |
| 22    | 84   | 32   | 43   | 29   | 28   | 218  | 73   | 80   | 33   | 38   | 35   | 73   |
| 23    | 58   | 32   | 42   | 29   | 23   | 326  | 104  | 71   | 28   | 25   | 35   | 63   |
| 24    | 51   | 31   | 40   | 30   | 24   | 235  | 766  | 65   | 26   | 20   | 29   | 115  |
| 25    | 60   | 27   | 38   | 32   | 120  | 184  | 687  | 60   | 26   | 27   | 27   | 206  |
| 26    | 78   | 28   | 41   | 32   | 201  | 171  | 296  | 52   | 47   | 31   | 24   | 336  |
| 27    | 68   | 31   | 39   | 31   | 158  | 200  | 230  | 45   | 38   | 23   | 22   | 347  |
| 28    | 57   | 32   | 37   | 30   | 132  | 240  | 190  | 42   | 30   | 19   | 22   | 139  |
| 29    | 54   | 38   | 36   | 29   | ---  | 541  | 157  | 38   | 32   | 17   | 18   | 106  |
| 30    | 51   | 39   | 35   | 28   | ---  | 547  | 137  | 37   | 40   | 16   | 16   | 93   |
| 31    | 65   | ---  | 34   | 27   | ---  | 433  | ---  | 36   | ---  | 16   | 15   | ---  |
| TOTAL | 1672 | 1300 | 1673 | 1067 | 1262 | 9742 | 6596 | 4545 | 1407 | 1136 | 1249 | 2398 |
| MEAN  | 53.9 | 43.3 | 54.0 | 34.4 | 45.1 | 314  | 220  | 147  | 46.9 | 36.6 | 40.3 | 79.9 |
| MAX   | 176  | 80   | 218  | 52   | 201  | 1470 | 766  | 730  | 88   | 151  | 159  | 347  |
| MIN   | 21   | 27   | 29   | 27   | 22   | 87   | 73   | 36   | 26   | 16   | 15   | 15   |
| CFSM  | 1.00 | .80  | 1.00 | .64  | .84  | 5.82 | 4.07 | 2.72 | .87  | .68  | .75  | 1.48 |
| IN.   | 1.15 | .90  | 1.15 | .74  | .87  | 6.71 | 4.54 | 3.13 | .97  | .78  | .86  | 1.65 |

| CAL YR 1976 | TOTAL | 39809 | MEAN 109  | MAX 1200 | MIN 13 | CFSM 2.02 | IN 27.42 |
|-------------|-------|-------|-----------|----------|--------|-----------|----------|
| WTR YR 1977 | TOTAL | 34047 | MEAN 93.3 | MAX 1470 | MIN 15 | CFSM 1.73 | IN 23.45 |

## CONNECTICUT RIVER BASIN

01172000 CONNECTICUT RIVER AT HOLYOKE, MA

LOCATION.--Lat 42°12'50", long 72°23'10", Hampden County, Hydrologic Unit 01080201, at dam of Holyoke Water Power Co. in Holyoke, MA.

DRAINAGE AREA.--8,309 mi<sup>2</sup> (21,520 km<sup>2</sup>).

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

REMARKS.--Discharges furnished by local power company.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L) | COD IN BOTTOM MATERIAL (MG/KG) | IMMEDIATE COLIFORM (COL. PER 100 ML) | FECAL COLIFORM (COL.-MF (COL./100 ML) |
|-----------|------|-------------------------------|----------------------------------|------------|-------------------------|---------------------|-----------------|-------------------------|-------------------------------------------|--------------------------------|--------------------------------------|---------------------------------------|
| OCT 12... | 1330 | 6300                          | 89                               | 6.8        | 12.5                    | 13.5                | 11              | 10.5                    | 12                                        | 17000                          | 3800                                 | 510                                   |
| NOV 23... | 1130 | 4300                          | 138                              | 6.9        | 7.0                     | 3.5                 | 3               | 12.4                    | 11                                        | --                             | 6300                                 | 440                                   |
| APR 12... | 1030 | 7000                          | 116                              | 6.8        | 27.5                    | 5.5                 | 5               | 10.6                    | <10                                       | --                             | 150                                  | 70                                    |
| 26...     | 1200 | 6000                          | 83                               | 6.8        | 16.5                    | 8.5                 | 1               | 12.3                    | 14                                        | 16000                          | 5300                                 | 580                                   |
| MAY 26... | 1130 | 4200                          | 100                              | 7.2        | 24.0                    | 22.0                | 1               | 8.3                     | 9                                         | --                             | 1800                                 | 8290                                  |
| JUN 21... | 1230 | 2300                          | 111                              | 7.3        | 19.5                    | 22.5                | 1               | 8.8                     | 8                                         | 7800                           | 3700                                 | 220                                   |
| JUL 26... | 1300 | 1600                          | 112                              | 7.5        | 21.0                    | 24.0                | 1               | 8.3                     | 15                                        | --                             | 8600                                 | 400                                   |
| AUG 08... | 1600 | 1600                          | 128                              | 7.3        | 32.0                    | 27.0                | 1               | 9.1                     | 15                                        | 9400                           | 14000                                | 1600                                  |
| SEP 13... | 1600 | 1500                          | 121                              | 7.4        | 17.0                    | 20.5                | 3               | 9.9                     | 15                                        | --                             | 862000                               | 5800                                  |

| DATE      | FECAL STREPTOCOCCI (COL. PER 100 ML) | TOTAL CALCIUM (CA) (MG/L) | TOTAL MAGNESIUM (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) | TOTAL RESIDUE (MG/L) | LOSS ON IGNITION IN BOTTOM MATERIAL (MG/KG) |
|-----------|--------------------------------------|---------------------------|------------------------|---------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------------|----------------------|---------------------------------------------|
| OCT 12... | 240                                  | 12                        | 1.8                    | 44                        | 0                      | 36                         | 11                          | 5.6                            | 5.9                            | 30                                  | 102                  | 7000                                        |
| NOV 23... | 71                                   | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 1                                   | 71                   | --                                          |
| APR 12... | 16                                   | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 18                                  | 75                   | --                                          |
| 26...     | --                                   | 2.7                       | 1.5                    | 19                        | 0                      | 16                         | 4.8                         | 7.6                            | 4.9                            | 0                                   | 102                  | 48                                          |
| MAY 26... | --                                   | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 9                                   | 60                   | --                                          |
| JUN 21... | --                                   | 10                        | 1.6                    | 31                        | 0                      | 25                         | 2.5                         | 11                             | 10                             | 10                                  | 67                   | 0                                           |
| JUL 26... | 44                                   | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 23                                  | 72                   | --                                          |
| AUG 08... | 100                                  | 10                        | 1.7                    | 43                        | 0                      | 35                         | 3.4                         | 11                             | 12                             | 0                                   | 81                   | 3930                                        |
| SEP 13... | 1700                                 | --                        | --                     | --                        | --                     | --                         | --                          | --                             | --                             | 2                                   | 87                   | --                                          |

B, NON-IDEAL COLONY COUNT.

01172000 CONNECTICUT RIVER AT HOLYOKE, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE  | TOTAL<br>NITRATE<br>(N)<br>(MG/L) | TOTAL<br>NITRITE<br>(N)<br>(MG/L) | TOTAL<br>NITRITE<br>PLUS<br>NITRATE<br>(N)<br>(MG/L) | TOTAL<br>AMMONIA<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>ORGANIC<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>KJEL-<br>DAHL<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>PHOS-<br>PHORUS<br>(P)<br>(MG/L) | PHENOLS<br>(UG/L) | OIL<br>AND<br>GREASE<br>(MG/L) | CHLORO-<br>PHYLL A<br>(UG/L) | CHLORO-<br>PHYLL B<br>(UG/L) |
|-------|-----------------------------------|-----------------------------------|------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------------|-------------------|--------------------------------|------------------------------|------------------------------|
| OCT   |                                   |                                   |                                                      |                                                    |                                                    |                                                          |                                         |                                           |                   |                                |                              |                              |
| 12... | .17                               | .00                               | .17                                                  | .05                                                | .28                                                | .33                                                      | .50                                     | .07                                       | 0                 | 0                              | .000                         | .000                         |
| NOV   |                                   |                                   |                                                      |                                                    |                                                    |                                                          |                                         |                                           |                   |                                |                              |                              |
| 23... | .28                               | .01                               | .29                                                  | .05                                                | .15                                                | .20                                                      | .49                                     | .03                                       | --                | 0                              | 2.47                         | 1.10                         |
| APR   |                                   |                                   |                                                      |                                                    |                                                    |                                                          |                                         |                                           |                   |                                |                              |                              |
| 12... | .31                               | .01                               | .32                                                  | .03                                                | .37                                                | .40                                                      | .72                                     | .03                                       | --                | --                             | .000                         | .000                         |
| 26... | .26                               | .01                               | .27                                                  | .04                                                | .17                                                | .21                                                      | .48                                     | .04                                       | 0                 | 0                              | .000                         | .000                         |
| MAY   |                                   |                                   |                                                      |                                                    |                                                    |                                                          |                                         |                                           |                   |                                |                              |                              |
| 26... | .22                               | .01                               | .23                                                  | .10                                                | .23                                                | .33                                                      | .56                                     | .04                                       | --                | --                             | 5.48                         | 1.02                         |
| JUN   |                                   |                                   |                                                      |                                                    |                                                    |                                                          |                                         |                                           |                   |                                |                              |                              |
| 21... | .36                               | .01                               | .37                                                  | .08                                                | .22                                                | .30                                                      | .67                                     | .03                                       | 0                 | 1                              | 19.3                         | 6.35                         |
| JUL   |                                   |                                   |                                                      |                                                    |                                                    |                                                          |                                         |                                           |                   |                                |                              |                              |
| 26... | .17                               | .01                               | .18                                                  | .04                                                | .46                                                | .50                                                      | .68                                     | .03                                       | --                | 2                              | 4.49                         | .000                         |
| AUG   |                                   |                                   |                                                      |                                                    |                                                    |                                                          |                                         |                                           |                   |                                |                              |                              |
| 08... | .14                               | .01                               | .15                                                  | .09                                                | .45                                                | .54                                                      | .69                                     | .04                                       | 0                 | 2                              | 11.3                         | .482                         |
| SEP   |                                   |                                   |                                                      |                                                    |                                                    |                                                          |                                         |                                           |                   |                                |                              |                              |
| 13... | .17                               | .01                               | .18                                                  | .12                                                | .35                                                | .47                                                      | .65                                     | .06                                       | --                | 0                              | 39.3                         | .000                         |

| DATE       | TIME | TOTAL<br>ALUM-<br>INUM<br>(AL)<br>(UG/L) | TOTAL<br>ALUMI-<br>NUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>BARIUM<br>(BA)<br>(UG/L) | TOTAL<br>BARIUM<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>BERYL-<br>LIUM<br>(BE)<br>(UG/L) | TOTAL<br>BERYL-<br>LIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>BISMUTH<br>(BI)<br>(UG/L) | TOTAL<br>BORON<br>(B)<br>(UG/L) | TOTAL-<br>BORON<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>CAD-<br>MIUM<br>(CD)<br>(UG/L) |
|------------|------|------------------------------------------|----------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------|------------------------------------|---------------------------------|------------------------------------------------------------|-----------------------------------------|
| DEC , 1975 |      |                                          |                                                                |                                   |                                                            |                                           |                                                                 |                                    |                                 |                                                            |                                         |
| 09...      | 1000 | >2500                                    | >390                                                           | 80                                | 38                                                         | <5                                        | 3                                                               | <5                                 | 40                              | <1                                                         | <10                                     |
| APR , 1976 |      |                                          |                                                                |                                   |                                                            |                                           |                                                                 |                                    |                                 |                                                            |                                         |
| 29...      | 1400 | 300                                      | 35000                                                          | 20                                | 600                                                        | <0                                        | 150                                                             | <2                                 | 8                               | 400                                                        | 0                                       |
| OCT        |      |                                          |                                                                |                                   |                                                            |                                           |                                                                 |                                    |                                 |                                                            |                                         |
| 12...      | 1330 | >280                                     | >720                                                           | 6                                 | 65                                                         | <1                                        | 22                                                              | <1                                 | 150                             | 310                                                        | <10                                     |

| DATE       | TOTAL<br>CADMIUM<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | TOTAL<br>CHRO-<br>MIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>COBALT<br>(CO)<br>(UG/L) | TOTAL<br>COBALT<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>COPPER<br>(CU)<br>(UG/L) | TOTAL<br>COPPER<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>GALLIUM<br>(GA)<br>(UG/L) | TOTAL<br>GER-<br>MANIUM<br>(GE)<br>(UG/L) | TOTAL<br>IRON<br>(FE)<br>(UG/L) | TOTAL<br>IRON<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) |
|------------|-------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|------------------------------------|-------------------------------------------|---------------------------------|----------------------------------------------------------|
| DEC , 1975 |                                                             |                                          |                                                                |                                   |                                                            |                                   |                                                            |                                    |                                           |                                 |                                                          |
| 09...      | --                                                          | 66                                       | >39                                                            | <5                                | 17                                                         | 17                                | 59                                                         | <5                                 | <10                                       | 2000                            | >390                                                     |
| APR , 1976 |                                                             |                                          |                                                                |                                   |                                                            |                                   |                                                            |                                    |                                           |                                 |                                                          |
| 29...      | <150                                                        | <1                                       | 200                                                            | <1                                | 200                                                        | 2                                 | 3700                                                       | <1                                 | <3                                        | 470                             | 150000                                                   |
| OCT        |                                                             |                                          |                                                                |                                   |                                                            |                                   |                                                            |                                    |                                           |                                 |                                                          |
| 12...      | 1                                                           | 2                                        | 52                                                             | 1                                 | 55                                                         | 4                                 | >720                                                       | <1                                 | <1                                        | >280                            | >720                                                     |

| DATE       | TOTAL<br>LEAD<br>(PB)<br>(UG/L) | TOTAL<br>LEAD<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>LITHIUM<br>(LI)<br>(UG/L) | TOTAL<br>MAN-<br>GANESE<br>(MN)<br>(UG/L) | TOTAL<br>MANGA-<br>NESE IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>MOLYB-<br>DENUM<br>(MO)<br>(UG/L) | TOTAL<br>MOLYB-<br>DENUM<br>IN BOT-<br>TOM MA-<br>TERIAL<br>(UG/G) | TOTAL<br>NICKEL<br>(NI)<br>(UG/L) | TOTAL<br>NICKEL<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>SILVER<br>(AG)<br>(UG/L) | TOTAL<br>SILVER<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) |
|------------|---------------------------------|----------------------------------------------------------|------------------------------------|-------------------------------------------|-----------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|
| DEC , 1975 |                                 |                                                          |                                    |                                           |                                                                 |                                            |                                                                    |                                   |                                                            |                                   |                                                            |
| 09...      | 23                              | >39                                                      | 0                                  | 330                                       | >390                                                            | <5                                         | <1                                                                 | 63                                | >39                                                        | <3                                | 1                                                          |
| APR , 1976 |                                 |                                                          |                                    |                                           |                                                                 |                                            |                                                                    |                                   |                                                            |                                   |                                                            |
| 29...      | 20                              | 19000                                                    | 0                                  | 40                                        | 3000                                                            | 1                                          | 70                                                                 | 3                                 | 3500                                                       | <0                                | 10                                                         |
| OCT        |                                 |                                                          |                                    |                                           |                                                                 |                                            |                                                                    |                                   |                                                            |                                   |                                                            |
| 12...      | 8                               | >720                                                     | 0                                  | 90                                        | 270                                                             | 1                                          | 63                                                                 | 21                                | >720                                                       | 1                                 | 3                                                          |

## CONNECTICUT RIVER BASIN

01172000 CONNECTICUT RIVER AT HOLYOKE, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE       | TOTAL<br>STRON-<br>TIUM<br>(SR)<br>(UG/L) | TOTAL<br>STRON-<br>TIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>TIN<br>(SN)<br>(UG/L) | TOTAL<br>TI-<br>TANIUM<br>(TI)<br>(UG/L) | TOTAL<br>TITA-<br>NIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>VANA-<br>DIUM<br>(V)<br>(UG/L) | TOTAL<br>VANA-<br>DIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>ZINC<br>(ZN)<br>(UG/L) | TOTAL<br>ZINC<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>ZIR-<br>CONIUM<br>(ZR)<br>(UG/L) |
|------------|-------------------------------------------|-----------------------------------------------------------------|--------------------------------|------------------------------------------|----------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------|---------------------------------|----------------------------------------------------------|-------------------------------------------|
| DEC , 1975 |                                           |                                                                 |                                |                                          |                                                                |                                         |                                                                |                                 |                                                          |                                           |
| 09...      | 330                                       | 9                                                               | <8                             | 280                                      | >39                                                            | <10                                     | 47                                                             | 10                              | --                                                       | <10                                       |
| APR , 1976 |                                           |                                                                 |                                |                                          |                                                                |                                         |                                                                |                                 |                                                          |                                           |
| 29...      | 40                                        | 80                                                              | <2                             | 20                                       | 2000                                                           | <1.0                                    | 70                                                             | 20                              | 14000                                                    | <2                                        |
| OCT        |                                           |                                                                 |                                |                                          |                                                                |                                         |                                                                |                                 |                                                          |                                           |
| 12...      | 20                                        | 6                                                               | <0                             | 110                                      | 390                                                            | 6.4                                     | 10                                                             | 10                              | 12500                                                    | <1                                        |

| DATE       | TIME | DIS-<br>SOLVED<br>GROSS<br>ALPHA<br>AS<br>U-NAT.<br>(UG/L) | SUS-<br>PENDED<br>GROSS<br>ALPHA<br>AS<br>U-NAT.<br>(UG/L) | DIS-<br>SOLVED<br>GROSS<br>BETA<br>AS<br>CS-137<br>(PC/L) | SUS-<br>PENDED<br>GROSS<br>BETA<br>AS<br>CS-137<br>(PC/L) | DIS-<br>SOLVED<br>GROSS<br>BETA<br>AS<br>AS SR90<br>/Y90<br>(PC/L) | SUS-<br>PENDED<br>GROSS<br>BETA<br>AS<br>AS SR90<br>/Y90<br>(PC/L) |
|------------|------|------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|
| DEC , 1975 |      |                                                            |                                                            |                                                           |                                                           |                                                                    |                                                                    |
| 09...      | 1000 | <.6                                                        | <.4                                                        | 2.0                                                       | .7                                                        | 1.6                                                                | .6                                                                 |
| APR , 1976 |      |                                                            |                                                            |                                                           |                                                           |                                                                    |                                                                    |
| 29...      | 1400 | <.8                                                        | <.4                                                        | 2.0                                                       | .5                                                        | 1.6                                                                | .4                                                                 |
| OCT        |      |                                                            |                                                            |                                                           |                                                           |                                                                    |                                                                    |
| 12...      | 1330 | <1.0                                                       | 3.0                                                        | 2.4                                                       | 2.2                                                       | 1.9                                                                | 1.8                                                                |

| DATE  | TOTAL<br>PCB<br>(UG/L) | POLY-<br>CHLO-<br>RINATED<br>NAPH-<br>THA-<br>LENES<br>(UG/L) | TOTAL<br>ALDRIN<br>(UG/L) | TOTAL<br>CHLOR-<br>DANE<br>(UG/L) | TOTAL<br>DDD<br>(UG/L) | TOTAL<br>DDE<br>(UG/L) | TOTAL<br>DDT<br>(UG/L) |
|-------|------------------------|---------------------------------------------------------------|---------------------------|-----------------------------------|------------------------|------------------------|------------------------|
| OCT   |                        |                                                               |                           |                                   |                        |                        |                        |
| 12... | .0                     | .00                                                           | .00                       | .0                                | .00                    | .00                    | .00                    |
| APR   |                        |                                                               |                           |                                   |                        |                        |                        |
| 26... | .0                     | .00                                                           | .00                       | .0                                | .00                    | .00                    | .00                    |
| AUG   |                        |                                                               |                           |                                   |                        |                        |                        |
| 08... | .0                     | .00                                                           | .00                       | .0                                | .00                    | .00                    | .00                    |

| DATE  | TOTAL<br>OI-<br>ELDRIN<br>(UG/L) | TOTAL<br>ENDO-<br>SULFAN<br>(UG/L) | TOTAL<br>ENDRIN<br>(UG/L) | TOTAL<br>HEPTA-<br>CHLOR<br>(UG/L) | TOTAL<br>HEPTA-<br>CHLOR<br>EPOXIDE<br>(UG/L) | TOTAL<br>LINDANE<br>(UG/L) | TOTAL<br>TOX-<br>APHENE<br>(UG/L) |
|-------|----------------------------------|------------------------------------|---------------------------|------------------------------------|-----------------------------------------------|----------------------------|-----------------------------------|
| OCT   |                                  |                                    |                           |                                    |                                               |                            |                                   |
| 12... | .00                              | --                                 | .00                       | .00                                | .00                                           | .00                        | 0                                 |
| APR   |                                  |                                    |                           |                                    |                                               |                            |                                   |
| 26... | .00                              | .00                                | .00                       | .00                                | .00                                           | .00                        | 0                                 |
| AUG   |                                  |                                    |                           |                                    |                                               |                            |                                   |
| 08... | .00                              | .00                                | .00                       | .00                                | .00                                           | .00                        | 0                                 |



## CONNECTICUT RIVER BASIN

179

## 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 excellent except for those for winter period, which are 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>) above station for municipal supply of Fitchburg. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--31 years, 90.5 ft<sup>3</sup>/s (2.563 m<sup>3</sup>/s), 22.35 in/yr (568 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), from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s); minimum, 0.5 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s) Sept. 11, 12, 1963; 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, 1,050 ft<sup>3</sup>/s (29.7 m<sup>3</sup>/s) Apr. 8, 1963, gage height, 5.41 ft (1.649 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 847 ft<sup>3</sup>/s (24.0 m<sup>3</sup>/s) Mar. 18, gage height, 5.13 ft (1.564 m); minimum, 2.3 ft<sup>3</sup>/s (0.065 m<sup>3</sup>/s) Feb. 10; minimum daily, 5.7 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC       | JAN     | FEB     | MAR        | APR        | MAY       | JUN  | JUL  | AUG  | SEP    |
|-------------|-------|---------|-----------|---------|---------|------------|------------|-----------|------|------|------|--------|
| 1           | 6.1   | 32      | 13        | 14      | 17      | 92         | 527        | 142       | 28   | 30   | 31   | 9.4    |
| 2           | 5.9   | 28      | 12        | 13      | 17      | 85         | 499        | 124       | 51   | 24   | 156  | 9.1    |
| 3           | 8.1   | 24      | 11        | 13      | 15      | 84         | 318        | 115       | 62   | 20   | 183  | 9.1    |
| 4           | 8.3   | 22      | 11        | 13      | 12      | 82         | 290        | 105       | 49   | 17   | 122  | 12     |
| 5           | 6.9   | 21      | 10        | 13      | 12      | 82         | 299        | 105       | 39   | 15   | 73   | 9.9    |
| 6           | 6.6   | 22      | 9.5       | 12      | 14      | 86         | 385        | 109       | 33   | 14   | 61   | 9.4    |
| 7           | 6.3   | 21      | 33        | 12      | 14      | 98         | 361        | 102       | 34   | 14   | 50   | 8.7    |
| 8           | 6.1   | 18      | 95        | 15      | 14      | 111        | 296        | 91        | 50   | 20   | 42   | 7.6    |
| 9           | 13    | 16      | 86        | 19      | 14      | 114        | 254        | 111       | 50   | 33   | 37   | 6.6    |
| 10          | 33    | 16      | 59        | 18      | 12      | 126        | 216        | 265       | 57   | 31   | 31   | 6.6    |
| 11          | 26    | 16      | 42        | 20      | 11      | 222        | 187        | 394       | 76   | 20   | 39   | 6.6    |
| 12          | 18    | 16      | 33        | 25      | 17      | 260        | 171        | 371       | 73   | 17   | 37   | 6.3    |
| 13          | 15    | 15      | 31        | 23      | 14      | 276        | 161        | 310       | 59   | 25   | 35   | 5.7    |
| 14          | 13    | 15      | 26        | 21      | 7.6     | 239        | 151        | 254       | 48   | 29   | 31   | 7.3    |
| 15          | 10    | 14      | 22        | 20      | 7.8     | 464        | 136        | 201       | 41   | 25   | 27   | 7.6    |
| 16          | 8.6   | 14      | 20        | 19      | 7.9     | 616        | 122        | 167       | 39   | 20   | 23   | 7.3    |
| 17          | 7.6   | 13      | 20        | 19      | 8.3     | 590        | 110        | 144       | 40   | 18   | 21   | 9.9    |
| 18          | 7.0   | 14      | 21        | 18      | 8.5     | 695        | 105        | 129       | 39   | 20   | 23   | 13     |
| 19          | 6.4   | 14      | 21        | 15      | 8.6     | 716        | 99         | 140       | 102  | 22   | 23   | 22     |
| 20          | 6.9   | 14      | 20        | 19      | 13      | 361        | 91         | 138       | 109  | 19   | 19   | 42     |
| 21          | 50    | 13      | 29        | 16      | 15      | 246        | 83         | 125       | 84   | 18   | 16   | 76     |
| 22          | 59    | 12      | 25        | 13      | 14      | 215        | 80         | 112       | 65   | 20   | 14   | 66     |
| 23          | 40    | 12      | 23        | 13      | 14      | 179        | 95         | 100       | 50   | 14   | 15   | 46     |
| 24          | 30    | 11      | 20        | 13      | 14      | 239        | 167        | 85        | 41   | 11   | 18   | 41     |
| 25          | 30    | 11      | 17        | 13      | 45      | 212        | 395        | 66        | 32   | 14   | 23   | 66     |
| 26          | 37    | 11      | 15        | 18      | 38      | 183        | 419        | 59        | 34   | 30   | 21   | 96     |
| 27          | 39    | 11      | 15        | 17      | 37      | 183        | 302        | 52        | 37   | 25   | 17   | 154    |
| 28          | 31    | 12      | 14        | 13      | 83      | 206        | 236        | 44        | 32   | 18   | 14   | 151    |
| 29          | 26    | 15      | 14        | 14      | ---     | 308        | 195        | 38        | 30   | 14   | 13   | 104    |
| 30          | 24    | 16      | 15        | 15      | ---     | 403        | 168        | 33        | 36   | 11   | 11   | 69     |
| 31          | 25    | ---     | 14        | 17      | ---     | 428        | ---        | 29        | ---  | 10   | 10   | ---    |
| TOTAL       | 609.8 | 489     | 796.5     | 503     | 504.7   | 8201       | 6938       | 4260      | 1520 | 618  | 1236 | 1085.1 |
| MEAN        | 19.7  | 16.3    | 25.7      | 16.2    | 18.0    | 265        | 231        | 137       | 50.7 | 19.9 | 39.9 | 36.2   |
| MAX         | 59    | 32      | 95        | 25      | 83      | 716        | 527        | 394       | 109  | 33   | 183  | 154    |
| MIN         | 5.9   | 11      | 9.5       | 12      | 7.6     | 82         | 80         | 29        | 28   | 10   | 10   | 5.7    |
| MEAN†       | 19.8  | 16.2    | 25.6      | 19.7    | 25.8    | 268        | 217        | 137       | 50.8 | 19.7 | 39.9 | 36.4   |
| CFSM†       | .36   | .29     | .47       | .36     | .47     | 4.87       | 3.95       | 2.49      | .92  | .36  | .73  | .66    |
| IN.†        | .42   | .33     | .54       | .41     | .49     | 5.63       | 4.40       | 2.88      | 1.03 | .41  | .84  | .74    |
| CAL YR 1976 | TOTAL | 28816.7 | MEAN 78.7 | MAX 590 | MIN 3.2 | MEAN† 78.7 | CFSM† 1.43 | IN† 19.48 |      |      |      |        |
| WTR YR 1977 | TOTAL | 26761.1 | MEAN 73.3 | MAX 716 | MIN 5.7 | MEAN† 73.4 | CFSM† 1.33 | IN† 18.11 |      |      |      |        |

† Adjusted for change in contents in Barre Falls Reservoir.

## CONNECTICUT RIVER BASIN

01173000 WARE RIVER AT COLDBROOK, 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 at Coldbrook, 2 mi (3 km) east of South Barre, 2.7 mi (4.3 km) downstream from Burnshirt River, 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.

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 mean sea level. 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) above mean sea level, unadjusted.

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.

COOPERATION.--Computations of daily discharge made in cooperation with Water Division, Metropolitan District Commission, which collected gage-height and venturi-meter records.

AVERAGE DISCHARGE.--49 years, 164 ft<sup>3</sup>/s (4.644 m<sup>3</sup>/s), 23.01 in/yr (584 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, 1,470 ft<sup>3</sup>/s (41.6 m<sup>3</sup>/s) Apr. 1, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s) Mar. 16; minimum daily, 2.9 ft<sup>3</sup>/s (0.082 m<sup>3</sup>/s) Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT    | NOV  | DEC    | JAN  | FEB  | MAR   | APR   | MAY  | JUN  | JUL  | AUG  | SEP    |
|-------|--------|------|--------|------|------|-------|-------|------|------|------|------|--------|
| 1     | 13     | 68   | 22     | 28   | 27   | 135   | 872   | 234  | 101  | 59   | 73   | 24     |
| 2     | 13     | 58   | 21     | 26   | 26   | 136   | 740   | 207  | 142  | 50   | 249  | 24     |
| 3     | 23     | 50   | 15     | 25   | 27   | 135   | 561   | 190  | 140  | 42   | 239  | 23     |
| 4     | 15     | 45   | 11     | 26   | 28   | 129   | 500   | 173  | 102  | 38   | 155  | 28     |
| 5     | 14     | 43   | 12     | 24   | 28   | 177   | 624   | 186  | 82   | 35   | 102  | 27     |
| 6     | 14     | 44   | 9.7    | 23   | 30   | 166   | 732   | 181  | 70   | 33   | 92   | 25     |
| 7     | 7.3    | 40   | 81     | 24   | 30   | 167   | 621   | 164  | 71   | 32   | 76   | 23     |
| 8     | 3.1    | 35   | 196    | 28   | 30   | 185   | 506   | 142  | 96   | 43   | 73   | 21     |
| 9     | 62     | 32   | 133    | 31   | 30   | 188   | 416   | 283  | 94   | 61   | 69   | 20     |
| 10    | 72     | 31   | 119    | 30   | 27   | 283   | 356   | 588  | 107  | 54   | 65   | 20     |
| 11    | 49     | 31   | 91     | 35   | 27   | 432   | 317   | 667  | 129  | 41   | 79   | 20     |
| 12    | 30     | 28   | 76     | 38   | 33   | 496   | 307   | 648  | 126  | 25   | 71   | 19     |
| 13    | 14     | 28   | 63     | 37   | 33   | 852   | 261   | 528  | 103  | 51   | 68   | 17     |
| 14    | 26     | 28   | 47     | 37   | 26   | 1260  | 248   | 428  | 86   | 56   | 54   | 7.9    |
| 15    | 25     | 27   | 51     | 38   | 26   | 1210  | 215   | 327  | 74   | 49   | 47   | 2.9    |
| 16    | 21     | 26   | 46     | 37   | 25   | 1300  | 216   | 291  | 69   | 41   | 47   | 11     |
| 17    | 19     | 24   | 46     | 36   | 24   | 1120  | 193   | 227  | 68   | 37   | 54   | 16     |
| 18    | 17     | 28   | 47     | 35   | 24   | 1130  | 179   | 213  | 84   | 47   | 49   | 21     |
| 19    | 16     | 29   | 43     | 26   | 25   | 1070  | 164   | 245  | 142  | 47   | 41   | 27     |
| 20    | 23     | 29   | 45     | 29   | 27   | 514   | 153   | 208  | 151  | 40   | 36   | 105    |
| 21    | 131    | 26   | 60     | 28   | 32   | 415   | 140   | 226  | 141  | 39   | 36   | 142    |
| 22    | 117    | 24   | 53     | 26   | 32   | 341   | 140   | 161  | 120  | 42   | 58   | 105    |
| 23    | 81     | 23   | 47     | 25   | 31   | 332   | 214   | 154  | 82   | 33   | 123  | 76     |
| 24    | 63     | 21   | 38     | 25   | 34   | 440   | 485   | 131  | 69   | 27   | 57   | 91     |
| 25    | 63     | 15   | 30     | 26   | 60   | 349   | 781   | 122  | 62   | 39   | 58   | 141    |
| 26    | 80     | 25   | 37     | 32   | 91   | 335   | 688   | 106  | 68   | 60   | 49   | 216    |
| 27    | 78     | 21   | 33     | 32   | 98   | 366   | 536   | 97   | 71   | 49   | 41   | 275    |
| 28    | 60     | 24   | 31     | 28   | 123  | 450   | 398   | 86   | 62   | 39   | 36   | 231    |
| 29    | 55     | 32   | 31     | 27   | ---  | 711   | 323   | 77   | 62   | 33   | 33   | 159    |
| 30    | 49     | 29   | 31     | 27   | ---  | 868   | 280   | 70   | 70   | 30   | 27   | 112    |
| 31    | 58     | ---  | 30     | 27   | ---  | 749   | ---   | 66   | ---  | 27   | 25   | ---    |
| TOTAL | 1311.4 | 964  | 1595.7 | 916  | 1054 | 16441 | 12166 | 7426 | 2844 | 1299 | 2282 | 2029.8 |
| MEAN  | 42.3   | 32.1 | 51.5   | 29.5 | 37.6 | 530   | 406   | 240  | 94.8 | 41.9 | 73.6 | 67.7   |
| MAX   | 131    | 68   | 196    | 38   | 123  | 1300  | 872   | 667  | 151  | 61   | 249  | 275    |
| MIN   | 3.1    | 15   | 9.7    | 23   | 24   | 129   | 140   | 66   | 62   | 25   | 25   | 2.9    |
| MEAN† | 42.5   | 32.1 | 51.4   | 33.1 | 45.5 | 534   | 391   | 239  | 94.9 | 41.6 | 73.6 | 67.9   |
| CFSM† | .44    | .33  | .53    | .34  | .47  | 5.52  | 4.04  | 2.47 | .98  | .43  | .76  | .70    |
| IN.†  | .51    | .37  | .61    | .39  | .49  | 6.36  | 4.51  | 2.85 | 1.09 | .50  | .88  | .78    |

CAL YR 1976 TOTAL 55100.4 MEAN 151 MAX 952 MIN 3.1 MEAN† 151 CFSM† 1.56 IN† 21.17  
WTR YR 1977 TOTAL 50328.9 MEAN 138 MAX 1300 MIN 2.9 MEAN† 138 CFSM† 1.43 IN† 19.35

† Adjusted for change in contents in Barre Falls Reservoir.

## 01173500 WARE RIVER AT GIBBS CROSSING, MA

LOCATION.--Lat 42°14'07", long 72°16'45", 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) above mean sea level. 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 fair. Diversion at times: since March 1931 from 97 mi<sup>2</sup> (251 km<sup>2</sup>) for supply of Boston metropolitan district (see table below for figures of diversion) 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 were made during the year.

AVERAGE DISCHARGE.--65 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 a 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, 4,240 ft<sup>3</sup>/s (120 m<sup>3</sup>/s) Jan. 28, 1976, gage height, 7.22 ft (2.201 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,680 ft<sup>3</sup>/s (75.9 m<sup>3</sup>/s) Mar. 14, gage height, 5.62 ft (1.713 m); minimum, 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s) Oct. 2, 3; minimum daily, 41 ft<sup>3</sup>/s (1.16 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|--------|----------|----------|--------|-------|-------|-------|------|------|------|------|
| 1           | 44    | 141    | 69       | 62       | 56     | 345   | 758   | 371   | 131  | 129  | 83   | 55   |
| 2           | 41    | 137    | 63       | 62       | 55     | 290   | 520   | 352   | 248  | 113  | 519  | 54   |
| 3           | 67    | 120    | 57       | 56       | 56     | 260   | 501   | 341   | 305  | 99   | 507  | 54   |
| 4           | 102   | 109    | 52       | 54       | 58     | 248   | 470   | 319   | 260  | 84   | 377  | 53   |
| 5           | 70    | 102    | 52       | 54       | 59     | 391   | 601   | 316   | 205  | 77   | 262  | 51   |
| 6           | 58    | 101    | 52       | 53       | 62     | 509   | 796   | 328   | 166  | 76   | 222  | 66   |
| 7           | 53    | 98     | 92       | 51       | 62     | 394   | 591   | 315   | 152  | 73   | 186  | 61   |
| 8           | 51    | 89     | 352      | 55       | 62     | 337   | 491   | 288   | 177  | 77   | 155  | 54   |
| 9           | 67    | 81     | 295      | 55       | 61     | 369   | 442   | 388   | 205  | 100  | 132  | 51   |
| 10          | 177   | 79     | 225      | 60       | 60     | 524   | 402   | 877   | 211  | 112  | 113  | 49   |
| 11          | 148   | 78     | 195      | 68       | 59     | 639   | 377   | 954   | 227  | 99   | 116  | 50   |
| 12          | 102   | 74     | 145      | 68       | 58     | 618   | 371   | 785   | 246  | 95   | 140  | 47   |
| 13          | 79    | 70     | 139      | 67       | 72     | 818   | 382   | 603   | 237  | 114  | 125  | 47   |
| 14          | 63    | 71     | 120      | 70       | 90     | 2350  | 367   | 487   | 200  | 119  | 118  | 51   |
| 15          | 59    | 72     | 96       | 73       | 68     | 1500  | 346   | 425   | 170  | 120  | 110  | 53   |
| 16          | 60    | 72     | 93       | 73       | 59     | 909   | 330   | 392   | 147  | 99   | 98   | 49   |
| 17          | 57    | 71     | 89       | 74       | 55     | 705   | 318   | 362   | 129  | 86   | 89   | 58   |
| 18          | 53    | 71     | 87       | 72       | 52     | 547   | 309   | 341   | 125  | 89   | 93   | 62   |
| 19          | 54    | 72     | 82       | 66       | 54     | 465   | 304   | 389   | 180  | 86   | 90   | 104  |
| 20          | 56    | 73     | 83       | 64       | 57     | 435   | 292   | 391   | 242  | 86   | 84   | 154  |
| 21          | 182   | 73     | 117      | 62       | 62     | 425   | 283   | 353   | 251  | 76   | 73   | 254  |
| 22          | 272   | 69     | 145      | 61       | 65     | 466   | 278   | 327   | 240  | 74   | 67   | 281  |
| 23          | 201   | 68     | 105      | 60       | 68     | 609   | 311   | 303   | 204  | 75   | 70   | 213  |
| 24          | 145   | 67     | 85       | 60       | 68     | 569   | 638   | 284   | 154  | 66   | 119  | 179  |
| 25          | 139   | 64     | 73       | 59       | 165    | 456   | 1200  | 245   | 128  | 78   | 103  | 265  |
| 26          | 162   | 63     | 70       | 59       | 257    | 425   | 867   | 239   | 133  | 115  | 89   | 384  |
| 27          | 178   | 66     | 68       | 58       | 271    | 469   | 602   | 209   | 133  | 106  | 79   | 626  |
| 28          | 151   | 68     | 66       | 58       | 330    | 562   | 498   | 192   | 130  | 90   | 71   | 586  |
| 29          | 128   | 73     | 63       | 57       | ---    | 909   | 445   | 171   | 121  | 74   | 66   | 423  |
| 30          | 114   | 78     | 67       | 57       | ---    | 972   | 400   | 152   | 128  | 67   | 62   | 293  |
| 31          | 117   | ---    | 62       | 57       | ---    | 769   | ---   | 141   | ---  | 63   | 59   | ---  |
| TOTAL       | 3250  | 2470   | 3359     | 1905     | 2501   | 19284 | 14490 | 11640 | 5585 | 2817 | 4477 | 4727 |
| MEAN        | 105   | 82.3   | 108      | 61.5     | 89.3   | 622   | 483   | 375   | 186  | 90.9 | 144  | 158  |
| MAX         | 272   | 141    | 352      | 74       | 330    | 2350  | 1200  | 954   | 305  | 129  | 519  | 626  |
| MIN         | 41    | 63     | 52       | 51       | 52     | 248   | 278   | 141   | 121  | 63   | 59   | 47   |
| (†)         | 0     | 0      | 2.05     | 0        | 0      | 386   | 268   | 113   | 0    | 0    | 0    | 0    |
| CAL YR 1976 | TOTAL | 104177 | MEAN 285 | MAX 3880 | MIN 34 |       |       |       |      |      |      |      |
| WTR YR 1977 | TOTAL | 76505  | MEAN 210 | MAX 2350 | MIN 41 |       |       |       |      |      |      |      |

† Diversion, in cubic feet per second, from 97 mi<sup>2</sup> for supply of Boston metropolitan district; records furnished by Metropolitan District Commission.

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

AVERAGE DISCHARGE.--30 years, 6.06 ft<sup>3</sup>/s (0.172 m<sup>3</sup>/s), 24.28 in/yr (617 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 (3.68 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 (2.83 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) |
|--------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Dec. 7 | 1430 | 100 2.83                                              | 2.27 0.692              | Mar. 13 | 1645 | *195 5.52                                             | 2.71 0.826              |

Minimum discharge, 0.39 ft<sup>3</sup>/s (0.011 m<sup>3</sup>/s) July 7, Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC   | JAN  | FEB  | MAR   | APR   | MAY   | JUN  | JUL   | AUG    | SEP    |
|-------|-------|------|-------|------|------|-------|-------|-------|------|-------|--------|--------|
| 1     | 1.6   | 4.2  | 1.7   | 2.0  | 1.7  | 4.7   | 17    | 8.7   | 3.3  | 1.2   | 14     | .77    |
| 2     | 1.2   | 3.3  | 1.8   | 1.9  | 1.6  | 3.9   | 15    | 8.5   | 5.1  | .94   | 12     | .92    |
| 3     | 2.2   | 2.9  | 1.6   | 1.8  | 1.6  | 3.5   | 18    | 7.9   | 3.9  | .71   | 3.0    | 1.4    |
| 4     | 1.6   | 2.6  | 1.5   | 2.0  | 1.6  | 3.8   | 13    | 7.4   | 2.0  | .59   | 2.1    | 1.1    |
| 5     | 1.3   | 2.8  | 1.4   | 1.9  | 1.6  | 19    | 34    | 8.5   | 2.0  | .55   | 4.9    | .88    |
| 6     | 1.4   | 3.1  | 1.4   | 1.8  | 1.6  | 9.0   | 24    | 7.7   | 1.5  | .52   | 4.7    | 1.5    |
| 7     | 2.5   | 2.6  | 27    | 2.0  | 1.5  | 6.5   | 16    | 6.7   | 4.0  | .52   | 3.6    | .91    |
| 8     | 1.6   | 2.5  | 13    | 2.1  | 1.5  | 6.5   | 14    | 6.0   | 5.5  | 3.3   | 3.9    | .68    |
| 9     | 10    | 2.4  | 6.9   | 2.0  | 1.5  | 10    | 12    | 16    | 3.3  | 2.4   | 2.3    | .61    |
| 10    | 5.1   | 2.4  | 5.6   | 2.2  | 1.5  | 17    | 11    | 36    | 5.2  | 1.2   | 1.9    | .76    |
| 11    | 2.3   | 2.3  | 4.7   | 2.2  | 1.6  | 20    | 10    | 20    | 4.7  | .84   | 5.2    | .66    |
| 12    | 1.7   | 2.4  | 4.2   | 2.1  | 1.8  | 24    | 9.6   | 15    | 3.1  | 2.8   | 3.1    | .48    |
| 13    | 1.5   | 2.3  | 3.3   | 2.0  | 1.9  | 92    | 9.0   | 11    | 2.1  | 7.4   | 2.8    | .62    |
| 14    | 3.8   | 2.4  | 4.1   | 2.0  | 2.0  | 92    | 8.2   | 9.0   | 2.4  | 6.7   | 2.7    | 1.2    |
| 15    | 1.8   | 2.5  | 3.8   | 2.0  | 1.8  | 46    | 12    | 8.2   | 1.8  | 2.1   | 3.0    | .82    |
| 16    | 1.6   | 2.4  | 3.3   | 2.0  | 1.8  | 36    | 6.5   | 7.2   | 1.4  | 1.4   | 2.0    | .86    |
| 17    | 1.5   | 2.3  | 3.4   | 1.9  | 1.7  | 25    | 6.0   | 6.5   | 1.3  | 1.2   | 6.0    | 2.5    |
| 18    | 1.4   | 2.4  | 3.3   | 1.8  | 1.6  | 19    | 5.8   | 6.5   | 5.1  | 5.1   | 4.2    | 2.0    |
| 19    | 1.6   | 2.4  | 3.0   | 1.8  | 1.6  | 18    | 5.4   | 11    | 4.9  | 1.7   | 2.3    | 4.5    |
| 20    | 1.8   | 2.3  | 3.4   | 1.7  | 1.6  | 16    | 7.9   | 7.4   | 2.7  | 1.0   | 1.7    | 8.3    |
| 21    | 17    | 2.0  | 8.5   | 1.7  | 1.6  | 16    | 5.4   | 6.3   | 5.6  | 2.7   | 1.4    | 4.5    |
| 22    | 5.8   | 4.4  | 3.4   | 1.7  | 1.5  | 15    | 5.2   | 5.4   | 2.6  | 2.7   | 2.6    | 2.6    |
| 23    | 3.0   | 2.0  | 2.9   | 1.6  | 1.5  | 17    | 10    | 4.5   | 1.8  | 1.2   | 2.2    | 2.0    |
| 24    | 2.7   | 1.9  | 2.4   | 1.6  | 1.5  | 13    | 48    | 4.7   | 1.5  | .89   | 1.8    | 6.3    |
| 25    | 4.1   | 1.9  | 2.3   | 1.8  | 8.0  | 13    | 41    | 3.1   | 1.5  | 2.9   | 1.5    | 9.3    |
| 26    | 5.2   | 1.9  | 2.7   | 1.8  | 6.0  | 12    | 18    | 2.9   | 2.4  | 2.5   | 1.2    | 20     |
| 27    | 3.4   | 2.0  | 2.4   | 1.8  | 4.5  | 16    | 15    | 2.8   | 1.7  | 1.3   | 1.0    | 13     |
| 28    | 5.1   | 2.0  | 2.2   | 1.7  | 7.2  | 21    | 13    | 2.5   | 1.3  | .89   | .92    | 5.7    |
| 29    | 2.5   | 2.7  | 2.3   | 1.7  | ---  | 48    | 11    | 2.3   | 1.8  | .75   | .85    | 4.2    |
| 30    | 2.6   | 2.1  | 2.2   | 1.7  | ---  | 35    | 9.6   | 2.1   | 1.8  | .71   | .75    | 3.4    |
| 31    | 4.7   | ---  | 2.1   | 1.7  | ---  | 25    | ---   | 2.0   | ---  | .63   | .69    | ---    |
| TOTAL | 103.6 | 75.4 | 131.8 | 58.0 | 64.9 | 702.9 | 430.6 | 253.8 | 87.3 | 59.34 | 100.31 | 102.47 |
| MEAN  | 3.34  | 2.51 | 4.25  | 1.87 | 2.32 | 22.7  | 14.4  | 8.19  | 2.91 | 1.91  | 3.24   | 3.42   |
| MAX   | 17    | 4.4  | 27    | 2.2  | 8.0  | 92    | 48    | 36    | 5.6  | 7.4   | 14     | 20     |
| MIN   | 1.2   | 1.9  | 1.4   | 1.6  | 1.5  | 3.5   | 5.2   | 2.0   | 1.3  | .52   | .69    | .48    |
| CFSM  | .99   | .74  | 1.25  | .55  | .68  | 6.70  | 4.25  | 2.42  | .86  | .56   | .96    | 1.01   |
| IN.   | 1.14  | .83  | 1.45  | .64  | .71  | 7.71  | 4.72  | 2.78  | .96  | .65   | 1.10   | 1.12   |

|             |       |         |           |        |         |           |          |
|-------------|-------|---------|-----------|--------|---------|-----------|----------|
| CAL YR 1976 | TOTAL | 2785.24 | MEAN 7.61 | MAX 84 | MIN .09 | CFSM 2.25 | IN 30.56 |
| WTR YR 1977 | TOTAL | 2170.42 | MEAN 5.95 | MAX 92 | MIN .48 | CFSM 1.76 | IN 23.81 |

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) above mean sea level.

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

AVERAGE DISCHARGE.--40 years, 68.2 ft<sup>3</sup>/s (1.931 m<sup>3</sup>/s), 21.19 in/yr (538 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 (9.91 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 1000 | *1150 32.6                                            | *21.31 6.495            | Apr. 25 | 1400 | 496 14.0                                              | 20.44 6.230             |
| Mar. 30 | 0600 | 463 13.1                                              | 20.39 6.215             | Aug. 2  | 0600 | 385 10.9                                              | 20.27 6.178             |

Minimum discharge, 6.2 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP    |
|-------|-------|------|------|------|------|------|------|------|------|------|------|--------|
| 1     | 6.9   | 38   | 18   | 17   | 15   | 60   | 307  | 89   | 20   | 21   | 54   | 18     |
| 2     | 6.9   | 35   | 18   | 16   | 15   | 52   | 218  | 80   | 36   | 19   | 339  | 17     |
| 3     | 11    | 32   | 17   | 15   | 15   | 43   | 194  | 77   | 44   | 16   | 187  | 16     |
| 4     | 13    | 32   | 16   | 14   | 15   | 40   | 178  | 68   | 35   | 13   | 102  | 15     |
| 5     | 12    | 30   | 15   | 14   | 16   | 64   | 208  | 71   | 29   | 16   | 70   | 14     |
| 6     | 11    | 29   | 15   | 14   | 16   | 95   | 296  | 74   | 25   | 19   | 72   | 14     |
| 7     | 11    | 27   | 34   | 16   | 15   | 96   | 242  | 72   | 30   | 17   | 59   | 14     |
| 8     | 10    | 26   | 125  | 19   | 15   | 79   | 186  | 59   | 46   | 21   | 49   | 13     |
| 9     | 15    | 22   | 105  | 17   | 15   | 72   | 155  | 96   | 49   | 26   | 45   | 11     |
| 10    | 23    | 23   | 68   | 22   | 14   | 95   | 133  | 242  | 51   | 24   | 37   | 11     |
| 11    | 24    | 23   | 51   | 26   | 14   | 152  | 120  | 308  | 49   | 19   | 48   | 11     |
| 12    | 22    | 21   | 41   | 21   | 14   | 196  | 111  | 281  | 47   | 23   | 46   | 9.6    |
| 13    | 20    | 20   | 35   | 19   | 16   | 294  | 99   | 226  | 40   | 32   | 44   | 9.5    |
| 14    | 19    | 20   | 26   | 18   | 17   | 1050 | 92   | 169  | 33   | 41   | 41   | 11     |
| 15    | 15    | 20   | 24   | 18   | 17   | 744  | 80   | 128  | 28   | 37   | 40   | 12     |
| 16    | 15    | 20   | 23   | 17   | 18   | 441  | 77   | 105  | 23   | 30   | 35   | 11     |
| 17    | 14    | 19   | 25   | 17   | 17   | 301  | 70   | 93   | 19   | 23   | 37   | 16     |
| 18    | 14    | 19   | 24   | 16   | 16   | 228  | 62   | 83   | 21   | 33   | 48   | 20     |
| 19    | 13    | 19   | 22   | 16   | 15   | 185  | 60   | 90   | 31   | 35   | 42   | 41     |
| 20    | 14    | 18   | 22   | 15   | 15   | 154  | 55   | 87   | 29   | 28   | 34   | 69     |
| 21    | 45    | 18   | 31   | 15   | 16   | 139  | 50   | 77   | 28   | 24   | 27   | 96     |
| 22    | 68    | 18   | 31   | 15   | 15   | 162  | 50   | 66   | 31   | 29   | 28   | 75     |
| 23    | 58    | 17   | 28   | 14   | 14   | 216  | 62   | 56   | 27   | 22   | 40   | 56     |
| 24    | 47    | 17   | 24   | 14   | 14   | 179  | 153  | 49   | 22   | 16   | 41   | 54     |
| 25    | 43    | 17   | 21   | 16   | 27   | 143  | 440  | 42   | 19   | 19   | 42   | 78     |
| 26    | 48    | 16   | 22   | 16   | 37   | 124  | 356  | 38   | 23   | 2    | 35   | 121    |
| 27    | 45    | 16   | 21   | 16   | 51   | 129  | 224  | 32   | 20   | 24   | 29   | 201    |
| 28    | 40    | 18   | 21   | 15   | 61   | 161  | 159  | 28   | 18   | 20   | 26   | 149    |
| 29    | 35    | 20   | 21   | 16   | ---  | 293  | 124  | 25   | 20   | 17   | 23   | 100    |
| 30    | 32    | 19   | 20   | 16   | ---  | 450  | 104  | 23   | 23   | 15   | 20   | 69     |
| 31    | 36    | ---  | 18   | 16   | ---  | 409  | ---  | 20   | ---  | 15   | 19   | ---    |
| TOTAL | 786.8 | 669  | 982  | 516  | 545  | 6846 | 4665 | 2954 | 916  | 721  | 1759 | 1352.1 |
| MEAN  | 25.4  | 22.3 | 31.7 | 16.6 | 19.5 | 221  | 156  | 95.3 | 30.5 | 23.3 | 56.7 | 45.1   |
| MAX   | 68    | 38   | 125  | 26   | 61   | 1050 | 440  | 308  | 51   | 41   | 339  | 201    |
| MIN   | 6.9   | 16   | 15   | 14   | 14   | 40   | 50   | 20   | 18   | 13   | 19   | 9.5    |
| CFSM  | .58   | .51  | .73  | .38  | .45  | 5.06 | 3.57 | 2.18 | .70  | .53  | 1.30 | 1.03   |
| IN.   | .67   | .57  | .84  | .44  | .46  | 5.83 | 3.97 | 2.51 | .78  | .61  | 1.50 | 1.15   |

CAL YR 1976 TOTAL 25887.2 MEAN 70.7 MAX 1080 MIN 2.8 CFSM 1.62 IN 22.04  
WTR YR 1977 TOTAL 22711.9 MEAN 62.2 MAX 1050 MIN 6.9 CFSM 1.42 IN 19.33



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

AVERAGE DISCHARGE.--16 years, 1.14 ft<sup>3</sup>/s (0.032 m<sup>3</sup>/s), 24.57 in/yr (624 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39 ft<sup>3</sup>/s (1.10 m<sup>3</sup>/s) Mar. 13, 1977, gage height, 5.14 ft (1.567 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 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Dec. 7  | 1600 | 18 0.51                                               | 4.51 1.375              | Apr. 25 | 0115 | 24 0.68                                               | 4.72 1.439              |
| Mar. 13 | 1730 | *39 1.10                                              | a*5.14 1.567            | Aug. 1  | 1745 | 26 0.74                                               | 4.79 1.460              |

a From rating curve extended above 21 ft<sup>3</sup>/s (0.59 m<sup>3</sup>/s).

Minimum discharge, 0.02 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) July 21, 22-25, July 29 to Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN  | FEB   | MAR    | APR   | MAY   | JUN  | JUL  | AUG   | SEP   |
|-------|-------|-------|-------|------|-------|--------|-------|-------|------|------|-------|-------|
| 1     | .07   | .79   | .23   | .31  | .29   | 1.4    | 2.3   | 1.1   | .20  | .16  | 6.7   | .05   |
| 2     | .06   | .54   | .22   | .28  | .26   | 1.0    | 1.9   | 1.1   | .76  | .10  | 4.7   | .05   |
| 3     | 1.2   | .47   | .23   | .28  | .26   | .96    | 2.7   | .99   | .38  | .06  | 1.2   | .09   |
| 4     | .38   | .42   | .21   | .28  | .24   | 1.1    | 1.9   | .90   | .24  | .05  | .63   | .13   |
| 5     | .20   | .43   | .19   | .26  | .24   | 5.5    | 6.7   | 1.0   | .18  | .04  | .85   | .13   |
| 6     | .21   | .47   | .19   | .26  | .24   | 3.7    | 4.5   | .93   | .17  | .03  | 1.0   | .62   |
| 7     | .34   | .40   | 6.6   | .26  | .24   | 2.3    | 2.6   | .81   | .45  | .04  | .58   | .17   |
| 8     | .27   | .36   | 3.9   | .28  | .23   | 2.1    | 2.1   | .71   | .54  | .38  | .40   | .10   |
| 9     | 1.6   | .32   | 1.5   | .28  | .21   | 3.6    | 1.6   | 3.6   | .43  | .26  | .25   | .07   |
| 10    | .90   | .32   | .95   | .33  | .21   | 6.5    | 1.5   | 9.3   | .74  | .11  | .27   | .07   |
| 11    | .43   | .31   | .82   | .35  | .23   | 7.1    | 1.3   | 5.2   | .62  | .06  | 1.1   | .06   |
| 12    | .31   | .30   | .70   | .33  | .28   | 6.8    | 1.2   | 2.8   | .40  | .91  | .57   | .03   |
| 13    | .25   | .28   | .60   | .31  | .33   | 19     | 1.1   | 1.8   | .29  | .70  | .45   | .04   |
| 14    | .32   | .31   | .60   | .31  | .39   | 17     | 1.0   | 1.4   | .23  | .54  | .36   | .15   |
| 15    | .24   | .33   | .43   | .31  | .35   | 7.9    | .89   | 1.1   | .17  | .19  | .31   | .14   |
| 16    | .19   | .32   | .46   | .33  | .31   | 5.2    | .82   | .94   | .12  | .11  | .20   | .11   |
| 17    | .17   | .30   | .50   | .31  | .28   | 3.5    | .79   | .82   | .10  | .08  | .27   | .40   |
| 18    | .16   | .32   | .48   | .31  | .24   | 2.5    | .73   | .83   | .28  | .11  | .23   | .35   |
| 19    | .15   | .31   | .43   | .29  | .24   | 2.3    | .68   | 1.9   | .58  | .05  | .13   | 1.5   |
| 20    | .25   | .29   | .60   | .28  | .23   | 2.1    | .62   | 1.2   | .19  | .03  | .10   | 3.0   |
| 21    | 3.7   | .26   | 1.5   | .28  | .23   | 2.5    | .60   | .92   | .21  | .03  | .08   | 1.7   |
| 22    | 1.2   | .24   | .89   | .28  | .21   | 2.8    | .60   | .72   | .13  | .04  | .15   | .93   |
| 23    | .68   | .24   | .55   | .28  | .21   | 2.6    | 1.6   | .59   | .10  | .02  | .16   | .65   |
| 24    | .53   | .24   | .43   | .26  | .21   | 1.9    | 11    | .51   | .08  | .02  | .18   | 1.9   |
| 25    | .85   | .22   | .37   | .28  | 2.2   | 1.7    | 12    | .41   | .11  | .33  | .21   | 3.3   |
| 26    | 1.5   | .24   | .37   | .28  | 1.5   | 2.1    | 4.2   | .33   | .21  | .19  | .10   | 7.1   |
| 27    | .89   | .24   | .39   | .28  | 1.1   | 3.3    | 2.8   | .28   | .10  | .06  | .08   | 5.1   |
| 28    | .62   | .24   | .35   | .33  | 2.0   | 5.4    | 2.0   | .24   | .07  | .04  | .06   | 2.1   |
| 29    | .52   | .40   | .35   | .46  | ---   | 13     | 1.5   | .20   | .69  | .02  | .05   | 1.3   |
| 30    | .45   | .30   | .33   | .33  | ---   | 6.2    | 1.3   | .16   | .39  | .02  | .04   | .89   |
| 31    | .84   | ---   | .31   | .29  | ---   | 3.7    | ---   | .14   | ---  | .02  | .04   | ---   |
| TOTAL | 19.48 | 10.21 | 25.68 | 9.30 | 12.96 | 146.76 | 74.53 | 42.93 | 9.16 | 4.80 | 21.45 | 32.23 |
| MEAN  | .63   | .34   | .83   | .30  | .46   | 4.73   | 2.48  | 1.38  | .31  | .15  | .69   | 1.07  |
| MAX   | 3.7   | .79   | 6.6   | .46  | 2.2   | 19     | 12    | 9.3   | .76  | .91  | 6.7   | 7.1   |
| MIN   | .06   | .22   | .19   | .26  | .21   | .96    | .60   | .14   | .07  | .02  | .04   | .03   |
| CFSM  | 1.00  | .54   | 1.32  | .48  | .73   | 7.51   | 3.94  | 2.19  | .49  | .24  | 1.10  | 1.70  |
| IN.   | 1.15  | .60   | 1.51  | .55  | .76   | 8.65   | 4.39  | 2.53  | .54  | .28  | 1.26  | 1.90  |

CAL YR 1976 TOTAL 433.50 MEAN 1.18 MAX 20 MIN .00 CFSM 1.87 IN 25.60  
WTR YR 1977 TOTAL 409.49 MEAN 1.12 MAX 19 MIN .02 CFSM 1.78 IN 24.14



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 periods of doubtful or no gage-height record, which are fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--16 years, 4.71 ft<sup>3</sup>/s (0.133 m<sup>3</sup>/s), 22.76 in/yr (578 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 239 ft<sup>3</sup>/s (6.77 m<sup>3</sup>/s) Dec. 21, 1973, gage height, 7.24 ft (2.207 m), from rating curve extended above 92 ft<sup>3</sup>/s (2.61 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 (2.12 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 2100 | *180 5.10                                             | *7.01 2.137             | Apr. 25 | 0015 | 84 2.38                                               | 6.48 1.975              |

Minimum discharge, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) July 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC   | JAN  | FEB  | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP    |
|-------|-------|------|-------|------|------|-------|-------|-------|-------|-------|-------|--------|
| 1     | .43   | 3.2  | 1.2   | 1.4  | 1.4  | 5.2   | 12    | 5.0   | 1.2   | .99   | 19    | .29    |
| 2     | .42   | 2.3  | 1.2   | 1.4  | 1.4  | 3.9   | 10    | 5.1   | 3.7   | .73   | 14    | .29    |
| 3     | 4.4   | 2.0  | 1.1   | 1.3  | 1.3  | 3.5   | 13    | 4.6   | 2.1   | .53   | 3.8   | .29    |
| 4     | 2.0   | 1.8  | 1.1   | 1.5  | 1.3  | 3.9   | 9.0   | 4.2   | 1.4   | .45   | 2.2   | .31    |
| 5     | 1.2   | 1.8  | 1.1   | 1.4  | 1.3  | 24    | 25    | 4.9   | 1.2   | .40   | 2.0   | .32    |
| 6     | .98   | 2.1  | 1.1   | 1.3  | 1.3  | 15    | 18    | 4.5   | 1.0   | .35   | 3.7   | 2.1    |
| 7     | 1.5   | 1.7  | 21    | 1.5  | 1.3  | 8.9   | 13    | 3.9   | 2.0   | .36   | 2.4   | 1.4    |
| 8     | 1.1   | 1.6  | 14    | 1.5  | 1.3  | 8.0   | 11    | 3.5   | 3.1   | 1.3   | 1.7   | .90    |
| 9     | 4.9   | 1.5  | 5.0   | 1.5  | 1.3  | 13    | 9.0   | 19    | 2.1   | 1.6   | 1.3   | .63    |
| 10    | 3.6   | 1.6  | 4.0   | 1.8  | 1.3  | 23    | 7.6   | 37    | 3.1   | .92   | .94   | .44    |
| 11    | 2.0   | 1.5  | 3.7   | 1.9  | 1.3  | 26    | 6.0   | 19    | 2.9   | .58   | 2.7   | .37    |
| 12    | 1.5   | 1.4  | 3.1   | 1.7  | 1.5  | 26    | 5.6   | 10    | 2.1   | 3.5   | 2.1   | .24    |
| 13    | 1.3   | 1.4  | 2.2   | 1.7  | 1.7  | 88    | 5.2   | 7.5   | 1.6   | 3.4   | 1.7   | .24    |
| 14    | 1.4   | 1.4  | 2.4   | 1.7  | 2.0  | 87    | 4.7   | 6.1   | 1.3   | 3.1   | 1.3   | .51    |
| 15    | 1.2   | 1.5  | 2.2   | 1.7  | 1.8  | 46    | 4.3   | 5.2   | 1.2   | 1.3   | 1.1   | .63    |
| 16    | 1.0   | 1.6  | 2.1   | 1.7  | 1.7  | 32    | 4.1   | 4.6   | .91   | .86   | .90   | .46    |
| 17    | .93   | 1.5  | 2.3   | 1.7  | 1.6  | 20    | 3.8   | 4.1   | .76   | .68   | .87   | 1.5    |
| 18    | .87   | 1.6  | 2.2   | 1.6  | 1.5  | 13    | 3.7   | 4.0   | 1.2   | .60   | 1.0   | 1.5    |
| 19    | .82   | 1.6  | 2.0   | 1.5  | 1.5  | 10    | 3.4   | 7.8   | 3.4   | .44   | .74   | 4.6    |
| 20    | 1.0   | 1.5  | 2.5   | 1.4  | 1.4  | 8.8   | 3.2   | 5.3   | 1.4   | .37   | .60   | 6.8    |
| 21    | 13    | 1.3  | 5.3   | 1.4  | 1.4  | 8.2   | 3.1   | 4.3   | 1.4   | .31   | .44   | 8.0    |
| 22    | 4.2   | 1.2  | 3.1   | 1.4  | 1.3  | 9.5   | 3.1   | 3.5   | 1.0   | .31   | .44   | 4.8    |
| 23    | 2.7   | 1.3  | 2.4   | 1.4  | 1.3  | 14    | 7.6   | 3.0   | .77   | .24   | .58   | 3.4    |
| 24    | 2.2   | 1.3  | 1.9   | 1.3  | 1.4  | 9.6   | 46    | 2.7   | .68   | .23   | .60   | 3.4    |
| 25    | 3.2   | 1.2  | 1.8   | 1.4  | 7.2  | 7.1   | 40    | 2.3   | .68   | 1.2   | 1.1   | 7.0    |
| 26    | 4.9   | 1.2  | 1.9   | 1.4  | 7.6  | 7.6   | 15    | 1.9   | 1.3   | 1.2   | .87   | 12     |
| 27    | 3.4   | 1.3  | 1.8   | 1.4  | 4.8  | 12    | 10    | 1.7   | .90   | .63   | .63   | 22     |
| 28    | 2.5   | 1.3  | 1.7   | 1.6  | 7.2  | 18    | 7.6   | 1.5   | .67   | .40   | .47   | 9.7    |
| 29    | 2.2   | 1.8  | 1.7   | 2.2  | ---  | 40    | 6.0   | 1.3   | 2.0   | .31   | .37   | 6.1    |
| 30    | 1.9   | 1.5  | 1.6   | 1.9  | ---  | 23    | 5.2   | 1.2   | 2.0   | .31   | .33   | 4.4    |
| 31    | 3.1   | ---  | 1.5   | 1.5  | ---  | 16    | ---   | 1.1   | ---   | .29   | .31   | ---    |
| TOTAL | 75.85 | 48.0 | 100.2 | 48.1 | 61.4 | 630.2 | 315.2 | 189.8 | 49.07 | 27.89 | 70.19 | 104.62 |
| MEAN  | 2.45  | 1.60 | 3.23  | 1.55 | 2.19 | 20.3  | 10.5  | 6.12  | 1.64  | .90   | 2.26  | 3.49   |
| MAX   | 13    | 3.2  | 21    | 2.2  | 7.6  | 88    | 46    | 37    | 3.7   | 3.5   | 19    | 22     |
| MIN   | .42   | 1.2  | 1.1   | 1.3  | 1.3  | 3.5   | 3.1   | 1.1   | .67   | .23   | .31   | .24    |
| CFSM  | .87   | .57  | 1.15  | .55  | .78  | 7.22  | 3.74  | 2.18  | .58   | .32   | .80   | 1.24   |
| IN.   | 1.00  | .64  | 1.33  | .64  | .81  | 8.34  | 4.17  | 2.51  | .65   | .37   | .93   | 1.38   |

CAL YR 1976 TOTAL 1875.42 MEAN 5.12 MAX 84 MIN .21 CFSM 1.82 IN 24.83  
WTR YR 1977 TOTAL 1720.52 MEAN 4.71 MAX 88 MIN .23 CFSM 1.68 IN 22.77

NOTE.--Doubtful or no gage-height record Jan. 18 to Feb. 3, Mar. 13 to May 1.

01175500 SWIFT RIVER AT WEST WARE, MA

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.

DRAINAGE AREA.--188 mi<sup>2</sup> (487 km<sup>2</sup>), includes 1.6 mi<sup>2</sup> (4.1 km<sup>2</sup>) drained by Beaver Brook, flow of which is diverted from Ware River basin. Prior to January 1937, 186 mi<sup>2</sup> (482 km<sup>2</sup>).

PERIOD OF RECORD.--Discharge: July 1910 to September 1912 (twice-daily gage heights and corresponding discharges), October 1912 to current year.  
Water-quality records: Water years 1952-54.

REVISED RECORDS.--WSP 401: Drainage area. WSP 451: 1916. WSP 871: 1919. WSP 1031: 1944 (changes in reservoir contents and adjusted figures only). WSP 1301: 1925(M).

GAGE.--Water-stage recorder. Datum of gage is 365.18 ft (111.307 m) above mean sea level. Prior to Aug. 25, 1912, nonrecording gage at site 400 ft (100 m) upstream at same datum.

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 during 1966, 1967, and 1977 from Quabbin Reservoir to city of Worcester (see table below for figures of diversion). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--27 years (water years 1913-39) prior to completion of Quabbin Reservoir, 314 ft<sup>3</sup>/s (8.892 m<sup>3</sup>/s), 22.68 in/yr (576 mm/yr); 38 years (water years 1940-77) affected by storage and diversions, 91.3 ft<sup>3</sup>/s (2.586 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,590 ft<sup>3</sup>/s (215 m<sup>3</sup>/s) Mar. 19, 1936, gage height, 15.00 ft (4.572 m); minimum daily, 9.1 ft<sup>3</sup>/s (0.26 m<sup>3</sup>/s) Dec. 15, 1968. Maximum discharge since construction of Quabbin Reservoir in 1939, 1,870 ft<sup>3</sup>/s (53.0 m<sup>3</sup>/s) Apr. 30, 1956, gage height, 8.37 ft (2.551 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 135 ft<sup>3</sup>/s (3.82 m<sup>3</sup>/s) Aug. 1, gage height, 2.84 ft (0.866 m); maximum gage height, 3.12 ft (0.951 m) Jan. 18, ice jam; minimum daily discharge, 37 ft<sup>3</sup>/s (1.05 m<sup>3</sup>/s) many days during year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|------|------|-------|------|------|------|------|
| 1     | 39   | 80   | 43   | 38   | 38   | 38   | 41   | 40    | 39   | 37   | 93   | 91   |
| 2     | 40   | 81   | 39   | 38   | 38   | 37   | 41   | 40    | 39   | 38   | 93   | 91   |
| 3     | 41   | 81   | 39   | 38   | 37   | 38   | 42   | 40    | 39   | 38   | 90   | 91   |
| 4     | 77   | 81   | 39   | 37   | 37   | 38   | 41   | 39    | 38   | 38   | 90   | 91   |
| 5     | 81   | 81   | 39   | 37   | 37   | 45   | 46   | 40    | 38   | 43   | 92   | 92   |
| 6     | 81   | 81   | 39   | 38   | 37   | 40   | 43   | 40    | 38   | 39   | 92   | 92   |
| 7     | 81   | 80   | 44   | 38   | 37   | 39   | 42   | 39    | 39   | 38   | 91   | 91   |
| 8     | 81   | 80   | 40   | 38   | 37   | 39   | 41   | 39    | 39   | 39   | 91   | 91   |
| 9     | 84   | 80   | 39   | 38   | 37   | 40   | 41   | 47    | 38   | 38   | 91   | 91   |
| 10    | 82   | 81   | 39   | 38   | 37   | 40   | 40   | 48    | 38   | 38   | 91   | 91   |
| 11    | 81   | 80   | 39   | 38   | 37   | 39   | 40   | 43    | 38   | 38   | 91   | 90   |
| 12    | 80   | 80   | 39   | 38   | 37   | 39   | 40   | 42    | 38   | 39   | 91   | 90   |
| 13    | 80   | 80   | 39   | 38   | 37   | 49   | 40   | 41    | 38   | 38   | 90   | 90   |
| 14    | 80   | 80   | 39   | 38   | 37   | 51   | 39   | 41    | 38   | 38   | 61   | 91   |
| 15    | 80   | 80   | 39   | 38   | 37   | 45   | 39   | 40    | 38   | 38   | 61   | 90   |
| 16    | 80   | 80   | 40   | 37   | 37   | 43   | 39   | 40    | 38   | 38   | 90   | 91   |
| 17    | 80   | 79   | 39   | 38   | 37   | 42   | 39   | 40    | 38   | 38   | 84   | 91   |
| 18    | 80   | 80   | 38   | 38   | 37   | 41   | 39   | 40    | 38   | 39   | 101  | 91   |
| 19    | 80   | 79   | 38   | 38   | 37   | 41   | 39   | 41    | 38   | 38   | 91   | 93   |
| 20    | 80   | 80   | 38   | 37   | 37   | 41   | 39   | 40    | 38   | 37   | 90   | 59   |
| 21    | 84   | 80   | 40   | 37   | 37   | 41   | 44   | 40    | 42   | 52   | 90   | 40   |
| 22    | 81   | 80   | 38   | 37   | 38   | 44   | 39   | 40    | 38   | 60   | 90   | 39   |
| 23    | 80   | 80   | 38   | 38   | 37   | 49   | 41   | 39    | 38   | 89   | 90   | 39   |
| 24    | 80   | 80   | 38   | 37   | 37   | 44   | 46   | 39    | 44   | 90   | 91   | 41   |
| 25    | 80   | 80   | 38   | 37   | 42   | 42   | 50   | 39    | 41   | 92   | 90   | 41   |
| 26    | 81   | 79   | 38   | 37   | 39   | 42   | 42   | 39    | 39   | 91   | 91   | 45   |
| 27    | 80   | 79   | 38   | 37   | 38   | 42   | 41   | 39    | 38   | 90   | 90   | 43   |
| 28    | 80   | 79   | 38   | 38   | 40   | 43   | 41   | 39    | 38   | 90   | 91   | 40   |
| 29    | 80   | 80   | 38   | 38   | ---  | 45   | 41   | 38    | 38   | 90   | 90   | 43   |
| 30    | 81   | 79   | 38   | 38   | ---  | 42   | 41   | 38    | 38   | 90   | 90   | 39   |
| 31    | 77   | ---  | 38   | 38   | ---  | 42   | ---  | 38    | ---  | 90   | 90   | ---  |
| TOTAL | 2372 | 2400 | 1208 | 1168 | 1050 | 1301 | 1237 | 1248  | 1159 | 1691 | 2757 | 2198 |
| MEAN  | 76.5 | 80.0 | 39.0 | 37.7 | 37.5 | 42.0 | 41.2 | 40.3  | 38.6 | 54.5 | 88.9 | 73.3 |
| MAX   | 84   | 81   | 44   | 38   | 42   | 51   | 50   | 48    | 44   | 92   | 101  | 93   |
| MIN   | 39   | 79   | 38   | 37   | 37   | 37   | 39   | 38    | 38   | 37   | 61   | 39   |
| (†)   | +533 | +541 | +521 | +421 | +416 | -220 | -247 | +25.8 | +540 | +520 | +445 | +520 |

CAL YR 1976 TOTAL 38022 MEAN 104 MAX 362 MIN 27  
WTR YR 1977 TOTAL 19789 MEAN 54.2 MAX 101 MIN 37

† Diversions, in cubic feet per second, from Ware River to Quabbin Reservoir, and from Quabbin Reservoir to Wachusett Reservoir, Chicopee Valley aqueduct, and city of Worcester.

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 and period of backwater from leaves, which are poor. Occasional regulation by ponds upstream since 1971. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--17 years, 13.8 ft<sup>3</sup>/s (0.391 m<sup>3</sup>/s), 21.84 in/yr (555 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), from rating curve extended above 160 ft<sup>3</sup>/s (4.53 m<sup>3</sup>/s); maximum gage height, 5.41 ft (1.649 m) Mar. 7, 1963, ice jam; minimum discharge, 0.11 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) July 21, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 60 ft<sup>3</sup>/s (1.70 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 14 | 0700 | *176 4.98                                             | *4.31 1.314             | Apr. 25 | 0515 | 82 2.32                                               | 3.68 1.122              |
| Mar. 29 | 2115 | 102 2.89                                              | 3.85 1.173              | May 10  | 1845 | 65 1.84                                               | 3.52 1.073              |
| Apr. 5  | 1830 | 69 1.95                                               | 3.56 1.085              |         |      |                                                       |                         |

Minimum discharge, 0.15 ft<sup>3</sup>/s (0.004 m<sup>3</sup>/s) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC   | JAN   | FEB   | MAR    | APR  | MAY   | JUN   | JUL   | AUG   | SEP    |
|-------|-------|------|-------|-------|-------|--------|------|-------|-------|-------|-------|--------|
| 1     | 1.5   | 3.4  | 2.0   | 3.5   | 3.0   | 12     | 58   | 22    | 5.7   | 4.7   | 3.0   | .42    |
| 2     | 1.2   | 3.2  | 1.9   | 3.3   | 3.0   | 10     | 47   | 20    | 6.4   | 4.1   | 13    | .44    |
| 3     | 2.7   | 3.1  | 2.0   | 3.2   | 3.0   | 8.5    | 46   | 19    | 7.0   | 3.5   | 9.0   | .43    |
| 4     | 2.2   | 2.7  | 1.9   | 3.2   | 3.0   | 8.0    | 41   | 17    | 7.9   | 2.8   | 6.6   | .39    |
| 5     | .77   | 3.0  | 1.8   | 3.1   | 3.1   | 14     | 55   | 18    | 7.0   | 2.9   | 4.8   | .52    |
| 6     | .89   | 3.1  | 1.7   | 3.0   | 3.0   | 20     | 60   | 18    | 5.5   | 3.3   | 4.4   | .64    |
| 7     | .77   | 2.8  | 9.2   | 3.1   | 2.9   | 18     | 48   | 16    | 6.4   | 3.3   | 3.7   | .47    |
| 8     | .83   | 2.5  | 24    | 3.4   | 2.9   | 16     | 41   | 14    | 8.7   | 4.0   | 3.0   | .35    |
| 9     | 3.5   | 2.3  | 20    | 3.7   | 2.9   | 14     | 36   | 24    | 7.2   | 4.9   | 2.9   | .23    |
| 10    | 4.8   | 2.3  | 14    | 3.9   | 2.9   | 19     | 32   | 57    | 7.7   | 4.3   | 1.9   | .29    |
| 11    | 4.1   | 2.2  | 10    | 6.0   | 2.9   | 30     | 29   | 58    | 10    | 3.1   | 1.8   | .30    |
| 12    | 2.2   | 3.8  | 8.8   | 5.0   | 2.9   | 40     | 26   | 49    | 9.7   | 3.8   | 1.8   | .26    |
| 13    | 1.3   | 3.3  | 6.9   | 3.8   | 3.0   | 74     | 25   | 39    | 8.1   | 4.8   | 1.9   | .19    |
| 14    | 1.7   | 2.6  | 5.8   | 3.8   | 3.2   | 161    | 23   | 33    | 6.7   | 7.3   | 1.8   | .26    |
| 15    | 1.7   | 2.3  | 5.2   | 3.5   | 3.2   | 115    | 21   | 28    | 5.6   | 5.8   | 1.4   | .36    |
| 16    | 1.7   | 2.2  | 5.0   | 3.5   | 3.2   | 79     | 19   | 24    | 5.0   | 4.7   | .99   | .50    |
| 17    | 1.3   | 2.1  | 4.9   | 3.5   | 3.1   | 60     | 18   | 22    | 4.2   | 3.8   | .92   | 1.1    |
| 18    | 1.0   | 2.0  | 4.9   | 3.2   | 3.0   | 47     | 16   | 20    | 4.4   | 3.7   | .86   | 1.2    |
| 19    | .53   | 1.9  | 4.8   | 3.1   | 3.0   | 42     | 14   | 22    | 5.6   | 2.5   | .88   | 3.3    |
| 20    | .60   | 2.0  | 4.6   | 3.0   | 3.0   | 32     | 14   | 21    | 4.7   | 1.9   | .96   | 5.3    |
| 21    | 13    | 2.0  | 9.1   | 3.0   | 3.1   | 27     | 14   | 19    | 4.3   | 1.5   | .91   | 7.3    |
| 22    | 7.2   | 1.9  | 5.6   | 2.9   | 3.1   | 25     | 13   | 17    | 3.8   | 1.3   | .88   | 5.1    |
| 23    | 8.5   | 1.7  | 4.7   | 2.8   | 3.0   | 33     | 17   | 15    | 3.6   | 1.2   | .83   | 4.0    |
| 24    | 3.9   | 1.7  | 4.4   | 2.8   | 3.0   | 26     | 42   | 13    | 3.1   | 1.1   | 1.0   | 4.9    |
| 25    | 3.4   | 1.8  | 4.7   | 3.2   | 6.0   | 21     | 74   | 12    | 3.0   | 2.8   | 1.1   | 8.2    |
| 26    | 3.9   | 1.9  | 4.2   | 3.1   | 8.0   | 18     | 57   | 10    | 3.7   | 4.4   | 1.0   | 15     |
| 27    | 5.0   | 1.9  | 4.1   | 3.0   | 10    | 24     | 44   | 9.2   | 3.6   | 3.1   | 1.1   | 29     |
| 28    | 4.2   | 1.9  | 4.0   | 3.1   | 12    | 45     | 35   | 8.1   | 3.4   | 2.2   | .96   | 17     |
| 29    | 3.5   | 2.0  | 4.0   | 3.2   | ---   | 85     | 29   | 7.3   | 4.3   | 1.8   | .80   | 12     |
| 30    | 3.4   | 2.2  | 3.9   | 3.1   | ---   | 89     | 25   | 6.2   | 5.5   | 1.7   | .67   | 8.4    |
| 31    | 3.2   | ---  | 3.7   | 3.0   | ---   | 72     | ---  | 5.8   | ---   | 1.4   | .54   | ---    |
| TOTAL | 94.49 | 71.8 | 191.8 | 105.0 | 108.4 | 1284.5 | 1019 | 663.6 | 173.8 | 101.7 | 75.40 | 127.85 |
| MEAN  | 3.05  | 2.39 | 6.19  | 3.39  | 3.87  | 41.4   | 34.0 | 21.4  | 5.79  | 3.28  | 2.43  | 4.26   |
| MAX   | 13    | 3.8  | 24    | 6.0   | 12    | 161    | 74   | 58    | 10    | 7.3   | 13    | 29     |
| MIN   | .53   | 1.7  | 1.7   | 2.8   | 2.9   | 8.0    | 13   | 5.8   | 3.0   | 1.1   | .54   | .19    |
| CFSM  | .36   | .28  | .72   | .40   | .45   | 4.83   | 3.96 | 2.49  | .68   | .38   | .28   | .50    |
| IN.   | .41   | .31  | .83   | .46   | .47   | 5.57   | 4.42 | 2.88  | .75   | .44   | .33   | .55    |

CAL YR 1976 TOTAL 4770.10 MEAN 13.0 MAX 209 MIN .13 CFSM 1.52 IN 20.68  
WTR YR 1977 TOTAL 4017.34 MEAN 11.0 MAX 161 MIN .19 CFSM 1.28 IN 17.42

NOTE.--Backwater from leaves Oct. 3 to Dec. 7.

## CONNECTICUT RIVER BASIN

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 August 1912 (twice-daily gage heights and corresponding discharges), September 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 excellent except those for winter period, 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 were made during the year.

AVERAGE DISCHARGE.--65 years (water years 1913-77), 241 ft<sup>3</sup>/s (6.825 m<sup>3</sup>/s), 21.67 in/yr (550 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 (76.5 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 (23.8 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 16 | 1130 | *1330 37.7                                            | *6.09 1.856             | Mar. 31 | 0930 | 937 26.5                                              | 5.42 1.652              |

Minimum discharge, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR       | APR      | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|-----------|----------|-------|------|------|------|------|
| 1           | 25    | 113   | 37       | 54       | 48     | 240       | 889      | 502   | 102  | 69   | 79   | 30   |
| 2           | 25    | 111   | 33       | 52       | 47     | 280       | 870      | 462   | 123  | 67   | 112  | 28   |
| 3           | 29    | 113   | 35       | 51       | 47     | 310       | 824      | 423   | 111  | 62   | 110  | 26   |
| 4           | 30    | 109   | 33       | 50       | 46     | 350       | 778      | 397   | 98   | 61   | 102  | 25   |
| 5           | 30    | 105   | 32       | 49       | 46     | 380       | 876      | 383   | 95   | 59   | 98   | 24   |
| 6           | 29    | 91    | 30       | 49       | 46     | 390       | 864      | 359   | 91   | 59   | 97   | 26   |
| 7           | 28    | 93    | 125      | 50       | 46     | 390       | 824      | 327   | 96   | 61   | 90   | 22   |
| 8           | 27    | 87    | 200      | 55       | 45     | 380       | 783      | 299   | 101  | 68   | 83   | 21   |
| 9           | 50    | 78    | 220      | 62       | 45     | 400       | 726      | 391   | 103  | 77   | 74   | 21   |
| 10          | 78    | 82    | 175      | 66       | 45     | 430       | 686      | 558   | 109  | 73   | 68   | 21   |
| 11          | 66    | 78    | 140      | 100      | 48     | 490       | 642      | 595   | 113  | 70   | 68   | 20   |
| 12          | 64    | 76    | 110      | 80       | 53     | 605       | 588      | 623   | 117  | 70   | 64   | 17   |
| 13          | 64    | 79    | 90       | 72       | 56     | 785       | 536      | 609   | 116  | 75   | 62   | 18   |
| 14          | 61    | 68    | 70       | 66       | 58     | 1140      | 483      | 581   | 111  | 83   | 60   | 22   |
| 15          | 55    | 68    | 90       | 62       | 58     | 1290      | 452      | 547   | 102  | 90   | 56   | 18   |
| 16          | 56    | 67    | 100      | 59       | 56     | 1300      | 415      | 506   | 92   | 86   | 51   | 21   |
| 17          | 54    | 64    | 90       | 57       | 54     | 1210      | 386      | 462   | 86   | 86   | 50   | 32   |
| 18          | 53    | 63    | 80       | 54       | 52     | 1150      | 354      | 422   | 86   | 90   | 49   | 31   |
| 19          | 52    | 59    | 75       | 53       | 51     | 1050      | 328      | 425   | 97   | 85   | 45   | 61   |
| 20          | 66    | 53    | 70       | 52       | 50     | 964       | 298      | 388   | 84   | 81   | 43   | 86   |
| 21          | 138   | 49    | 100      | 50       | 50     | 876       | 271      | 357   | 81   | 77   | 38   | 100  |
| 22          | 139   | 53    | 76       | 49       | 50     | 851       | 249      | 326   | 76   | 72   | 39   | 120  |
| 23          | 134   | 55    | 70       | 48       | 50     | 889       | 259      | 293   | 72   | 65   | 39   | 114  |
| 24          | 135   | 54    | 66       | 47       | 50     | 818       | 441      | 264   | 69   | 62   | 38   | 126  |
| 25          | 138   | 53    | 64       | 53       | 100    | 753       | 660      | 240   | 66   | 73   | 38   | 162  |
| 26          | 146   | 53    | 66       | 52       | 140    | 727       | 641      | 208   | 70   | 95   | 35   | 205  |
| 27          | 141   | 54    | 66       | 50       | 180    | 732       | 648      | 185   | 66   | 87   | 34   | 274  |
| 28          | 136   | 54    | 63       | 52       | 210    | 748       | 622      | 168   | 64   | 86   | 33   | 281  |
| 29          | 127   | 55    | 60       | 51       | ---    | 895       | 576      | 149   | 68   | 82   | 31   | 271  |
| 30          | 122   | 52    | 58       | 50       | ---    | 917       | 538      | 135   | 71   | 77   | 30   | 255  |
| 31          | 124   | ---   | 56       | 49       | ---    | 922       | ---      | 116   | ---  | 73   | 30   | ---  |
| TOTAL       | 2422  | 2189  | 2580     | 1744     | 1827   | 22662     | 17507    | 11700 | 2736 | 2321 | 1846 | 2478 |
| MEAN        | 78.1  | 73.0  | 83.2     | 56.3     | 65.3   | 731       | 584      | 377   | 91.2 | 74.9 | 59.5 | 82.6 |
| MAX         | 146   | 113   | 220      | 100      | 210    | 1300      | 889      | 623   | 123  | 95   | 112  | 281  |
| MIN         | 25    | 49    | 30       | 47       | 45     | 240       | 249      | 116   | 64   | 59   | 30   | 17   |
| CFSM        | .52   | .48   | .55      | .37      | .43    | 4.84      | 3.87     | 2.50  | .60  | .50  | .39  | .55  |
| IN.         | .60   | .54   | .64      | .43      | .45    | 5.58      | 4.31     | 2.88  | .67  | .57  | .45  | .61  |
| CAL YR 1976 | TOTAL | 83608 | MEAN 228 | MAX 2000 | MIN 21 | CFSM 1.51 | IN 20.60 |       |      |      |      |      |
| WTR YR 1977 | TOTAL | 72012 | MEAN 197 | MAX 1300 | MIN 17 | CFSM 1.31 | IN 17.74 |       |      |      |      |      |

## 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, 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 and 1967, 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. See table below for figures of diversion. 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.--49 years, 896 ft<sup>3</sup>/s (25.37 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, 5,120 ft<sup>3</sup>/s (145 m<sup>3</sup>/s) Mar. 14, gage height, 9.29 ft (2.832 m); minimum daily, 85 ft<sup>3</sup>/s (2.41 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR   | APR   | MAY   | JUN   | JUL  | AUG   | SEP   |
|-------------|-------|--------|----------|----------|--------|-------|-------|-------|-------|------|-------|-------|
| 1           | 124   | 444    | 271      | 260      | 297    | 1110  | 2110  | 1180  | 400   | 310  | 372   | 210   |
| 2           | 85    | 437    | 246      | 257      | 344    | 942   | 2000  | 1100  | 529   | 271  | 583   | 200   |
| 3           | 233   | 452    | 232      | 310      | 214    | 886   | 1880  | 1040  | 602   | 306  | 839   | 230   |
| 4           | 324   | 417    | 188      | 243      | 212    | 921   | 1740  | 985   | 535   | 302  | 685   | 210   |
| 5           | 368   | 416    | 175      | 213      | 256    | 1320  | 2060  | 970   | 467   | 271  | 602   | 200   |
| 6           | 191   | 395    | 209      | 232      | 262    | 1710  | 2510  | 1010  | 372   | 213  | 467   | 240   |
| 7           | 266   | 366    | 489      | 260      | 301    | 1400  | 2110  | 897   | 441   | 260  | 446   | 280   |
| 8           | 233   | 313    | 963      | 194      | 189    | 1210  | 1870  | 839   | 435   | 236  | 415   | 250   |
| 9           | 276   | 342    | 628      | 246      | 281    | 1200  | 1690  | 1250  | 523   | 257  | 391   | 220   |
| 10          | 475   | 317    | 565      | 290      | 264    | 1480  | 1550  | 2410  | 553   | 286  | 327   | 190   |
| 11          | 426   | 356    | 615      | 332      | 177    | 1720  | 1430  | 2420  | 512   | 226  | 395   | 210   |
| 12          | 417   | 327    | 495      | 318      | 278    | 1740  | 1230  | 2040  | 518   | 286  | 358   | 190   |
| 13          | 289   | 299    | 391      | 309      | 288    | 1920  | 1140  | 1730  | 473   | 294  | 386   | 180   |
| 14          | 298   | 313    | 246      | 284      | 358    | 4420  | 1160  | 1470  | 500   | 446  | 336   | 190   |
| 15          | 264   | 276    | 358      | 249      | 308    | 4430  | 883   | 1320  | 420   | 345  | 323   | 170   |
| 16          | 339   | 306    | 415      | 287      | 340    | 3250  | 920   | 1190  | 400   | 282  | 310   | 160   |
| 17          | 270   | 311    | 354      | 347      | 313    | 2700  | 905   | 1110  | 354   | 282  | 330   | 220   |
| 18          | 247   | 372    | 345      | 272      | 328    | 2310  | 832   | 999   | 315   | 275  | 340   | 260   |
| 19          | 221   | 278    | 332      | 344      | 192    | 2070  | 854   | 1090  | 590   | 294  | 320   | 350   |
| 20          | 264   | 226    | 340      | 310      | 250    | 1890  | 783   | 1070  | 529   | 239  | 300   | 450   |
| 21          | 687   | 336    | 420      | 279      | 317    | 1820  | 710   | 963   | 484   | 315  | 280   | 600   |
| 22          | 691   | 264    | 315      | 191      | 325    | 1840  | 678   | 875   | 473   | 340  | 270   | 550   |
| 23          | 601   | 286    | 372      | 260      | 304    | 2660  | 730   | 811   | 410   | 267  | 350   | 500   |
| 24          | 501   | 271    | 345      | 282      | 223    | 2300  | 1420  | 756   | 345   | 282  | 300   | 540   |
| 25          | 465   | 315    | 275      | 184      | 639    | 1900  | 2810  | 647   | 315   | 290  | 270   | 600   |
| 26          | 546   | 278    | 336      | 318      | 926    | 1740  | 2390  | 602   | 327   | 523  | 250   | 700   |
| 27          | 623   | 188    | 332      | 279      | 869    | 1770  | 1860  | 571   | 358   | 400  | 240   | 900   |
| 28          | 491   | 332    | 267      | 268      | 1080   | 1900  | 1600  | 506   | 319   | 354  | 230   | 1100  |
| 29          | 384   | 275    | 253      | 224      | ---    | 2430  | 1430  | 484   | 336   | 358  | 220   | 850   |
| 30          | 481   | 278    | 286      | 282      | ---    | 2730  | 1290  | 410   | 354   | 310  | 220   | 753   |
| 31          | 409   | ---    | 275      | 267      | ---    | 2370  | ---   | 400   | ---   | 278  | 210   | ---   |
| TOTAL       | 11489 | 9786   | 11333    | 8391     | 10135  | 62089 | 44575 | 33145 | 13189 | 9398 | 11365 | 11703 |
| MEAN        | 371   | 326    | 366      | 271      | 362    | 2003  | 1486  | 1069  | 440   | 303  | 367   | 390   |
| MAX         | 691   | 452    | 963      | 347      | 1080   | 4430  | 2810  | 2420  | 602   | 523  | 839   | 1100  |
| MIN         | 85    | 188    | 175      | 184      | 177    | 886   | 678   | 400   | 315   | 213  | 210   | 160   |
| (†)         | 532   | 540    | 522      | 420      | 416    | 165   | 20.0  | 138   | 539   | 518  | 444   | 519   |
| CAL YR 1976 | TOTAL | 314658 | MEAN 860 | MAX 7500 | MIN 76 |       |       |       |       |      |       |       |
| WTR YR 1977 | TOTAL | 236598 | MEAN 648 | MAX 4430 | MIN 85 |       |       |       |       |      |       |       |

† Diversions, in cubic feet per second, from Ware and Swift River basins for supply of Boston metropolitan district, Chicopee, and South Hadley, and from Ludlow Reservoir for Springfield; records furnished by Water Division of Metropolitan District Commission and city of Springfield.

NOTE.--No gage-height record Aug. 16 to Sept. 29.



## 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 current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1973, August 1973 to current year.

pH: February 1973, August 1973 to current year.

DISSOLVED OXYGEN: February 1973, August 1973 to July 1976.

WATER TEMPERATURES: February 1973, August 1973 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1973.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument. Daily records are considered fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 533 micromhos May 29, 1975; minimum recorded, 30 micromhos Aug. 2, 1976, but may have been lower during period of no record.

pH: Maximum recorded, 9.1 units Nov. 16, 1973; minimum, 4.1 units May 29, 1976, but may have been lower during period of no record.

DISSOLVED OXYGEN: Maximum, 15.2 mg/L Feb. 3, 1973; minimum, 0.0 mg/L on many days each year.

WATER TEMPERATURES: Maximum recorded, 33.0°C July 7, 1975, Aug. 12, 13, 1976; minimum, 0.0°C on several days during winter period.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 148 micromhos July 1; minimum recorded, 86 micromhos Sept. 29, but maximum and minimum may have been higher or lower during periods of no record.

pH: Maximum recorded, 6.8 units Aug. 11; minimum recorded, 5.8 units Sept. 1, 30. Maximum and minimum may have been higher or lower during periods of missing record.

WATER TEMPERATURES: Maximum recorded, 30.0°C July 21; minimum, probably 0.0°C on several days during winter period.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), JULY TO SEPTEMBER 1977

| DAY    | MAX  | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|--------|------|-----|------|--------|-----|------|-----------|-----|------|
|        | JULY |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1      | 148  | 115 | 123  | 128    | 117 | 122  | 130       | 109 | 116  |
| 2      | 141  | 115 | 125  | 131    | 115 | 121  | 126       | 111 | 117  |
| 3      | 132  | 117 | 124  | 117    | 110 | 114  | 130       | 111 | 120  |
| 4      | 129  | 113 | 121  | 117    | 107 | 112  | 130       | 116 | 123  |
| 5      | 139  | 113 | 119  | 116    | 106 | 110  | 124       | 110 | 117  |
| 6      | 142  | 116 | 120  | 112    | 105 | 108  | 123       | 110 | 114  |
| 7      | 137  | 115 | 119  | 112    | 103 | 107  | 129       | 111 | 118  |
| 8      | 136  | 115 | 118  | 113    | 100 | 106  | 124       | 110 | 116  |
| 9      | 136  | 117 | 125  | 110    | 98  | 103  | 128       | 110 | 116  |
| 10     | 126  | 119 | 123  | 114    | 98  | 104  | 129       | 112 | 120  |
| 11     | 122  | 115 | 119  | 117    | 100 | 110  | 123       | 116 | 119  |
| 12     | 138  | 109 | 117  | 116    | 102 | 109  | 121       | 107 | 113  |
| 13     | 121  | 111 | 116  | 114    | 105 | 109  | 121       | 106 | 111  |
| 14     | 129  | 111 | 121  | 113    | 106 | 109  | 124       | 104 | 110  |
| 15     | 124  | 115 | 119  | 123    | 104 | 110  | 127       | 107 | 113  |
| 16     | 131  | 120 | 124  | 121    | 105 | 111  | 121       | 107 | 111  |
| 17     | 130  | 123 | 127  | 131    | 107 | 115  | 124       | 105 | 116  |
| 18     | 132  | 120 | 125  | 123    | 107 | 114  | 123       | 110 | 116  |
| 19     | 131  | 116 | 123  | 122    | 106 | 113  | 118       | 103 | 109  |
| 20     | 136  | 116 | 124  | 127    | 107 | 116  | 119       | 101 | 107  |
| 21     | 132  | 122 | 126  | 127    | 112 | 117  | 115       | 99  | 104  |
| 22     | 133  | 120 | 127  | 120    | 108 | 115  | 143       | 96  | 103  |
| 23     | 140  | 122 | 131  | 125    | 108 | 114  | 111       | 87  | 99   |
| 24     | 127  | 120 | 123  | 128    | 108 | 116  | 109       | 93  | 103  |
| 25     | 127  | 120 | 124  | 129    | 109 | 116  | 105       | 99  | 102  |
| 26     | 124  | 117 | 120  | 121    | 109 | 114  | 110       | 95  | 101  |
| 27     | 124  | 117 | 120  | 122    | 108 | 116  | 101       | 91  | 96   |
| 28     | 123  | 114 | 119  | 127    | 113 | 117  | 93        | 88  | 89   |
| 29     | 125  | 108 | 115  | 116    | 110 | 114  | 95        | 86  | 90   |
| 30     | 135  | 115 | 123  | 125    | 109 | 115  | 105       | 87  | 92   |
| 31     | 122  | 114 | 118  | 122    | 109 | 113  | ---       | --- | ---  |
| MONTH  | 148  | 108 | 122  | 131    | 98  | 113  | 143       | 86  | 109  |
| PERIOD | 148  | 86  | 115  |        |     |      |           |     |      |



01177100 CHICOPEE RIVER AT CHICOPEE FALLS, MA--Continued

PH (UNITS), JULY TO SEPTEMBER 1977

| DAY    | MAX | MIN<br>JULY | MEAN | MAX | MIN<br>AUGUST | MEAN | MAX | MIN<br>SEPTEMBER | MEAN |
|--------|-----|-------------|------|-----|---------------|------|-----|------------------|------|
| 1      | 6.4 | 6.2         | 6.3  | 6.0 | 5.9           | 6.0  | 6.2 | 5.8              | 6.1  |
| 2      | 6.3 | 6.0         | 6.2  | 6.1 | 5.9           | 6.0  | 6.4 | 6.1              | 6.3  |
| 3      | 6.3 | 6.0         | 6.2  | 6.1 | 6.0           | 6.1  | 6.4 | 6.1              | 6.2  |
| 4      | 6.3 | 6.1         | 6.2  | 6.1 | 5.9           | 6.0  | 6.6 | 6.2              | 6.3  |
| 5      | 6.2 | 6.0         | 6.2  | 6.1 | 5.9           | 6.0  | 6.4 | 6.2              | 6.3  |
| 6      | 6.3 | 5.8         | 6.2  | 6.0 | 5.9           | 5.9  | 6.3 | 6.2              | 6.3  |
| 7      | 6.3 | 6.0         | 6.2  | 6.0 | 5.9           | 5.9  | 6.6 | 6.3              | 6.4  |
| 8      | 6.4 | 5.9         | 6.2  | 6.0 | 5.9           | 5.9  | 6.4 | 6.2              | 6.3  |
| 9      | 6.2 | 5.9         | 6.1  | 6.2 | 5.9           | 6.0  | 6.3 | 6.2              | 6.3  |
| 10     | 6.1 | 6.0         | 6.1  | 6.0 | 5.9           | 6.0  | 6.4 | 6.3              | 6.3  |
| 11     | 6.1 | 6.0         | 6.1  | 6.8 | 5.9           | 6.1  | 6.3 | 6.3              | 6.3  |
| 12     | 6.0 | 5.8         | 6.0  | 6.1 | 6.0           | 6.0  | 6.4 | 6.3              | 6.3  |
| 13     | 6.0 | 5.8         | 5.9  | 6.1 | 5.9           | 6.0  | 6.4 | 6.2              | 6.3  |
| 14     | 6.0 | 5.9         | 6.0  | 6.1 | 6.0           | 6.0  | 6.3 | 6.2              | 6.2  |
| 15     | 6.0 | 5.9         | 5.9  | 6.1 | 6.0           | 6.1  | 6.4 | 6.2              | 6.3  |
| 16     | 6.0 | 5.8         | 5.9  | 6.2 | 6.0           | 6.1  | 6.6 | 6.4              | 6.5  |
| 17     | 6.1 | 6.0         | 6.0  | 6.1 | 6.0           | 6.0  | 6.8 | 6.5              | 6.6  |
| 18     | 6.0 | 5.9         | 6.0  | 6.1 | 6.0           | 6.1  | 6.7 | 6.5              | 6.6  |
| 19     | 6.0 | 5.8         | 5.9  | 6.1 | 6.0           | 6.0  | 6.5 | 6.2              | 6.3  |
| 20     | 6.0 | 5.8         | 5.9  | 6.1 | 6.0           | 6.1  | 6.4 | 6.2              | 6.2  |
| 21     | 6.0 | 5.7         | 5.9  | 6.3 | 6.0           | 6.2  | 6.3 | 6.2              | 6.2  |
| 22     | 6.4 | 5.9         | 6.1  | 6.2 | 6.0           | 6.1  | 6.5 | 6.1              | 6.3  |
| 23     | 6.2 | 5.8         | 6.0  | 6.3 | 6.1           | 6.2  | 6.3 | 6.2              | 6.3  |
| 24     | 6.0 | 5.7         | 5.9  | 6.6 | 6.1           | 6.4  | 6.3 | 6.1              | 6.2  |
| 25     | 6.0 | 5.9         | 5.9  | 6.3 | 6.0           | 6.2  | 6.2 | 6.1              | 6.2  |
| 26     | 6.1 | 5.9         | 6.0  | 6.3 | 6.0           | 6.1  | 6.2 | 6.1              | 6.2  |
| 27     | 6.0 | 5.9         | 6.0  | 6.1 | 6.0           | 6.1  | 6.2 | 6.1              | 6.1  |
| 28     | 6.1 | 5.9         | 6.0  | 6.2 | 6.1           | 6.1  | 6.1 | 5.9              | 6.0  |
| 29     | 6.0 | 5.7         | 5.9  | 6.3 | 6.1           | 6.2  | 5.9 | 5.8              | 5.8  |
| 30     | 6.0 | 5.8         | 5.9  | 6.3 | 6.1           | 6.2  | 5.9 | 5.8              | 5.8  |
| 31     | 6.0 | 5.9         | 6.0  | 6.4 | 6.1           | 6.3  | --- | ---              | ---  |
| MONTH  | 6.4 | 5.7         | 6.0  | 6.8 | 5.9           | 6.1  | 6.8 | 5.8              | 6.3  |
| PERIOD | 6.8 | 5.7         | 6.1  |     |               |      |     |                  |      |

TEMPERATURE (DEG. C) OF WATER, JULY TO SEPTEMBER 1977

| DAY    | MAX  | MIN<br>JULY | MEAN | MAX  | MIN<br>AUGUST | MEAN | MAX  | MIN<br>SEPTEMBER | MEAN |
|--------|------|-------------|------|------|---------------|------|------|------------------|------|
| 1      | 25.0 | 23.0        | 24.5 | 24.0 | 22.5          | 23.5 | 24.0 | 23.0             | 23.5 |
| 2      | 25.5 | 23.5        | 24.5 | 25.5 | 22.5          | 23.5 | 25.5 | 23.5             | 24.5 |
| 3      | 26.0 | 22.0        | 24.0 | 24.0 | 22.5          | 23.0 | 25.0 | 24.0             | 24.5 |
| 4      | 25.5 | 22.5        | 24.0 | 25.0 | 22.5          | 24.0 | 25.5 | 23.0             | 24.0 |
| 5      | 25.5 | 24.5        | 25.0 | 25.0 | 23.0          | 23.5 | 24.5 | 22.5             | 23.5 |
| 6      | 25.0 | 23.5        | 24.0 | 25.5 | 23.0          | 24.0 | 24.0 | 23.0             | 23.5 |
| 7      | 25.0 | 23.5        | 24.0 | 25.5 | 23.5          | 24.5 | 24.0 | 23.0             | 23.5 |
| 8      | 24.5 | 22.5        | 23.5 | 26.5 | 23.5          | 25.0 | 24.0 | 22.0             | 23.0 |
| 9      | 25.5 | 22.0        | 23.5 | 26.5 | 24.0          | 25.5 | 23.5 | 22.5             | 23.0 |
| 10     | 26.0 | 22.5        | 24.5 | 25.5 | 23.5          | 24.5 | 23.0 | 21.5             | 22.0 |
| 11     | 25.5 | 23.0        | 24.0 | 27.0 | 24.0          | 25.5 | 22.0 | 21.0             | 21.0 |
| 12     | 24.5 | 22.5        | 23.0 | 26.0 | 24.5          | 25.0 | 22.0 | 19.5             | 21.0 |
| 13     | 26.0 | 23.0        | 24.0 | 24.5 | 23.5          | 24.0 | 21.5 | 19.5             | 20.0 |
| 14     | 26.0 | 23.0        | 24.5 | 24.5 | 23.5          | 24.0 | 20.5 | 19.5             | 20.0 |
| 15     | 27.5 | 23.0        | 25.5 | 25.5 | 22.5          | 24.0 | 20.5 | 19.0             | 19.5 |
| 16     | 28.0 | 24.5        | 26.0 | 24.5 | 22.5          | 23.0 | 19.5 | 18.5             | 19.0 |
| 17     | 27.5 | 25.0        | 26.5 | 23.5 | 22.5          | 23.0 | 20.0 | 18.0             | 19.0 |
| 18     | 28.5 | 25.5        | 27.0 | 23.5 | 21.5          | 22.5 | 21.0 | 19.0             | 20.0 |
| 19     | 29.0 | 26.0        | 27.5 | 23.5 | 20.5          | 22.5 | 20.5 | 19.5             | 20.0 |
| 20     | 29.5 | 27.5        | 28.5 | 23.0 | 21.5          | 22.0 | 20.0 | 17.5             | 18.5 |
| 21     | 30.0 | 27.5        | 28.5 | 23.5 | 20.0          | 21.5 | 17.5 | 16.5             | 17.5 |
| 22     | 29.0 | 26.5        | 27.5 | 22.5 | 20.5          | 21.5 | 17.0 | 16.0             | 16.5 |
| 23     | 27.0 | 24.5        | 26.0 | 22.5 | 21.0          | 21.5 | 17.0 | 16.0             | 16.5 |
| 24     | 27.0 | 24.5        | 26.0 | 22.0 | 20.5          | 21.0 | 16.5 | 15.0             | 15.5 |
| 25     | 26.5 | 23.5        | 24.5 | 22.0 | 19.5          | 21.0 | 15.0 | 14.5             | 15.0 |
| 26     | 25.0 | 23.0        | 24.0 | 22.0 | 19.5          | 21.0 | 15.0 | 14.0             | 14.5 |
| 27     | 25.0 | 21.5        | 23.0 | 22.5 | 20.5          | 21.5 | 15.5 | 14.0             | 15.0 |
| 28     | 25.0 | 21.0        | 23.0 | 24.5 | 21.0          | 22.5 | 15.5 | 14.5             | 15.0 |
| 29     | 23.5 | 21.5        | 22.5 | 25.0 | 22.5          | 23.5 | 16.5 | 15.0             | 15.5 |
| 30     | 23.5 | 22.0        | 22.5 | 24.5 | 23.5          | 24.0 | 17.0 | 14.5             | 15.5 |
| 31     | 25.0 | 22.0        | 23.5 | 24.0 | 23.5          | 23.5 | ---  | ---              | ---  |
| MONTH  | 30.0 | 21.0        | 25.0 | 27.0 | 19.5          | 23.0 | 25.5 | 14.0             | 19.5 |
| PERIOD | 30.0 | 14.0        | 22.5 |      |               |      |      |                  |      |

## 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.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1972 to May 1975, May to July 1977.

WATER TEMPERATURES: August 1972 to May 1975, May to July 1977.

INSTRUMENTATION.--Four-parameter water-quality monitor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 268 micromhos Jan. 19, 1974; minimum, 54 micromhos July 1, 1973.

pH: Maximum recorded, 8.9 units Feb. 1, 1975; minimum, 6.2 units Sept. 30, 1974.

WATER TEMPERATURES: Maximum, 30.5°C Sept. 3, 1973; minimum, freezing point on several days during winter period each year.

DISSOLVED OXYGEN: Maximum, 16.3 mg/L Jan. 6, 1973; minimum, 2.7 mg/L Sept. 5, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 129 micromhos July 5; minimum recorded, 111 micromhos May 23-26.

pH: Maximum recorded, 8.1 units May 31; minimum recorded, 6.3 units July 5, 16.

WATER TEMPERATURES: Maximum recorded, 27.5°C July 16; minimum, 15.5°C June 11.

DISSOLVED OXYGEN: Maximum recorded, 10.6 mg/L June 11, 12; minimum recorded, 5.2 mg/L May 25.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), MAY TO JULY 1977

| DAY    | MAX | MIN | MEAN | MAX  | MIN | MEAN | MAX  | MIN | MEAN |
|--------|-----|-----|------|------|-----|------|------|-----|------|
|        | MAY |     |      | JUNE |     |      | JULY |     |      |
| 1      | --- | --- | ---  | 118  | 117 | 117  | 121  | 120 | 121  |
| 2      | --- | --- | ---  | 118  | 115 | 116  | 122  | 120 | 121  |
| 3      | --- | --- | ---  | 118  | 116 | 117  | 123  | 121 | 122  |
| 4      | --- | --- | ---  | 121  | 118 | 119  | 127  | 123 | 124  |
| 5      | --- | --- | ---  | 124  | 120 | 122  | 129  | 123 | 125  |
| 6      | --- | --- | ---  | 122  | 119 | 120  | 124  | 122 | 123  |
| 7      | --- | --- | ---  | 122  | 119 | 120  | 124  | 122 | 123  |
| 8      | --- | --- | ---  | 121  | 119 | 120  | 123  | 121 | 122  |
| 9      | --- | --- | ---  | 120  | 117 | 119  | 124  | 121 | 122  |
| 10     | --- | --- | ---  | 121  | 112 | 120  | 125  | 121 | 123  |
| 11     | --- | --- | ---  | 121  | 117 | 119  | 124  | 120 | 122  |
| 12     | --- | --- | ---  | 119  | 117 | 118  | 123  | 121 | 122  |
| 13     | --- | --- | ---  | 121  | 117 | 118  | 123  | 121 | 122  |
| 14     | --- | --- | ---  | 119  | 117 | 118  | 123  | 121 | 122  |
| 15     | --- | --- | ---  | 119  | 118 | 119  | 123  | 121 | 122  |
| 16     | --- | --- | ---  | 120  | 117 | 118  | 125  | 122 | 124  |
| 17     | --- | --- | ---  | 124  | 117 | 121  | ---  | --- | ---  |
| 18     | --- | --- | ---  | 125  | 122 | 124  | ---  | --- | ---  |
| 19     | --- | --- | ---  | 127  | 124 | 125  | ---  | --- | ---  |
| 20     | --- | --- | ---  | 126  | 123 | 124  | ---  | --- | ---  |
| 21     | --- | --- | ---  | 124  | 123 | 124  | ---  | --- | ---  |
| 22     | --- | --- | ---  | 124  | 122 | 123  | ---  | --- | ---  |
| 23     | 112 | 111 | 112  | 125  | 122 | 123  | ---  | --- | ---  |
| 24     | 114 | 111 | 113  | 125  | 123 | 124  | ---  | --- | ---  |
| 25     | 113 | 111 | 112  | 126  | 124 | 125  | ---  | --- | ---  |
| 26     | 113 | 111 | 112  | 124  | 119 | 123  | ---  | --- | ---  |
| 27     | 114 | 112 | 113  | 124  | 122 | 123  | ---  | --- | ---  |
| 28     | 118 | 113 | 115  | 123  | 122 | 122  | ---  | --- | ---  |
| 29     | 122 | 116 | 119  | 123  | 122 | 123  | ---  | --- | ---  |
| 30     | 121 | 118 | 120  | 123  | 121 | 122  | ---  | --- | ---  |
| 31     | 119 | 115 | 117  | ---  | --- | ---  | ---  | --- | ---  |
| MONTH  | --- | --- | ---  | 127  | 112 | 121  | ---  | --- | ---  |
| PERIOD | 129 | 111 | 120  |      |     |      |      |     |      |

01177200 CONNECTICUT RIVER AT WEST SPRINGFIELD, MA--Continued

PH (UNITS), MAY TO JULY 1977

| DAY    | MAX | MIN<br>MAY | MEAN | MAX | MIN<br>JUNE | MEAN | MAX | MIN<br>JULY | MEAN |
|--------|-----|------------|------|-----|-------------|------|-----|-------------|------|
| 1      | --- | ---        | ---  | 7.9 | 7.1         | 7.4  | 6.9 | 6.7         | 6.8  |
| 2      | --- | ---        | ---  | 7.3 | 7.1         | 7.3  | 7.0 | 6.6         | 6.8  |
| 3      | --- | ---        | ---  | 7.4 | 7.1         | 7.2  | 7.1 | 6.6         | 6.9  |
| 4      | --- | ---        | ---  | 7.4 | 7.2         | 7.3  | 7.4 | 6.5         | 7.0  |
| 5      | --- | ---        | ---  | 7.3 | 7.0         | 7.1  | 7.8 | 6.3         | 7.0  |
| 6      | --- | ---        | ---  | 7.2 | 6.9         | 7.1  | 7.3 | 7.0         | 7.1  |
| 7      | --- | ---        | ---  | 7.4 | 7.0         | 7.2  | 7.3 | 6.9         | 7.1  |
| 8      | --- | ---        | ---  | 7.4 | 7.1         | 7.3  | 7.0 | 6.5         | 6.7  |
| 9      | --- | ---        | ---  | 7.3 | 7.1         | 7.2  | 6.6 | 6.4         | 6.5  |
| 10     | --- | ---        | ---  | 7.4 | 7.1         | 7.3  | 6.7 | 6.4         | 6.5  |
| 11     | --- | ---        | ---  | 7.6 | 7.4         | 7.5  | 7.0 | 6.5         | 6.8  |
| 12     | --- | ---        | ---  | 7.5 | 7.0         | 7.3  | 6.9 | 6.6         | 6.7  |
| 13     | --- | ---        | ---  | 7.1 | 6.8         | 7.0  | 6.8 | 6.6         | 6.7  |
| 14     | --- | ---        | ---  | 7.4 | 7.0         | 7.2  | 6.8 | 6.6         | 6.7  |
| 15     | --- | ---        | ---  | 7.4 | 7.2         | 7.3  | 6.7 | 6.5         | 6.6  |
| 16     | --- | ---        | ---  | 7.4 | 7.1         | 7.2  | 6.9 | 6.3         | 6.6  |
| 17     | --- | ---        | ---  | 7.3 | 7.0         | 7.1  | --- | ---         | ---  |
| 18     | --- | ---        | ---  | 7.4 | 7.0         | 7.2  | --- | ---         | ---  |
| 19     | --- | ---        | ---  | 7.4 | 7.2         | 7.3  | --- | ---         | ---  |
| 20     | --- | ---        | ---  | 7.9 | 7.2         | 7.5  | --- | ---         | ---  |
| 21     | --- | ---        | ---  | 7.8 | 7.3         | 7.5  | --- | ---         | ---  |
| 22     | --- | ---        | ---  | 7.4 | 7.0         | 7.2  | --- | ---         | ---  |
| 23     | 7.0 | 6.5        | 6.8  | 7.2 | 6.9         | 7.0  | --- | ---         | ---  |
| 24     | 6.7 | 6.4        | 6.5  | 7.0 | 6.8         | 6.9  | --- | ---         | ---  |
| 25     | 6.7 | 6.4        | 6.5  | 6.8 | 6.6         | 6.7  | --- | ---         | ---  |
| 26     | 6.8 | 6.5        | 6.6  | 6.6 | 6.3         | 6.4  | --- | ---         | ---  |
| 27     | 7.0 | 6.6        | 6.8  | 6.8 | 6.4         | 6.6  | --- | ---         | ---  |
| 28     | 7.2 | 6.7        | 6.8  | 6.9 | 6.5         | 6.7  | --- | ---         | ---  |
| 29     | 7.3 | 6.9        | 7.2  | 6.8 | 6.6         | 6.7  | --- | ---         | ---  |
| 30     | 7.7 | 7.3        | 7.5  | 6.9 | 6.8         | 6.8  | --- | ---         | ---  |
| 31     | 8.1 | 7.6        | 7.9  | --- | ---         | ---  | --- | ---         | ---  |
| MONTH  | --- | ---        | ---  | 7.9 | 6.3         | 7.1  | --- | ---         | ---  |
| PERIOD | 8.1 | 6.3        | 7.0  |     |             |      |     |             |      |

TEMPERATURE (DEG. C) OF WATER, MAY TO JULY 1977

| DAY    | MAX  | MIN<br>MAY | MEAN | MAX  | MIN<br>JUNE | MEAN | MAX  | MIN<br>JULY | MEAN |
|--------|------|------------|------|------|-------------|------|------|-------------|------|
| 1      | ---  | ---        | ---  | 22.5 | 20.5        | 21.5 | 24.5 | 23.0        | 23.5 |
| 2      | ---  | ---        | ---  | 22.0 | 20.5        | 21.5 | 24.5 | 23.5        | 24.0 |
| 3      | ---  | ---        | ---  | 22.0 | 20.5        | 21.5 | 24.5 | 22.5        | 23.5 |
| 4      | ---  | ---        | ---  | 22.0 | 20.5        | 21.5 | 25.0 | 24.0        | 24.5 |
| 5      | ---  | ---        | ---  | 21.5 | 21.0        | 21.5 | 25.5 | 24.0        | 25.0 |
| 6      | ---  | ---        | ---  | 22.0 | 20.5        | 21.5 | 25.5 | 24.5        | 25.0 |
| 7      | ---  | ---        | ---  | 21.0 | 20.0        | 20.5 | 25.5 | 24.0        | 24.5 |
| 8      | ---  | ---        | ---  | 20.0 | 18.5        | 19.0 | 25.0 | 23.0        | 23.5 |
| 9      | ---  | ---        | ---  | 18.0 | 17.0        | 17.5 | 24.5 | 22.5        | 23.5 |
| 10     | ---  | ---        | ---  | 17.0 | 16.0        | 16.5 | 25.0 | 23.5        | 24.0 |
| 11     | ---  | ---        | ---  | 16.5 | 15.5        | 16.0 | 24.5 | 23.5        | 24.0 |
| 12     | ---  | ---        | ---  | 17.5 | 16.0        | 17.0 | 24.0 | 23.0        | 23.5 |
| 13     | ---  | ---        | ---  | 19.0 | 17.0        | 18.0 | 24.5 | 23.0        | 23.5 |
| 14     | ---  | ---        | ---  | 20.0 | 18.5        | 19.5 | 25.0 | 23.5        | 24.5 |
| 15     | ---  | ---        | ---  | 21.0 | 19.5        | 20.0 | 26.0 | 24.5        | 25.5 |
| 16     | ---  | ---        | ---  | 22.0 | 19.5        | 20.5 | 27.5 | 25.5        | 26.5 |
| 17     | ---  | ---        | ---  | 21.5 | 20.5        | 20.5 | ---  | ---         | ---  |
| 18     | ---  | ---        | ---  | 21.0 | 20.0        | 20.5 | ---  | ---         | ---  |
| 19     | ---  | ---        | ---  | 22.5 | 21.0        | 21.5 | ---  | ---         | ---  |
| 20     | ---  | ---        | ---  | 23.0 | 21.5        | 22.5 | ---  | ---         | ---  |
| 21     | ---  | ---        | ---  | 24.0 | 22.5        | 23.0 | ---  | ---         | ---  |
| 22     | ---  | ---        | ---  | 23.5 | 22.5        | 23.0 | ---  | ---         | ---  |
| 23     | 21.5 | 19.0       | 20.5 | 23.0 | 22.0        | 22.5 | ---  | ---         | ---  |
| 24     | 23.0 | 21.0       | 22.0 | 23.0 | 22.5        | 23.0 | ---  | ---         | ---  |
| 25     | 24.0 | 21.5       | 23.0 | 23.0 | 22.0        | 22.5 | ---  | ---         | ---  |
| 26     | 24.0 | 22.0       | 23.0 | 22.5 | 21.5        | 22.0 | ---  | ---         | ---  |
| 27     | 23.5 | 22.0       | 22.5 | 24.0 | 22.0        | 23.0 | ---  | ---         | ---  |
| 28     | 23.0 | 22.0       | 22.5 | 25.0 | 23.5        | 24.5 | ---  | ---         | ---  |
| 29     | 23.5 | 21.0       | 22.0 | 24.0 | 23.5        | 23.5 | ---  | ---         | ---  |
| 30     | 23.5 | 20.5       | 22.0 | 24.5 | 22.5        | 23.5 | ---  | ---         | ---  |
| 31     | 23.0 | 21.5       | 22.5 | ---  | ---         | ---  | ---  | ---         | ---  |
| MONTH  | ---  | ---        | ---  | 25.0 | 15.5        | 21.0 | ---  | ---         | ---  |
| PERIOD | 27.5 | 15.5       | 22.0 |      |             |      |      |             |      |

## CONNECTICUT RIVER BASIN

01177200 CONNECTICUT RIVER AT WEST SPRINGFIELD, MA--Continued

DISSOLVED OXYGEN (DO), MG/L, MAY TO JULY 1977

| DAY    | MAX  | MIN | MEAN | MAX  | MIN | MEAN | MAX  | MIN | MEAN |
|--------|------|-----|------|------|-----|------|------|-----|------|
|        | MAY  |     |      | JUNE |     |      | JULY |     |      |
| 1      | ---  | --- | ---  | 7.6  | 6.7 | 7.0  | 7.0  | 6.6 | 6.8  |
| 2      | ---  | --- | ---  | 7.2  | 6.9 | 7.1  | 6.8  | 6.6 | 6.7  |
| 3      | ---  | --- | ---  | 7.7  | 7.2 | 7.4  | 7.0  | 6.6 | 6.8  |
| 4      | ---  | --- | ---  | 7.6  | 7.3 | 7.5  | 6.7  | 6.6 | 6.6  |
| 5      | ---  | --- | ---  | 7.5  | 7.4 | 7.5  | 6.7  | 6.3 | 6.5  |
| 6      | ---  | --- | ---  | 7.5  | 7.4 | 7.4  | 6.5  | 6.3 | 6.4  |
| 7      | ---  | --- | ---  | 7.9  | 7.5 | 7.7  | 6.6  | 6.3 | 6.4  |
| 8      | ---  | --- | ---  | 8.5  | 7.9 | 8.3  | 6.8  | 6.3 | 6.6  |
| 9      | ---  | --- | ---  | 9.0  | 8.6 | 8.8  | 6.9  | 6.5 | 6.3  |
| 10     | ---  | --- | ---  | 9.5  | 9.0 | 9.2  | 6.6  | 6.4 | 6.5  |
| 11     | ---  | --- | ---  | 10.6 | 9.9 | 10.3 | 6.6  | 6.5 | 6.5  |
| 12     | ---  | --- | ---  | 10.6 | 9.1 | 9.7  | 6.7  | 6.5 | 6.6  |
| 13     | ---  | --- | ---  | 9.4  | 8.9 | 9.2  | 6.7  | 6.4 | 6.6  |
| 14     | ---  | --- | ---  | 9.2  | 8.7 | 9.0  | 6.6  | 6.2 | 6.4  |
| 15     | ---  | --- | ---  | 9.6  | 8.7 | 9.2  | 6.4  | 6.2 | 6.3  |
| 16     | ---  | --- | ---  | 9.4  | 8.4 | 8.8  | 6.3  | 6.2 | 6.3  |
| 17     | ---  | --- | ---  | 9.4  | 7.7 | 8.1  | ---  | --- | ---  |
| 18     | ---  | --- | ---  | 7.9  | 7.5 | 7.7  | ---  | --- | ---  |
| 19     | ---  | --- | ---  | 7.8  | 7.5 | 7.6  | ---  | --- | ---  |
| 20     | ---  | --- | ---  | 7.6  | 7.1 | 7.5  | ---  | --- | ---  |
| 21     | ---  | --- | ---  | 7.4  | 6.9 | 7.2  | ---  | --- | ---  |
| 22     | ---  | --- | ---  | 7.5  | 7.0 | 7.3  | ---  | --- | ---  |
| 23     | 6.7  | 5.4 | 6.0  | 7.4  | 7.2 | 7.4  | ---  | --- | ---  |
| 24     | 5.7  | 5.2 | 5.4  | 7.5  | 7.1 | 7.3  | ---  | --- | ---  |
| 25     | 5.5  | 5.2 | 5.3  | 7.5  | 7.2 | 7.4  | ---  | --- | ---  |
| 26     | 5.6  | 5.4 | 5.5  | 7.6  | 7.3 | 7.5  | ---  | --- | ---  |
| 27     | 6.0  | 5.6 | 5.8  | 7.5  | 6.9 | 7.3  | ---  | --- | ---  |
| 28     | 6.5  | 5.9 | 6.1  | 6.9  | 6.7 | 6.8  | ---  | --- | ---  |
| 29     | 8.2  | 6.9 | 7.5  | 6.9  | 6.7 | 6.9  | ---  | --- | ---  |
| 30     | 8.7  | 8.1 | 8.4  | 7.1  | 6.7 | 6.9  | ---  | --- | ---  |
| 31     | 8.6  | 7.3 | 7.7  | ---  | --- | ---  | ---  | --- | ---  |
| MONTH  | ---  | --- | ---  | 10.6 | 6.7 | 7.9  | ---  | --- | ---  |
| PERIOD | 10.6 | 5.2 | 7.3  |      |     |      |      |     |      |

## 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) above mean sea level (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 fair. 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.--68 years, 325 ft<sup>3</sup>/s (9.204 m<sup>3</sup>/s), 27.24 in/yr (692 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 (108 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, 3,960 ft<sup>3</sup>/s (112 m<sup>3</sup>/s) Mar. 16, gage height, 6.34 ft (1.932 m); minimum, 27 ft<sup>3</sup>/s (0.76 m<sup>3</sup>/s) Mar. 14; minimum daily, 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s) July 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV    | DEC      | JAN      | FEB    | MAR       | APR        | MAY       | JUN  | JUL  | AUG  | SEP   |
|-------------|-------|--------|----------|----------|--------|-----------|------------|-----------|------|------|------|-------|
| 1           | 71    | 360    | 75       | 91       | 62     | 256       | 2920       | 397       | 111  | 92   | 49   | 45    |
| 2           | 65    | 245    | 83       | 87       | 62     | 246       | 1480       | 360       | 147  | 88   | 395  | 45    |
| 3           | 80    | 209    | 72       | 81       | 62     | 236       | 1330       | 342       | 134  | 78   | 180  | 55    |
| 4           | 78    | 204    | 62       | 75       | 80     | 230       | 1650       | 307       | 111  | 68   | 105  | 63    |
| 5           | 66    | 200    | 77       | 75       | 74     | 234       | 974        | 350       | 95   | 61   | 77   | 52    |
| 6           | 59    | 359    | 95       | 72       | 70     | 361       | 1240       | 347       | 89   | 58   | 85   | 273   |
| 7           | 56    | 260    | 253      | 72       | 68     | 424       | 1330       | 285       | 125  | 60   | 85   | 163   |
| 8           | 56    | 223    | 526      | 71       | 76     | 412       | 1110       | 244       | 175  | 61   | 71   | 100   |
| 9           | 311   | 189    | 505      | 73       | 80     | 394       | 1190       | 1100      | 139  | 65   | 76   | 73    |
| 10          | 640   | 180    | 450      | 81       | 70     | 399       | 1170       | 1690      | 136  | 69   | 78   | 65    |
| 11          | 253   | 174    | 277      | 87       | 62     | 583       | 1040       | 1740      | 141  | 71   | 340  | 82    |
| 12          | 170   | 154    | 212      | 89       | 58     | 974       | 1450       | 1710      | 146  | 72   | 223  | 67    |
| 13          | 135   | 162    | 165      | 87       | 62     | 1230      | 1740       | 1540      | 148  | 77   | 167  | 56    |
| 14          | 151   | 153    | 120      | 85       | 66     | 667       | 1230       | 912       | 145  | 81   | 123  | 77    |
| 15          | 165   | 150    | 122      | 85       | 70     | 2030      | 594        | 600       | 141  | 85   | 190  | 135   |
| 16          | 124   | 142    | 129      | 84       | 60     | 3460      | 464        | 475       | 130  | 89   | 127  | 86    |
| 17          | 106   | 138    | 134      | 83       | 56     | 3750      | 909        | 408       | 124  | 88   | 184  | 144   |
| 18          | 97    | 141    | 137      | 82       | 56     | 3010      | 455        | 365       | 119  | 89   | 431  | 188   |
| 19          | 90    | 140    | 135      | 80       | 54     | 1890      | 368        | 626       | 120  | 96   | 183  | 401   |
| 20          | 102   | 137    | 132      | 77       | 55     | 1460      | 332        | 495       | 117  | 95   | 122  | 534   |
| 21          | 843   | 117    | 136      | 75       | 56     | 1250      | 304        | 377       | 115  | 79   | 94   | 769   |
| 22          | 453   | 117    | 135      | 73       | 56     | 844       | 291        | 315       | 112  | 105  | 88   | 361   |
| 23          | 278   | 121    | 118      | 72       | 56     | 547       | 390        | 267       | 104  | 71   | 156  | 252   |
| 24          | 223   | 117    | 96       | 71       | 56     | 1080      | 894        | 232       | 92   | 55   | 108  | 414   |
| 25          | 309   | 108    | 80       | 69       | 61     | 497       | 1460       | 207       | 87   | 52   | 92   | 1150  |
| 26          | 418   | 114    | 82       | 68       | 230    | 549       | 2940       | 181       | 92   | 100  | 80   | 1170  |
| 27          | 334   | 121    | 87       | 66       | 435    | 264       | 1720       | 155       | 99   | 79   | 68   | 1960  |
| 28          | 242   | 131    | 86       | 65       | 319    | 276       | 680        | 144       | 98   | 55   | 62   | 944   |
| 29          | 211   | 153    | 86       | 64       | ---    | 612       | 532        | 128       | 94   | 46   | 57   | 461   |
| 30          | 194   | 142    | 88       | 63       | ---    | 943       | 452        | 118       | 94   | 41   | 49   | 334   |
| 31          | 274   | ---    | 90       | 62       | ---    | 2200      | ---        | 110       | ---  | 40   | 47   | ---   |
| TOTAL       | 6654  | 5161   | 4845     | 2365     | 2572   | 31308     | 32639      | 16527     | 3580 | 2266 | 4192 | 10519 |
| MEAN        | 215   | 172    | 156      | 76.3     | 91.9   | 1010      | 1088       | 533       | 119  | 73.1 | 135  | 351   |
| MAX         | 843   | 360    | 526      | 91       | 435    | 3750      | 2940       | 1740      | 175  | 105  | 431  | 1960  |
| MIN         | 56    | 108    | 62       | 62       | 54     | 230       | 291        | 110       | 87   | 40   | 47   | 45    |
| MEAN†       | 215   | 172    | 159      | 76.7     | 101    | 1165      | 916        | 533       | 119  | 73.1 | 135  | 351   |
| CFSM†       | 1.33  | 1.06   | .98      | .47      | .62    | 7.19      | 5.65       | 3.29      | .73  | .45  | .83  | 2.17  |
| IN.†        | 1.53  | 1.19   | 1.13     | .55      | .65    | 8.30      | 6.31       | 3.79      | .82  | .52  | .96  | 2.42  |
| CAL YR 1976 | TOTAL | 128714 | MEAN 352 | MAX 2950 | MIN 26 | MEAN† 351 | CFSM† 2.17 | IN† 29.53 |      |      |      |       |
| WTR YR 1977 | TOTAL | 122628 | MEAN 336 | MAX 3750 | MIN 40 | MEAN† 336 | CFSM† 2.07 | IN† 28.16 |      |      |      |       |

† 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) above mean sea level. 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 except those for winter period, which are fair. 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.--67 years, 104 ft<sup>3</sup>/s (2.945 m<sup>3</sup>/s), 26.85 in/yr (682 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 (90.6 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, 1,470 ft<sup>3</sup>/s (41.6 m<sup>3</sup>/s) Mar. 17, 1977, gage height, 5.72 ft (1.743 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,470 ft<sup>3</sup>/s (41.6 m<sup>3</sup>/s) Mar. 17, gage height, 5.72 ft (1.743 m); minimum, 5.5 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) Mar. 15; minimum daily, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) July 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV  | DEC  | JAN      | FEB      | MAR     | APR   | MAY       | JUN  | JUL        | AUG       | SEP  |
|-------------------|---------|------|------|----------|----------|---------|-------|-----------|------|------------|-----------|------|
| 1                 | 22      | 116  | 37   | 24       | 23       | 94      | 810   | 127       | 34   | 23         | 17        | 19   |
| 2                 | 19      | 94   | 35   | 24       | 23       | 76      | 683   | 110       | 40   | 21         | 72        | 18   |
| 3                 | 24      | 79   | 33   | 24       | 23       | 65      | 584   | 101       | 40   | 18         | 71        | 17   |
| 4                 | 29      | 71   | 29   | 24       | 23       | 62      | 643   | 95        | 35   | 15         | 51        | 17   |
| 5                 | 24      | 67   | 31   | 24       | 21       | 129     | 580   | 96        | 31   | 15         | 39        | 19   |
| 6                 | 20      | 90   | 33   | 24       | 21       | 209     | 797   | 101       | 29   | 16         | 32        | 35   |
| 7                 | 18      | 87   | 93   | 24       | 21       | 163     | 820   | 96        | 31   | 17         | 27        | 37   |
| 8                 | 17      | 77   | 283  | 24       | 21       | 122     | 547   | 104       | 39   | 23         | 24        | 36   |
| 9                 | 52      | 66   | 160  | 24       | 21       | 112     | 300   | 217       | 38   | 39         | 21        | 31   |
| 10                | 121     | 61   | 121  | 26       | 20       | 191     | 199   | 474       | 45   | 38         | 21        | 24   |
| 11                | 107     | 56   | 90   | 30       | 19       | 370     | 171   | 563       | 59   | 31         | 41        | 24   |
| 12                | 70      | 52   | 82   | 26       | 19       | 485     | 173   | 563       | 60   | 35         | 52        | 23   |
| 13                | 51      | 49   | 71   | 25       | 19       | 454     | 235   | 482       | 52   | 54         | 52        | 21   |
| 14                | 49      | 48   | 45   | 24       | 23       | 75      | 245   | 205       | 42   | 70         | 44        | 19   |
| 15                | 53      | 47   | 41   | 24       | 23       | 308     | 199   | 156       | 37   | 62         | 43        | 23   |
| 16                | 48      | 44   | 44   | 24       | 23       | 951     | 154   | 158       | 31   | 45         | 38        | 25   |
| 17                | 40      | 44   | 44   | 24       | 21       | 1370    | 125   | 129       | 27   | 35         | 45        | 36   |
| 18                | 35      | 43   | 44   | 24       | 21       | 1270    | 110   | 125       | 26   | 37         | 77        | 45   |
| 19                | 31      | 43   | 43   | 24       | 21       | 1100    | 99    | 152       | 31   | 39         | 62        | 72   |
| 20                | 32      | 42   | 41   | 24       | 20       | 940     | 93    | 150       | 32   | 31         | 45        | 120  |
| 21                | 174     | 40   | 44   | 23       | 20       | 761     | 83    | 131       | 30   | 26         | 35        | 228  |
| 22                | 214     | 37   | 43   | 23       | 19       | 349     | 80    | 107       | 26   | 29         | 37        | 156  |
| 23                | 128     | 37   | 36   | 23       | 19       | 221     | 99    | 95        | 23   | 25         | 45        | 101  |
| 24                | 98      | 36   | 36   | 23       | 20       | 190     | 315   | 81        | 22   | 21         | 41        | 98   |
| 25                | 84      | 37   | 34   | 23       | 54       | 135     | 388   | 72        | 23   | 19         | 35        | 300  |
| 26                | 107     | 37   | 34   | 23       | 110      | 115     | 886   | 62        | 29   | 23         | 30        | 391  |
| 27                | 118     | 37   | 34   | 23       | 113      | 117     | 497   | 52        | 31   | 23         | 26        | 527  |
| 28                | 94      | 39   | 32   | 23       | 101      | 124     | 294   | 45        | 24   | 20         | 24        | 501  |
| 29                | 77      | 44   | 32   | 23       | ---      | 99      | 203   | 41        | 23   | 18         | 21        | 349  |
| 30                | 68      | 47   | 28   | 23       | ---      | 158     | 152   | 39        | 24   | 15         | 20        | 163  |
| 31                | 75      | ---  | 27   | 23       | ---      | 446     | ---   | 35        | ---  | 14         | 19        | ---  |
| TOTAL             | 2099    | 1667 | 1780 | 744      | 882      | 11261   | 10564 | 4964      | 1014 | 897        | 1207      | 3475 |
| MEAN              | 67.7    | 55.6 | 57.4 | 24.0     | 31.5     | 363     | 352   | 160       | 33.8 | 28.9       | 38.9      | 116  |
| MAX               | 214     | 116  | 283  | 30       | 113      | 1370    | 886   | 563       | 60   | 70         | 77        | 527  |
| MIN               | 17      | 36   | 27   | 23       | 19       | 62      | 80    | 35        | 22   | 14         | 17        | 17   |
| MEAN†             | 69.6    | 54.6 | 56.5 | 24.0     | 34.7     | 442     | 272   | 156       | 33.3 | 28.5       | 39.4      | 121  |
| CFSM†             | 1.32    | 1.04 | 1.07 | .46      | .66      | 8.40    | 5.17  | 2.97      | .63  | .54        | .75       | 2.30 |
| IN.†              | 1.53    | 1.16 | 1.24 | .53      | .69      | 9.70    | 5.77  | 3.42      | .71  | .62        | .86       | 2.57 |
| CAL YR 1976 TOTAL | 40633.0 |      |      | MEAN 111 | MAX 946  | MIN 6.0 |       | MEAN† 111 |      | CFSM† 2.11 | IN† 28.67 |      |
| WTR YR 1977 TOTAL | 40554.0 |      |      | MEAN 111 | MAX 1370 | MIN 14  |       | MEAN† 112 |      | CFSM† 2.13 | IN† 28.79 |      |

† Adjusted for change in contents in Littleville Lake.



## 01180800 WALKER BROOK NEAR BECKET CENTER, MA

LOCATION.--Lat 42°15'49", long 73°02'48", Berkshire County, Hydrologic Unit 01080206, on right bank 20 ft (6 m) upstream from culvert on U.S. Highway 20, 0.2 mi (0.3 km) east of Bonny Rigg Corners, 1.7 mi (2.7 km) south-east of Becket Center, and 3.5 mi (5.6 km) west of Chester.

DRAINAGE AREA.--3.01 mi<sup>2</sup> (7.80 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water year 1962. November 1962 to September 1977 (discontinued).

REVISED RECORDS.--WSP MA, NH, RI, VT, 1974: 1973.

GAGE.--Water-stage recorder. Altitude of gage is 1,280 ft (390 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Occasional seasonal regulation. Recording rain gage at station May 1963 to December 1974 (no winter records).

AVERAGE DISCHARGE.--14 years (water years 1964-77), 6.67 ft<sup>3</sup>/s (0.189 m<sup>3</sup>/s), 30.09 in/yr (764 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 499 ft<sup>3</sup>/s (14.1 m<sup>3</sup>/s) Aug. 10, 1976, gage height, 7.57 ft (2.307 m), from rating curve extended above 85 ft<sup>3</sup>/s (2.41 m<sup>3</sup>/s) on basis of culvert measurement of peak flow; minimum, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Sept. 1, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 80 ft<sup>3</sup>/s (2.27 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) |
|---------|------|-------------------------------------------------------|-------------------------|----------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 1730 | 231 6.54                                              | 5.83 1.777              | Apr. 24  | 1845 | 111 3.14                                              | 4.70 1.433              |
| Mar. 30 | 1645 | 114 3.23                                              | 4.74 1.445              | Sept. 26 | 1930 | a*246 6.97                                            | *5.95 1.814             |

a From rating curve extended as explained above.

Minimum discharge, 0.49 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s) July 31, Aug. 1, Sept. 4, 5, 7-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV   | DEC   | JAN  | FEB  | MAR   | APR   | MAY   | JUN  | JUL   | AUG   | SEP    |
|-------|-------|-------|-------|------|------|-------|-------|-------|------|-------|-------|--------|
| 1     | 6.6   | 8.7   | 1.6   | 1.4  | 1.2  | 4.5   | 35    | 6.9   | 2.0  | 1.6   | 2.5   | .65    |
| 2     | 6.6   | 7.9   | 1.6   | 1.4  | 1.2  | 3.4   | 20    | 6.1   | 2.8  | 1.3   | 3.5   | .65    |
| 3     | 11    | 6.0   | 1.6   | 1.4  | 1.2  | 3.2   | 27    | 5.9   | 2.5  | 1.1   | 1.4   | .65    |
| 4     | 9.6   | 5.0   | 1.6   | 1.4  | 1.2  | 3.0   | 17    | 5.3   | 2.0  | .95   | .99   | .52    |
| 5     | 8.3   | 4.5   | 1.6   | 1.4  | 1.2  | 11    | 28    | 8.2   | 1.8  | .80   | 1.4   | .54    |
| 6     | 8.2   | 8.0   | 1.6   | 1.4  | 1.3  | 12    | 31    | 7.2   | 1.8  | .78   | 1.6   | .91    |
| 7     | 6.2   | 6.0   | 1.8   | 1.5  | 1.3  | 6.5   | 17    | 5.8   | 2.5  | .80   | 1.1   | .58    |
| 8     | 3.3   | 5.0   | 1.2   | 1.5  | 1.3  | 5.0   | 16    | 5.0   | 3.0  | 4.0   | 1.3   | .49    |
| 9     | 14    | 4.5   | 3.9   | 1.5  | 1.3  | 6.9   | 12    | 17    | 2.8  | 3.4   | .98   | .49    |
| 10    | 13    | 4.1   | 2.8   | 2.1  | 1.3  | 18    | 11    | 24    | 4.7  | 1.9   | .77   | .49    |
| 11    | 4.5   | 3.8   | 2.7   | 2.3  | 1.3  | 25    | 10    | 37    | 5.8  | 1.2   | 3.4   | .49    |
| 12    | 3.0   | 3.6   | 7.0   | 1.9  | 1.3  | 28    | 13    | 43    | 3.8  | 1.8   | 2.0   | .49    |
| 13    | 2.6   | 3.4   | 11    | 1.7  | 1.4  | 105   | 17    | 32    | 3.1  | 2.1   | 1.7   | .51    |
| 14    | 4.8   | 3.3   | 11    | 1.6  | 1.5  | 133   | 14    | 17    | 2.5  | 1.7   | 1.5   | .92    |
| 15    | 4.3   | 3.2   | 5.8   | 1.5  | 1.4  | 52    | 10    | 11    | 2.1  | 1.1   | 1.6   | .78    |
| 16    | 3.0   | 3.1   | 2.5   | 1.4  | 1.3  | 38    | 8.7   | 8.8   | 1.8  | .90   | 1.2   | 1.3    |
| 17    | 2.5   | 3.1   | 2.4   | 1.4  | 1.2  | 30    | 7.4   | 7.4   | 1.6  | .83   | 1.8   | 2.5    |
| 18    | 2.5   | 3.1   | 2.4   | 1.4  | 1.1  | 21    | 6.6   | 6.2   | 1.8  | 3.9   | 2.0   | 1.8    |
| 19    | 2.1   | 3.1   | 2.4   | 1.4  | 1.1  | 20    | 6.0   | 32    | 4.6  | 1.8   | 1.1   | 5.0    |
| 20    | 3.6   | 3.0   | 2.5   | 1.4  | 1.1  | 18    | 5.8   | 15    | 2.5  | 1.2   | .99   | 9.0    |
| 21    | 22    | 2.7   | 3.8   | 1.4  | 1.1  | 17    | 5.1   | 9.4   | 3.3  | .86   | .82   | 5.9    |
| 22    | 8.8   | 2.9   | 2.2   | 1.3  | 1.1  | 15    | 4.9   | 7.2   | 2.3  | .76   | 2.7   | 3.7    |
| 23    | 6.0   | 5.1   | 2.0   | 1.3  | 1.1  | 15    | 12    | 5.7   | 1.8  | .64   | 2.0   | 2.7    |
| 24    | 4.3   | 7.1   | 2.0   | 1.2  | 1.1  | 10    | 76    | 4.6   | 1.4  | .59   | 1.3   | 6.7    |
| 25    | 5.0   | 9.9   | 1.8   | 1.3  | 5.0  | 6.9   | 52    | 4.1   | 1.9  | 1.0   | 1.1   | 16     |
| 26    | 7.6   | 9.9   | 1.8   | 1.3  | 6.5  | 6.6   | 22    | 3.4   | 3.6  | 1.5   | .82   | 51     |
| 27    | 6.0   | 10    | 1.8   | 1.2  | 5.0  | 6.9   | 15    | 3.0   | 2.2  | .81   | .71   | 41     |
| 28    | 4.3   | 10    | 1.8   | 1.2  | 5.8  | 9.0   | 11    | 2.7   | 1.6  | .69   | .70   | 14     |
| 29    | 3.9   | 7.4   | 1.6   | 1.2  | ---  | 42    | 9.2   | 2.4   | 2.3  | .60   | .65   | 8.0    |
| 30    | 3.7   | 2.3   | 1.5   | 1.2  | ---  | 71    | 7.6   | 2.1   | 2.5  | .60   | .65   | 5.0    |
| 31    | 7.9   | ---   | 1.5   | 1.2  | ---  | 63    | ---   | 2.0   | ---  | .58   | .65   | ---    |
| TOTAL | 199.2 | 159.7 | 117.8 | 44.8 | 51.9 | 805.9 | 527.3 | 347.4 | 78.4 | 41.79 | 44.93 | 182.76 |
| MEAN  | 6.43  | 5.32  | 3.80  | 1.45 | 1.85 | 26.0  | 17.6  | 11.2  | 2.61 | 1.35  | 1.45  | 6.09   |
| MAX   | 22    | 10    | 18    | 2.3  | 6.5  | 133   | 76    | 43    | 5.8  | 4.0   | 3.5   | 51     |
| MIN   | 2.1   | 2.3   | 1.5   | 1.2  | 1.1  | 3.0   | 4.9   | 2.0   | 1.4  | .58   | .65   | .49    |
| CFSM  | 2.14  | 1.77  | 1.26  | .48  | .62  | 8.64  | 5.85  | 3.72  | .87  | .45   | .48   | 2.02   |
| IN.   | 2.46  | 1.97  | 1.46  | .55  | .64  | 9.96  | 6.51  | 4.29  | .97  | .52   | .56   | 2.26   |

CAL YR 1976 TOTAL 2617.52 MEAN 7.15 MAX 165 MIN .40 CFSM 2.38 IN 32.35  
WTR YR 1977 TOTAL 2601.88 MEAN 7.13 MAX 133 MIN .49 CFSM 2.37 IN 32.15

NOTE.--No gage-height record Jan. 20 to Feb. 22.

01180800 WALKER BROOK NEAR BECKET CENTER, MA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1971 to September 1977 (discontinued).

WATER TEMPERATURES: December 1971 to September 1977 (discontinued).

INSTRUMENTATION.--Water-quality monitor since December 1971.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 699 micromhos Feb. 25, 1977; minimum, 48 micromhos Oct. 1, 2, 1976.

WATER TEMPERATURES: Maximum, 26.5°C Aug. 14, 1974; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 699 micromhos Feb. 25; minimum, 48 micromhos Oct. 1, 2.

WATER TEMPERATURES: Maximum recorded, 22.5°C July 5; minimum, 0.0°C on many days during winter period.

REVISIONS.--Revised figures of specific conductance for the water year 1976, superseding those published in the report for 1976, are given herein.

EXTREMES FOR 1976 WATER YEAR.--Maximum, 554 micromhos Jan. 13; minimum, 52 micromhos Oct. 9, 10.

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

| DAY   | MAX     | MIN | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|-----|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |     |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 108     | 102 | 105  | 82       | 80  | 81   | 99       | 82  | 89   | 124     | 89  | 113  |
| 2     | 111     | 107 | 109  | 87       | 82  | 83   | 88       | 83  | 85   | 121     | 103 | 111  |
| 3     | 117     | 108 | 112  | 87       | 83  | 85   | 89       | 88  | 88   | 112     | 109 | 111  |
| 4     | 116     | 113 | 115  | 91       | 87  | 89   | 98       | 89  | 91   | 115     | 111 | 112  |
| 5     | 119     | 116 | 117  | 89       | 80  | 87   | 101      | 89  | 94   | 119     | 109 | 114  |
| 6     | 123     | 117 | 119  | 82       | 80  | 81   | 103      | 93  | 97   | 115     | 109 | 112  |
| 7     | 125     | 120 | 124  | 114      | 81  | 86   | 105      | 95  | 99   | 122     | 112 | 114  |
| 8     | 125     | 53  | 93   | 132      | 108 | 118  | 109      | 94  | 98   | 138     | 116 | 121  |
| 9     | 54      | 52  | 53   | 123      | 113 | 118  | 196      | 98  | 128  | 120     | 115 | 118  |
| 10    | 54      | 52  | 53   | 125      | 103 | 119  | 121      | 76  | 85   | 120     | 117 | 119  |
| 11    | 85      | 53  | 64   | 112      | 101 | 107  | 89       | 78  | 83   | 121     | 118 | 119  |
| 12    | 73      | 68  | 71   | 118      | 72  | 108  | 89       | 86  | 88   | 130     | 118 | 120  |
| 13    | 118     | 76  | 96   | 86       | 72  | 79   | 115      | 89  | 95   | 554     | 117 | 137  |
| 14    | 112     | 90  | 99   | 97       | 82  | 87   | 114      | 100 | 106  | 361     | 125 | 150  |
| 15    | 120     | 111 | 116  | 107      | 96  | 103  | 119      | 99  | 101  | 135     | 126 | 130  |
| 16    | 124     | 119 | 123  | 105      | 102 | 103  | 100      | 95  | 97   | 136     | 125 | 129  |
| 17    | 129     | 124 | 127  | 108      | 104 | 105  | 99       | 94  | 97   | 138     | 128 | 131  |
| 18    | 140     | 74  | 87   | 111      | 108 | 110  | 115      | 99  | 103  | 211     | 123 | 135  |
| 19    | 90      | 70  | 86   | 114      | 111 | 113  | 111      | 99  | 104  | 208     | 124 | 139  |
| 20    | 83      | 69  | 76   | 114      | 111 | 112  | 109      | 100 | 104  | 132     | 129 | 130  |
| 21    | 89      | 84  | 87   | 190      | 75  | 108  | 101      | 95  | 97   | 131     | 129 | 130  |
| 22    | 92      | 89  | 90   | 92       | 76  | 85   | 102      | 98  | 100  | 133     | 130 | 131  |
| 23    | 93      | 83  | 88   | 94       | 87  | 92   | 102      | 101 | 101  | 133     | 128 | 131  |
| 24    | 82      | 79  | 80   | 87       | 85  | 86   | 104      | 100 | 102  | 132     | 130 | 131  |
| 25    | 89      | 80  | 84   | 89       | 86  | 88   | 104      | 102 | 102  | 133     | 132 | 132  |
| 26    | 83      | 82  | 83   | 115      | 89  | 93   | 202      | 101 | 122  | 371     | 132 | 185  |
| 27    | 82      | 80  | 81   | 125      | 90  | 101  | 110      | 97  | 101  | 151     | 118 | 166  |
| 28    | 82      | 80  | 81   | 89       | 82  | 86   | 104      | 98  | 101  | 118     | 108 | 111  |
| 29    | 85      | 81  | 82   | 90       | 85  | 87   | 181      | 99  | 107  | 117     | 113 | 114  |
| 30    | 85      | 82  | 84   | 95       | 90  | 93   | 143      | 101 | 113  | 119     | 112 | 115  |
| 31    | 83      | 79  | 81   | ---      | --- | ---  | 186      | 105 | 133  | 123     | 117 | 120  |
| MONTH | 140     | 52  | 92   | 190      | 72  | 96   | 202      | 76  | 100  | 554     | 89  | 127  |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

| DAY   | MAX      | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|-------|----------|-----|------|-------|-----|------|--------|-----|------|-----------|-----|------|
|       | FEBRUARY |     |      | MARCH |     |      | APRIL  |     |      | MAY       |     |      |
| 1     | 241      | 121 | 154  | 88    | 85  | 86   | 103    | 59  | 77   | 105       | 82  | 98   |
| 2     | 136      | 119 | 122  | 95    | 85  | 89   | 76     | 53  | 71   | 78        | 73  | 76   |
| 3     | 120      | 95  | 110  | 95    | 92  | 93   | 153    | 76  | 142  | 85        | 78  | 82   |
| 4     | 147      | 94  | 106  | 141   | 94  | 118  | 225    | 81  | 90   | 88        | 84  | 86   |
| 5     | 109      | 100 | 105  | 122   | 80  | 104  | 114    | 84  | 89   | 93        | 87  | 91   |
| 6     | 116      | 105 | 108  | 85    | 79  | 81   | 91     | 88  | 90   | 100       | 93  | 97   |
| 7     | 115      | 103 | 109  | 91    | 85  | 88   | 93     | 90  | 92   | 106       | 94  | 99   |
| 8     | 137      | 104 | 112  | 100   | 83  | 90   | 95     | 91  | 93   | 94        | 87  | 90   |
| 9     | 131      | 108 | 111  | 100   | 88  | 95   | 96     | 94  | 95   | 95        | 91  | 92   |
| 10    | 124      | 88  | 113  | 102   | 92  | 97   | 97     | 94  | 95   | 100       | 94  | 97   |
| 11    | 238      | 116 | 145  | 114   | 97  | 104  | 102    | 95  | 98   | 104       | 99  | 101  |
| 12    | 188      | 122 | 131  | 129   | 91  | 105  | 97     | 92  | 95   | 107       | 80  | 89   |
| 13    | 170      | 122 | 137  | 159   | 96  | 123  | 97     | 94  | 96   | 88        | 82  | 85   |
| 14    | 151      | 129 | 133  | 99    | 93  | 97   | 98     | 94  | 96   | 95        | 87  | 92   |
| 15    | 188      | 114 | 142  | 103   | 98  | 101  | 101    | 96  | 98   | 101       | 95  | 99   |
| 16    | 178      | 152 | 160  | 122   | 101 | 108  | 105    | 98  | 101  | 101       | 98  | 100  |
| 17    | 236      | 148 | 192  | 109   | 98  | 105  | 103    | 99  | 102  | 100       | 96  | 98   |
| 18    | 222      | 139 | 156  | 111   | 100 | 108  | 103    | 98  | 101  | 101       | 80  | 91   |
| 19    | 194      | 130 | 149  | 129   | 107 | 111  | 104    | 98  | 100  | 82        | 60  | 67   |
| 20    | 130      | 124 | 126  | 113   | 80  | 100  | 100    | 98  | 100  | 69        | 67  | 68   |
| 21    | 141      | 124 | 129  | 88    | 72  | 82   | 108    | 93  | 101  | 76        | 68  | 72   |
| 22    | 144      | 86  | 108  | 84    | 74  | 81   | 114    | 105 | 108  | 77        | 74  | 75   |
| 23    | 96       | 87  | 91   | 91    | 84  | 89   | 129    | 109 | 112  | 81        | 76  | 79   |
| 24    | 104      | 93  | 98   | 147   | 80  | 88   | 141    | 131 | 138  | 86        | 81  | 84   |
| 25    | 119      | 103 | 108  | 93    | 86  | 90   | 141    | 113 | 125  | 90        | 85  | 88   |
| 26    | 108      | 94  | 101  | 93    | 87  | 90   | 109    | 78  | 84   | 90        | 89  | 90   |
| 27    | 95       | 82  | 89   | 94    | 87  | 91   | 88     | 82  | 85   | 96        | 88  | 92   |
| 28    | 88       | 83  | 85   | 247   | 82  | 130  | 93     | 87  | 89   | 99        | 92  | 95   |
| 29    | 93       | 86  | 89   | 89    | 83  | 86   | 93     | 89  | 90   | 99        | 95  | 97   |
| 30    | ---      | --- | ---  | 93    | 88  | 90   | 97     | 91  | 94   | 101       | 97  | 98   |
| 31    | ---      | --- | ---  | 94    | 90  | 92   | ---    | --- | ---  | 103       | 99  | 101  |
| MONTH | 241      | 82  | 121  | 247   | 72  | 97   | 225    | 53  | 98   | 107       | 60  | 89   |
| DAY   | MAX      | MIN | MEAN | MAX   | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|       | JUNE     |     |      | JULY  |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1     | 105      | 97  | 101  | 99    | 72  | 87   | 107    | 76  | 96   | 198       | 138 | 173  |
| 2     | 96       | 88  | 90   | 124   | 95  | 105  | 142    | 107 | 121  | 203       | 181 | 188  |
| 3     | 93       | 88  | 90   | 134   | 121 | 126  | 179    | 143 | 154  | 231       | 205 | 219  |
| 4     | 109      | 90  | 98   | 148   | 136 | 142  | 201    | 169 | 178  | 251       | 199 | 218  |
| 5     | 107      | 97  | 103  | 168   | 146 | 157  | 212    | 187 | 199  | 235       | 190 | 210  |
| 6     | 113      | 90  | 100  | 172   | 148 | 161  | 229    | 157 | 211  | 244       | 210 | 224  |
| 7     | 105      | 98  | 101  | 190   | 146 | 171  | 149    | 85  | 94   | 233       | 195 | 216  |
| 8     | 124      | 103 | 111  | 170   | 137 | 144  | 106    | 91  | 98   | 236       | 202 | 219  |
| 9     | 124      | 111 | 117  | 179   | 143 | 170  | ---    | --- | ---  | 261       | 210 | 235  |
| 10    | 128      | 113 | 119  | 193   | 147 | 176  | ---    | --- | ---  | 244       | 137 | 211  |
| 11    | 131      | 118 | 125  | 222   | 157 | 188  | ---    | --- | ---  | 139       | 124 | 131  |
| 12    | 127      | 112 | 116  | 202   | 169 | 187  | ---    | --- | ---  | 152       | 134 | 140  |
| 13    | 129      | 115 | 120  | 184   | 144 | 156  | ---    | --- | ---  | 182       | 153 | 161  |
| 14    | 139      | 118 | 127  | 177   | 156 | 167  | ---    | --- | ---  | 196       | 175 | 185  |
| 15    | 133      | 121 | 127  | 197   | 154 | 174  | ---    | --- | ---  | 210       | 190 | 198  |
| 16    | 137      | 121 | 130  | 217   | 146 | 189  | ---    | --- | ---  | 218       | 179 | 198  |
| 17    | 134      | 112 | 122  | 217   | 163 | 182  | ---    | --- | ---  | 207       | 113 | 170  |
| 18    | 128      | 120 | 125  | 233   | 168 | 202  | ---    | --- | ---  | 135       | 108 | 116  |
| 19    | 129      | 120 | 125  | 240   | 168 | 203  | ---    | --- | ---  | 151       | 119 | 129  |
| 20    | 154      | 129 | 144  | 239   | 188 | 214  | ---    | --- | ---  | 168       | 145 | 156  |
| 21    | 150      | 112 | 122  | 230   | 198 | 216  | ---    | --- | ---  | 179       | 158 | 166  |
| 22    | 135      | 122 | 129  | 242   | 195 | 222  | ---    | --- | ---  | 194       | 168 | 179  |
| 23    | 143      | 124 | 134  | 253   | 203 | 228  | ---    | --- | ---  | 198       | 186 | 192  |
| 24    | 141      | 128 | 135  | 219   | 165 | 192  | ---    | --- | ---  | 215       | 198 | 206  |
| 25    | 149      | 131 | 141  | 242   | 203 | 220  | 196    | 152 | 175  | 221       | 207 | 215  |
| 26    | 152      | 128 | 140  | 287   | 193 | 239  | 187    | 160 | 175  | 229       | 169 | 219  |
| 27    | 157      | 136 | 145  | 308   | 168 | 251  | 173    | 128 | 142  | 144       | 110 | 118  |
| 28    | 157      | 140 | 148  | 208   | 144 | 172  | 143    | 122 | 131  | 123       | 118 | 121  |
| 29    | 155      | 134 | 145  | 237   | 148 | 214  | 160    | 138 | 145  | 144       | 131 | 137  |
| 30    | 145      | 82  | 137  | 173   | 145 | 156  | 188    | 144 | 168  | 150       | 57  | 127  |
| 31    | ---      | --- | ---  | 200   | 72  | 167  | 158    | 153 | 156  | ---       | --- | ---  |
| MONTH | 157      | 82  | 122  | 308   | 72  | 180  | ---    | --- | ---  | 261       | 57  | 179  |
| YEAR  | 554      | 52  | 120  |       |     |      |        |     |      |           |     |      |

## CONNECTICUT RIVER BASIN

01180800 WALKER BROOK NEAR BECKET CENTER, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 58  | 48  | 50       | --- | --- | ---      | 166 | 158 | 164     | 186 | 180 | 184  |
| 2       | 49  | 48  | 48       | 102 | 97  | 100      | 166 | 159 | 163     | 181 | 174 | 179  |
| 3       | 76  | 49  | 62       | 104 | 102 | 103      | 161 | 154 | 157     | 174 | 169 | 170  |
| 4       | 70  | 60  | 64       | 107 | 102 | 104      | 175 | 160 | 162     | 177 | 165 | 169  |
| 5       | 62  | 57  | 59       | 109 | 99  | 106      | 190 | 158 | 168     | 180 | 170 | 171  |
| 6       | 59  | 56  | 58       | 103 | 99  | 101      | 162 | 157 | 160     | 183 | 179 | 181  |
| 7       | 89  | 57  | 66       | 106 | 103 | 104      | 324 | 94  | 150     | 182 | 171 | 177  |
| 8       | 110 | 90  | 93       | 108 | 106 | 107      | 136 | 102 | 121     | 172 | 169 | 171  |
| 9       | 156 | 79  | 116      | 112 | 107 | 110      | 145 | 134 | 140     | 169 | 168 | 169  |
| 10      | 120 | 89  | 105      | 134 | 113 | 121      | 145 | 134 | 138     | 168 | 160 | 165  |
| 11      | 135 | 122 | 128      | 125 | 118 | 123      | 146 | 133 | 138     | 162 | 159 | 161  |
| 12      | 144 | 135 | 140      | 125 | 121 | 123      | 150 | 62  | 103     | 161 | 158 | 161  |
| 13      | 165 | 144 | 151      | 124 | 122 | 123      | 72  | 63  | 68      | 158 | 156 | 157  |
| 14      | 159 | 97  | 122      | 124 | 122 | 123      | 73  | 67  | 70      | 159 | 157 | 158  |
| 15      | 130 | 108 | 119      | 128 | 122 | 126      | 141 | 73  | 103     | 160 | 158 | 159  |
| 16      | 146 | 132 | 139      | 127 | 124 | 125      | 142 | 121 | 133     | 159 | 157 | 158  |
| 17      | 151 | 146 | 148      | 127 | 124 | 126      | 169 | 130 | 139     | 158 | 156 | 157  |
| 18      | 153 | 148 | 151      | 128 | 125 | 127      | 151 | 132 | 141     | 158 | 156 | 157  |
| 19      | 158 | 153 | 155      | 129 | 126 | 128      | 151 | 132 | 140     | 160 | 157 | 158  |
| 20      | 159 | 109 | 151      | 128 | 125 | 127      | 234 | 136 | 153     | 159 | 158 | 159  |
| 21      | 105 | 82  | 92       | 131 | 127 | 129      | 230 | 153 | 166     | 162 | 158 | 159  |
| 22      | 115 | 101 | 108      | 139 | 81  | 124      | 163 | 148 | 154     | 158 | 157 | 157  |
| 23      | 122 | 114 | 118      | 81  | 79  | 80       | 167 | 158 | 161     | 160 | 157 | 158  |
| 24      | 129 | 122 | 126      | 114 | 60  | 84       | 162 | 158 | 160     | 161 | 157 | 159  |
| 25      | 130 | 124 | 127      | --- | --- | ---      | 164 | 160 | 163     | 273 | 159 | 172  |
| 26      | 127 | 107 | 114      | 67  | 61  | 63       | 163 | 155 | 158     | 161 | 159 | 160  |
| 27      | 119 | 111 | 116      | 68  | 66  | 67       | 163 | 155 | 158     | 159 | 154 | 158  |
| 28      | 122 | 118 | 120      | 142 | 67  | 70       | 171 | 162 | 165     | 518 | 153 | 175  |
| 29      | 129 | 122 | 125      | 131 | 68  | 94       | 177 | 160 | 167     | 161 | 153 | 155  |
| 30      | 133 | 128 | 130      | 156 | 132 | 145      | 178 | 168 | 171     | 159 | 155 | 157  |
| 31      | 135 | 94  | 112      | --- | --- | ---      | 181 | 174 | 177     | 160 | 157 | 158  |
| MONTH   | 165 | 48  | 110      | 156 | 60  | 109      | 324 | 62  | 146     | 518 | 153 | 164  |

| DAY      | MAX | MIN | MEAN  | MAX | MIN | MEAN  | MAX | MIN | MEAN | MAX | MIN | MEAN |
|----------|-----|-----|-------|-----|-----|-------|-----|-----|------|-----|-----|------|
| FEBRUARY |     |     | MARCH |     |     | APRIL |     |     | MAY  |     |     |      |
| 1        | 161 | 159 | 160   | 162 | 155 | 159   | 74  | 68  | 71   | 103 | 93  | 97   |
| 2        | 162 | 160 | 161   | 166 | 162 | 164   | 94  | 70  | 79   | 100 | 97  | 99   |
| 3        | 163 | 160 | 161   | 172 | 164 | 168   | 95  | 77  | 82   | 102 | 98  | 100  |
| 4        | 226 | 159 | 170   | 293 | 171 | 205   | 94  | 79  | 87   | 104 | 101 | 102  |
| 5        | 162 | 160 | 161   | 287 | 151 | 218   | 99  | 75  | 93   | 110 | 100 | 105  |
| 6        | 160 | 158 | 159   | 155 | 146 | 150   | 93  | 72  | 81   | 105 | 98  | 102  |
| 7        | 159 | 157 | 158   | 154 | 150 | 151   | 95  | 90  | 93   | 118 | 102 | 105  |
| 8        | 159 | 157 | 157   | 163 | 149 | 156   | 101 | 89  | 94   | 108 | 105 | 106  |
| 9        | 160 | 157 | 158   | 174 | 150 | 160   | 94  | 87  | 92   | 113 | 89  | 98   |
| 10       | 170 | 158 | 162   | 153 | 131 | 143   | 99  | 91  | 95   | 108 | 96  | 103  |
| 11       | 329 | 160 | 218   | 130 | 117 | 125   | 104 | 96  | 99   | 106 | 84  | 94   |
| 12       | 202 | 172 | 184   | 118 | 106 | 102   | 98  | 85  | 94   | 86  | 74  | 82   |
| 13       | 262 | 175 | 223   | 106 | 69  | 88    | 85  | 87  | 81   | 89  | 74  | 79   |
| 14       | 221 | 187 | 206   | 70  | 50  | 55    | 84  | 88  | 81   | 89  | 82  | 85   |
| 15       | 254 | 184 | 207   | 56  | 53  | 55    | 91  | 83  | 89   | 97  | 90  | 94   |
| 16       | 186 | 175 | 180   | 57  | 55  | 57    | 95  | 90  | 93   | 101 | 96  | 99   |
| 17       | 178 | 172 | 175   | 71  | 59  | 65    | 96  | 90  | 93   | 106 | 100 | 103  |
| 18       | 204 | 172 | 181   | 71  | 69  | 70    | 95  | 90  | 93   | 108 | 106 | 107  |
| 19       | 182 | 177 | 180   | 77  | 69  | 72    | 98  | 90  | 94   | 115 | 85  | 92   |
| 20       | 179 | 176 | 178   | 87  | 70  | 72    | 100 | 90  | 96   | 99  | 88  | 93   |
| 21       | 183 | 175 | 180   | 81  | 72  | 77    | 102 | 97  | 99   | 105 | 98  | 101  |
| 22       | 174 | 172 | 173   | 83  | 78  | 81    | 106 | 100 | 102  | 107 | 103 | 105  |
| 23       | 184 | 170 | 176   | 82  | 76  | 79    | 114 | 101 | 107  | 116 | 106 | 110  |
| 24       | 594 | 176 | 214   | 109 | 81  | 95    | 98  | 65  | 77   | 121 | 114 | 118  |
| 25       | 699 | 159 | 268   | 111 | 104 | 108   | 72  | 63  | 67   | 129 | 121 | 124  |
| 26       | 158 | 148 | 152   | 115 | 108 | 111   | 81  | 73  | 77   | 141 | 129 | 136  |
| 27       | 162 | 147 | 151   | 121 | 112 | 116   | 89  | 82  | 94   | 139 | 135 | 136  |
| 28       | 168 | 155 | 160   | 122 | 115 | 119   | 93  | 86  | 89   | 147 | 136 | 141  |
| 29       | --- | --- | ---   | 121 | 82  | 101   | 92  | 87  | 90   | 147 | 139 | 143  |
| 30       | --- | --- | ---   | 83  | 67  | 74    | 96  | 90  | 93   | 148 | 144 | 146  |
| 31       | --- | --- | ---   | 70  | 68  | 69    | --- | --- | ---  | 152 | 146 | 149  |
| MONTH    | 699 | 147 | 179   | 293 | 50  | 112   | 114 | 63  | 89   | 152 | 74  | 108  |

01180800 WALKER BROOK NEAR BECKET CENTER, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX | MIN<br>JUNE | MEAN | MAX | MIN<br>JULY | MEAN | MAX | MIN<br>AUGUST | MEAN | MAX | MIN<br>SEPTEMBER | MEAN |
|-------|-----|-------------|------|-----|-------------|------|-----|---------------|------|-----|------------------|------|
| 1     | 156 | 153         | 155  | 175 | 161         | 166  | --- | ---           | ---  | --- | ---              | ---  |
| 2     | 154 | 142         | 147  | 182 | 170         | 175  | --- | ---           | ---  | --- | ---              | ---  |
| 3     | 144 | 139         | 141  | 189 | 175         | 181  | --- | ---           | ---  | --- | ---              | ---  |
| 4     | 155 | 141         | 149  | 192 | 180         | 184  | --- | ---           | ---  | --- | ---              | ---  |
| 5     | 164 | 155         | 160  | 190 | 174         | 182  | --- | ---           | ---  | --- | ---              | ---  |
| 6     | 168 | 163         | 165  | 182 | 175         | 178  | --- | ---           | ---  | --- | ---              | ---  |
| 7     | 166 | 140         | 151  | 191 | 176         | 182  | --- | ---           | ---  | --- | ---              | ---  |
| 8     | 140 | 135         | 137  | 186 | 135         | 152  | --- | ---           | ---  | 208 | 197              | 202  |
| 9     | 143 | 139         | 140  | 147 | 138         | 144  | --- | ---           | ---  | 209 | 206              | 207  |
| 10    | 139 | 139         | 137  | 171 | 147         | 157  | --- | ---           | ---  | 210 | 191              | 200  |
| 11    | 137 | 137         | 128  | 178 | 138         | 157  | --- | ---           | ---  | 203 | 196              | 198  |
| 12    | 135 | 126         | 131  | 156 | 145         | 149  | --- | ---           | ---  | 204 | 199              | 202  |
| 13    | 145 | 134         | 137  | 168 | 148         | 154  | --- | ---           | ---  | 204 | 176              | 196  |
| 14    | 153 | 144         | 147  | --- | ---         | ---  | --- | ---           | ---  | 174 | 152              | 162  |
| 15    | 159 | 150         | 155  | 182 | 160         | 160  | --- | ---           | ---  | 179 | 161              | 170  |
| 16    | 169 | 159         | 163  | 181 | 141         | 157  | 175 | 172           | 174  | 180 | 116              | 168  |
| 17    | 177 | 169         | 173  | 174 | 146         | 157  | 175 | 137           | 155  | 133 | 108              | 115  |
| 18    | 180 | 166         | 177  | 184 | 172         | 178  | 171 | 140           | 153  | 151 | 133              | 142  |
| 19    | 153 | 134         | 142  | 185 | 131         | 172  | 143 | 109           | 130  | 132 | 101              | 108  |
| 20    | 160 | 147         | 152  | 146 | 128         | 133  | 169 | 144           | 161  | 111 | 96               | 100  |
| 21    | 153 | 141         | 146  | 179 | 148         | 170  | 192 | 165           | 172  | 104 | 96               | 100  |
| 22    | 164 | 154         | 159  | 178 | 159         | 166  | --- | ---           | ---  | 110 | 103              | 106  |
| 23    | 170 | 162         | 166  | 194 | 174         | 182  | --- | ---           | ---  | 116 | 108              | 110  |
| 24    | 171 | 170         | 170  | 185 | 138         | 154  | --- | ---           | ---  | 115 | 93               | 103  |
| 25    | --- | ---         | ---  | 160 | 143         | 154  | --- | ---           | ---  | 93  | 89               | 91   |
| 26    | --- | ---         | ---  | 165 | 158         | 162  | --- | ---           | ---  | 88  | 56               | 78   |
| 27    | --- | ---         | ---  | 169 | 165         | 168  | --- | ---           | ---  | 73  | 55               | 63   |
| 28    | --- | ---         | ---  | 168 | 158         | 163  | --- | ---           | ---  | 81  | 71               | 77   |
| 29    | --- | ---         | ---  | 180 | 169         | 177  | --- | ---           | ---  | 103 | 79               | 92   |
| 30    | 162 | 133         | 151  | --- | ---         | ---  | --- | ---           | ---  | 96  | 88               | 92   |
| 31    | --- | ---         | ---  | --- | ---         | ---  | --- | ---           | ---  | --- | ---              | ---  |
| MONTH | 180 | 126         | 151  | 194 | 128         | 165  | --- | ---           | ---  | --- | ---              | ---  |
| YEAR  | 699 | 48          | 133  |     |             |      |     |               |      |     |                  |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX  | MIN<br>OCTOBER | MEAN | MAX | MIN<br>NOVEMBER | MEAN | MAX | MIN<br>DECEMBER | MEAN | MAX | MIN<br>JANUARY | MEAN |
|-------|------|----------------|------|-----|-----------------|------|-----|-----------------|------|-----|----------------|------|
| 1     | 12.0 | 11.0           | 11.5 | --- | ---             | ---  | 1.0 | 0.0             | 0.5  | 0.5 | 0.0            | 0.5  |
| 2     | 12.0 | 11.5           | 11.5 | 3.0 | 1.5             | 2.0  | 0.5 | 0.0             | 0.5  | 0.5 | 0.5            | 0.5  |
| 3     | 12.0 | 11.0           | 11.5 | 4.5 | 2.5             | 4.0  | 0.5 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 4     | 12.5 | 10.0           | 11.0 | 6.5 | 4.0             | 5.0  | 0.0 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 5     | 12.0 | 9.0            | 10.5 | 5.0 | 4.0             | 4.5  | 0.5 | 0.0             | 0.0  | 0.5 | 0.0            | 0.5  |
| 6     | 13.0 | 11.5           | 12.5 | 4.5 | 3.0             | 4.0  | 0.5 | 0.0             | 0.0  | 0.5 | 0.0            | 0.5  |
| 7     | 14.5 | 12.5           | 13.0 | 4.0 | 3.0             | 3.5  | 0.5 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 8     | 14.0 | 12.5           | 13.5 | 3.0 | 0.0             | 2.0  | 0.0 | 0.0             | 0.0  | 0.5 | 0.0            | 0.5  |
| 9     | 14.5 | 12.5           | 13.5 | 1.0 | 0.0             | 0.5  | 0.0 | 0.0             | 0.0  | 0.5 | 0.0            | 0.5  |
| 10    | 12.0 | 7.5            | 10.0 | 1.5 | 0.5             | 1.0  | 0.0 | 0.0             | 0.0  | 0.5 | 0.0            | 0.0  |
| 11    | 9.5  | 6.5            | 7.5  | 2.0 | 0.0             | 0.5  | 0.5 | 0.0             | 0.0  | 0.5 | 0.0            | 0.0  |
| 12    | 9.0  | 5.0            | 6.5  | 1.0 | 0.0             | 0.5  | 0.5 | 0.0             | 0.0  | 0.5 | 0.0            | 0.5  |
| 13    | 11.0 | 6.0            | 8.5  | 1.5 | 0.0             | 0.5  | 0.0 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 14    | 9.5  | 7.0            | 8.5  | 2.5 | 0.0             | 1.0  | 0.0 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 15    | 9.5  | 6.0            | 8.0  | 3.0 | 1.0             | 2.0  | 0.5 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 16    | 10.5 | 7.5            | 9.0  | 2.0 | 0.5             | 1.0  | 0.5 | 0.0             | 0.5  | 0.5 | 0.5            | 0.5  |
| 17    | 7.5  | 5.5            | 6.5  | 3.0 | 0.5             | 1.5  | 0.5 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 18    | 6.5  | 4.0            | 5.0  | 3.5 | 1.5             | 2.5  | 0.5 | 0.0             | 0.5  | 0.5 | 0.5            | 0.5  |
| 19    | 6.5  | 2.5            | 4.0  | 4.0 | 2.0             | 3.0  | 0.5 | 0.0             | 0.5  | 0.5 | 0.5            | 0.5  |
| 20    | 7.0  | 4.0            | 5.0  | 2.5 | 0.5             | 2.0  | 0.5 | 0.5             | 0.5  | 0.5 | 0.5            | 0.5  |
| 21    | 8.0  | 6.5            | 7.5  | 1.5 | 0.0             | 0.5  | 0.0 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 22    | 6.0  | 4.5            | 5.5  | 1.0 | 0.0             | 0.5  | 0.5 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 23    | 5.5  | 3.5            | 4.5  | 2.0 | 0.5             | 1.5  | 0.5 | 0.0             | 0.5  | 0.5 | 0.5            | 0.5  |
| 24    | 5.0  | 2.5            | 4.0  | 2.0 | 1.0             | 1.5  | 0.5 | 0.0             | 0.5  | 0.5 | 0.5            | 0.5  |
| 25    | 7.0  | 5.0            | 6.0  | 2.5 | 1.0             | 2.0  | 0.5 | 0.0             | 0.5  | 0.5 | 0.5            | 0.5  |
| 26    | 7.0  | 3.0            | 5.5  | 4.5 | 2.0             | 3.5  | 0.5 | 0.5             | 0.5  | 1.0 | 0.5            | 0.5  |
| 27    | 3.5  | 0.0            | 2.0  | 5.5 | 4.0             | 5.0  | 0.5 | 0.0             | 0.0  | 0.5 | 0.5            | 0.5  |
| 28    | 3.0  | 0.5            | 1.5  | 5.5 | 4.5             | 5.0  | 0.5 | 0.0             | 0.5  | 0.5 | 0.0            | 0.5  |
| 29    | 5.5  | 2.0            | 3.5  | 4.5 | 0.0             | 3.0  | 0.5 | 0.5             | 0.5  | 0.5 | 0.0            | 0.5  |
| 30    | 6.0  | 2.5            | 4.5  | 1.0 | 0.0             | 0.5  | 0.5 | 0.0             | 0.5  | 0.5 | 0.0            | 0.5  |
| 31    | 6.5  | 5.0            | 5.5  | --- | ---             | ---  | 0.5 | 0.5             | 0.5  | 0.5 | 0.0            | 0.5  |
| MONTH | 14.5 | 0.0            | 7.5  | 6.5 | 0.0             | 2.0  | 1.0 | 0.0             | 0.0  | 1.0 | 0.0            | 0.5  |





## 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) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair. Prior to 1950, some diurnal fluctuation at low flow caused by small mill upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--42 years, 188 ft<sup>3</sup>/s (5.324 m<sup>3</sup>/s), 27.25 in/yr (692 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 (269 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 (76.5 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 1900 | *7920 224                                             | *8.32 2.536             | Apr. 24 | 2115 | 3510 99.4                                             | 5.54 1.689              |
| Mar. 30 | 1915 | 3750 106                                              | 5.73 1.747              |         |      |                                                       |                         |

Minimum discharge, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Sept. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN  | FEB  | MAR    | APR       | MAY      | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|------|------|--------|-----------|----------|------|------|------|------|
| 1           | 35    | 192   | 48       | 32   | 36   | 150    | 1010      | 220      | 69   | 45   | 18   | 19   |
| 2           | 41    | 148   | 62       | 33   | 36   | 125    | 602       | 202      | 96   | 36   | 138  | 18   |
| 3           | 61    | 134   | 47       | 37   | 36   | 115    | 865       | 190      | 75   | 32   | 62   | 17   |
| 4           | 74    | 132   | 44       | 50   | 37   | 109    | 609       | 173      | 63   | 30   | 40   | 15   |
| 5           | 52    | 126   | 68       | 51   | 38   | 333    | 1020      | 211      | 55   | 30   | 33   | 15   |
| 6           | 45    | 180   | 62       | 47   | 39   | 338    | 1130      | 208      | 52   | 31   | 39   | 25   |
| 7           | 41    | 153   | 458      | 50   | 40   | 214    | 587       | 173      | 72   | 30   | 31   | 27   |
| 8           | 37    | 130   | 426      | 55   | 39   | 174    | 437       | 152      | 87   | 57   | 32   | 18   |
| 9           | 229   | 120   | 153      | 53   | 38   | 214    | 338       | 803      | 72   | 92   | 30   | 15   |
| 10          | 268   | 110   | 123      | 50   | 38   | 510    | 296       | 996      | 113  | 57   | 24   | 15   |
| 11          | 123   | 105   | 139      | 56   | 37   | 811    | 284       | 1120     | 140  | 42   | 88   | 15   |
| 12          | 97    | 100   | 121      | 57   | 37   | 968    | 312       | 1140     | 99   | 63   | 73   | 14   |
| 13          | 86    | 94    | 107      | 52   | 40   | 3690   | 360       | 829      | 82   | 82   | 80   | 14   |
| 14          | 106   | 90    | 81       | 52   | 45   | 5230   | 321       | 448      | 69   | 87   | 55   | 21   |
| 15          | 117   | 86    | 116      | 52   | 42   | 1920   | 261       | 321      | 62   | 57   | 62   | 30   |
| 16          | 100   | 83    | 91       | 51   | 38   | 1210   | 227       | 261      | 51   | 41   | 46   | 24   |
| 17          | 91    | 79    | 91       | 50   | 35   | 786    | 202       | 224      | 45   | 34   | 54   | 67   |
| 18          | 86    | 76    | 86       | 47   | 33   | 465    | 184       | 196      | 45   | 56   | 124  | 55   |
| 19          | 86    | 75    | 77       | 43   | 34   | 380    | 176       | 558      | 92   | 47   | 63   | 135  |
| 20          | 88    | 72    | 82       | 43   | 34   | 308    | 163       | 316      | 69   | 34   | 42   | 190  |
| 21          | 423   | 69    | 107      | 42   | 34   | 284    | 157       | 240      | 67   | 28   | 33   | 219  |
| 22          | 263   | 66    | 82       | 39   | 34   | 300    | 147       | 199      | 54   | 33   | 42   | 125  |
| 23          | 174   | 65    | 76       | 38   | 33   | 321    | 214       | 171      | 46   | 26   | 78   | 89   |
| 24          | 146   | 65    | 72       | 40   | 33   | 251    | 2280      | 147      | 41   | 20   | 51   | 149  |
| 25          | 153   | 66    | 69       | 39   | 125  | 217    | 1750      | 131      | 39   | 24   | 41   | 414  |
| 26          | 205   | 68    | 72       | 38   | 190  | 202    | 648       | 113      | 75   | 43   | 33   | 700  |
| 27          | 192   | 72    | 78       | 37   | 145  | 221    | 448       | 99       | 57   | 30   | 28   | 843  |
| 28          | 153   | 72    | 74       | 36   | 165  | 284    | 351       | 88       | 44   | 22   | 25   | 273  |
| 29          | 132   | 82    | 47       | 35   | ---  | 1340   | 284       | 78       | 45   | 19   | 22   | 188  |
| 30          | 121   | 73    | 59       | 34   | ---  | 2390   | 243       | 72       | 63   | 18   | 19   | 143  |
| 31          | 150   | ---   | 42       | 35   | ---  | 2140   | ---       | 67       | ---  | 17   | 18   | ---  |
| TOTAL       | 3975  | 2983  | 3260     | 1374 | 1511 | 26000  | 15906     | 10146    | 2039 | 1263 | 1524 | 3892 |
| MEAN        | 128   | 99.4  | 105      | 44.3 | 54.0 | 839    | 530       | 327      | 68.0 | 40.7 | 49.2 | 130  |
| MAX         | 423   | 192   | 458      | 57   | 190  | 5230   | 2280      | 1140     | 140  | 92   | 138  | 843  |
| MIN         | 35    | 65    | 42       | 32   | 33   | 109    | 147       | 67       | 39   | 17   | 18   | 14   |
| CFSM        | 1.37  | 1.06  | 1.12     | .47  | .58  | 8.95   | 5.66      | 3.49     | .73  | .43  | .53  | 1.39 |
| IN.         | 1.58  | 1.18  | 1.29     | .55  | .60  | 10.32  | 6.31      | 4.03     | .81  | .50  | .61  | 1.55 |
| CAL YR 1976 | TOTAL | 72275 | MEAN 197 | MAX  | 3220 | MIN 12 | CFSM 2.10 | IN 28.69 |      |      |      |      |
| WTR YR 1977 | TOTAL | 73873 | MEAN 202 | MAX  | 5230 | MIN 14 | CFSM 2.16 | IN 29.33 |      |      |      |      |

01183000 LITTLE RIVER AT OUTLET OF COBBLE MOUNTAIN RESERVOIR, NEAR WESTFIELD, MA  
(Formerly published as Westfield Little River at outlet of Cobble Mountain Reservoir, near Westfield)

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.

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.--67 years (water years 1911-77), 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 1976 TO SEPTEMBER 1977

| Month                        | Mean† | Per square mile† | Runoff in inches† |
|------------------------------|-------|------------------|-------------------|
| October . . . . .            | 48.3  | 1.05             | 1.22              |
| November . . . . .           | 30.3  | .66              | .74               |
| December . . . . .           | 46.1  | 1.01             | 1.16              |
| Calendar year 1976 . . . . . | 85.7  | 1.87             | 25.47             |
| January . . . . .            | 15.4  | .34              | .39               |
| February . . . . .           | 42.2  | .92              | .96               |
| March . . . . .              | 355   | 7.75             | 8.95              |
| April . . . . .              | 244   | 5.33             | 5.95              |
| May . . . . .                | 148   | 8.23             | 3.73              |
| June . . . . .               | 32.7  | .71              | .80               |
| July . . . . .               | 13.5  | .29              | .34               |
| August . . . . .             | 4.89  | .11              | .12               |
| September . . . . .          | 68.7  | 1.50             | 1.68              |
| Water year 1977 . . . . .    | 87.8  | 1.92             | 26.03             |

† Adjusted for change in contents in Borden Brook and Cobble Mountain Reservoirs.

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 Kellogg 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 and period of no gage-height record, 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 651 ft<sup>3</sup>/s (18.4 m<sup>3</sup>/s) Dec. 21, 1973, gage height, 5.33 ft (1.625 m), from rating curve extended above 270 ft<sup>3</sup>/s (7.65 m<sup>3</sup>/s); minimum, 4.8 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Aug. 16, 17, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 240 ft<sup>3</sup>/s (6.80 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) |
|--------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 1 | 0500 | ice jam                                               | *5.08 1.548             | Mar. 14 | 0830 | *267 7.56                                             | 3.92 1.195              |

Minimum discharge unknown; minimum daily, 7.6 ft<sup>3</sup>/s (0.22 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV     | DEC  | JAN   | FEB   | MAR  | APR  | MAY  | JUN  | JUL  | AUG   | SEP   |
|-------------|-------|---------|------|-------|-------|------|------|------|------|------|-------|-------|
| 1           | 16    | 26      | 14   | 10    | 8.6   | 75   | 55   | 37   | 22   | 17   | 12    | 9.4   |
| 2           | 15    | 23      | 14   | 10    | 8.6   | 50   | 48   | 36   | 28   | 16   | 14    | 8.6   |
| 3           | 26    | 22      | 15   | 11    | 8.8   | 46   | 56   | 34   | 25   | 14   | 12    | 8.4   |
| 4           | 22    | 20      | 15   | 11    | 8.9   | 54   | 56   | 32   | 22   | 14   | 12    | 8.0   |
| 5           | 17    | 21      | 15   | 11    | 9.0   | 159  | 102  | 36   | 21   | 15   | 16    | 7.8   |
| 6           | 15    | 24      | 16   | 10    | 9.1   | 137  | 128  | 39   | 20   | 16   | 18    | 9.0   |
| 7           | 14    | 23      | 65   | 10    | 9.2   | 75   | 74   | 43   | 28   | 15   | 15    | 8.2   |
| 8           | 14    | 22      | 46   | 12    | 9.2   | 57   | 60   | 38   | 29   | 16   | 13    | 7.8   |
| 9           | 27    | 20      | 22   | 12    | 9.2   | 58   | 52   | 94   | 26   | 17   | 12    | 7.6   |
| 10          | 30    | 19      | 20   | 13    | 9.2   | 70   | 47   | 190  | 45   | 15   | 10    | 9.0   |
| 11          | 26    | 20      | 19   | 15    | 9.2   | 70   | 45   | 134  | 42   | 15   | 10    | 8.5   |
| 12          | 20    | 20      | 18   | 14    | 9.6   | 59   | 43   | 73   | 32   | 20   | 13    | 8.0   |
| 13          | 18    | 20      | 17   | 14    | 10    | 106  | 40   | 57   | 27   | 20   | 14    | 7.8   |
| 14          | 18    | 19      | 16   | 13    | 13    | 218  | 37   | 47   | 24   | 32   | 13    | 9.0   |
| 15          | 17    | 18      | 16   | 13    | 13    | 121  | 34   | 43   | 23   | 21   | 12    | 10    |
| 16          | 16    | 18      | 15   | 12    | 13    | 81   | 32   | 39   | 22   | 16   | 10    | 12    |
| 17          | 15    | 18      | 14   | 12    | 11    | 63   | 31   | 37   | 21   | 15   | 10    | 13    |
| 18          | 15    | 18      | 15   | 11    | 11    | 53   | 30   | 34   | 26   | 17   | 13    | 16    |
| 19          | 14    | 18      | 15   | 11    | 12    | 50   | 29   | 48   | 39   | 14   | 13    | 19    |
| 20          | 17    | 18      | 15   | 11    | 11    | 50   | 26   | 46   | 27   | 13   | 11    | 30    |
| 21          | 38    | 17      | 21   | 10    | 10    | 51   | 26   | 38   | 25   | 15   | 10    | 35    |
| 22          | 32    | 17      | 18   | 10    | 10    | 62   | 25   | 33   | 23   | 18   | 11    | 22    |
| 23          | 23    | 16      | 14   | 9.5   | 10    | 116  | 33   | 31   | 21   | 14   | 11    | 15    |
| 24          | 22    | 16      | 13   | 9.5   | 10    | 119  | 94   | 29   | 20   | 12   | 10    | 25    |
| 25          | 22    | 15      | 13   | 10    | 80    | 76   | 150  | 29   | 19   | 17   | 10    | 70    |
| 26          | 30    | 14      | 13   | 9.6   | 89    | 65   | 99   | 28   | 20   | 21   | 9.8   | 100   |
| 27          | 29    | 14      | 14   | 9.3   | 83    | 68   | 63   | 27   | 19   | 16   | 9.4   | 110   |
| 28          | 24    | 14      | 13   | 9.0   | 87    | 76   | 53   | 25   | 18   | 14   | 9.2   | 47    |
| 29          | 22    | 15      | 12   | 8.7   | ---   | 106  | 46   | 24   | 20   | 13   | 8.8   | 31    |
| 30          | 21    | 15      | 11   | 8.5   | ---   | 101  | 41   | 23   | 19   | 12   | 8.6   | 25    |
| 31          | 25    | ---     | 11   | 8.5   | ---   | 68   | ---  | 22   | ---  | 12   | 8.8   | ---   |
| TOTAL       | 660   | 560     | 555  | 338.6 | 581.6 | 2560 | 1655 | 1446 | 753  | 505  | 359.6 | 697.1 |
| MEAN        | 21.3  | 18.7    | 17.9 | 10.9  | 20.8  | 82.6 | 55.2 | 46.6 | 25.1 | 16.3 | 11.6  | 23.2  |
| MAX         | 38    | 26      | 65   | 15    | 89    | 218  | 150  | 190  | 45   | 32   | 18    | 110   |
| MIN         | 14    | 14      | 11   | 8.5   | 8.6   | 46   | 25   | 22   | 18   | 12   | 8.6   | 7.6   |
| CAL YR 1976 | TOTAL | 14253.0 | MEAN | 38.9  | MAX   | 350  | MIN  | 10   |      |      |       |       |
| WTR YR 1977 | TOTAL | 10670.9 | MEAN | 29.2  | MAX   | 218  | MIN  | 7.6  |      |      |       |       |

NOTE.--No gage-height record Aug. 18 to Sept. 27.

## 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) above mean sea level. Prior to Nov. 3, 1933, on right bank at same datum.

REMARKS.--Records excellent except those for winter period and period of no gage-height record, which are fair. 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. See table below for figures of diversion. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years, 913 ft<sup>3</sup>/s (25.86 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, 10,700 ft<sup>3</sup>/s (303 m<sup>3</sup>/s) Mar. 13, gage height, 12.70 ft (3.871 m); minimum, 123 ft<sup>3</sup>/s (3.48 m<sup>3</sup>/s) Sept. 13; minimum daily, 139 ft<sup>3</sup>/s (3.94 m<sup>3</sup>/s) July 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT    | NOV   | DEC   | JAN  | FEB  | MAR   | APR   | MAY   | JUN   | JUL  | AUG  | SEP   |
|-------------------|--------|-------|-------|------|------|-------|-------|-------|-------|------|------|-------|
| 1                 | 289    | 844   | 343   | 269  | 235  | 750   | 6200  | 1140  | 403   | 316  | 291  | 214   |
| 2                 | 251    | 658   | 295   | 254  | 225  | 703   | 3700  | 1240  | 519   | 259  | 449  | 250   |
| 3                 | 305    | 531   | 280   | 283  | 225  | 660   | 3600  | 1150  | 519   | 230  | 466  | 206   |
| 4                 | 398    | 527   | 270   | 272  | 230  | 663   | 4000  | 1040  | 414   | 237  | 335  | 176   |
| 5                 | 314    | 512   | 260   | 260  | 240  | 900   | 3800  | 1210  | 371   | 220  | 297  | 174   |
| 6                 | 295    | 716   | 270   | 260  | 230  | 1200  | 4500  | 1260  | 366   | 214  | 294  | 273   |
| 7                 | 280    | 663   | 861   | 263  | 225  | 1100  | 4000  | 954   | 450   | 221  | 267  | 365   |
| 8                 | 286    | 540   | 1880  | 249  | 225  | 1000  | 3000  | 788   | 565   | 266  | 245  | 268   |
| 9                 | 346    | 504   | 1340  | 260  | 220  | 1000  | 2600  | 3100  | 521   | 421  | 225  | 209   |
| 10                | 1420   | 497   | 1010  | 266  | 225  | 1600  | 2300  | 4890  | 625   | 348  | 241  | 190   |
| 11                | 726    | 486   | 815   | 280  | 230  | 2400  | 2100  | 4400  | 709   | 279  | 389  | 182   |
| 12                | 540    | 445   | 563   | 275  | 230  | 2900  | 2500  | 4450  | 616   | 302  | 506  | 190   |
| 13                | 475    | 427   | 527   | 283  | 230  | 8200  | 3100  | 3850  | 573   | 507  | 370  | 185   |
| 14                | 412    | 423   | 501   | 278  | 270  | 8300  | 2420  | 2570  | 465   | 671  | 362  | 183   |
| 15                | 471    | 420   | 420   | 283  | 270  | 6000  | 1660  | 1650  | 423   | 483  | 335  | 224   |
| 16                | 416    | 405   | 416   | 272  | 240  | 7200  | 1190  | 1710  | 397   | 355  | 319  | 249   |
| 17                | 388    | 423   | 504   | 320  | 225  | 6600  | 1370  | 1550  | 355   | 284  | 302  | 284   |
| 18                | 353    | 398   | 430   | 300  | 220  | 6000  | 1280  | 1380  | 436   | 300  | 624  | 354   |
| 19                | 336    | 402   | 384   | 270  | 220  | 4500  | 1030  | 2020  | 508   | 371  | 432  | 609   |
| 20                | 402    | 398   | 405   | 270  | 220  | 3500  | 1020  | 1910  | 444   | 299  | 321  | 919   |
| 21                | 1310   | 374   | 423   | 260  | 215  | 3100  | 926   | 1260  | 375   | 328  | 280  | 1520  |
| 22                | 1250   | 357   | 535   | 250  | 210  | 2000  | 871   | 970   | 342   | 303  | 214  | 933   |
| 23                | 787    | 360   | 398   | 250  | 215  | 1500  | 820   | 982   | 305   | 273  | 343  | 687   |
| 24                | 597    | 398   | 343   | 260  | 240  | 2000  | 4070  | 878   | 283   | 207  | 303  | 646   |
| 25                | 637    | 360   | 298   | 250  | 400  | 1200  | 5010  | 827   | 280   | 249  | 263  | 1930  |
| 26                | 827    | 350   | 317   | 250  | 720  | 1100  | 5280  | 734   | 296   | 273  | 252  | 2460  |
| 27                | 939    | 370   | 298   | 245  | 880  | 800   | 4000  | 537   | 398   | 290  | 219  | 3930  |
| 28                | 700    | 350   | 302   | 240  | 840  | 1000  | 2190  | 507   | 308   | 227  | 215  | 2170  |
| 29                | 627    | 381   | 305   | 240  | ---  | 2700  | 1670  | 464   | 311   | 213  | 233  | 1310  |
| 30                | 520    | 438   | 314   | 235  | ---  | 4500  | 1320  | 412   | 345   | 195  | 244  | 898   |
| 31                | 540    | ---   | 266   | 235  | ---  | 6200  | ---   | 416   | ---   | 139  | 216  | ---   |
| TOTAL             | 17437  | 13957 | 15573 | 8182 | 8355 | 91276 | 81527 | 50249 | 12922 | 9280 | 9852 | 22188 |
| MEAN              | 562    | 465   | 502   | 264  | 298  | 2944  | 2718  | 1621  | 431   | 299  | 318  | 740   |
| MAX               | 1420   | 844   | 1880  | 320  | 880  | 8300  | 6200  | 4890  | 709   | 671  | 624  | 3930  |
| MIN               | 251    | 350   | 260   | 235  | 210  | 660   | 820   | 412   | 280   | 139  | 214  | 174   |
| (†)               | 57.2   | 61.7  | 62.1  | 58.5 | 57.2 | 54.1  | 55.8  | 66.3  | 64.2  | 66.6 | 62.8 | 59.5  |
| CAL YR 1976 TOTAL | 351747 |       |       |      |      | 5310  |       |       |       |      |      |       |
| WTR YR 1977 TOTAL | 340798 |       |       |      |      | 8300  |       |       |       |      |      |       |
| MEAN 961          |        |       |       |      |      |       |       |       |       |      |      |       |
| MAX 934           |        |       |       |      |      |       |       |       |       |      |      |       |
| MIN 139           |        |       |       |      |      |       |       |       |       |      |      |       |

† Diversion, in cubic feet per second, from Little River for municipal supply of Springfield; records furnished by city of Springfield.

NOTE.--No gage-height record Mar. 5 to Apr. 13.

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 current year. Prior to October 1971, published as "01184000 Connecticut River at Thompsonville, CT."

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1969 to current year.

pH: January 1969 to August 1976.

WATER TEMPERATURES: January 1969 to current year.

DISSOLVED OXYGEN: January 1969 to current year.

INSTRUMENTATION.--Water-quality monitor since January 1969.

REMARKS.--Figures of daily discharge for gaging station at Thompsonville, CT. (station 01184000) are used for this site. PH not operated during current year.

EXTREMES FOR PERIOD OF DAILY RECORDS.--

SPECIFIC CONDUCTANCE: Maximum, 268 micromhos Feb. 3, 1973; minimum, 49 micromhos Apr. 23, 1969.

pH: Maximum, 9.7 units Aug. 9, 1970; minimum, 5.6 units June 1, 21, 1976.

WATER TEMPERATURES: Maximum, 31.5°C Aug. 16, 1970; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.9 mg/L Feb. 17, 1971; minimum, 1.0 mg/L Aug. 20, 1971.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 178 micromhos Aug. 29; minimum recorded, 112 micromhos Sept. 12; maximum and minimum may have been higher or lower during periods of missing record.

WATER TEMPERATURES: Maximum, 31.0°C July 21; minimum, probably 0.0°C on many days during winter period.

DISSOLVED OXYGEN: Maximum recorded, 8.7 mg/L Sept. 12; minimum recorded, 3.6 mg/L Sept. 1, 2; maximum and minimum may have been higher or lower during periods of missing record.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L) | COD IN BOTTOM MATERIAL (MG/KG) | IMMEDIATE COLIFORM PER 100 ML | FECAL COLIFORM (COL./100 ML) | FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML) |
|-----------|------|----------------------------------|------------|-------------------------|---------------------|-----------------|-------------------------|-------------------------------------------|--------------------------------|-------------------------------|------------------------------|----------------------------------------------|
| OCT 13... | 1000 | 104                              | 6.9        | 13.5                    | 12.5                | 12              | 10.5                    | 13                                        | 5500                           | 59000                         | 1700                         | 400                                          |
| NOV 23... | 0930 | 150                              | 7.1        | 8.0                     | 4.5                 | 4               | 11.4                    | 11                                        | --                             | 36000                         | 1300                         | 220                                          |
| APR 12... | 0800 | 111                              | 6.4        | 17.0                    | 6.0                 | 2               | 11.2                    | <10                                       | --                             | 5300                          | 2200                         | 270                                          |
| 26...     | 0800 | 85                               | 6.3        | 10.5                    | 8.0                 | 1               | 11.6                    | 11                                        | 32000                          | 6200                          | 1900                         | --                                           |
| MAY 26... | 0800 | 148                              | 6.9        | 23.5                    | 21.5                | 1               | 7.4                     | 17                                        | --                             | 66000                         | 2900                         | --                                           |
| JUN 21... | 0930 | 133                              | 7.0        | 19.0                    | 22.5                | 1               | 8.9                     | 17                                        | 16000                          | 72000                         | 8000                         | --                                           |
| JUL 26... | 1030 | 140                              | 7.0        | 18.5                    | 25.5                | 1               | 4.7                     | 20                                        | --                             | 78000                         | 9500                         | 1400                                         |
| AUG 09... | 1200 | 131                              | 7.5        | 27.5                    | 28.5                | 1               | 7.8                     | 20                                        | 8300                           | 260000                        | 29000                        | 320                                          |
| SEP 13... | 1300 | 126                              | 6.9        | 19.0                    | 20.5                | 3               | 7.9                     | 20                                        | --                             | 330000                        | 11000                        | 1600                                         |

| DATE      | TOTAL CALCIUM (CA) (MG/L) | TOTAL MAGNESIUM (MG) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) | TOTAL RESIDUE (MG/L) | LOSS ON IGNITION IN BOTTOM MATERIAL (MG/KG) | TOTAL NITRATE (N) (MG/L) |
|-----------|---------------------------|----------------------|---------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------------|----------------------|---------------------------------------------|--------------------------|
| OCT 13... | 12                        | 2.0                  | 41                        | 0                      | 34                         | 8.3                         | 6.0                            | 6.3                            | 30                                  | 104                  | 6310                                        | .19                      |
| NOV 23... | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 11                                  | 77                   | --                                          | .41                      |
| APR 12... | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 5                                   | 55                   | --                                          | .31                      |
| 26...     | 1.7                       | 1.2                  | 15                        | 0                      | 12                         | 12                          | 8.9                            | 7.1                            | 19                                  | 62                   | 0                                           | .22                      |
| MAY 26... | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 11                                  | 114                  | --                                          | .44                      |
| JUN 21... | 10                        | 1.8                  | 29                        | 0                      | 24                         | 4.6                         | 12                             | 13                             | 11                                  | 71                   | 0                                           | .32                      |
| JUL 26... | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 18                                  | 99                   | --                                          | .20                      |
| AUG 09... | 10                        | 1.8                  | 32                        | 0                      | 26                         | 1.6                         | 12                             | 13                             | 0                                   | 91                   | 11100                                       | .20                      |
| SEP 13... | --                        | --                   | --                        | --                     | --                         | --                          | --                             | --                             | 0                                   | 83                   | --                                          | .22                      |

## CONNECTICUT RIVER BASIN

01183750 CONNECTICUT RIVER AT AGAWAM, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE         | TOTAL<br>NITRITE<br>(N)<br>(MG/L) | TOTAL<br>NITRITE<br>PLUS<br>NITRATE<br>(N)<br>(MG/L) | TOTAL<br>AMMONIA<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>ORGANIC<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>KJEL-<br>DAHL<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>PHOS-<br>PHORUS<br>(P)<br>(MG/L) | PHENOLS<br>(UG/L) | OIL<br>AND<br>GREASE<br>(MG/L) | CHLORO-<br>PHYLL A<br>(UG/L) | CHLORO-<br>PHYLL B<br>(UG/L) |
|--------------|-----------------------------------|------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------------|-------------------|--------------------------------|------------------------------|------------------------------|
| OCT<br>13... | .00                               | .19                                                  | .07                                                | .31                                                | .38                                                      | .57                                     | .08                                       | 0                 | 0                              | 32.1                         | 14.3                         |
| NOV<br>23... | .01                               | .42                                                  | .14                                                | .00                                                | .13                                                      | .55                                     | .06                                       | --                | 1                              | --                           | --                           |
| APR<br>12... | .00                               | .31                                                  | .05                                                | .55                                                | .60                                                      | .91                                     | .03                                       | --                | --                             | .000                         | .000                         |
| 26...        | .00                               | .22                                                  | .03                                                | .32                                                | .35                                                      | .57                                     | .04                                       | 0                 | 3                              | --                           | --                           |
| MAY<br>26... | .02                               | .46                                                  | .22                                                | .40                                                | .62                                                      | 1.1                                     | .11                                       | --                | --                             | 8.35                         | 1.31                         |
| JUN<br>21... | .01                               | .33                                                  | .25                                                | .33                                                | .58                                                      | .91                                     | .11                                       | 0                 | 2                              | 4.73                         | .038                         |
| JUL<br>26... | .01                               | .21                                                  | .33                                                | .87                                                | 1.2                                                      | 1.4                                     | .16                                       | --                | 6                              | 4.79                         | .000                         |
| AUG<br>09... | .01                               | .21                                                  | .19                                                | .73                                                | .92                                                      | 1.1                                     | .12                                       | 0                 | 1                              | --                           | --                           |
| SEP<br>13... | .01                               | .23                                                  | .25                                                | .55                                                | .80                                                      | 1.0                                     | .15                                       | --                | 0                              | .000                         | .000                         |

| DATE                | TIME | TOTAL<br>ALUM-<br>INUM<br>(AL)<br>(UG/L) | TOTAL<br>ALUMI-<br>NUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>BARIUM<br>(BA)<br>(UG/L) | TOTAL<br>BARIUM<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>BERYL-<br>LIUM<br>(BE)<br>(UG/L) | TOTAL<br>BERYL-<br>LIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>BISMUTH<br>(BI)<br>(UG/L) | TOTAL<br>BORON<br>(B)<br>(UG/L) | TOTAL<br>BORON<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>CAD-<br>MIUM<br>(CD)<br>(UG/L) |
|---------------------|------|------------------------------------------|----------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------|------------------------------------|---------------------------------|-----------------------------------------------------------|-----------------------------------------|
| DEC , 1975<br>09... | 1330 | >2300                                    | >3900                                                          | 80                                | 38                                                         | <5                                        | 2                                                               | <5                                 | 100                             | 8                                                         | <10                                     |
| APR , 1976<br>29... | 1100 | 260                                      | 23000                                                          | 20                                | 350                                                        | <0                                        | 3                                                               | <2                                 | 10                              | 40                                                        | 0                                       |
| OCT<br>13...        | 1000 | >230                                     | >1500                                                          | 5                                 | 10                                                         | <0                                        | <0                                                              | <0                                 | 100                             | --                                                        | <10                                     |

| DATE                | TOTAL<br>CADMIUM<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>CHRO-<br>MIUM<br>(CR)<br>(UG/L) | TOTAL<br>CHRO-<br>MIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>COBALT<br>(CO)<br>(UG/L) | TOTAL<br>COBALT<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>COPPER<br>(CU)<br>(UG/L) | TOTAL<br>COPPER<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>GALLIUM<br>(GA)<br>(UG/L) | TOTAL<br>GER-<br>MANIUM<br>(GE)<br>(UG/L) | TOTAL<br>IRON<br>(FE)<br>(UG/L) | TOTAL<br>IRON<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) |
|---------------------|-------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|-----------------------------------|------------------------------------------------------------|------------------------------------|-------------------------------------------|---------------------------------|----------------------------------------------------------|
| DEC , 1975<br>09... | --                                                          | 26                                       | >39                                                            | <5                                | 13                                                         | 25                                | 62                                                         | <5                                 | <10                                       | 2200                            | >3900                                                    |
| APR , 1976<br>29... | <100                                                        | 2                                        | 120                                                            | <1                                | 60                                                         | 2                                 | 380                                                        | <1                                 | <3                                        | 480                             | 5000                                                     |
| OCT<br>13...        | <1                                                          | 3                                        | >15                                                            | 1                                 | 4                                                          | 3                                 | 3                                                          | <0                                 | <1                                        | >230                            | >1500                                                    |

| DATE                | TOTAL<br>STRON-<br>TIUM<br>(SR)<br>(UG/L) | TOTAL<br>STRON-<br>TIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>TIN<br>(SN)<br>(UG/L) | TOTAL<br>TI-<br>TANIUM<br>(TI)<br>(UG/L) | TOTAL<br>TITA-<br>NIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>VANA-<br>DIUM<br>(V)<br>(UG/L) | TOTAL<br>VANA-<br>DIUM IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>ZINC<br>(ZN)<br>(UG/L) | TOTAL<br>ZINC<br>IN<br>BOTTOM<br>MA-<br>TERIAL<br>(UG/G) | TOTAL<br>ZIR-<br>CONIUM<br>(ZR)<br>(UG/L) |
|---------------------|-------------------------------------------|-----------------------------------------------------------------|--------------------------------|------------------------------------------|----------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------|---------------------------------|----------------------------------------------------------|-------------------------------------------|
| DEC , 1975<br>09... | 240                                       | 5                                                               | <7                             | 180                                      | >39                                                            | <9.2                                    | 42                                                             | 30                              | --                                                       | <9                                        |
| APR , 1976<br>29... | 40                                        | 60                                                              | <2                             | 20                                       | 1600                                                           | 4.0                                     | 90                                                             | 20                              | 1200                                                     | <2                                        |
| OCT<br>13...        | 10                                        | 2                                                               | <0                             | 100                                      | >15                                                            | 5.3                                     | 15                                                             | 10                              | 53                                                       | <0                                        |



01183750 CONNECTICUT RIVER AT AGAWAM, MA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE       | TOTAL STRONTIUM (SR)<br>(UG/L) | TOTAL STRONTIUM IN BOTTOM MA-TERIAL<br>(UG/G) | TOTAL TIN (SN)<br>(UG/L) | TOTAL TITANIUM (TI)<br>(UG/L) | TOTAL TITANIUM IN BOTTOM MA-TERIAL<br>(UG/G) | TOTAL VANADIUM (V)<br>(UG/L) | TOTAL VANADIUM IN BOTTOM MA-TERIAL<br>(UG/G) | TOTAL ZINC (ZN)<br>(UG/L) | TOTAL ZINC IN BOTTOM MA-TERIAL<br>(UG/G) | TOTAL ZIRCONIUM (ZR)<br>(UG/L) |
|------------|--------------------------------|-----------------------------------------------|--------------------------|-------------------------------|----------------------------------------------|------------------------------|----------------------------------------------|---------------------------|------------------------------------------|--------------------------------|
| DEC , 1975 |                                |                                               |                          |                               |                                              |                              |                                              |                           |                                          |                                |
| 09...      | 240                            | 5                                             | <7                       | 180                           | >39                                          | <9.2                         | 42                                           | 30                        | --                                       | <9                             |
| APR , 1976 |                                |                                               |                          |                               |                                              |                              |                                              |                           |                                          |                                |
| 29...      | 40                             | 60                                            | <2                       | 20                            | 1600                                         | 4.0                          | 90                                           | 20                        | 1200                                     | <2                             |
| OCT        |                                |                                               |                          |                               |                                              |                              |                                              |                           |                                          |                                |
| 13...      | 10                             | 2                                             | <0                       | 100                           | >15                                          | 5.3                          | 15                                           | 10                        | 53                                       | <0                             |

| DATE       | TIME | DIS-SOLVED GROSS ALPHA AS<br>U-NAT.<br>(UG/L) | SUS-PENDED GROSS ALPHA AS<br>U-NAT.<br>(UG/L) | DIS-SOLVED GROSS BETA AS<br>CS-137<br>(PC/L) | SUS-PENDED GROSS BETA AS<br>CS-137<br>(PC/L) | DIS-SOLVED GROSS BETA AS SR90 /Y90<br>(PC/L) | SUS-PENDED GROSS BETA AS SR90 /Y90<br>(PC/L) |
|------------|------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| DEC , 1975 |      |                                               |                                               |                                              |                                              |                                              |                                              |
| 09...      | 1330 | <.5                                           | <.4                                           | 2.2                                          | <.4                                          | 1.7                                          | <.4                                          |
| APR , 1976 |      |                                               |                                               |                                              |                                              |                                              |                                              |
| 29...      | 1100 | <.7                                           | <.4                                           | 1.9                                          | <.4                                          | 1.5                                          | <.4                                          |
| OCT        |      |                                               |                                               |                                              |                                              |                                              |                                              |
| 13...      | 1000 | <.9                                           | 2.1                                           | 2.3                                          | 2.6                                          | 1.8                                          | 2.3                                          |

| DATE  | TOTAL PCB<br>(UG/L) | POLY-CHLORINATED NAPH-THA-LENES<br>(UG/L) | TOTAL ALDRIN<br>(UG/L) | TOTAL CHLOR-DANE<br>(UG/L) | TOTAL DDD<br>(UG/L) | TOTAL DDE<br>(UG/L) | TOTAL DDT<br>(UG/L) |
|-------|---------------------|-------------------------------------------|------------------------|----------------------------|---------------------|---------------------|---------------------|
| OCT   |                     |                                           |                        |                            |                     |                     |                     |
| 13... | .0                  | .00                                       | .00                    | .0                         | .00                 | .00                 | .00                 |
| APR   |                     |                                           |                        |                            |                     |                     |                     |
| 26... | .0                  | .00                                       | .00                    | .0                         | .00                 | .00                 | .00                 |
| AUG   |                     |                                           |                        |                            |                     |                     |                     |
| 09... | .0                  | .00                                       | .00                    | .0                         | .00                 | .00                 | .00                 |

| DATE  | TOTAL DI-ELDRIN<br>(UG/L) | TOTAL ENDO-SULFAN<br>(UG/L) | TOTAL ENDRIN<br>(UG/L) | TOTAL HEPTA-CHLOR<br>(UG/L) | TOTAL HEPTA-CHLOR EPOXIDE<br>(UG/L) | TOTAL LINDANE<br>(UG/L) | TOTAL TOX-APHENE<br>(UG/L) |
|-------|---------------------------|-----------------------------|------------------------|-----------------------------|-------------------------------------|-------------------------|----------------------------|
| OCT   |                           |                             |                        |                             |                                     |                         |                            |
| 13... | .00                       | --                          | .00                    | .00                         | .00                                 | .00                     | 0                          |
| APR   |                           |                             |                        |                             |                                     |                         |                            |
| 26... | .00                       | .00                         | .00                    | .00                         | .00                                 | .00                     | 0                          |
| AUG   |                           |                             |                        |                             |                                     |                         |                            |
| 09... | .03                       | .00                         | .00                    | .00                         | .00                                 | .00                     | 0                          |

## CONNECTICUT RIVER BASIN

01183750 CONNECTICUT RIVER AT AGAWAM, MA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), JULY TO SEPTEMBER 1977

| DAY    | MAX | MIN  | MEAN | MAX | MIN    | MEAN | MAX | MIN       | MEAN |
|--------|-----|------|------|-----|--------|------|-----|-----------|------|
|        |     | JULY |      |     | AUGUST |      |     | SEPTEMBER |      |
| 1      | --- | ---  | ---  | 141 | 133    | 137  | 160 | 151       | 155  |
| 2      | --- | ---  | ---  | 149 | 134    | 141  | 156 | 141       | 151  |
| 3      | --- | ---  | ---  | 144 | 130    | 135  | 152 | 134       | 144  |
| 4      | --- | ---  | ---  | 142 | 127    | 132  | 137 | 129       | 133  |
| 5      | --- | ---  | ---  | 156 | 133    | 141  | 144 | 130       | 137  |
| 6      | --- | ---  | ---  | 147 | 136    | 140  | 145 | 131       | 137  |
| 7      | --- | ---  | ---  | 154 | 136    | 144  | 145 | 129       | 137  |
| 8      | 142 | 127  | 133  | 144 | 136    | 140  | 138 | 122       | 131  |
| 9      | 138 | 124  | 132  | 146 | 131    | 141  | 136 | 127       | 129  |
| 10     | 139 | 127  | 132  | 147 | 136    | 140  | 144 | 130       | 135  |
| 11     | 140 | 122  | 133  | 143 | 133    | 137  | 140 | 128       | 135  |
| 12     | 134 | 121  | 127  | 141 | 122    | 134  | 131 | 112       | 127  |
| 13     | 136 | 127  | 130  | 139 | 136    | 137  | --- | ---       | ---  |
| 14     | 143 | 129  | 135  | 137 | 132    | 134  | --- | ---       | ---  |
| 15     | 139 | 129  | 132  | 144 | 135    | 139  | --- | ---       | ---  |
| 16     | 141 | 133  | 137  | 145 | 136    | 140  | --- | ---       | ---  |
| 17     | 148 | 139  | 143  | 151 | 139    | 144  | --- | ---       | ---  |
| 18     | 143 | 137  | 140  | 143 | 133    | 136  | --- | ---       | ---  |
| 19     | 144 | 136  | 139  | 136 | 126    | 130  | --- | ---       | ---  |
| 20     | 141 | 134  | 137  | 134 | 128    | 131  | --- | ---       | ---  |
| 21     | 140 | 131  | 135  | 133 | 129    | 131  | --- | ---       | ---  |
| 22     | 152 | 134  | 141  | 145 | 129    | 137  | --- | ---       | ---  |
| 23     | 151 | 139  | 145  | 151 | 144    | 147  | --- | ---       | ---  |
| 24     | 145 | 134  | 140  | 149 | 144    | 146  | --- | ---       | ---  |
| 25     | --- | ---  | ---  | 155 | 144    | 149  | --- | ---       | ---  |
| 26     | 145 | 137  | 140  | 155 | 146    | 151  | --- | ---       | ---  |
| 27     | 151 | 133  | 142  | 157 | 149    | 153  | --- | ---       | ---  |
| 28     | 139 | 121  | 127  | 170 | 157    | 163  | --- | ---       | ---  |
| 29     | 141 | 129  | 134  | 178 | 169    | 172  | --- | ---       | ---  |
| 30     | 141 | 134  | 137  | 174 | 161    | 167  | --- | ---       | ---  |
| 31     | 140 | 129  | 134  | 166 | 156    | 160  | --- | ---       | ---  |
| MONTH  | --- | ---  | ---  | 178 | 122    | 143  | --- | ---       | ---  |
| PERIOD | 178 | 112  | 139  |     |        |      |     |           |      |

TEMPERATURE (DEG. C) OF WATER, JULY TO SEPTEMBER 1977

| DAY    | MAX  | MIN  | MEAN | MAX  | MIN    | MEAN | MAX  | MIN       | MEAN |
|--------|------|------|------|------|--------|------|------|-----------|------|
|        |      | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |
| 1      | ---  | ---  | ---  | 25.5 | 23.5   | 24.5 | 24.0 | 23.0      | 23.5 |
| 2      | ---  | ---  | ---  | 26.0 | 24.0   | 25.0 | 25.0 | 23.0      | 24.0 |
| 3      | ---  | ---  | ---  | 25.5 | 24.0   | 24.5 | 25.0 | 23.0      | 24.0 |
| 4      | ---  | ---  | ---  | 26.0 | 23.5   | 25.0 | 25.5 | 23.0      | 24.0 |
| 5      | ---  | ---  | ---  | 26.5 | 24.0   | 25.0 | 23.5 | 23.0      | 23.5 |
| 6      | ---  | ---  | ---  | 26.5 | 24.5   | 25.5 | 25.0 | 22.5      | 23.5 |
| 7      | ---  | ---  | ---  | 27.0 | 25.0   | 26.0 | 24.5 | 22.5      | 23.5 |
| 8      | 23.5 | 22.5 | 23.5 | 27.5 | 25.5   | 26.5 | 25.0 | 22.5      | 23.5 |
| 9      | 24.5 | 22.5 | 23.5 | 28.5 | 26.0   | 27.0 | 24.5 | 22.0      | 23.0 |
| 10     | 25.0 | 23.0 | 24.0 | 27.5 | 25.5   | 26.0 | 24.0 | 22.0      | 22.5 |
| 11     | 25.0 | 23.0 | 24.0 | 27.0 | 25.0   | 26.5 | 23.5 | 20.5      | 22.0 |
| 12     | 23.5 | 23.0 | 23.5 | 27.0 | 26.0   | 26.5 | 23.0 | 20.5      | 21.5 |
| 13     | 25.0 | 23.0 | 24.0 | 26.0 | 24.5   | 25.5 | ---  | ---       | ---  |
| 14     | 25.5 | 23.5 | 24.5 | 25.5 | 24.5   | 25.0 | ---  | ---       | ---  |
| 15     | 27.0 | 23.5 | 25.5 | 26.5 | 23.5   | 25.0 | ---  | ---       | ---  |
| 16     | 28.5 | 24.5 | 26.5 | 25.0 | 24.0   | 24.5 | ---  | ---       | ---  |
| 17     | 29.0 | 26.0 | 27.0 | 24.5 | 23.5   | 24.0 | ---  | ---       | ---  |
| 18     | 29.0 | 26.5 | 28.0 | 24.0 | 23.0   | 23.5 | ---  | ---       | ---  |
| 19     | 30.0 | 27.0 | 28.5 | 23.5 | 22.0   | 23.0 | ---  | ---       | ---  |
| 20     | 30.5 | 27.5 | 29.0 | 23.5 | 22.0   | 23.0 | ---  | ---       | ---  |
| 21     | 31.0 | 28.0 | 29.5 | 23.5 | 21.5   | 22.5 | ---  | ---       | ---  |
| 22     | 30.0 | 27.0 | 28.5 | 22.0 | 21.5   | 21.5 | ---  | ---       | ---  |
| 23     | 28.5 | 25.5 | 27.0 | 23.0 | 21.0   | 22.0 | ---  | ---       | ---  |
| 24     | 27.5 | 25.0 | 26.0 | 22.0 | 21.0   | 22.0 | ---  | ---       | ---  |
| 25     | ---  | ---  | ---  | 23.0 | 20.5   | 21.5 | ---  | ---       | ---  |
| 26     | 26.0 | 23.5 | 24.5 | 23.0 | 20.5   | 21.5 | ---  | ---       | ---  |
| 27     | 25.0 | 22.5 | 24.0 | 23.0 | 20.5   | 22.0 | ---  | ---       | ---  |
| 28     | 26.0 | 22.5 | 24.0 | 24.5 | 21.0   | 23.0 | ---  | ---       | ---  |
| 29     | 25.0 | 23.0 | 23.5 | 26.0 | 23.0   | 24.5 | ---  | ---       | ---  |
| 30     | 24.5 | 23.0 | 23.5 | 25.0 | 23.5   | 24.5 | ---  | ---       | ---  |
| 31     | 26.5 | 23.0 | 24.5 | 25.5 | 23.5   | 24.5 | ---  | ---       | ---  |
| MONTH  | ---  | ---  | ---  | 28.5 | 20.5   | 24.0 | ---  | ---       | ---  |
| PERIOD | 31.0 | 20.5 | 24.5 |      |        |      |      |           |      |

01183750 CONNECTICUT RIVER AT AGAWAM, MA--Continued

DISSOLVED OXYGEN (DO), MG/L, JULY TO SEPTEMBER 1977

| DAY    | MAX  | MIN | MEAN | MAX    | MIN | MEAN | MAX       | MIN | MEAN |
|--------|------|-----|------|--------|-----|------|-----------|-----|------|
|        | JULY |     |      | AUGUST |     |      | SEPTEMBER |     |      |
| 1      | ---  | --- | ---  | 8.2    | 6.1 | 7.1  | 4.7       | 3.6 | 4.0  |
| 2      | ---  | --- | ---  | 7.8    | 5.3 | 6.7  | 4.8       | 3.6 | 4.1  |
| 3      | ---  | --- | ---  | 7.3    | 6.1 | 6.8  | 4.8       | 3.7 | 4.2  |
| 4      | ---  | --- | ---  | 7.4    | 5.8 | 6.5  | 5.5       | 3.8 | 4.4  |
| 5      | ---  | --- | ---  | 7.5    | 5.5 | 6.4  | 5.9       | 4.4 | 5.1  |
| 6      | ---  | --- | ---  | 7.3    | 5.4 | 6.3  | 6.4       | 4.4 | 5.4  |
| 7      | ---  | --- | ---  | 7.8    | 5.5 | 6.6  | 8.1       | 4.7 | 6.4  |
| 8      | 6.5  | 6.0 | 6.3  | 8.0    | 5.9 | 6.8  | 8.3       | 5.3 | 6.7  |
| 9      | 7.6  | 6.4 | 6.9  | 7.8    | 5.1 | 6.6  | 8.4       | 7.0 | 7.7  |
| 10     | 8.4  | 7.0 | 7.7  | 8.0    | 4.8 | 6.2  | 8.5       | 5.1 | 6.8  |
| 11     | 8.3  | 5.3 | 6.6  | 7.2    | 5.4 | 6.2  | 8.6       | 5.5 | 7.3  |
| 12     | 8.5  | 7.3 | 8.1  | 7.3    | 5.2 | 6.1  | 8.7       | 7.3 | 7.9  |
| 13     | 8.1  | 7.3 | 7.7  | 7.1    | 5.2 | 6.0  | ---       | --- | ---  |
| 14     | 8.1  | 6.0 | 7.4  | 6.5    | 5.2 | 5.8  | ---       | --- | ---  |
| 15     | 8.1  | 5.5 | 7.2  | 7.1    | 5.1 | 6.0  | ---       | --- | ---  |
| 16     | 7.8  | 4.7 | 6.3  | 7.5    | 5.0 | 6.2  | ---       | --- | ---  |
| 17     | 7.8  | 4.7 | 6.2  | 6.3    | 5.0 | 5.6  | ---       | --- | ---  |
| 18     | 7.7  | 5.1 | 6.3  | 6.5    | 4.9 | 5.8  | ---       | --- | ---  |
| 19     | 7.6  | 5.2 | 6.2  | 6.0    | 5.4 | 5.7  | ---       | --- | ---  |
| 20     | 7.6  | 5.4 | 6.4  | 5.8    | 4.9 | 5.3  | ---       | --- | ---  |
| 21     | 7.5  | 5.1 | 6.1  | 5.8    | 5.0 | 5.4  | ---       | --- | ---  |
| 22     | 7.5  | 5.1 | 6.3  | 5.3    | 3.8 | 4.7  | ---       | --- | ---  |
| 23     | 8.0  | 5.8 | 7.0  | 5.5    | 3.7 | 4.7  | ---       | --- | ---  |
| 24     | 8.3  | 6.1 | 7.7  | 5.2    | 4.2 | 4.8  | ---       | --- | ---  |
| 25     | ---  | --- | ---  | 4.9    | 3.8 | 4.3  | ---       | --- | ---  |
| 26     | 5.4  | 4.7 | 5.1  | 5.2    | 3.8 | 4.4  | ---       | --- | ---  |
| 27     | 6.8  | 4.3 | 5.7  | 5.2    | 4.1 | 4.7  | ---       | --- | ---  |
| 28     | 8.2  | 5.1 | 6.8  | 5.4    | 4.0 | 4.6  | ---       | --- | ---  |
| 29     | 8.4  | 5.7 | 7.0  | 5.8    | 4.0 | 4.8  | ---       | --- | ---  |
| 30     | 8.4  | 6.1 | 7.0  | 5.1    | 4.0 | 4.7  | ---       | --- | ---  |
| 31     | 8.2  | 5.5 | 6.8  | 4.8    | 3.8 | 4.3  | ---       | --- | ---  |
| MONTH  | ---  | --- | ---  | 8.2    | 3.7 | 5.7  | ---       | --- | ---  |
| PERIOD | 8.7  | 3.6 | 6.1  |        |     |      |           |     |      |

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT  
(National stream-quality accounting network 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.

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) above mean sea level.

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 (see table below), and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, Quabbin Reservoir, and other reservoirs, combined usable capacity, about 107 billion cubic feet (3.03 billion cubic meters).

AVERAGE DISCHARGE.--49 years, 16,280 ft<sup>3</sup>/s (461.0 m<sup>3</sup>/s).

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, 114,000 ft<sup>3</sup>/s (3,230 m<sup>3</sup>/s) Mar. 15, gage height, 7.79 ft (2.374 m); minimum daily, 1,330 ft<sup>3</sup>/s (37.7 m<sup>3</sup>/s) Sept. 5.

REVISIONS.--Revised figures of discharge for the water year 1976, superseding those published in the report for 1976 are given herein.

EXTREMES FOR 1976 WATER YEAR.--Maximum discharge, 107,000 ft<sup>3</sup>/s (3,030 m<sup>3</sup>/s) Apr. 3, gage height, 7.45 ft (2.217 m); minimum daily, 2,420 ft<sup>3</sup>/s (68.5 m<sup>3</sup>/s) Sept. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976  
MEAN VALUES

| DAY   | OCT    | NOV    | DEC    | JAN    | FEB    | MAR     | APR     | MAY     | JUN    | JUL    | AUG    | SEP    |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|
| 1     | 31100  | 17000  | 20500  | 16900  | 37000  | 43000   | 70500   | 28500   | 18900  | 15000  | 17100  | 10200  |
| 2     | 26000  | 15000  | 23500  | 15400  | 38100  | 41900   | 91800   | 31600   | 17900  | 19300  | 21500  | 11400  |
| 3     | 21900  | 13500  | 27000  | 14700  | 39800  | 37800   | 105000  | 40700   | 19400  | 15800  | 25600  | 12200  |
| 4     | 19400  | 13300  | 28500  | 13600  | 39600  | 32000   | 97400   | 40800   | 20300  | 13400  | 19800  | 10700  |
| 5     | 15100  | 15800  | 24100  | 12100  | 34900  | 30200   | 87100   | 38100   | 17400  | 9480   | 16300  | 10200  |
| 6     | 11900  | 18700  | 21300  | 13400  | 30900  | 33500   | 76400   | 33300   | 10400  | 7360   | 15700  | 8220   |
| 7     | 12600  | 18500  | 20500  | 14000  | 26900  | 40400   | 66300   | 31200   | 8530   | 7510   | 14400  | 6130   |
| 8     | 12000  | 18700  | 17600  | 15700  | 25300  | 38800   | 58500   | 29100   | 11700  | 8230   | 17300  | 7780   |
| 9     | 12700  | 16400  | 18200  | 14800  | 22800  | 33300   | 49900   | 28300   | 11800  | 8440   | 17900  | 8350   |
| 10    | 11300  | 15600  | 25500  | 12700  | 21800  | 28800   | 40200   | 27100   | 13300  | 9370   | 24600  | 8140   |
| 11    | 11700  | 20400  | 30100  | 10500  | 19900  | 26900   | 33300   | 23100   | 11000  | 7010   | 55300  | 7880   |
| 12    | 16800  | 24700  | 25300  | 10600  | 20900  | 26100   | 33100   | 22500   | 9920   | 8530   | 54600  | 10000  |
| 13    | 28300  | 32800  | 23000  | 12900  | 21400  | 24800   | 28300   | 26900   | 7690   | 15900  | 45800  | 9360   |
| 14    | 28700  | 48400  | 18600  | 15200  | 20500  | 26000   | 27300   | 33400   | 5460   | 19500  | 38400  | 8540   |
| 15    | 27100  | 51900  | 18100  | 17300  | 17400  | 24500   | 27700   | 33100   | 7520   | 14600  | 32800  | 6690   |
| 16    | 22700  | 45400  | 21200  | 17000  | 18100  | 24000   | 28000   | 33900   | 6850   | 10700  | 28700  | 8060   |
| 17    | 20100  | 37300  | 21200  | 15700  | 21000  | 23400   | 28800   | 32900   | 9470   | 8340   | 29800  | 8730   |
| 18    | 26400  | 32200  | 18700  | 13500  | 24900  | 21100   | 34100   | 28400   | 9370   | 7600   | 30900  | 7160   |
| 19    | 52000  | 28600  | 15500  | 12300  | 28000  | 20700   | 38200   | 35000   | 8240   | 6010   | 28600  | 5190   |
| 20    | 62600  | 25800  | 8970   | 13400  | 30300  | 21900   | 39900   | 52200   | 8150   | 7680   | 28100  | 7090   |
| 21    | 83100  | 25800  | 10600  | 14000  | 28600  | 26300   | 38700   | 62400   | 6190   | 7160   | 16800  | 9470   |
| 22    | 78300  | 36800  | 13500  | 13000  | 30300  | 43000   | 36600   | 55900   | 7450   | 7770   | 15500  | 7610   |
| 23    | 65600  | 39800  | 13800  | 12800  | 42400  | 59800   | 35000   | 46700   | 9800   | 4980   | 11900  | 7010   |
| 24    | 49500  | 35800  | 13700  | 12800  | 44800  | 56900   | 30500   | 41300   | 13700  | 6600   | 11500  | 8060   |
| 25    | 41100  | 31600  | 13300  | 12700  | 40700  | 48900   | 26500   | 36100   | 13600  | 7160   | 11000  | 6610   |
| 26    | 35500  | 27800  | 13900  | 10100  | 37100  | 52700   | 31700   | 32800   | 11400  | 6840   | 9680   | 2420   |
| 27    | 30700  | 26700  | 16700  | 17000  | 37100  | 55100   | 34900   | 31900   | 9150   | 8940   | 8960   | 4800   |
| 28    | 29600  | 29900  | 18100  | 36600  | 42500  | 60700   | 33800   | 28000   | 13100  | 8830   | 6930   | 15500  |
| 29    | 26500  | 31000  | 16000  | 50100  | 46200  | 78600   | 30500   | 25200   | 14400  | 10700  | 7300   | 16400  |
| 30    | 23000  | 25300  | 16000  | 50300  | ---    | 83200   | 29900   | 23000   | 9680   | 12400  | 6930   | 16100  |
| 31    | 20000  | ---    | 16800  | 42400  | ---    | 73900   | ---     | 20000   | ---    | 12400  | 7960   | ---    |
| TOTAL | 953300 | 820500 | 589770 | 553500 | 889200 | 1238200 | 1389900 | 1053400 | 341770 | 313540 | 677660 | 266000 |
| MEAN  | 30750  | 27350  | 19020  | 17850  | 30660  | 39940   | 46330   | 33980   | 11390  | 10110  | 21860  | 8867   |
| MAX   | 83100  | 51900  | 30100  | 50300  | 46200  | 83200   | 105000  | 62400   | 20300  | 19500  | 55300  | 16400  |
| MIN   | 11300  | 13300  | 8970   | 10100  | 17400  | 20700   | 26500   | 20000   | 5460   | 4980   | 6930   | 2420   |
| (†)   | 191    | 0      | 438    | 297    | 218    | 460     | 352     | 462     | 405    | 497    | 328    | 364    |

CAL YR 1975 TOTAL 7102640 MEAN 19460 MAX 83100 MIN 2540  
WTR YR 1976 TOTAL 9086740 MEAN 24830 MAX 105000 MIN 2420

† Diversion, in cubic feet per second, from Chicopee River basin to Wachusett Reservoir.

## 01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY               | OCT     | NOV    | DEC    | JAN        | FEB        | MAR      | APR     | MAY    | JUN    | JUL    | AUG    | SEP    |
|-------------------|---------|--------|--------|------------|------------|----------|---------|--------|--------|--------|--------|--------|
| 1                 | 12900   | 23400  | 13900  | 7590       | 7330       | 11800    | 90700   | 29600  | 6590   | 13400  | 3670   | 6360   |
| 2                 | 8640    | 25800  | 15900  | 5670       | 6830       | 13200    | 90000   | 25700  | 10000  | 11000  | 7320   | 5200   |
| 3                 | 9190    | 24900  | 12600  | 4620       | 6530       | 13300    | 74900   | 22600  | 11100  | 6340   | 10200  | 3720   |
| 4                 | 6840    | 23400  | 9440   | 9760       | 7790       | 14000    | 66800   | 20900  | 9340   | 3720   | 5130   | 2740   |
| 5                 | 7150    | 21900  | 6040   | 8040       | 7110       | 18200    | 67100   | 21500  | 5280   | 3290   | 4780   | 1330   |
| 6                 | 8500    | 23900  | 6330   | 7590       | 5050       | 22700    | 67800   | 21300  | 5440   | 5670   | 4270   | 2690   |
| 7                 | 8410    | 26600  | 12400  | 8140       | 5300       | 16900    | 63400   | 20500  | 7780   | 5970   | 4720   | 5060   |
| 8                 | 10600   | 24400  | 23000  | 7160       | 6720       | 15900    | 62200   | 17500  | 9980   | 6340   | 4520   | 4860   |
| 9                 | 13100   | 24900  | 28300  | 7320       | 8150       | 17800    | 51000   | 22200  | 8920   | 5840   | 5340   | 3900   |
| 10                | 21500   | 22200  | 24300  | 5480       | 8540       | 20500    | 38500   | 32600  | 10700  | 4200   | 4030   | 3020   |
| 11                | 38800   | 21600  | 21400  | 7350       | 9230       | 23900    | 34000   | 38500  | 13500  | 5650   | 5340   | 2240   |
| 12                | 32700   | 19400  | 17100  | 8810       | 9860       | 28200    | 33800   | 36700  | 13600  | 6910   | 6870   | 3100   |
| 13                | 25000   | 18700  | 16300  | 10500      | 9550       | 40400    | 33500   | 32300  | 6380   | 7410   | 4180   | 3660   |
| 14                | 22500   | 15400  | 13200  | 10000      | 8320       | 82100    | 38800   | 28200  | 10200  | 6320   | 2920   | 4680   |
| 15                | 20300   | 10600  | 12500  | 8520       | 7870       | 112000   | 45700   | 22600  | 8640   | 5090   | 3180   | 10100  |
| 16                | 17100   | 13100  | 13300  | 8330       | 7840       | 104000   | 47300   | 17100  | 8540   | 3130   | 3880   | 11800  |
| 17                | 17000   | 16100  | 11800  | 7020       | 6770       | 94000    | 43000   | 15800  | 7480   | 3260   | 6610   | 13000  |
| 18                | 17400   | 15800  | 12900  | 9130       | 6290       | 91100    | 35700   | 16800  | 7860   | 3790   | 12100  | 12500  |
| 19                | 15900   | 14400  | 13700  | 10500      | 6300       | 78900    | 32600   | 18100  | 5280   | 5040   | 14100  | 9790   |
| 20                | 15200   | 13000  | 11800  | 9830       | 5190       | 59600    | 24900   | 21300  | 6600   | 4360   | 13000  | 14600  |
| 21                | 22600   | 9400   | 11500  | 10400      | 4330       | 49400    | 29000   | 21600  | 8020   | 5010   | 11300  | 17100  |
| 22                | 37900   | 11400  | 12500  | 9820       | 4540       | 48600    | 28800   | 12700  | 7110   | 5850   | 7180   | 16600  |
| 23                | 40000   | 10900  | 15600  | 7720       | 6990       | 48300    | 29600   | 10300  | 5320   | 3480   | 7360   | 15600  |
| 24                | 34100   | 13000  | 10400  | 4230       | 8120       | 41500    | 43300   | 11600  | 7060   | 2270   | 8370   | 14600  |
| 25                | 27600   | 12300  | 9120   | 8040       | 13400      | 32600    | 73600   | 12400  | 7430   | 2190   | 5980   | 16200  |
| 26                | 27200   | 10200  | 7160   | 8330       | 14000      | 30700    | 79700   | 11500  | 7420   | 2600   | 6840   | 18900  |
| 27                | 29200   | 8210   | 7000   | 7230       | 13800      | 30700    | 65600   | 10200  | 9420   | 4480   | 5550   | 23800  |
| 28                | 27200   | 10400  | 8040   | 6730       | 12400      | 31200    | 48700   | 6220   | 12600  | 4020   | 4420   | 21700  |
| 29                | 23800   | 9650   | 8610   | 6830       | ---        | 33800    | 40000   | 4130   | 13600  | 3250   | 4930   | 20700  |
| 30                | 21900   | 11800  | 7410   | 5930       | ---        | 51900    | 35600   | 4380   | 13600  | 3060   | 6750   | 19600  |
| 31                | 20900   | ---    | 7680   | 4630       | ---        | 74300    | ---     | 6380   | ---    | 2650   | 7640   | ---    |
| TOTAL             | 641130  | 506760 | 401230 | 241250     | 224150     | 1351500  | 1515600 | 593210 | 264790 | 155590 | 202480 | 309150 |
| MEAN              | 20680   | 16890  | 12940  | 7782       | 8005       | 43600    | 50520   | 19140  | 8826   | 5019   | 6532   | 10310  |
| MAX               | 40000   | 26600  | 28300  | 10500      | 14000      | 112000   | 90700   | 38500  | 13600  | 13400  | 14100  | 23800  |
| MIN               | 6840    | 8210   | 6040   | 4230       | 4330       | 11800    | 24900   | 4130   | 5280   | 2190   | 2920   | 1330   |
| (†)               | 513     | 522    | 504    | 401        | 395        | 145      | 0       | 115    | 517    | 498    | 423    | 498    |
| CAL YR 1976 TOTAL | 8272290 |        |        | MEAN 22600 | MAX 105000 | MIN 2420 |         |        |        |        |        |        |
| WTR YR 1977 TOTAL | 6406840 |        |        | MEAN 17550 | MAX 112000 | MIN 1330 |         |        |        |        |        |        |

† Diversion, in cubic feet per second, from Chicopee River basin to Wachusett Reservoir.

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 171 micromhos Jan. 14, 1976; minimum, 46 micromhos Apr. 02, 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, 163 micromhos Feb. 15, 1977; minimum, 46 micromhos Apr. 02, 1977.

WATER TEMPERATURES: Maximum, 36.5°C Aug. 30, 1977; minimum, 0.0°C on many days during winter periods.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | AIR TEMPERATURE (DEG C) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | IMMEDIATE COLIFORM (COL./100 ML) | FECAL COLIFORM (COL./100 ML) |
|-----------|------|-------------------------------|----------------------------------|------------|-------------------------|---------------------|-------------------------------|-----------------|-------------------------|--------------------|----------------------------------|------------------------------|
| OCT 13... | 0830 | 21000                         | 106                              | 7.1        | 10.5                    | 12.0                | 20                            | 12              | 9.8                     | 91                 | 66000                            | 4900                         |
| NOV 15... | 1030 | 3070                          | 113                              | 6.9        | 9.0                     | 3.5                 | 17                            | 8               | 12.6                    | 93                 | 50000                            | 14000                        |
| DEC 07... | 1045 | 8140                          | 141                              | 6.9        | 9.5                     | 1.5                 | 12                            | 7               | 14.0                    | 99                 | 71000                            | 15000                        |
| JAN 18... | 0930 | *9130                         | 150                              | 6.9        | <-5.0                   | .0                  | 12                            | 6               | 11.9                    | 82                 | 59000                            | 26000                        |
| FEB 16... | 1000 | 6870                          | 170                              | 6.7        | <-5.0                   | .0                  | 15                            | 9               | 11.5                    | 79                 | 70000                            | 22000                        |
| MAR 09... | 1030 | 14300                         | 128                              | 6.9        | 12.0                    | 2.5                 | 8                             | 7               | 12.4                    | 91                 | 20000                            | 4700                         |
| APR 06... | 0930 | 65500                         | 70                               | 6.9        | 8.0                     | 4.0                 | 7                             | 11              | 12.2                    | 92                 | 8400                             | 3000                         |
| MAY 11... | 0940 | 33500                         | 77                               | 7.2        | 14.0                    | 8.5                 | 0                             | 6               | 10.7                    | 91                 | 16000                            | 1000                         |
| JUN 08... | 0925 | 8170                          | 142                              | 7.0        | 17.0                    | 19.0                | 0                             | 6               | 7.6                     | 82                 | 68000                            | 12000                        |
| JUL 13... | 0945 | 6060                          | 122                              | 7.0        | 24.5                    | 23.0                | 20                            | 2               | 8.9                     | 100                | 350000                           | 18000                        |
| AUG 17... | 0940 | 4830                          | 150                              | 6.8        | 24.0                    | 24.0                | 10                            | 5               | 5.4                     | 63                 | 44000                            | 6200                         |
| SEP 21... | 1000 | 14200                         | 115                              | 7.1        | 13.0                    | 17.0                | 15                            | 6               | 7.6                     | 78                 | 240000                           | 30000                        |

| DATE      | STREPTOCOCCI (COLONIES PER 100 ML) | FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM | SODIUM ADSORPTION RATIO | DISSOLVED PHOSPHATE (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) |
|-----------|------------------------------------|----------------------------------------------|-------------------------|-------------------------------|-------------------------------|---------------------------------|------------------------------|----------------|-------------------------|--------------------------------|---------------------------|------------------------|
| OCT 13... | 210                                | --                                           | 37                      | 4                             | 12                            | 1.7                             | 4.0                          | 18             | .3                      | 1.6                            | 40                        | 0                      |
| NOV 15... | --                                 | 2900                                         | 32                      | 0                             | 11                            | 1.0                             | 5.2                          | 25             | .4                      | 1.2                            | 40                        | 0                      |
| DEC 07... | --                                 | 2800                                         | 47                      | 10                            | 15                            | 2.2                             | 7.5                          | 25             | .5                      | 1.3                            | 44                        | 0                      |
| JAN 18... | --                                 | 22000                                        | 47                      | 13                            | 15                            | 2.2                             | 8.0                          | 27             | .5                      | 1.4                            | 41                        | 0                      |
| FEB 16... | --                                 | 7100                                         | 42                      | 10                            | 14                            | 1.8                             | --                           | --             | --                      | --                             | 40                        | 0                      |
| MAR 09... | --                                 | 2300                                         | 34                      | 16                            | 11                            | 1.6                             | 9.1                          | 36             | .7                      | 1.5                            | 22                        | 0                      |
| APR 06... | --                                 | 100                                          | 20                      | 5                             | 6.5                           | 1.0                             | 3.9                          | 28             | .4                      | .8                             | 19                        | 0                      |
| MAY 11... | --                                 | 300                                          | 24                      | 10                            | 7.3                           | 1.4                             | 4.4                          | 27             | .4                      | 1.1                            | 17                        | 0                      |
| JUN 08... | --                                 | 2000                                         | --                      | --                            | --                            | --                              | 8.4                          | 0              | --                      | 1.5                            | --                        | --                     |
| JUL 13... | --                                 | 2600                                         | --                      | --                            | --                            | --                              | 8.0                          | 0              | --                      | 1.4                            | --                        | --                     |
| AUG 17... | --                                 | 220                                          | 41                      | 14                            | 13                            | 2.0                             | 10                           | 34             | .7                      | 1.7                            | 33                        | 0                      |
| SEP 21... | --                                 | 1800                                         | 34                      | 10                            | 11                            | 1.7                             | 8.0                          | 32             | .6                      | 1.5                            | 30                        | 0                      |

\*: Daily mean discharge.



## 01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | ALKA-<br>LITY<br>AS<br>CACO3<br>(MG/L) | CARBON<br>DIOXIDE<br>(CO2)<br>(MG/L) | DIS-<br>SOLVED<br>SULFATE<br>(SO4)<br>(MG/L) | DIS-<br>SOLVED<br>CHLO-<br>RIDE<br>(CL)<br>(MG/L) | DIS-<br>SOLVED<br>FLUO-<br>RIDE<br>(F)<br>(MG/L) | DIS-<br>SOLVED<br>SILICA<br>(SiO2)<br>(MG/L) | DIS-<br>SOLVED<br>SOLIDS<br>(RESI-<br>DUE AT<br>180 C)<br>(MG/L) | TOTAL<br>FILT-<br>RABLE<br>RESIDUE<br>(MG/L) | DIS-<br>SOLVED<br>SOLIDS<br>(SUM OF<br>CONSTITUENTS)<br>(MG/L) | DIS-<br>SOLVED<br>SOLIDS<br>(TONS<br>PER<br>AC-FT) | DIS-<br>SOLVED<br>SOLIDS<br>(TONS<br>PER<br>DAY) | TOTAL<br>NON-<br>FILT-<br>RABLE<br>RESIDUE<br>(MG/L) |
|-----------|----------------------------------------|--------------------------------------|----------------------------------------------|---------------------------------------------------|--------------------------------------------------|----------------------------------------------|------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------|------------------------------------------------------|
| OCT 13... | 33                                     | 5.1                                  | 7.5                                          | 5.0                                               | .1                                               | 5.6                                          | 72                                                               | --                                           | 57                                                             | .10                                                | 4080                                             | --                                                   |
| NOV 15... | 33                                     | 8.1                                  | 8.8                                          | 8.7                                               | .1                                               | 6.5                                          | 72                                                               | --                                           | 63                                                             | .10                                                | 597                                              | --                                                   |
| DEC 07... | 36                                     | 8.9                                  | 11                                           | 12                                                | .1                                               | 6.5                                          | 81                                                               | --                                           | 77                                                             | .11                                                | 1780                                             | --                                                   |
| JAN 18... | 34                                     | 8.3                                  | 12                                           | 12                                                | .1                                               | 7.4                                          | 91                                                               | --                                           | 78                                                             | .12                                                | 2240                                             | --                                                   |
| FEB 16... | 33                                     | 13                                   | 15                                           | 23                                                | --                                               | 6.9                                          | 96                                                               | --                                           | --                                                             | .13                                                | 1780                                             | --                                                   |
| MAR 09... | 18                                     | 4.4                                  | 8.2                                          | 15                                                | .1                                               | 6.2                                          | 73                                                               | --                                           | 64                                                             | .10                                                | 2820                                             | --                                                   |
| APR 06... | 16                                     | 3.8                                  | 5.0                                          | 7.5                                               | .1                                               | 4.6                                          | 52                                                               | 50                                           | 39                                                             | .07                                                | 9200                                             | 3                                                    |
| MAY 11... | 14                                     | 1.7                                  | 8.8                                          | 6.7                                               | .0                                               | 5.1                                          | 54                                                               | --                                           | 43                                                             | .07                                                | 4880                                             | --                                                   |
| JUN 08... | --                                     | --                                   | --                                           | 12                                                | .0                                               | --                                           | 78                                                               | --                                           | --                                                             | .11                                                | 1720                                             | --                                                   |
| JUL 13... | --                                     | --                                   | --                                           | 11                                                | .0                                               | --                                           | 72                                                               | --                                           | --                                                             | .10                                                | 1180                                             | --                                                   |
| AUG 17... | 27                                     | 8.4                                  | 11                                           | 13                                                | .1                                               | 3.6                                          | 91                                                               | --                                           | 71                                                             | .12                                                | 1190                                             | --                                                   |
| SEP 21... | 25                                     | 3.8                                  | 11                                           | 9.5                                               | .1                                               | 4.6                                          | 74                                                               | 76                                           | 62                                                             | .10                                                | 2840                                             | 4                                                    |

| DATE      | TOTAL<br>RESI-<br>DUE<br>(MG/L) | TOTAL<br>NITRITE<br>PLUS<br>NITRATE<br>(N)<br>(MG/L) | DIS-<br>SOLVED<br>AMMONIA<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | DIS-<br>SOLVED<br>AMMONIA<br>(NH4)<br>(MG/L) | TOTAL<br>ORGANIC<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>KJEL-<br>DAHL<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | DIS-<br>SOLVED<br>KJEL-<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>NITRO-<br>GEN<br>(N)<br>(MG/L) | TOTAL<br>NITRO-<br>GEN<br>(NO3)<br>(MG/L) | TOTAL<br>PHOS-<br>PHORUS<br>(P)<br>(MG/L) | DIS-<br>SOL-<br>VED-<br>PHOS-<br>PHORUS<br>(P)<br>(MG/L) |
|-----------|---------------------------------|------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------|----------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------|
| OCT 13... | 92                              | .19                                                  | .06                                                         | .08                                          | .24                                                | .30                                                      | --                                                        | .49                                     | 2.2                                       | .10                                       | --                                                       |
| NOV 15... | 84                              | .25                                                  | .12                                                         | .15                                          | .21                                                | .33                                                      | --                                                        | .62                                     | 2.7                                       | .08                                       | --                                                       |
| DEC 07... | 85                              | .36                                                  | .21                                                         | .27                                          | .34                                                | .55                                                      | --                                                        | .91                                     | 4.0                                       | .10                                       | --                                                       |
| JAN 18... | 91                              | .45                                                  | .30                                                         | .39                                          | .51                                                | .81                                                      | --                                                        | 1.3                                     | 5.6                                       | .13                                       | --                                                       |
| FEB 16... | 119                             | .59                                                  | .35                                                         | .45                                          | .85                                                | 1.2                                                      | --                                                        | 1.8                                     | 7.9                                       | .14                                       | --                                                       |
| MAR 09... | 91                              | .50                                                  | .19                                                         | .24                                          | .48                                                | .67                                                      | --                                                        | 1.2                                     | 5.2                                       | .09                                       | --                                                       |
| APR 06... | 86                              | .31                                                  | .05                                                         | .06                                          | .35                                                | .40                                                      | --                                                        | .71                                     | 3.1                                       | .04                                       | --                                                       |
| MAY 11... | 70                              | .23                                                  | .02                                                         | .03                                          | .23                                                | .25                                                      | --                                                        | .48                                     | 2.1                                       | .05                                       | --                                                       |
| JUN 08... | 86                              | .30                                                  | .18                                                         | .23                                          | .41                                                | .59                                                      | --                                                        | .89                                     | 3.9                                       | .09                                       | --                                                       |
| JUL 13... | 92                              | .37                                                  | .25                                                         | .32                                          | .31                                                | .56                                                      | --                                                        | .93                                     | 4.1                                       | .11                                       | --                                                       |
| AUG 17... | 100                             | .26                                                  | .24                                                         | .31                                          | .86                                                | 1.1                                                      | --                                                        | 1.4                                     | 6.0                                       | .16                                       | --                                                       |
| SEP 21... | 86                              | .30                                                  | .08                                                         | .10                                          | .53                                                | .61                                                      | .39                                                       | .91                                     | 4.0                                       | .11                                       | .04                                                      |

## WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible][illegible]

## CONNECTICUT RIVER BASIN

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01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE      | TOTAL<br>MERCURY<br>(HG)<br>(UG/L) | SUS-<br>PENDE<br>MERCURY<br>(HG)<br>(UG/L) | DIS-<br>SOLVED<br>MERCURY<br>(HG)<br>(UG/L) | TOTAL<br>SELE-<br>NIUM<br>(SE)<br>(UG/L) | SUS-<br>PENDE<br>SELE-<br>NIUM<br>(SE)<br>(UG/L) | DIS-<br>SOLVED<br>SELE-<br>NIUM<br>(SE)<br>(UG/L) | TOTAL<br>ZINC<br>(Zn)<br>(UG/L) | SUS-<br>PENDE<br>ZINC<br>(Zn)<br>(UG/L) | DIS-<br>SOLVED<br>ZINC<br>(Zn)<br>(UG/L) |
|-----------|------------------------------------|--------------------------------------------|---------------------------------------------|------------------------------------------|--------------------------------------------------|---------------------------------------------------|---------------------------------|-----------------------------------------|------------------------------------------|
| OCT 13... | --                                 | --                                         | --                                          | --                                       | --                                               | --                                                | --                              | --                                      | 10                                       |
| NOV 15... | <.5                                | .0                                         | <.5                                         | 0                                        | 0                                                | 0                                                 | 20                              | 10                                      | 10                                       |
| DEC 07... | --                                 | --                                         | --                                          | --                                       | --                                               | --                                                | --                              | --                                      | 20                                       |
| JAN 18... | --                                 | --                                         | --                                          | --                                       | --                                               | --                                                | --                              | --                                      | 20                                       |
| FEB 16... | <.5                                | .0                                         | <.5                                         | 0                                        | 0                                                | 0                                                 | 30                              | 10                                      | 20                                       |
| MAR 09... | --                                 | --                                         | --                                          | --                                       | --                                               | --                                                | --                              | --                                      | 20                                       |
| APR 06... | --                                 | --                                         | --                                          | --                                       | --                                               | --                                                | --                              | --                                      | 10                                       |
| MAY 11... | .0                                 | .0                                         | .0                                          | 0                                        | 0                                                | 0                                                 | 20                              | 20                                      | 0                                        |
| JUN 08... | --                                 | --                                         | --                                          | --                                       | --                                               | --                                                | --                              | --                                      | 40                                       |
| JUL 13... | --                                 | --                                         | --                                          | --                                       | --                                               | --                                                | --                              | --                                      | 10                                       |
| AUG 17... | .0                                 | .0                                         | .0                                          | 0                                        | 0                                                | 0                                                 | 10                              | 0                                       | 10                                       |
| SEP 21... | --                                 | --                                         | --                                          | --                                       | --                                               | --                                                | --                              | --                                      | 10                                       |

| DATE      | DIS-<br>SOLVED<br>GROSS<br>ALPHA<br>AS<br>U-NAT.<br>(UG/L) | SUS-<br>PENDE<br>GROSS<br>ALPHA<br>AS<br>U-NAT.<br>(UG/L) | DIS-<br>SOLVED<br>GROSS<br>BETA<br>AS<br>CS-137<br>(PC/L) | SUS-<br>PENDE<br>GROSS<br>BETA<br>AS<br>CS-137<br>(PC/L) | DIS-<br>SOLVED<br>GROSS<br>BETA<br>AS<br>SR90<br>/Y90<br>(PC/L) | SUS-<br>PENDE<br>GROSS<br>BETA<br>AS<br>SR90<br>/Y90<br>(PC/L) | DIS-<br>SOLVED<br>RA-226<br>(RADON<br>METHOD)<br>(PC/L) | DIS-<br>SOLVED<br>URANIUM<br>(U)<br>(UG/L) |
|-----------|------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------|
| OCT 13... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| NOV 15... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| DEC 07... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| JAN 18... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| FEB 16... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| MAR 09... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| APR 06... | .9                                                         | <.4                                                       | 2.3                                                       | <.4                                                      | 1.8                                                             | <.4                                                            | .04                                                     | .04                                        |
| MAY 11... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| JUN 08... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| JUL 13... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| AUG 17... | --                                                         | --                                                        | --                                                        | --                                                       | --                                                              | --                                                             | --                                                      | --                                         |
| SEP 21... | <.8                                                        | <.4                                                       | 4.0                                                       | .9                                                       | 3.1                                                             | .8                                                             | .05                                                     | <.01                                       |

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE  | TOTAL<br>ORGANIC<br>CARBON<br>(C)<br>(MG/L) | METHY-<br>LENE<br>BLUE<br>ACTIVE<br>SUR-<br>STANCE<br>(MG/L) | TOTAL<br>PHYTO-<br>PLANK-<br>TON<br>(CELLS<br>PER<br>ML) | POTEN-<br>TIAL<br>ALGAL<br>GROWTH<br>BOTTLE<br>TEST<br>(MG/L) | CHLORO-<br>PHYLL A<br>(UG/L) | CHLORO-<br>PHYLL B<br>(UG/L) | CHLOR-A<br>PHYTO-<br>PLANK-<br>TON<br>CHROMO<br>SPECT.<br>(UG/L) | CHLOR-B<br>PHYTO-<br>PLANK-<br>TON<br>CHROMO<br>SPECT.<br>(UG/L) | CHLOR-A<br>PHYTO-<br>PLANK-<br>TON<br>CHROMO<br>FLUOROM<br>(UG/L) | CHLOR-B<br>PHYTO-<br>PLANK-<br>TON<br>CHROMO<br>FLUOROM<br>(UG/L) |
|-------|---------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------|------------------------------|------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|
| OCT   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 13... | 6.6                                         | --                                                           | 1600                                                     | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| 15... | --                                          | --                                                           | --                                                       | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| NOV   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 15... | 6.6                                         | .10                                                          | 3600                                                     | --                                                            | --                           | --                           | 1.82                                                             | .390                                                             | --                                                                | --                                                                |
| DEC   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 07... | 6.5                                         | --                                                           | 1300                                                     | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| 09... | --                                          | --                                                           | --                                                       | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| JAN   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 18... | 6.8                                         | --                                                           | 1100                                                     | --                                                            | --                           | --                           | 2.85                                                             | 2.02                                                             | --                                                                | --                                                                |
| FEB   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 16... | 4.6                                         | .10                                                          | 100                                                      | --                                                            | .233                         | .000                         | --                                                               | --                                                               | --                                                                | --                                                                |
| MAR   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 09... | 3.8                                         | --                                                           | --                                                       | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| APR   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 06... | 4.3                                         | --                                                           | --                                                       | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| MAY   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 11... | 4.9                                         | --                                                           | 1700                                                     | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| 12... | --                                          | --                                                           | --                                                       | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| JUN   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 08... | 5.0                                         | --                                                           | 26000                                                    | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| JUL   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 13... | 6.9                                         | --                                                           | 16000                                                    | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| AUG   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 04... | --                                          | --                                                           | --                                                       | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |
| 17... | 7.1                                         | .10                                                          | 14000                                                    | 33                                                            | --                           | --                           | --                                                               | --                                                               | 1.04                                                              | .071                                                              |
| SEP   |                                             |                                                              |                                                          |                                                               |                              |                              |                                                                  |                                                                  |                                                                   |                                                                   |
| 21... | 8.7                                         | --                                                           | 4100                                                     | --                                                            | --                           | --                           | --                                                               | --                                                               | --                                                                | --                                                                |

| DATE  | LENGTH<br>OF<br>EXPO-<br>SURF<br>(DAYS) | BIOMASS<br>CHLORO-<br>PHYLL<br>RATIO<br>PERI-<br>PHYTON<br>(UNITS) | CHLOR-A<br>PERI-<br>PHYTON<br>CHROMO-<br>SPECT-<br>METRIC<br>(MG/M2) | CHLOR-B<br>PERI-<br>PHYTON<br>CHROMO-<br>SPECT-<br>METRIC<br>(MG/M2) | PERI-<br>PHYTON<br>BIOMASS<br>ASH<br>WEIGHT<br>G/SQ M | PERI-<br>PHYTON<br>BIOMASS<br>TOTAL<br>DRY<br>WEIGHT<br>G/SQ M | SUS-<br>PENDE<br>SEDIM-<br>MENT<br>(MG/L) | SUS-<br>PENDE<br>SEDIM-<br>MENT<br>DIS-<br>CHARGE<br>(T/DAY) | SUS.<br>SED.<br>SIEVE<br>DIAM.<br>% FINER<br>THAN<br>.062 MM |
|-------|-----------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| OCT   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 13... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | --                                        | --                                                           | --                                                           |
| 15... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 21                                        | 1122                                                         | 78                                                           |
| NOV   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 15... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 12                                        | 99                                                           | 92                                                           |
| DEC   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 07... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | --                                        | --                                                           | --                                                           |
| 09... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 9                                         | 750                                                          | 60                                                           |
| JAN   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 18... | 28                                      | 672                                                                | .458                                                                 | .325                                                                 | .154                                                  | .462                                                           | --                                        | --                                                           | --                                                           |
| FEB   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 16... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | --                                        | --                                                           | --                                                           |
| MAR   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 09... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 15                                        | 579                                                          | 73                                                           |
| APR   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 06... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 199                                       | 35200                                                        | 22                                                           |
| MAY   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 11... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | --                                        | --                                                           | --                                                           |
| 12... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 32                                        | 3163                                                         | 79                                                           |
| JUN   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 08... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 12                                        | 265                                                          | 89                                                           |
| JUL   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 13... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | --                                        | --                                                           | --                                                           |
| AUG   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 04... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 28                                        | 367                                                          | 86                                                           |
| 17... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | --                                        | --                                                           | --                                                           |
| SEP   |                                         |                                                                    |                                                                      |                                                                      |                                                       |                                                                |                                           |                                                              |                                                              |
| 21... | --                                      | --                                                                 | --                                                                   | --                                                                   | --                                                    | --                                                             | 18                                        | 690                                                          | 91                                                           |

## 01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1976 TO FEBRUARY 1977

## PHYTOPLANKTON

| DATE<br>TIME        | OCT 13,76<br>0730 | NOV 15,76<br>1030 | DEC 7,76<br>1045 | JAN 18,77<br>0930 | FEB 16,77<br>1000 |
|---------------------|-------------------|-------------------|------------------|-------------------|-------------------|
| TOTAL CELLS/ML      | 1600              | 3600              | 1300             | 1100              | 100               |
| DIVERSITY: DIVISION | 1.4               | 0.2               | 0.4              | 0.7               | 0.5               |
| ..CLASS             | 1.4               | 0.2               | 0.4              | 0.7               | 0.5               |
| ...ORDER            | 1.9               | 0.3               | 0.4              | 1.2               | 0.5               |
| ...FAMILY           | 2.7               | 0.3               | 0.5              | 2.2               | 2.8               |
| ....GENUS           | 2.8               | 1.3               | 1.0              | 2.6               | 3.3               |

| 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         |              |              |              |              |              |              |              |              |              |              |
| ...CHARACIACEAE           |              |              |              |              |              |              |              |              |              |              |
| ....SCHROEDERIA           | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...COELASTRACEAE          |              |              |              |              |              |              |              |              |              |              |
| ....COELASTRUM            | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...HYDRODICTYACEAE        |              |              |              |              |              |              |              |              |              |              |
| ...PEDIASTRUM             | 330#         | 21           | --           | -            | --           | -            | --           | -            | --           | -            |
| ...MICRACTINIACEAE        |              |              |              |              |              |              |              |              |              |              |
| ....GOLENKINIA            | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...MICRACTINIUM           | --           | -            | --           | -            | --           | -            | --           | -            | 7            | 7            |
| ...OOCYSTACEAE            |              |              |              |              |              |              |              |              |              |              |
| ...ANKISTRODESMUS         | --           | -            | *            | 0            | *            | 0            | --           | -            | 4            | 3            |
| ...CHODATELLA             | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...DICTYOSPHAERIUM        | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...KIRCHNERIELLA          | --           | -            | --           | -            | --           | -            | *            | 0            | --           | -            |
| ...TETRAEDRON             | 42           | 3            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...SCENEDESMACEAE         |              |              |              |              |              |              |              |              |              |              |
| ....ACTINASTRUM           | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...CRUCIGENIA             | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...SCENEDESMUS            | --           | -            | --           | -            | --           | -            | 40           | 4            | --           | -            |
| ..TETRASPORALES           |              |              |              |              |              |              |              |              |              |              |
| ...COCCOMYXACEAE          |              |              |              |              |              |              |              |              |              |              |
| ...ELAKATOTHRIX           | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ..VOLVOCALLES             |              |              |              |              |              |              |              |              |              |              |
| ...CHLAMYDOMONADACEAE     |              |              |              |              |              |              |              |              |              |              |
| ....CHLAMYDOMONAS         | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...CHLOROGONIUM           | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ...VOLVOCACEAE            |              |              |              |              |              |              |              |              |              |              |
| ...PANDORINA              | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ..ZYGNEMATALES            |              |              |              |              |              |              |              |              |              |              |
| ...DESMIDIACEAE           |              |              |              |              |              |              |              |              |              |              |
| ....STAUSTRUM             | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |

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

QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, OCTOBER 1976 TO FEBRUARY 1977--Continued

## PHYTOPLANKTON

| DATE<br>TIME                  | OCT 13,76<br>0730 |              | NOV 15,76<br>1030 |              | DEC 7,76<br>1045 |              | JAN 18,77<br>0930 |              | FEB 16,77<br>1000 |              |
|-------------------------------|-------------------|--------------|-------------------|--------------|------------------|--------------|-------------------|--------------|-------------------|--------------|
| 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 |
| CHRYSOPHYTA                   |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..BACILLARIOPHYCEAE           |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CFNTRALES                   |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CHAETOCERACEAE              |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..ATTHEYA                     | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| ..COSCINODISCACEAE            |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CYCLOTELLA                  | 42                | 3            | --                | -            | 17               | 1            | 130               | 12           | --                | -            |
| ..MELOSIRA                    | 210               | 13           | --                | -            | --               | -            | 12                | 1            | --                | -            |
| ..RHIZOSOLENACEAE             |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..RHIZOSOLENIA                | --                | -            | *                 | 0            | --               | -            | --                | -            | --                | -            |
| ..PENNALES                    |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..ACHNANTHACEAE               |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..ACHNANTHES                  | --                | -            | *                 | 0            | *                | 0            | --                | -            | 7                 | 7            |
| ..COCONEIS                    | --                | -            | --                | -            | --               | -            | *                 | 0            | --                | -            |
| ..CYMBELLACEAE                |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..AMPHORA                     | --                | -            | --                | -            | --               | -            | *                 | 0            | --                | -            |
| ..CYMBELLA                    | 170               | 10           | *                 | 0            | --               | -            | *                 | 0            | --                | -            |
| ..EPITHEMIA                   | --                | -            | --                | -            | --               | -            | *                 | 0            | --                | -            |
| ..RHOPALODIA                  | --                | -            | --                | -            | --               | -            | *                 | 0            | --                | -            |
| ..DIATOMACEAE                 |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..DIATOMA                     | --                | -            | --                | -            | *                | 0            | --                | -            | 18#               | 17           |
| ..FRAGILARIACEAE              |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..ASTERIONELLA                | --                | -            | *                 | 0            | 14               | 1            | --                | -            | 14                | 14           |
| ..FRAGILARIA                  | --                | -            | --                | -            | *                | 0            | 530#              | 50           | 7                 | 7            |
| ..HANNAEA                     | --                | -            | *                 | 0            | *                | 0            | --                | -            | 14                | 14           |
| ..SYNEDRA                     | 120               | 8            | *                 | 0            | --               | -            | 52                | 5            | --                | -            |
| ..GOMPHONEMATACEAE            |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..GOMPHONEMA                  | 42                | 3            | 22                | 1            | *                | 0            | 48                | 4            | 7                 | 7            |
| ..MERIDIONACEAE               |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..MERIDION                    | --                | -            | --                | -            | --               | -            | --                | -            | 14                | 14           |
| ..NAVICULACEAE                |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..NAVICULA                    | 370#              | 23           | *                 | 0            | 21               | 2            | 80                | 7            | 7                 | 7            |
| ..NEIDIUM                     | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| ..PINNULARIA                  | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| ..STAURONEIS                  | --                | -            | *                 | 0            | --               | -            | --                | -            | --                | -            |
| ..NITZSCHACEAE                |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..NITZSCHIA                   | --                | -            | *                 | 0            | 7                | 1            | 56                | 5            | 4                 | 3            |
| ..SURIRELLACEAE               |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..SURIRELLA                   | --                | -            | --                | -            | *                | 0            | *                 | 0            | --                | -            |
| ..TABELLARIACEAE              |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..TABELLARIA                  | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| CHRYSOPHYCEAE                 |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CHRYSOMONADALES             |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..MALLOMONADACEAE             |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..MALLOMONAS                  | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| ..OCHROMONADACEAE             |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..DINOBYRON                   | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CYANOPHYCEAE                |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CHROCOCCALES                |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CHROCOCCACEAE               |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..ANACYSTIS                   | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| ..HORMOGONALES                |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..NOSTOCACEAE                 |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..ANABAENA                    | 290#              | 18           | --                | -            | --               | -            | 92                | 9            | --                | -            |
| ..OSCILLATORIACEAE            |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..LYNGBYA                     | --                | -            | 1400#             | 38           | 120              | 9            | --                | -            | --                | -            |
| ..OSCILLATORIA                | --                | -            | 2100#             | 58           | 1100#            | 84           | --                | -            | --                | -            |
| ..SCYTOMEMATACEAE             |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..PLECTONEMA                  | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| EUGLENOPHYTA (EUGLENIDS)      |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CRYPTOPHYCEAE               |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CRYPTOMONIDALES             |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CRYPTOCHRYSIDACEAE          |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CHROOMONAS                  | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| ..CRYPTOMONODACEAE            |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..CRYPTOMONAS                 | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| ..EUGLENOPHYCEAE              |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..EUGLENALES                  |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..EUGLENACEAE                 |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..TRACHELOMONAS               | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |
| PYRRHOPHYTA (FIRE ALGAE)      |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..DINOPHYCEAE                 |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..GYMNODINIALES               |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..GYMNODINIACEAE              |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..GYMNODINIUM                 | --                | -            | *                 | 0            | --               | -            | --                | -            | --                | -            |
| ..PERIDINIALES                |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..PERIDINIACEAE               |                   |              |                   |              |                  |              |                   |              |                   |              |
| ..PERIDINIUM                  | --                | -            | --                | -            | --               | -            | --                | -            | --                | -            |

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

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



## 01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, MAY TO SEPTEMBER 1977

## PHYTOPLANKTON

| DATE<br>TIME        | MAY 11,77<br>0940 | JUN 8,77<br>9225 | JUL 13,77<br>0945 | AUG 17,77<br>0940 | SEP 21,77<br>1000 |
|---------------------|-------------------|------------------|-------------------|-------------------|-------------------|
| TOTAL CELLS/ML      | 1700              | 26000            | 16000             | 14000             | 4100              |
| DIVERSITY: DIVISION | 1.2               | 1.4              | 1.6               | 1.1               | 1.6               |
| ..CLASS             | 1.2               | 1.6              | 1.6               | 1.1               | 1.7               |
| ...ORDER            | 1.8               | 2.1              | 2.3               | 1.5               | 2.2               |
| ...FAMILY           | 3.1               | 2.7              | 3.0               | 1.9               | 2.7               |
| ....GENUS           | 3.3               | 3.1              | 3.4               | 2.6               | 3.2               |

| 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         |              |              |              |              |              |              |              |              |              |              |
| ...CHARACIACEAE           |              |              |              |              |              |              |              |              |              |              |
| ....SCHROEDERIA           | --           | -            | --           | -            | 89           | 1            | --           | -            | --           | -            |
| ....COELASTRACEAE         |              |              |              |              |              |              |              |              |              |              |
| ....COELASTRUM            | --           | -            | 870          | 3            | --           | -            | --           | -            | --           | -            |
| ....HYDRODICTYACEAE       |              |              |              |              |              |              |              |              |              |              |
| ....PEDIASTRUM            | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ....MICRACTINIACEAE       |              |              |              |              |              |              |              |              |              |              |
| ....GOLENKINIA            | --           | -            | --           | -            | --           | -            | 120          | 1            | --           | -            |
| ....MICRACTINIUM          | 71           | 4            | --           | -            | 1000         | 7            | 830          | 6            | --           | -            |
| ....OOCYSTACEAE           |              |              |              |              |              |              |              |              |              |              |
| ....ANKISTRODESMUS        | 24           | 1            | *            | 0            | 360          | 2            | 120          | 1            | --           | -            |
| ....CHODATELLA            | --           | -            | *            | 0            | --           | -            | --           | -            | --           | -            |
| ....DICTYOSPHAERIUM       | --           | -            | 1500         | 6            | 2300         | 15           | 1200         | 9            | --           | -            |
| ....KIRCHNERIELLA         | --           | -            | --           | -            | 89           | 1            | --           | -            | 260          | 6            |
| ....TETRAEDRON            | --           | -            | --           | -            | --           | -            | --           | -            | --           | -            |
| ....SCENEDESMACEAE        |              |              |              |              |              |              |              |              |              |              |
| ....ACTINASTRUM           | --           | -            | --           | -            | 360          | 2            | --           | -            | --           | -            |
| ....CRUCIGENIA            | --           | -            | --           | -            | 710          | 5            | --           | -            | --           | -            |
| ....SCENEDESMUS           | --           | -            | 330          | 1            | 1600         | 10           | 1700         | 12           | 190          | 5            |
| ..TETRASPORALES           |              |              |              |              |              |              |              |              |              |              |
| ...COCCOMYXACEAE          |              |              |              |              |              |              |              |              |              |              |
| ...ELAKATOTHRIX           | 24           | 1            | --           | -            | --           | -            | --           | -            | --           | -            |
| ..VOLVOCALES              |              |              |              |              |              |              |              |              |              |              |
| ...CHLAMYDOMONADACEAE     |              |              |              |              |              |              |              |              |              |              |
| ....CHLAMYDOMONAS         | 12           | 1            | --           | -            | 180          | 1            | *            | 0            | --           | -            |
| ....CHLOROGONIUM          | --           | -            | --           | -            | *            | 0            | --           | -            | --           | -            |
| ...VOLVOCAEAE             |              |              |              |              |              |              |              |              |              |              |
| ....PANDORINA             | --           | -            | --           | -            | 710          | 5            | --           | -            | --           | -            |
| ..ZYGNEMATALES            |              |              |              |              |              |              |              |              |              |              |
| ...DESMIDIACEAE           |              |              |              |              |              |              |              |              |              |              |
| ....STAURASTRUM           | --           | -            | --           | -            | --           | -            | *            | 0            | --           | -            |

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

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

## 01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

## QUALITATIVE AND QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, MAY TO SEPTEMBER 1977--Continued

## PHYTOPLANKTON

| DATE<br>TIME                  | MAY 11,77<br>0940 |              | JUN 8,77<br>9225 |              | JUL 13,77<br>0945 |              | AUG 17,77<br>0940 |              | SEP 21,77<br>1000 |              |
|-------------------------------|-------------------|--------------|------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|
| 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 |
| CHRYSTOPHYTA                  |                   |              |                  |              |                   |              |                   |              |                   |              |
| ..BACILLARIOPHYCEAE           |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...CENTRALES                  |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...CHAETOCERACEAE             |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....ATHEYA                    | --                | -            | 160              | 1            | --                | -            | --                | -            | --                | -            |
| ...COSCINODISCACEAE           |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....CYCLOTELLA                | 240               | 14           | 4000#            | 16           | 2500#             | 16           | 3600#             | 26           | 1100#             | 27           |
| ....MELOSIRA                  | 12                | 1            | 4800#            | 19           | 220               | 1            | 5000#             | 36           | 640#              | 16           |
| ...RHIZOSOLENIA               |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....RHIZOSOLENIA              | --                | -            | 600              | 2            | --                | -            | --                | -            | --                | -            |
| ..PENNALES                    |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...ACHNANTHACEAE              |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....ACHNANTHES                | 350#              | 21           | *                | 0            | --                | -            | *                 | 0            | 320               | 8            |
| ...COCCONEIS                  | --                | -            | --               | -            | --                | -            | *                 | 0            | 130               | 3            |
| ...CYMBELLACEAE               |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....AMPHORA                   | --                | -            | --               | -            | --                | -            | --                | -            | 130               | 3            |
| ....CYMBELLA                  | 59                | 4            | *                | 0            | --                | -            | --                | -            | --                | -            |
| ....EPITHEMIA                 | --                | -            | --               | -            | --                | -            | --                | -            | --                | -            |
| ....RHOPALODIA                | --                | -            | --               | -            | --                | -            | --                | -            | --                | -            |
| ...DIATOMACEAE                |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....DIATOMA                   | --                | -            | --               | -            | --                | -            | --                | -            | --                | -            |
| ...FRAGILARIACEAE             |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....ASTERIONELLA              | 71                | 4            | 1300             | 5            | --                | -            | --                | -            | --                | -            |
| ...FRAGILARIA                 | 36                | 2            | --               | -            | --                | -            | --                | -            | --                | -            |
| ....HANNAEA                   | 12                | 1            | --               | -            | --                | -            | --                | -            | --                | -            |
| ....SYNEDRA                   | 71                | 4            | *                | 0            | --                | -            | --                | -            | --                | -            |
| ...GOMPHONEMACEAE             |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....GOMPHONEMA                | 36                | 2            | *                | 0            | --                | -            | --                | -            | --                | -            |
| ...MERIDIONACEAE              |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....MERIDION                  | --                | -            | --               | -            | --                | -            | --                | -            | --                | -            |
| ...NAVICULACEAE               |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....NAVICULA                  | 140               | 9            | *                | 0            | --                | -            | --                | -            | --                | -            |
| ...NEIDIUM                    | --                | -            | --               | -            | --                | -            | --                | -            | 64                | 2            |
| ...PINNULARIA                 | --                | -            | --               | -            | --                | -            | --                | -            | 130               | 3            |
| ...STAURONEIS                 | --                | -            | --               | -            | --                | -            | --                | -            | --                | -            |
| ...NITZSCHIA                  |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....NITZSCHIA                 | 83                | 5            | 1000             | 4            | 580               | 4            | 710               | 5            | 64                | 2            |
| ...SUPIRELLACEAE              |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....SUPIRELLA                 | 12                | 1            | --               | -            | --                | -            | --                | -            | --                | -            |
| ...TABELLARIACEAE             |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....TABELLARIA                | --                | -            | 810              | 3            | --                | -            | --                | -            | --                | -            |
| CHRYSTOPHYCEAE                |                   |              |                  |              |                   |              |                   |              |                   |              |
| ..CHRYSSOMONADALES            |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...MALLONADACEAE              |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....MALLONAS                  | --                | -            | 160              | 1            | --                | -            | --                | -            | --                | -            |
| ...OCHROMONADACEAE            |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....DINOBRYON                 | --                | -            | 1300             | 5            | *                 | 0            | *                 | 0            | 64                | 2            |
| CYANOPHYTA (BLUE-GREEN ALGAE) |                   |              |                  |              |                   |              |                   |              |                   |              |
| ..CYANOPHYCEAE                |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...CHROCOCCALES               |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....CHROCOCCACEAE             |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....ANACYSTIS                 | --                | -            | 220              | 1            | 980               | 6            | 360               | 3            | 580               | 14           |
| ...HORMOGONALES               |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...NOSTOCACEAE                |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....ANABAENA                  | --                | -            | --               | -            | --                | -            | --                | -            | --                | -            |
| ...OSCILLATORIACEAE           |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....LYNGBYA                   | --                | -            | --               | -            | --                | -            | --                | -            | --                | -            |
| ....OSCILLATORIA              | 400#              | 24           | 8100#            | 31           | --                | -            | --                | -            | --                | -            |
| ...SCYTONEMACEAE              |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....PLECTONEMA                | --                | -            | --               | -            | 3500#             | 22           | --                | -            | --                | -            |
| EUGLENOPHYTA (EUGLENOIDS)     |                   |              |                  |              |                   |              |                   |              |                   |              |
| ..CRYPTOPHYCEAE               |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...CRYPTOMONIDALES            |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....CRYPTOCHRYSIDACEAE        |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....CHROOMONAS                | --                | -            | --               | -            | 180               | 1            | --                | -            | --                | -            |
| ...CRYPTOMONODACEAE           |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....CRYPTOMONAS               | 12                | 1            | *                | 0            | --                | -            | --                | -            | --                | -            |
| ..EUGLENOPHYCEAE              |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...EUGLENALES                 |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....EUGLENACEAE               |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....TRACHELOMONAS             | --                | -            | --               | -            | 89                | 1            | --                | -            | 390               | 9            |
| PYRRHOPHYTA (FIRE ALGAE)      |                   |              |                  |              |                   |              |                   |              |                   |              |
| ..DINOPHYCEAE                 |                   |              |                  |              |                   |              |                   |              |                   |              |
| ...GYMNODINIALES              |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....GYMNODINIACEAE            |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....GYMNODINIUM               | --                | -            | --               | -            | --                | -            | *                 | 0            | --                | -            |
| ...PERIDINIALES               |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....PERIDINIACEAE             |                   |              |                  |              |                   |              |                   |              |                   |              |
| ....PERIDINIUM                | --                | -            | --               | -            | --                | -            | --                | -            | 64                | 2            |

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

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

## 01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY     | MAX | MIN | MEAN     | MAX | MIN | MEAN     | MAX | MIN | MEAN    | MAX | MIN | MEAN |
|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|
| OCTOBER |     |     | NOVEMBER |     |     | DECEMBER |     |     | JANUARY |     |     |      |
| 1       | 135 | 131 | 133      | 121 | 98  | 112      | 135 | 130 | 130     | 147 | 146 | 147  |
| 2       | 139 | 136 | 137      | 98  | 95  | 96       | 130 | 127 | 128     | 150 | 147 | 149  |
| 3       | 141 | 136 | 138      | 102 | 98  | 100      | 132 | 127 | 130     | 153 | 151 | 152  |
| 4       | 140 | 136 | 138      | 104 | 102 | 103      | 139 | 132 | 137     | 153 | 147 | 150  |
| 5       | 141 | 139 | 140      | 108 | 104 | 106      | 146 | 138 | 142     | 150 | 147 | 148  |
| 6       | 144 | 140 | 142      | 109 | 105 | 107      | 151 | 146 | 149     | 153 | 148 | 151  |
| 7       | 140 | 140 | 140      | 106 | 101 | 103      | 152 | 144 | 149     | 153 | 150 | 152  |
| 8       | 140 | 136 | 138      | 105 | 102 | 104      | 157 | 115 | 140     | 150 | 149 | 149  |
| 9       | 136 | 127 | 132      | 109 | 105 | 107      | 115 | 110 | 113     | 149 | 146 | 148  |
| 10      | 140 | 127 | 137      | 106 | 105 | 106      | 124 | 110 | 119     | 148 | 145 | 147  |
| 11      | 128 | 113 | 124      | 108 | 105 | 107      | 119 | 114 | 117     | 148 | 142 | 145  |
| 12      | 122 | 113 | 117      | 112 | 107 | 110      | 121 | 117 | 119     | 148 | 141 | 144  |
| 13      | 124 | 112 | 118      | 112 | 110 | 111      | 122 | 117 | 119     | 143 | 134 | 139  |
| 14      | 115 | 112 | 114      | 114 | 112 | 113      | 124 | 118 | 122     | 140 | 133 | 138  |
| 15      | 119 | 114 | 116      | 123 | 115 | 119      | 124 | 121 | 123     | 138 | 132 | 137  |
| 16      | 121 | 119 | 120      | 123 | 118 | 122      | 129 | 125 | 128     | 139 | 134 | 138  |
| 17      | 121 | 119 | 120      | 119 | 115 | 117      | 147 | 125 | 129     | 139 | 89  | 132  |
| 18      | 122 | 119 | 120      | 121 | 119 | 120      | 147 | 128 | 137     | 137 | 87  | 111  |
| 19      | 122 | 117 | 119      | 123 | 119 | 121      | 130 | 118 | 122     | 133 | 90  | 127  |
| 20      | 125 | 121 | 124      | 124 | 123 | 123      | 128 | 124 | 126     | 132 | 126 | 130  |
| 21      | 133 | 121 | 127      | 128 | 123 | 126      | 141 | 129 | 138     | 135 | 130 | 133  |
| 22      | 122 | 112 | 114      | 131 | 125 | 128      | 141 | 133 | 137     | 132 | 124 | 129  |
| 23      | 114 | 110 | 113      | 128 | 124 | 126      | 132 | 123 | 127     | 129 | 80  | 126  |
| 24      | 114 | 110 | 112      | 127 | 124 | 125      | 138 | 127 | 134     | 131 | 126 | 128  |
| 25      | 114 | 108 | 110      | 128 | 124 | 126      | 142 | 137 | 140     | 130 | 124 | 128  |
| 26      | 113 | 109 | 111      | 131 | 129 | 130      | 141 | 138 | 140     | 135 | 124 | 129  |
| 27      | 110 | 108 | 109      | 135 | 131 | 133      | 151 | 141 | 146     | 133 | 126 | 129  |
| 28      | 110 | 108 | 109      | 136 | 134 | 135      | 148 | 144 | 146     | 128 | 80  | 118  |
| 29      | 112 | 109 | 110      | 135 | 133 | 134      | 148 | 144 | 146     | 126 | 75  | 109  |
| 30      | 114 | 113 | 113      | 138 | 135 | 136      | 150 | 146 | 148     | 131 | 73  | 106  |
| 31      | 118 | 114 | 116      | --- | --- | ---      | 148 | 146 | 147     | 134 | 77  | 111  |
| MONTH   | 144 | 108 | 123      | 138 | 95  | 117      | 157 | 110 | 133     | 153 | 73  | 135  |

| DAY      | MAX | MIN | MEAN | MAX   | MIN | MEAN | MAX   | MIN | MEAN |
|----------|-----|-----|------|-------|-----|------|-------|-----|------|
| FEBRUARY |     |     |      | MARCH |     |      | APRIL |     |      |
| 1        | 138 | 119 | 131  | 143   | 136 | 140  | 56    | 47  | 52   |
| 2        | 124 | 77  | 119  | 146   | 145 | 146  | 49    | 46  | 47   |
| 3        | 119 | 116 | 117  | 146   | 139 | 144  | 55    | 48  | 52   |
| 4        | 119 | 114 | 117  | 144   | 139 | 142  | 52    | 46  | 48   |
| 5        | 127 | 116 | 121  | 145   | 123 | 134  | 56    | 47  | 54   |
| 6        | 133 | 126 | 129  | 123   | 120 | 121  | 54    | 48  | 53   |
| 7        | 131 | 130 | 130  | 124   | 118 | 119  | 52    | 48  | 50   |
| 8        | 125 | 115 | 120  | 132   | 123 | 129  | 54    | 49  | 52   |
| 9        | 119 | 109 | 116  | 132   | 127 | 129  | 54    | 50  | 53   |
| 10       | 110 | 103 | 107  | 131   | 122 | 127  | 59    | 52  | 55   |
| 11       | 135 | 112 | 127  | 122   | 107 | 114  | 64    | 53  | 58   |
| 12       | 144 | 128 | 137  | 107   | 99  | 102  | 75    | 61  | 68   |
| 13       | 151 | 146 | 149  | 100   | 87  | 95   | 68    | 63  | 65   |
| 14       | 160 | 154 | 158  | 85    | 72  | 76   | 65    | 59  | 63   |
| 15       | 163 | 159 | 161  | 73    | 66  | 70   | 68    | 58  | 64   |
| 16       | 162 | 156 | 159  | 71    | 65  | 69   | 68    | 60  | 64   |
| 17       | 157 | 149 | 154  | 69    | 63  | 66   | 71    | 59  | 65   |
| 18       | 153 | 149 | 152  | 67    | 64  | 66   | 61    | 57  | 59   |
| 19       | 151 | 149 | 150  | 79    | 67  | 72   | 70    | 58  | 64   |
| 20       | 152 | 150 | 151  | 78    | 73  | 76   | 63    | 60  | 62   |
| 21       | 151 | 148 | 150  | 85    | 77  | 81   | ---   | --- | ---  |
| 22       | 155 | 149 | 152  | 91    | 64  | 78   | ---   | --- | ---  |
| 23       | 158 | 156 | 157  | 97    | 87  | 92   | ---   | --- | ---  |
| 24       | 158 | 155 | 156  | 94    | 84  | 90   | ---   | --- | ---  |
| 25       | 155 | 147 | 151  | 92    | 76  | 84   | ---   | --- | ---  |
| 26       | 150 | 137 | 144  | 97    | 90  | 94   | ---   | --- | ---  |
| 27       | 146 | 137 | 143  | 97    | 92  | 94   | ---   | --- | ---  |
| 28       | 142 | 134 | 139  | 98    | 94  | 95   | ---   | --- | ---  |
| 29       | --- | --- | ---  | 103   | 91  | 99   | ---   | --- | ---  |
| 30       | --- | --- | ---  | 89    | 75  | 81   | ---   | --- | ---  |
| 31       | --- | --- | ---  | 73    | 57  | 65   | ---   | --- | ---  |
| MONTH    | 163 | 77  | 139  | 146   | 57  | 100  | ---   | --- | ---  |

## CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DAY   | MAX | MIN  | MEAN | MAX | MIN    | MEAN | MAX | MIN       | MEAN |
|-------|-----|------|------|-----|--------|------|-----|-----------|------|
|       |     | JULY |      |     | AUGUST |      |     | SEPTEMBER |      |
| 1     | --- | ---  | ---  | 126 | 115    | 121  | 124 | 117       | 120  |
| 2     | --- | ---  | ---  | 136 | 125    | 131  | 139 | 117       | 125  |
| 3     | --- | ---  | ---  | 137 | 124    | 130  | 133 | 127       | 130  |
| 4     | --- | ---  | ---  | 126 | 107    | 116  | 128 | 119       | 123  |
| 5     | --- | ---  | ---  | 116 | 59     | 92   | 119 | 115       | 117  |
| 6     | --- | ---  | ---  | 75  | 58     | 64   | 123 | 115       | 118  |
| 7     | --- | ---  | ---  | 83  | 69     | 76   | 128 | 123       | 126  |
| 8     | --- | ---  | ---  | 99  | 80     | 87   | 124 | 120       | 122  |
| 9     | --- | ---  | ---  | 128 | 99     | 115  | 126 | 120       | 124  |
| 10    | --- | ---  | ---  | 128 | 117    | 123  | 128 | 124       | 126  |
| 11    | --- | ---  | ---  | 119 | 111    | 116  | 126 | 122       | 124  |
| 12    | --- | ---  | ---  | 123 | 109    | 116  | 127 | 123       | 125  |
| 13    | --- | ---  | ---  | 123 | 114    | 119  | 127 | 123       | 125  |
| 14    | --- | ---  | ---  | 113 | 110    | 111  | 124 | 121       | 122  |
| 15    | --- | ---  | ---  | 124 | 112    | 118  | 128 | 120       | 125  |
| 16    | --- | ---  | ---  | 126 | 119    | 123  | 123 | 117       | 120  |
| 17    | --- | ---  | ---  | 126 | 108    | 116  | 120 | 117       | 119  |
| 18    | --- | ---  | ---  | 127 | 118    | 123  | 119 | 112       | 115  |
| 19    | --- | ---  | ---  | 124 | 119    | 123  | 119 | 112       | 118  |
| 20    | --- | ---  | ---  | 127 | 121    | 123  | 116 | 106       | 111  |
| 21    | --- | ---  | ---  | 125 | 121    | 123  | 110 | 106       | 109  |
| 22    | --- | ---  | ---  | 126 | 117    | 122  | 110 | 103       | 107  |
| 23    | --- | ---  | ---  | 133 | 123    | 126  | 105 | 100       | 102  |
| 24    | --- | ---  | ---  | 134 | 119    | 127  | 107 | 104       | 105  |
| 25    | --- | ---  | ---  | 128 | 120    | 123  | 106 | 102       | 105  |
| 26    | --- | ---  | ---  | 124 | 116    | 121  | 102 | 87        | 95   |
| 27    | --- | ---  | ---  | 125 | 118    | 121  | 90  | 80        | 85   |
| 28    | --- | ---  | ---  | 119 | 107    | 114  | 84  | 76        | 80   |
| 29    | 131 | 126  | 129  | 124 | 110    | 115  | 92  | 84        | 88   |
| 30    | 129 | 125  | 127  | 126 | 119    | 123  | 94  | 87        | 92   |
| 31    | 128 | 120  | 125  | 128 | 123    | 125  | --- | ---       | ---  |
| MONTH | --- | ---  | ---  | 137 | 58     | 116  | 139 | 76        | 113  |
| YEAR  | 163 | 46   | 117  |     |        |      |     |           |      |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY   | MAX     | MIN  | MEAN | MAX      | MIN | MEAN | MAX      | MIN | MEAN | MAX     | MIN | MEAN |
|-------|---------|------|------|----------|-----|------|----------|-----|------|---------|-----|------|
|       | OCTOBER |      |      | NOVEMBER |     |      | DECEMBER |     |      | JANUARY |     |      |
| 1     | 16.5    | 16.0 | 16.0 | 7.5      | 7.0 | 7.5  | 3.0      | 2.0 | 2.5  | 0.0     | 0.0 | 0.0  |
| 2     | 16.0    | 15.5 | 15.5 | 7.0      | 6.5 | 7.0  | 2.5      | 2.0 | 2.5  | 0.5     | 0.0 | 0.0  |
| 3     | 15.5    | 15.0 | 15.5 | 7.0      | 6.5 | 7.0  | 2.0      | 0.5 | 1.0  | 0.5     | 0.0 | 0.0  |
| 4     | 16.0    | 14.5 | 15.5 | 7.5      | 6.5 | 7.0  | 0.5      | 0.0 | ---  | 0.5     | 0.0 | 0.5  |
| 5     | 16.0    | 15.0 | 15.5 | 7.5      | 7.0 | 7.0  | 0.0      | 0.0 | 0.0  | 0.5     | 0.0 | 0.5  |
| 6     | 16.5    | 16.0 | 16.0 | 7.5      | 7.0 | 7.0  | 0.0      | 0.0 | 0.0  | 0.5     | 0.5 | 0.5  |
| 7     | 17.0    | 16.5 | 16.5 | 7.0      | 6.5 | 7.0  | 1.0      | 0.0 | 0.5  | 1.0     | 0.5 | 0.5  |
| 8     | 17.5    | 17.0 | 17.0 | 6.5      | 6.0 | 6.0  | 1.0      | 0.0 | 0.0  | 1.0     | 0.0 | 0.5  |
| 9     | 18.0    | 17.5 | 17.5 | 6.0      | 5.5 | 5.5  | 0.0      | 0.0 | 0.0  | 1.0     | 0.0 | 1.0  |
| 10    | 17.5    | 15.5 | 16.5 | 5.5      | 5.0 | 5.5  | 0.0      | 0.0 | 0.0  | 1.5     | 0.0 | 0.5  |
| 11    | 15.5    | 14.0 | 15.0 | 5.5      | 4.5 | 5.0  | 0.0      | 0.0 | 0.0  | 1.5     | 0.0 | 0.5  |
| 12    | 14.0    | 13.0 | 13.5 | 4.5      | 4.0 | 4.5  | 0.5      | 0.0 | 0.0  | 1.5     | 0.0 | 0.5  |
| 13    | 13.0    | 12.5 | 13.0 | 4.0      | 3.5 | 4.0  | 0.5      | 0.0 | 0.0  | 1.5     | 0.0 | 0.0  |
| 14    | 13.0    | 12.5 | 13.0 | 4.0      | 3.5 | 3.5  | 0.0      | 0.0 | 0.0  | 1.5     | 0.0 | 0.0  |
| 15    | 12.5    | 11.5 | 12.0 | 4.0      | 3.0 | 3.5  | 0.0      | 0.0 | 0.0  | 2.0     | 0.0 | 0.0  |
| 16    | 12.5    | 12.0 | 12.5 | 4.0      | 4.0 | 4.0  | 0.5      | 0.0 | 0.0  | 1.5     | 0.0 | 0.5  |
| 17    | 12.5    | 11.5 | 12.0 | 4.0      | 3.5 | 4.0  | 0.5      | 0.5 | 0.5  | 1.5     | 0.0 | 0.0  |
| 18    | 11.5    | 11.0 | 11.0 | 4.5      | 4.0 | 4.0  | 1.0      | 0.5 | 0.5  | 1.0     | 0.0 | 0.5  |
| 19    | 11.0    | 10.5 | 10.5 | 4.5      | 4.0 | 4.0  | 0.5      | 0.0 | 0.0  | 0.5     | 0.0 | 0.0  |
| 20    | 10.5    | 10.0 | 10.5 | 4.5      | 3.5 | 4.0  | 1.5      | 0.0 | 1.0  | 1.0     | 0.0 | 0.0  |
| 21    | 11.0    | 10.0 | 10.5 | 3.5      | 3.0 | 3.0  | 1.5      | 0.5 | 1.0  | 1.0     | 0.0 | 0.0  |
| 22    | 10.0    | 9.0  | 9.5  | 3.5      | 2.5 | 3.0  | 1.0      | 0.0 | 0.0  | 0.5     | 0.0 | 0.0  |
| 23    | 9.0     | 8.5  | 8.5  | 3.5      | 3.0 | 3.5  | 0.5      | 0.0 | 0.0  | 0.5     | 0.0 | 0.5  |
| 24    | 8.5     | 8.0  | 8.0  | 3.0      | 3.0 | 3.0  | 0.5      | 0.0 | 0.0  | 0.5     | 0.0 | 0.0  |
| 25    | 8.5     | 8.0  | 8.0  | 3.0      | 2.5 | 2.5  | 0.0      | 0.0 | 0.0  | 1.0     | 0.5 | 0.5  |
| 26    | 8.5     | 8.0  | 8.5  | 3.5      | 2.0 | 2.5  | 0.0      | 0.0 | 0.0  | 1.0     | 0.5 | 1.0  |
| 27    | 8.0     | 7.5  | 8.0  | 4.5      | 3.5 | 4.0  | 0.0      | 0.0 | 0.0  | 1.0     | 0.0 | 0.5  |
| 28    | 7.5     | 7.0  | 7.5  | 5.0      | 4.0 | 4.5  | 0.0      | 0.0 | 0.0  | 1.0     | 0.5 | 1.0  |
| 29    | 7.5     | 6.5  | 7.0  | 5.0      | 4.0 | 5.0  | 0.0      | 0.0 | ---  | 1.0     | 0.0 | 1.0  |
| 30    | 7.5     | 6.5  | 7.0  | 4.0      | 3.0 | 3.5  | 0.5      | 0.0 | 0.0  | 1.0     | 0.0 | 1.0  |
| 31    | 7.5     | 7.0  | 7.5  | ---      | --- | ---  | 0.0      | 0.0 | 0.0  | 1.5     | 0.0 | 1.0  |
| MONTH | 18.0    | 6.5  | 12.0 | 7.5      | 2.0 | 4.5  | 3.0      | 0.0 | 0.5  | 2.0     | 0.0 | 0.5  |

## CONNECTICUT RIVER BASIN

225

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

|  | DAY   | MAX      | MIN | MEAN | MAX | MIN   | MEAN |  |  |
|--|-------|----------|-----|------|-----|-------|------|--|--|
|  |       | FEBRUARY |     |      |     | MARCH |      |  |  |
|  | 1     | 1.5      | 1.0 | 1.0  | 2.5 | 0.5   | 1.5  |  |  |
|  | 2     | 1.5      | 1.0 | 1.0  | 2.5 | 0.5   | 1.5  |  |  |
|  | 3     | 1.5      | 1.0 | 1.5  | 3.0 | 1.5   | 2.5  |  |  |
|  | 4     | 1.5      | 1.5 | 1.5  | 2.5 | 1.5   | 2.0  |  |  |
|  | 5     | 1.5      | 1.5 | 1.5  | 3.0 | 2.0   | 2.5  |  |  |
|  | 6     | 1.5      | 0.0 | 1.5  | 2.5 | 2.0   | 2.5  |  |  |
|  | 7     | 0.5      | 0.0 | 0.0  | 2.5 | 2.0   | 2.5  |  |  |
|  | 8     | 1.5      | 1.0 | 1.0  | 3.5 | 2.0   | 2.5  |  |  |
|  | 9     | 2.0      | 1.0 | 1.5  | 4.5 | 3.0   | 3.5  |  |  |
|  | 10    | 1.5      | 0.5 | 1.0  | 5.5 | 3.5   | 4.5  |  |  |
|  | 11    | 1.5      | 0.0 | 1.0  | 5.0 | 4.0   | 4.5  |  |  |
|  | 12    | 1.5      | 1.0 | 1.5  | 5.0 | 4.0   | 4.5  |  |  |
|  | 13    | 2.0      | 1.0 | 1.5  | 5.0 | 4.0   | 4.5  |  |  |
|  | 14    | 1.5      | 1.0 | 1.5  | 4.0 | 2.5   | 3.0  |  |  |
|  | 15    | 1.5      | 0.0 | 0.5  | 2.5 | 2.0   | 2.0  |  |  |
|  | 16    | 1.5      | 0.5 | 1.0  | 4.5 | 2.0   | 3.0  |  |  |
|  | 17    | 1.0      | 0.0 | 0.5  | 6.0 | 4.5   | 5.0  |  |  |
|  | 18    | 1.0      | 0.0 | 0.5  | 6.5 | 5.0   | 5.5  |  |  |
|  | 19    | 1.0      | 0.0 | 0.5  | 8.0 | 5.0   | 6.5  |  |  |
|  | 20    | 1.0      | 0.0 | 0.5  | 8.5 | 7.5   | 8.0  |  |  |
|  | 21    | 1.0      | 0.5 | 1.0  | 9.5 | 4.0   | 8.0  |  |  |
|  | 22    | 1.0      | 0.5 | 1.0  | --- | ---   | ---  |  |  |
|  | 23    | 0.5      | 0.0 | 0.5  | --- | ---   | ---  |  |  |
|  | 24    | 1.0      | 0.0 | 0.5  | --- | ---   | ---  |  |  |
|  | 25    | 1.0      | 0.5 | 1.0  | --- | ---   | ---  |  |  |
|  | 26    | 1.0      | 0.0 | 0.5  | --- | ---   | ---  |  |  |
|  | 27    | 1.5      | 0.0 | 1.0  | --- | ---   | ---  |  |  |
|  | 28    | 2.0      | 1.0 | 1.5  | --- | ---   | ---  |  |  |
|  | 29    | ---      | --- | ---  | --- | ---   | ---  |  |  |
|  | 30    | ---      | --- | ---  | --- | ---   | ---  |  |  |
|  | 31    | ---      | --- | ---  | --- | ---   | ---  |  |  |
|  | MONTH | 2.0      | 0.0 | 1.0  | --- | ---   | ---  |  |  |

| DAY   | MAX  | MIN  | MEAN | MAX    | MIN  | MEAN | MAX       | MIN  | MEAN |
|-------|------|------|------|--------|------|------|-----------|------|------|
|       | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |      |
| 1     | ---  | ---  | ---  | 27.0   | 25.5 | 26.0 | 33.0      | 26.0 | 27.5 |
| 2     | ---  | ---  | ---  | 27.5   | 26.0 | 27.0 | 27.5      | 22.5 | 25.0 |
| 3     | ---  | ---  | ---  | 27.5   | 26.5 | 27.0 | 28.5      | 27.0 | 27.5 |
| 4     | ---  | ---  | ---  | 28.0   | 26.5 | 27.0 | 27.0      | 13.0 | 23.0 |
| 5     | ---  | ---  | ---  | 29.0   | 27.0 | 27.5 | ---       | ---  | ---  |
| 6     | ---  | ---  | ---  | 28.0   | 26.5 | 27.5 | ---       | ---  | ---  |
| 7     | ---  | ---  | ---  | 29.0   | 28.0 | 28.5 | ---       | ---  | ---  |
| 8     | ---  | ---  | ---  | 31.0   | 29.5 | 30.5 | ---       | ---  | ---  |
| 9     | ---  | ---  | ---  | 33.0   | 23.0 | 29.5 | ---       | ---  | ---  |
| 10    | ---  | ---  | ---  | 32.0   | 17.0 | 26.5 | ---       | ---  | ---  |
| 11    | ---  | ---  | ---  | 32.5   | 30.5 | 31.5 | ---       | ---  | ---  |
| 12    | ---  | ---  | ---  | 33.0   | 30.5 | 32.0 | ---       | ---  | ---  |
| 13    | ---  | ---  | ---  | 33.0   | 31.5 | 32.5 | ---       | ---  | ---  |
| 14    | ---  | ---  | ---  | 31.5   | 30.0 | 31.0 | ---       | ---  | ---  |
| 15    | ---  | ---  | ---  | 32.0   | 30.5 | 31.5 | ---       | ---  | ---  |
| 16    | ---  | ---  | ---  | 32.0   | 30.5 | 31.5 | ---       | ---  | ---  |
| 17    | ---  | ---  | ---  | 32.5   | 31.0 | 32.0 | ---       | ---  | ---  |
| 18    | ---  | ---  | ---  | 32.5   | 31.0 | 32.0 | ---       | ---  | ---  |
| 19    | ---  | ---  | ---  | 32.0   | 30.5 | 31.5 | ---       | ---  | ---  |
| 20    | ---  | ---  | ---  | 32.5   | 31.0 | 32.0 | ---       | ---  | ---  |
| 21    | ---  | ---  | ---  | 31.5   | 29.0 | 30.0 | ---       | ---  | ---  |
| 22    | ---  | ---  | ---  | 29.5   | 27.0 | 28.5 | ---       | ---  | ---  |
| 23    | ---  | ---  | ---  | 30.0   | 28.5 | 29.5 | ---       | ---  | ---  |
| 24    | ---  | ---  | ---  | 30.5   | 27.0 | 29.5 | ---       | ---  | ---  |
| 25    | ---  | ---  | ---  | 30.0   | 26.5 | 28.0 | ---       | ---  | ---  |
| 26    | ---  | ---  | ---  | 29.5   | 28.0 | 29.0 | ---       | ---  | ---  |
| 27    | ---  | ---  | ---  | 31.0   | 29.0 | 30.0 | ---       | ---  | ---  |
| 28    | ---  | ---  | ---  | 33.0   | 29.5 | 31.0 | ---       | ---  | ---  |
| 29    | 24.5 | 24.0 | 24.0 | 33.5   | 30.0 | 32.5 | ---       | ---  | ---  |
| 30    | 25.0 | 24.0 | 24.5 | 36.5   | 31.0 | 34.0 | ---       | ---  | ---  |
| 31    | 25.5 | 24.5 | 25.0 | 35.5   | 31.5 | 34.0 | ---       | ---  | ---  |
| MONTH | ---  | ---  | ---  | 36.5   | 17.0 | 30.0 | ---       | ---  | ---  |
| YEAR  | 36.5 | 0.0  | 8.5  |        |      |      |           |      |      |

## 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 fair except those for periods of no gage-height record or indefinite stage-discharge relation, which are poor. 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.--8 years, 36.5 ft<sup>3</sup>/s (1.099 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, 324 ft<sup>3</sup>/s (9.18 m<sup>3</sup>/s) Mar. 18, gage height, 4.96 ft (1.512 m); minimum daily, 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s) Aug. 1, 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT    | NOV     | DEC   | JAN   | FEB   | MAR    | APR   | MAY    | JUN   | JUL   | AUG   | SEP    |
|-------------|--------|---------|-------|-------|-------|--------|-------|--------|-------|-------|-------|--------|
| 1           | 3.4    | 132     | 25    | 7.0   | 7.4   | 7.4    | 120   | 4.2    | 68    | 6.9   | 1.5   | 2.0    |
| 2           | 3.3    | 132     | 25    | 7.0   | 7.4   | 6.0    | 119   | 4.0    | 107   | 6.3   | 1.6   | 1.9    |
| 3           | 34     | 132     | 14    | 7.0   | 7.4   | 5.5    | 121   | 3.8    | 23    | 5.3   | 1.5   | 1.9    |
| 4           | 54     | 132     | 7.0   | 7.0   | 7.4   | 5.3    | 120   | 3.6    | 3.3   | 4.6   | 1.5   | 2.0    |
| 5           | 54     | 132     | 7.0   | 7.0   | 7.4   | 5.7    | 122   | 3.6    | 3.0   | 4.0   | 2.2   | 2.1    |
| 6           | 54     | 132     | 7.0   | 7.0   | 7.4   | 4.4    | 122   | 3.4    | 2.9   | 4.0   | 3.1   | 3.2    |
| 7           | 29     | 132     | 7.0   | 10    | 7.4   | 3.3    | 79    | 3.6    | 2.9   | 3.8   | 3.1   | 2.8    |
| 8           | 3.5    | 131     | 7.0   | 15    | 7.4   | 3.2    | 30    | 3.6    | 2.9   | 73    | 3.8   | 2.6    |
| 9           | 106    | 130     | 40    | 15    | 7.4   | 2.8    | 32    | 46     | 2.9   | 41    | 3.8   | 2.3    |
| 10          | 137    | 130     | 78    | 15    | 7.4   | 2.9    | 12    | 174    | 3.1   | 3.4   | 3.6   | 2.3    |
| 11          | 40     | 130     | 78    | 15    | 7.4   | 3.3    | 4.4   | 268    | 3.2   | 3.1   | 4.5   | 2.0    |
| 12          | 4.1    | 111     | 55    | 15    | 7.4   | 3.6    | 4.6   | 71     | 3.1   | 3.1   | 25    | 1.8    |
| 13          | 3.7    | 98      | 25    | 15    | 7.4   | 10     | 4.4   | 38     | 3.0   | 3.3   | 4.9   | 1.9    |
| 14          | 35     | 97      | 25    | 15    | 7.4   | 22     | 4.6   | 209    | 2.9   | 3.8   | 4.6   | 2.2    |
| 15          | 51     | 97      | 25    | 10    | 7.4   | 14     | 4.2   | 132    | 2.6   | 3.8   | 4.8   | 2.1    |
| 16          | 250    | 96      | 25    | 7.4   | 7.4   | 8.9    | 3.9   | 65     | 2.5   | 3.7   | 4.4   | 14     |
| 17          | 225    | 96      | 14    | 7.4   | 7.4   | 177    | 3.6   | 36     | 2.5   | 3.7   | 4.1   | 131    |
| 18          | 53     | 95      | 7.0   | 7.4   | 7.4   | 296    | 3.3   | 36     | 2.9   | 3.7   | 4.0   | 3.4    |
| 19          | 53     | 95      | 7.0   | 7.4   | 7.4   | 296    | 3.4   | 139    | 4.2   | 3.8   | 3.7   | 85     |
| 20          | 53     | 54      | 7.0   | 7.4   | 7.4   | 291    | 3.4   | 61     | 4.4   | 3.4   | 3.4   | 170    |
| 21          | 75     | 25      | 7.0   | 7.4   | 7.4   | 205    | 3.4   | 4.7    | 5.5   | 3.3   | 2.8   | 157    |
| 22          | 151    | 25      | 7.0   | 7.4   | 7.4   | 128    | 3.4   | 4.6    | 5.5   | 3.5   | 2.8   | 45     |
| 23          | 263    | 25      | 7.0   | 7.4   | 7.4   | 142    | 3.7   | 4.6    | 5.1   | 2.5   | 2.6   | 3.6    |
| 24          | 230    | 25      | 7.0   | 7.4   | 7.4   | 145    | 12    | 4.6    | 5.1   | 2.2   | 2.5   | 30     |
| 25          | 111    | 25      | 7.0   | 7.4   | 7.4   | 140    | 16    | 4.6    | 4.7   | 2.7   | 2.5   | 61     |
| 26          | 111    | 25      | 7.0   | 7.4   | 7.4   | 138    | 9.8   | 4.4    | 5.3   | 3.4   | 2.4   | 104    |
| 27          | 111    | 25      | 7.0   | 7.4   | 7.4   | 134    | 7.4   | 4.4    | 5.3   | 2.9   | 2.3   | 185    |
| 28          | 123    | 25      | 7.0   | 7.4   | 7.4   | 135    | 6.0   | 4.3    | 5.0   | 2.5   | 2.2   | 98     |
| 29          | 132    | 25      | 7.0   | 7.4   | ---   | 138    | 5.0   | 4.0    | 6.2   | 2.3   | 2.1   | 50     |
| 30          | 132    | 25      | 7.0   | 7.4   | ---   | 142    | 4.5   | 4.0    | 7.6   | 1.9   | 2.1   | 5.5    |
| 31          | 132    | ---     | 7.0   | 7.4   | ---   | 135    | ---   | 3.8    | ---   | 1.7   | 2.0   | ---    |
| TOTAL       | 2817.0 | 2534    | 562.0 | 285.4 | 207.2 | 2750.3 | 988.0 | 1352.8 | 305.6 | 216.6 | 115.4 | 1175.6 |
| MEAN        | 90.9   | 84.5    | 18.1  | 9.21  | 7.40  | 88.7   | 32.9  | 43.6   | 10.2  | 6.99  | 3.72  | 39.2   |
| MAX         | 263    | 132     | 78    | 15    | 7.4   | 296    | 122   | 268    | 107   | 73    | 25    | 185    |
| MIN         | 3.3    | 25      | 7.0   | 7.0   | 7.4   | 2.8    | 3.3   | 3.4    | 2.5   | 1.7   | 1.5   | 1.8    |
| CAL YR 1976 | TOTAL  | 12143.5 | MEAN  | 33.2  | MAX   | 322    | MIN   | 1.2    |       |       |       |        |
| WTR YR 1977 | TOTAL  | 13309.9 | MEAN  | 36.5  | MAX   | 296    | MIN   | 1.5    |       |       |       |        |

NOTE.--No gage-height record Nov. 25 to Jan. 20, Aug. 29 to Sept. 13. Stage-discharge relation indefinite Nov. 21-24, Jan. 21 to Mar. 2.



## 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) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair. 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.--64 years, 181 ft<sup>3</sup>/s (5.126 m<sup>3</sup>/s), 26.72 in/yr (679 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 (272 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, 3,280 ft<sup>3</sup>/s (92.9 m<sup>3</sup>/s) Mar. 14, gage height, 7.38 ft (2.249 m); minimum daily, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN  | FEB  | MAR    | APR   | MAY  | JUN   | JUL  | AUG  | SEP   |
|-------------|-------|-------|----------|------|------|--------|-------|------|-------|------|------|-------|
| 1           | 43    | 294   | 82       | 33   | 34   | 130    | 1030  | 208  | 104   | 50   | 26   | 35    |
| 2           | 41    | 263   | 82       | 34   | 34   | 110    | 767   | 190  | 180   | 42   | 53   | 34    |
| 3           | 127   | 247   | 67       | 37   | 35   | 100    | 858   | 170  | 95    | 39   | 41   | 31    |
| 4           | 162   | 237   | 50       | 45   | 36   | 110    | 729   | 150  | 61    | 36   | 35   | 28    |
| 5           | 133   | 246   | 66       | 47   | 38   | 280    | 876   | 187  | 57    | 35   | 50   | 31    |
| 6           | 118   | 276   | 68       | 46   | 39   | 257    | 858   | 182  | 56    | 36   | 64   | 61    |
| 7           | 95    | 250   | 400      | 48   | 39   | 192    | 645   | 161  | 73    | 34   | 56   | 43    |
| 8           | 55    | 236   | 325      | 57   | 38   | 156    | 482   | 140  | 72    | 84   | 82   | 38    |
| 9           | 421   | 222   | 190      | 56   | 37   | 172    | 385   | 373  | 67    | 104  | 60   | 36    |
| 10          | 496   | 216   | 200      | 56   | 36   | 314    | 318   | 665  | 96    | 43   | 45   | 35    |
| 11          | 251   | 212   | 190      | 59   | 36   | 446    | 270   | 913  | 112   | 36   | 76   | 34    |
| 12          | 147   | 192   | 178      | 59   | 41   | 543    | 257   | 870  | 96    | 57   | 81   | 31    |
| 13          | 116   | 171   | 123      | 55   | 42   | 1580   | 287   | 772  | 84    | 67   | 70   | 31    |
| 14          | 159   | 167   | 100      | 55   | 45   | 3050   | 290   | 707  | 64    | 62   | 60   | 36    |
| 15          | 169   | 166   | 115      | 53   | 37   | 1620   | 251   | 505  | 56    | 45   | 57   | 32    |
| 16          | 317   | 164   | 97       | 50   | 36   | 931    | 210   | 353  | 50    | 40   | 48   | 36    |
| 17          | 335   | 161   | 84       | 47   | 35   | 772    | 180   | 261  | 46    | 40   | 47   | 232   |
| 18          | 124   | 161   | 79       | 45   | 35   | 718    | 161   | 224  | 54    | 53   | 49   | 81    |
| 19          | 117   | 161   | 74       | 42   | 35   | 660    | 144   | 441  | 100   | 44   | 41   | 383   |
| 20          | 136   | 134   | 72       | 40   | 35   | 583    | 134   | 329  | 58    | 43   | 39   | 455   |
| 21          | 356   | 91    | 105      | 39   | 35   | 477    | 124   | 213  | 62    | 42   | 38   | 389   |
| 22          | 354   | 86    | 91       | 38   | 35   | 357    | 117   | 180  | 54    | 43   | 45   | 203   |
| 23          | 427   | 83    | 74       | 37   | 34   | 365    | 165   | 150  | 48    | 31   | 48   | 123   |
| 24          | 388   | 82    | 68       | 39   | 35   | 325    | 1160  | 132  | 44    | 28   | 48   | 205   |
| 25          | 254   | 80    | 66       | 38   | 120  | 290    | 1170  | 114  | 42    | 53   | 45   | 410   |
| 26          | 317   | 82    | 68       | 37   | 170  | 274    | 707   | 99   | 65    | 72   | 40   | 573   |
| 27          | 277   | 94    | 70       | 36   | 130  | 280    | 524   | 88   | 54    | 45   | 39   | 880   |
| 28          | 256   | 101   | 67       | 35   | 150  | 322    | 381   | 80   | 49    | 35   | 39   | 500   |
| 29          | 255   | 112   | 46       | 34   | ---  | 772    | 297   | 73   | 60    | 31   | 39   | 294   |
| 30          | 243   | 100   | 53       | 34   | ---  | 1280   | 245   | 70   | 65    | 28   | 41   | 180   |
| 31          | 285   | ---   | 40       | 34   | ---  | 1460   | ---   | 67   | ---   | 27   | 35   | ---   |
| TOTAL       | 6974  | 5087  | 3390     | 1365 | 1452 | 18926  | 14022 | 9067 | 2124  | 1425 | 1537 | 5480  |
| MEAN        | 225   | 170   | 109      | 44.0 | 51.9 | 611    | 467   | 292  | 70.8  | 46.0 | 49.6 | 183   |
| MAX         | 496   | 294   | 400      | 59   | 170  | 3050   | 1170  | 913  | 180   | 104  | 82   | 880   |
| MIN         | 41    | 80    | 40       | 33   | 34   | 100    | 117   | 67   | 42    | 27   | 26   | 28    |
| MEAN†       | 173   | 91.8  | 108      | 44.0 | 51.9 | 653    | 546   | 304  | 72.3  | 44.5 | 49.6 | 180   |
| CFSM†       | 1.88  | 1.00  | 1.17     | .48  | .56  | 7.10   | 5.93  | 3.30 | .79   | .48  | .54  | 1.96  |
| IN.†        | 2.17  | 1.11  | 1.36     | .55  | .59  | 8.18   | 6.62  | 3.81 | .88   | .56  | .62  | 2.18  |
| CAL YR 1976 | TOTAL | 70530 | MEAN 193 | MAX  | 2030 | MIN 18 | MEAN† | 193  | CFSM† | 2.10 | IN†  | 28.50 |
| WTR YR 1977 | TOTAL | 70849 | MEAN 194 | MAX  | 3050 | MIN 26 | MEAN† | 194  | CFSM† | 2.11 | IN†  | 28.63 |

† 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 collected by Geological Survey.
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.

## 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 Westfield 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 Westfield 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 1976 TO SEPTEMBER 1977

| 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, 1976..... | 2107.3                             | 3463.6                | 5627.4                           | 1.8                                         | 973.6                                  | 25.3                     |
| Oct. 31.....        | 2453.8                             | 3802.0                | 5752.4                           | 3.8                                         | 813.2                                  | 27.0                     |
| Nov. 30.....        | 2820.8                             | 3222.8                | 6006.6                           | 13.6                                        | 649.1                                  | 25.8                     |
| Dec. 31.....        | 2296.6                             | 2819.3                | 5707.6                           | 17.1                                        | 617.1                                  | 24.2                     |
| Jan. 31, 1977.....  | 1396.5                             | 2017.6                | 4401.8                           | 14.8                                        | 561.3                                  | 23.1                     |
| Feb. 28.....        | 648.6                              | 1106.3                | 3440.1                           | 16.4                                        | 560.7                                  | 23.6                     |
| Mar. 31.....        | 976.9                              | 1484.1                | 1743.9                           | 59.9                                        | 937.5                                  | 74.2                     |
| Apr. 30.....        | 2820.1                             | 3199.1                | 4542.2                           | 4.9                                         | 1094.7                                 | 27.0                     |
| May 31.....         | 3425.8                             | 3431.2                | 5553.4                           | 1.8                                         | 1088.3                                 | 127.0                    |
| June 30.....        | 3508.9                             | 3962.6                | 5825.5                           | 1.7                                         | 1115.1                                 | 104.6                    |
| July 31.....        | 3267.5                             | 3496.0                | 5573.9                           | 1.4                                         | 1041.6                                 | 120.0                    |
| Aug. 31.....        | 3306.0                             | 3398.8                | 5668.5                           | 1.4                                         | 982.8                                  | 121.0                    |
| Sept. 30.....       | 3074.6                             | 3886.2                | 5664.5                           | 2.0                                         | 923.5                                  | 122.0                    |
|                     | Sunapee Lake                       | Springfield Reservoir | Mountain Ball Reservoir          | Townshend Reservoir                         | Mountain Lake                          | Otter Brook Lake         |
| Sept. 30, 1976..... | 496                                | 26.9                  | 93.8                             | 58.0                                        | 108.1                                  | 33.4                     |
| Oct. 31.....        | 435                                | 25.4                  | 5.4                              | 6.1                                         | 74.4                                   | 33.7                     |
| Nov. 30.....        | 311                                | 24.0                  | 1.4                              | 3.0                                         | 65.7                                   | 33.7                     |
| Dec. 31.....        | 333                                | 22.5                  | 12.2                             | 36.2                                        | 82.0                                   | 39.0                     |
| Jan. 31, 1977.....  | 332                                | 22.5                  | 11.0                             | 35.8                                        | 83.4                                   | 38.2                     |
| Feb. 28.....        | 311                                | 24.0                  | 14.0                             | 37.2                                        | 87.4                                   | 40.4                     |
| Mar. 31.....        | 486                                | 143.2                 | 215.8                            | 157.1                                       | 286.0                                  | 121.9                    |
| Apr. 30.....        | 598                                | 32.0                  | 98.4                             | 54.5                                        | 102.5                                  | 35.4                     |
| May 31.....         | 634                                | 25.4                  | 100.8                            | 4.8                                         | 62.2                                   | 32.6                     |
| June 30.....        | 634                                | 27.6                  | 105.5                            | 35.8                                        | 62.2                                   | 37.9                     |
| July 31.....        | 570                                | 24.0                  | 99.2                             | 34.4                                        | 57.4                                   | 36.5                     |
| Aug. 31.....        | 483                                | 23.3                  | 93.8                             | 33.4                                        | 58.6                                   | 36.5                     |
| Sept. 30.....       | 496                                | 26.2                  | 100.4                            | 39.4                                        | 66.9                                   | 38.2                     |
|                     | Birch Hill Reservoir               | Tully Reservoir       | Somerset and Harriman Reservoirs | Barre Falls Reservoir                       | Quabbin Reservoir†                     | Conant Brook Reservoir   |
| Sept. 30, 1976..... | 1.8                                | 53.0                  | 5181.0                           | 1.8                                         | 51113                                  | 0.1                      |
| Oct. 31.....        | 2.5                                | 21.5                  | 5640.6                           | 2.2                                         | 49950                                  | .1                       |
| Nov. 30.....        | 2.2                                | 20.0                  | 5073.7                           | 2.0                                         | 48526                                  | .1                       |
| Dec. 31.....        | 2.0                                | 21.0                  | 4729.0                           | 1.8                                         | 47583                                  | .1                       |
| Jan. 31, 1977.....  | 2.7                                | 22.0                  | 3839.8                           | 11.2                                        | 46862                                  | ‡                        |
| Feb. 28.....        | 3.9                                | 25.4                  | 2429.6                           | 30.1                                        | 46220                                  | .1                       |
| Mar. 31.....        | 47.4                               | 86.0                  | 4773.3                           | 40.4                                        | 49659                                  | .2                       |
| Apr. 30.....        | 16.6                               | 61.8                  | 6892.3                           | 3.4                                         | 51764                                  | .1                       |
| May 31.....         | 2.7                                | 57.4                  | 6356.6                           | 2.6                                         | 52635                                  | .1                       |
| June 30.....        | 2.8                                | 62.9                  | 6199.7                           | 2.9                                         | 51714                                  | .1                       |
| July 31.....        | 1.3                                | 51.2                  | 5899.9                           | 2.2                                         | 50571                                  | .1                       |
| Aug. 31.....        | 1.3                                | 55.2                  | 5401.4                           | 2.2                                         | 49859                                  | ‡                        |
| Sept. 30.....       | 3.9                                | 58.5                  | 5752.1                           | 2.9                                         | 49007                                  | .1                       |
|                     | Ludlow Reservoir                   | Knightville Reservoir | Littleville Lake                 | Borden Brook and Cobble Mountain Reservoirs | Otis Reservoir                         |                          |
| Sept. 30, 1976..... | 177.5                              | 0.2                   | 418.5                            | 2538.4                                      | 695.7                                  |                          |
| Oct. 31.....        | 195.8                              | .4                    | 423.7                            | 2488.9                                      | 556.7                                  |                          |
| Nov. 30.....        | 195.8                              | .4                    | 421.1                            | 2429.1                                      | 355.1                                  |                          |
| Dec. 31.....        | 195.8                              | 8.5                   | 418.5                            | 2349.2                                      | 352.0                                  |                          |
| Jan. 31, 1977.....  | 194.0                              | 9.6                   | 418.5                            | 2251.4                                      | 352.0                                  |                          |
| Feb. 28.....        | 197.7                              | 30.8                  | 426.3                            | 2234.7                                      | 352.0                                  |                          |
| Mar. 31.....        | 200.5                              | 447.4                 | 638.0                            | 3044.4                                      | 464.7                                  |                          |
| Apr. 30.....        | 200.5                              | 1.0                   | 430.2                            | 3221.2                                      | 668.8                                  |                          |
| May 31.....         | 192.2                              | .3                    | 418.5                            | 2968.0                                      | 699.5                                  |                          |
| June 30.....        | 195.8                              | .2                    | 417.2                            | 2842.4                                      | 703.3                                  |                          |
| July 31.....        | 188.5                              | .1                    | 415.9                            | 2705.3                                      | 699.5                                  |                          |
| Aug. 31.....        | 184.9                              | .1                    | 417.2                            | 2531.0                                      | 699.5                                  |                          |
| Sept. 30.....       | 195.8                              | .6                    | 431.5                            | 2560.1                                      | 691.8                                  |                          |

† Affected by diversion from Ware River and diversion to Wachusett Reservoir and Chicopee Valley aqueduct.

‡ No data available.

## HOUSATONIC RIVER BASIN

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) above mean sea level.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by power-plants upstream and, since 1949, by Cleveland Brook Reservoir, usable capacity, 214,000,000 ft<sup>3</sup> (6,060,000 m<sup>3</sup>/s), 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.--41 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 (65.1 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 1,150 ft<sup>3</sup>/s (32.6 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s)<br>(m <sup>3</sup> /s) | Gage height<br>(ft)<br>(m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s)<br>(m <sup>3</sup> /s) | Gage height<br>(ft)<br>(m) |
|---------|------|----------------------------------------------------------|----------------------------|---------|------|----------------------------------------------------------|----------------------------|
| Mar. 14 | 1130 | *3220 91.2                                               | *6.11 1.862                | Mar. 30 | 2030 | 1460 41.3                                                | 4.77 1.454                 |

Minimum daily discharge, 18 ft<sup>3</sup>/s (0.51 m<sup>3</sup>/s) July 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY         | OCT   | NOV   | DEC      | JAN      | FEB    | MAR       | APR        | MAY       | JUN  | JUL  | AUG  | SEP  |
|-------------|-------|-------|----------|----------|--------|-----------|------------|-----------|------|------|------|------|
| 1           | 51    | 99    | 43       | 24       | 26     | 60        | 575        | 89        | 32   | 30   | 23   | 25   |
| 2           | 48    | 80    | 41       | 24       | 26     | 60        | 373        | 83        | 36   | 24   | 67   | 23   |
| 3           | 48    | 70    | 30       | 25       | 26     | 56        | 389        | 75        | 33   | 20   | 55   | 21   |
| 4           | 50    | 68    | 31       | 28       | 26     | 51        | 405        | 66        | 30   | 18   | 29   | 19   |
| 5           | 48    | 70    | 34       | 30       | 24     | 92        | 377        | 92        | 27   | 19   | 38   | 35   |
| 6           | 48    | 82    | 36       | 31       | 24     | 86        | 601        | 104       | 27   | 24   | 35   | 135  |
| 7           | 48    | 77    | 164      | 31       | 25     | 77        | 353        | 93        | 35   | 22   | 25   | 55   |
| 8           | 48    | 71    | 233      | 30       | 26     | 77        | 257        | 83        | 51   | 31   | 25   | 38   |
| 9           | 110   | 65    | 135      | 30       | 26     | 86        | 202        | 207       | 41   | 45   | 30   | 32   |
| 10          | 176   | 51    | 68       | 29       | 26     | 135       | 185        | 349       | 51   | 31   | 34   | 35   |
| 11          | 120   | 45    | 55       | 29       | 26     | 185       | 190        | 467       | 60   | 24   | 230  | 44   |
| 12          | 80    | 43    | 47       | 29       | 26     | 260       | 227        | 549       | 45   | 46   | 78   | 37   |
| 13          | 70    | 41    | 40       | 29       | 27     | 1120      | 312        | 501       | 36   | 55   | 52   | 37   |
| 14          | 84    | 39    | 33       | 30       | 29     | 2730      | 312        | 310       | 32   | 63   | 73   | 84   |
| 15          | 90    | 41    | 35       | 27       | 29     | 1040      | 227        | 205       | 29   | 42   | 85   | 86   |
| 16          | 75    | 45    | 33       | 26       | 28     | 513       | 179        | 158       | 27   | 28   | 61   | 55   |
| 17          | 65    | 45    | 32       | 27       | 27     | 430       | 152        | 126       | 25   | 24   | 199  | 115  |
| 18          | 57    | 55    | 33       | 28       | 27     | 284       | 133        | 117       | 25   | 41   | 227  | 100  |
| 19          | 56    | 55    | 34       | 29       | 25     | 260       | 123        | 204       | 41   | 26   | 116  | 206  |
| 20          | 65    | 55    | 34       | 28       | 24     | 218       | 115        | 192       | 33   | 21   | 70   | 271  |
| 21          | 161   | 50    | 40       | 28       | 24     | 190       | 89         | 132       | 29   | 19   | 47   | 329  |
| 22          | 144   | 46    | 38       | 26       | 25     | 167       | 77         | 104       | 28   | 24   | 49   | 195  |
| 23          | 90    | 38    | 36       | 25       | 27     | 146       | 118        | 89        | 26   | 24   | 72   | 127  |
| 24          | 71    | 38    | 34       | 26       | 27     | 167       | 479        | 64        | 24   | 20   | 51   | 163  |
| 25          | 90    | 36    | 33       | 27       | 47     | 152       | 546        | 52        | 27   | 29   | 40   | 348  |
| 26          | 117   | 45    | 33       | 27       | 45     | 144       | 292        | 45        | 47   | 37   | 36   | 354  |
| 27          | 108   | 50    | 32       | 27       | 45     | 146       | 200        | 41        | 38   | 27   | 30   | 371  |
| 28          | 82    | 52    | 32       | 27       | 62     | 179       | 160        | 38        | 29   | 23   | 25   | 237  |
| 29          | 71    | 59    | 31       | 24       | ---    | 470       | 129        | 34        | 33   | 20   | 26   | 174  |
| 30          | 66    | 54    | 30       | 24       | ---    | 991       | 101        | 32        | 41   | 19   | 26   | 138  |
| 31          | 80    | ---   | 28       | 25       | ---    | 1150      | ---        | 32        | ---  | 19   | 25   | ---  |
| TOTAL       | 2517  | 1665  | 1558     | 850      | 825    | 11722     | 7878       | 4733      | 1038 | 895  | 1979 | 3889 |
| MEAN        | 81.2  | 55.5  | 50.3     | 27.4     | 29.5   | 378       | 263        | 153       | 34.6 | 28.9 | 63.8 | 130  |
| MAX         | 176   | 99    | 233      | 31       | 62     | 2730      | 601        | 549       | 60   | 63   | 230  | 371  |
| MIN         | 48    | 36    | 28       | 24       | 24     | 51        | 77         | 32        | 24   | 18   | 23   | 19   |
| (†)         | 14.9  | 12.3  | 14.4     | 12.7     | 14.8   | 16.5      | 13.1       | 12.6      | 16.7 | 12.4 | 12.5 | 17.2 |
| CAL YR 1976 | TOTAL | 42450 | MEAN 116 | MAX 1890 | MIN 17 | MEAN† 130 | CFSM† 2.28 | IN† 30.94 |      |      |      |      |
| WTR YR 1977 | TOTAL | 39549 | MEAN 108 | MAX 2730 | MIN 18 | MEAN† 123 | CFSM† 2.15 | IN† 29.13 |      |      |      |      |

† Diversion, in cubic feet per second, from Cleveland Brook Reservoir for municipal supply of Pittsfield; records furnished by city of Pittsfield.

† Adjusted for diversion.

NOTE.--No gage-height record Dec. 16 to Jan. 14.

## 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.

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) above mean sea level. 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.--64 years, 525 ft<sup>3</sup>/s (14.87 m<sup>3</sup>/s), 25.46 in/yr (647 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 5,300 ft<sup>3</sup>/s (150 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 (68.0 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) |
|---------|------|-------------------------------------------------------|-------------------------|--------|------|-------------------------------------------------------|-------------------------|
| Mar. 15 | 0230 | *7290 206                                             | *10.04 3.060            | Apr. 1 | 0315 | 3610 102                                              | 7.51 2.289              |

Minimum daily discharge, 117 ft<sup>3</sup>/s (3.31 m<sup>3</sup>/s) July 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT   | NOV  | DEC   | JAN  | FEB  | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP   |
|-------|-------|------|-------|------|------|-------|-------|-------|------|------|------|-------|
| 1     | 246   | 521  | 267   | 180  | 185  | 498   | 3450  | 752   | 298  | 241  | 120  | 163   |
| 2     | 225   | 474  | 246   | 180  | 185  | 406   | 2710  | 689   | 296  | 216  | 209  | 160   |
| 3     | 221   | 417  | 221   | 190  | 185  | 369   | 2230  | 657   | 287  | 150  | 217  | 151   |
| 4     | 246   | 400  | 210   | 200  | 185  | 374   | 2010  | 610   | 266  | 141  | 198  | 139   |
| 5     | 221   | 385  | 221   | 205  | 190  | 757   | 1970  | 640   | 243  | 136  | 163  | 133   |
| 6     | 209   | 417  | 229   | 205  | 190  | 938   | 2140  | 687   | 223  | 139  | 183  | 176   |
| 7     | 202   | 417  | 498   | 205  | 190  | 691   | 2170  | 620   | 222  | 138  | 194  | 306   |
| 8     | 202   | 390  | 1000  | 205  | 190  | 551   | 1930  | 583   | 261  | 155  | 229  | 250   |
| 9     | 306   | 364  | 650   | 200  | 190  | 577   | 1640  | 884   | 271  | 186  | 221  | 198   |
| 10    | 659   | 344  | 563   | 200  | 190  | 847   | 1340  | 1610  | 280  | 204  | 190  | 176   |
| 11    | 563   | 330  | 498   | 200  | 190  | 1190  | 1180  | 1890  | 298  | 183  | 330  | 166   |
| 12    | 422   | 311  | 411   | 200  | 200  | 1380  | 1090  | 2000  | 288  | 163  | 509  | 163   |
| 13    | 364   | 302  | 390   | 200  | 209  | 2150  | 1100  | 2160  | 253  | 275  | 406  | 163   |
| 14    | 422   | 288  | 310   | 195  | 229  | 5730  | 1140  | 2050  | 233  | 255  | 297  | 187   |
| 15    | 456   | 284  | 311   | 195  | 220  | 7070  | 1080  | 1720  | 219  | 225  | 354  | 250   |
| 16    | 433   | 288  | 302   | 205  | 200  | 5610  | 940   | 1300  | 205  | 163  | 349  | 271   |
| 17    | 395   | 284  | 293   | 200  | 195  | 3700  | 828   | 1060  | 192  | 182  | 311  | 354   |
| 18    | 364   | 288  | 300   | 200  | 190  | 2670  | 749   | 923   | 193  | 192  | 700  | 400   |
| 19    | 354   | 311  | 280   | 200  | 190  | 2080  | 693   | 1050  | 267  | 186  | 626  | 533   |
| 20    | 385   | 349  | 271   | 195  | 187  | 1740  | 634   | 1190  | 254  | 180  | 422  | 754   |
| 21    | 659   | 325  | 320   | 195  | 183  | 1480  | 600   | 1020  | 230  | 160  | 320  | 998   |
| 22    | 742   | 267  | 265   | 190  | 170  | 1320  | 578   | 845   | 226  | 151  | 288  | 981   |
| 23    | 626   | 254  | 279   | 190  | 169  | 1470  | 574   | 709   | 340  | 142  | 354  | 766   |
| 24    | 527   | 246  | 260   | 190  | 169  | 1350  | 1160  | 613   | 200  | 125  | 330  | 651   |
| 25    | 509   | 238  | 225   | 200  | 302  | 1170  | 1870  | 527   | 169  | 128  | 284  | 923   |
| 26    | 620   | 229  | 238   | 195  | 430  | 1050  | 1870  | 479   | 203  | 176  | 246  | 1160  |
| 27    | 659   | 246  | 230   | 195  | 380  | 1000  | 1500  | 424   | 231  | 180  | 221  | 1390  |
| 28    | 575   | 258  | 240   | 190  | 521  | 1070  | 1140  | 389   | 218  | 148  | 205  | 1490  |
| 29    | 515   | 279  | 242   | 190  | ---  | 1600  | 962   | 344   | 356  | 128  | 183  | 1180  |
| 30    | 480   | 293  | 220   | 185  | ---  | 2420  | 829   | 319   | 263  | 123  | 176  | 905   |
| 31    | 480   | ---  | 200   | 185  | ---  | 3310  | ---   | 302   | ---  | 117  | 166  | ---   |
| TOTAL | 13287 | 9799 | 10190 | 6065 | 6214 | 56568 | 42107 | 29046 | 7485 | 5288 | 9001 | 15537 |
| MEAN  | 429   | 327  | 329   | 196  | 222  | 1825  | 1404  | 937   | 250  | 171  | 290  | 518   |
| MAX   | 742   | 521  | 1000  | 205  | 521  | 7070  | 3450  | 2160  | 356  | 275  | 700  | 1490  |
| MIN   | 202   | 229  | 200   | 180  | 169  | 369   | 574   | 302   | 169  | 117  | 120  | 133   |
| CFSM  | 1.53  | 1.17 | 1.18  | .70  | .79  | 6.52  | 5.01  | 3.35  | .89  | .61  | 1.04 | 1.85  |
| IN.   | 1.77  | 1.30 | 1.35  | .81  | .83  | 7.52  | 5.59  | 3.86  | .99  | .70  | 1.20 | 2.06  |

| CAL YR 1976 | TOTAL | 231449 | MEAN 632 | MAX 3090 | MIN 88  | CFSM 2.26 | IN 30.75 |
|-------------|-------|--------|----------|----------|---------|-----------|----------|
| WTR YR 1977 | TOTAL | 210587 | MEAN 577 | MAX 7070 | MIN 117 | CFSM 2.06 | IN 27.98 |



## 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.--WRD MA, NH, RI, VT, 1973: 1971-72.

GAGE.--Water-stage recorder. Datum of gage is 828.01 ft (252.377 m) above mean sea level. 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 except those for periods of doubtful or no gage-height record, which are fair. 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.--46 years, 89.5 ft<sup>3</sup>/s (2.535 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 (31.2 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 (25.5 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 1745 | a*1860 52.7                                           | *7.91 2.411             | Mar. 30 | 2030 | 1120 31.7                                             | 7.35 2.240              |

a From rating extended above 450 ft<sup>3</sup>/s (12.7 m<sup>3</sup>/s).

Minimum discharge not determined; minimum daily, 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 1     | 38   | 93   | 34   | 34   | 33   | 60    | 488  | 117  | 51   | 42   | 33   | 38   |
| 2     | 35   | 72   | 33   | 34   | 33   | 49    | 377  | 114  | 49   | 40   | 51   | 52   |
| 3     | 33   | 66   | 33   | 34   | 33   | 43    | 361  | 109  | 47   | 38   | 38   | 61   |
| 4     | 30   | 66   | 33   | 34   | 33   | 40    | 301  | 107  | 45   | 37   | 34   | 45   |
| 5     | 26   | 65   | 37   | 34   | 34   | 82    | 361  | 104  | 44   | 36   | 35   | 50   |
| 6     | 23   | 75   | 38   | 34   | 33   | 102   | 508  | 102  | 50   | 38   | 41   | 147  |
| 7     | 21   | 74   | 62   | 34   | 33   | 71    | 306  | 102  | 46   | 37   | 30   | 69   |
| 8     | 20   | 69   | 180  | 34   | 33   | 55    | 253  | 156  | 44   | 42   | 29   | 56   |
| 9     | 130  | 57   | 64   | 35   | 33   | 64    | 225  | 221  | 43   | 50   | 45   | 51   |
| 10    | 90   | 54   | 60   | 38   | 33   | 156   | 210  | 266  | 50   | 42   | 48   | 50   |
| 11    | 62   | 54   | 64   | 34   | 33   | 213   | 195  | 311  | 50   | 38   | 187  | 50   |
| 12    | 52   | 51   | 57   | 34   | 33   | 279   | 229  | 316  | 47   | 41   | 55   | 44   |
| 13    | 45   | 54   | 53   | 34   | 33   | 916   | 257  | 225  | 43   | 47   | 41   | 46   |
| 14    | 55   | 54   | 42   | 34   | 33   | 1530  | 217  | 172  | 42   | 50   | 45   | 101  |
| 15    | 48   | 54   | 45   | 34   | 33   | 831   | 188  | 153  | 42   | 45   | 52   | 80   |
| 16    | 44   | 51   | 45   | 34   | 33   | 652   | 159  | 144  | 42   | 38   | 38   | 62   |
| 17    | 40   | 51   | 45   | 34   | 33   | 556   | 130  | 130  | 42   | 36   | 82   | 102  |
| 18    | 37   | 49   | 45   | 33   | 33   | 366   | 104  | 120  | 43   | 35   | 101  | 84   |
| 19    | 35   | 49   | 43   | 34   | 33   | 316   | 84   | 190  | 47   | 34   | 60   | 138  |
| 20    | 48   | 48   | 43   | 34   | 33   | 257   | 82   | 120  | 46   | 33   | 51   | 230  |
| 21    | 128  | 43   | 54   | 34   | 33   | 233   | 82   | 100  | 49   | 33   | 46   | 217  |
| 22    | 84   | 42   | 40   | 34   | 32   | 206   | 91   | 90   | 42   | 33   | 84   | 136  |
| 23    | 65   | 42   | 39   | 34   | 33   | 206   | 325  | 82   | 36   | 32   | 80   | 113  |
| 24    | 57   | 42   | 39   | 34   | 33   | 199   | 371  | 76   | 35   | 32   | 57   | 157  |
| 25    | 90   | 41   | 38   | 34   | 47   | 171   | 225  | 70   | 42   | 43   | 57   | 264  |
| 26    | 116  | 39   | 38   | 34   | 55   | 156   | 165  | 66   | 73   | 47   | 48   | 270  |
| 27    | 84   | 39   | 38   | 34   | 49   | 150   | 147  | 62   | 44   | 37   | 42   | 270  |
| 28    | 71   | 42   | 35   | 32   | 64   | 153   | 135  | 58   | 43   | 34   | 42   | 181  |
| 29    | 66   | 45   | 35   | 33   | ---  | 377   | 130  | 54   | 50   | 34   | 41   | 148  |
| 30    | 62   | 42   | 35   | 32   | ---  | 751   | 119  | 50   | 54   | 31   | 39   | 134  |
| 31    | 85   | ---  | 35   | 33   | ---  | 760   | ---  | 49   | ---  | 26   | 37   | ---  |
| TOTAL | 1820 | 1623 | 1482 | 1052 | 1007 | 10000 | 6825 | 4036 | 1381 | 1181 | 1669 | 3446 |
| MEAN  | 58.7 | 54.1 | 47.8 | 33.9 | 36.0 | 323   | 228  | 130  | 46.0 | 38.1 | 53.8 | 115  |
| MAX   | 130  | 93   | 180  | 38   | 64   | 1530  | 508  | 316  | 73   | 50   | 187  | 270  |
| MIN   | 20   | 39   | 33   | 32   | 32   | 40    | 82   | 49   | 35   | 26   | 29   | 38   |

CAL YR 1976 TOTAL 36965 MEAN 101 MAX 1300 MIN 20  
WTR YR 1977 TOTAL 35522 MEAN 97.3 MAX 1530 MIN 20

NOTE.--No gage-height record Oct. 1-13, May 17 to June 7, June 28 to July 18, Sept. 27. Doubtful gage-height record Mar. 11 to May 16.



## 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). WRD MA, NH, RI, VT, 1973: 1971.

GAGE.--Water-stage recorder. Concrete control at present site. Datum of gage is 820.46 ft (250.076 m) above mean sea level. 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. 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.--46 years, 96.8 ft<sup>3</sup>/s (2.741 m<sup>3</sup>/s), 33.71 in/yr (856 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 (36.8 m<sup>3</sup>/s) and maximums (\*):

| Date    | Time | Discharge<br>(ft <sup>3</sup> /s)<br>(m <sup>3</sup> /s) | Gage height<br>(ft)<br>(m) | Date    | Time | Discharge<br>(ft <sup>3</sup> /s)<br>(m <sup>3</sup> /s) | Gage height<br>(ft)<br>(m) |
|---------|------|----------------------------------------------------------|----------------------------|---------|------|----------------------------------------------------------|----------------------------|
| Mar. 13 | 1915 | *a3850 109                                               | *10.15 3.094               | Mar. 30 | 1830 | 1670 47.3                                                | 8.58 2.615                 |

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).

Minimum discharge, 9.6 ft<sup>3</sup>/s (0.27 m<sup>3</sup>/s) Feb. 17; minimum daily, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 1     | 48   | 127  | 29   | 24   | 14   | 53    | 597  | 83   | 18   | 59   | 43   | 20   |
| 2     | 43   | 94   | 34   | 22   | 14   | 39    | 344  | 81   | 33   | 44   | 81   | 19   |
| 3     | 39   | 85   | 29   | 22   | 14   | 34    | 394  | 87   | 26   | 32   | 31   | 20   |
| 4     | 35   | 88   | 36   | 22   | 14   | 33    | 348  | 72   | 20   | 27   | 21   | 21   |
| 5     | 32   | 81   | 35   | 21   | 14   | 111   | 370  | 70   | 17   | 25   | 19   | 17   |
| 6     | 29   | 82   | 40   | 19   | 14   | 104   | 551  | 66   | 16   | 30   | 21   | 17   |
| 7     | 29   | 78   | 255  | 20   | 14   | 67    | 274  | 57   | 26   | 24   | 22   | 15   |
| 8     | 29   | 74   | 208  | 20   | 14   | 55    | 194  | 52   | 53   | 47   | 23   | 13   |
| 9     | 248  | 64   | 86   | 19   | 14   | 58    | 146  | 213  | 34   | 78   | 26   | 12   |
| 10    | 189  | 61   | 93   | 20   | 14   | 109   | 130  | 226  | 74   | 42   | 27   | 13   |
| 11    | 104  | 58   | 90   | 21   | 15   | 188   | 142  | 260  | 52   | 28   | 187  | 13   |
| 12    | 81   | 52   | 74   | 21   | 15   | 327   | 353  | 310  | 38   | 44   | 72   | 11   |
| 13    | 73   | 51   | 54   | 20   | 16   | 1750  | 535  | 266  | 29   | 58   | 55   | 13   |
| 14    | 102  | 50   | 47   | 21   | 16   | 2660  | 505  | 158  | 24   | 80   | 46   | 88   |
| 15    | 90   | 48   | 66   | 20   | 17   | 832   | 274  | 119  | 20   | 43   | 73   | 51   |
| 16    | 74   | 46   | 52   | 19   | 16   | 659   | 195  | 98   | 17   | 28   | 43   | 34   |
| 17    | 64   | 44   | 50   | 18   | 18   | 430   | 156  | 84   | 15   | 23   | 74   | 144  |
| 18    | 59   | 44   | 44   | 17   | 19   | 243   | 139  | 78   | 133  | 23   | 73   | 93   |
| 19    | 54   | 43   | 39   | 19   | 16   | 189   | 123  | 161  | 147  | 19   | 45   | 105  |
| 20    | 89   | 42   | 42   | 18   | 15   | 135   | 109  | 105  | 61   | 17   | 34   | 393  |
| 21    | 306  | 33   | 46   | 17   | 16   | 118   | 96   | 83   | 71   | 15   | 29   | 299  |
| 22    | 162  | 35   | 37   | 17   | 15   | 110   | 89   | 69   | 103  | 15   | 65   | 150  |
| 23    | 113  | 35   | 51   | 16   | 15   | 112   | 130  | 58   | 61   | 12   | 63   | 110  |
| 24    | 96   | 34   | 41   | 16   | 15   | 95    | 567  | 50   | 43   | 12   | 43   | 150  |
| 25    | 118  | 32   | 37   | 17   | 39   | 89    | 402  | 44   | 43   | 48   | 48   | 203  |
| 26    | 156  | 32   | 36   | 17   | 56   | 77    | 222  | 36   | 110  | 56   | 34   | 199  |
| 27    | 116  | 42   | 31   | 16   | 36   | 83    | 165  | 31   | 73   | 24   | 27   | 192  |
| 28    | 93   | 53   | 32   | 15   | 68   | 118   | 132  | 27   | 50   | 17   | 23   | 129  |
| 29    | 84   | 52   | 29   | 15   | ---  | 490   | 108  | 23   | 90   | 14   | 21   | 115  |
| 30    | 77   | 34   | 26   | 15   | ---  | 1020  | 93   | 21   | 104  | 13   | 24   | 90   |
| 31    | 132  | ---  | 25   | 15   | ---  | 1300  | ---  | 19   | ---  | 12   | 22   | ---  |
| TOTAL | 2964 | 1694 | 1794 | 579  | 563  | 11688 | 7883 | 3107 | 1601 | 1009 | 1415 | 2749 |
| MEAN  | 95.6 | 56.5 | 57.9 | 18.7 | 20.1 | 377   | 263  | 100  | 53.4 | 32.5 | 45.6 | 91.6 |
| MAX   | 306  | 127  | 255  | 24   | 68   | 2660  | 597  | 310  | 147  | 80   | 187  | 393  |
| MIN   | 29   | 32   | 25   | 15   | 14   | 33    | 89   | 19   | 15   | 12   | 19   | 11   |
| CFSM  | 2.45 | 1.45 | 1.49 | .48  | .52  | 9.67  | 6.74 | 2.56 | 1.37 | .83  | 1.17 | 2.35 |
| IN.   | 2.83 | 1.62 | 1.71 | .55  | .54  | 11.15 | 7.52 | 2.96 | 1.53 | .96  | 1.35 | 2.62 |

| CAL YR 1976 | TOTAL | 45390 | MEAN 124 | MAX 2690 | MIN 17 | CFSM 3.18 | IN 43.30 |
|-------------|-------|-------|----------|----------|--------|-----------|----------|
| WTR YR 1977 | TOTAL | 37046 | MEAN 101 | MAX 2660 | MIN 11 | CFSM 2.59 | IN 35.34 |

## HUDSON RIVER BASIN

01332500 HOOSIC RIVER NEAR WILLIAMSTOWN, MA

LOCATION.--Lat 42°42'21", long 73°10'50", Berkshire County, Hydrologic Unit 02020003, on left bank 1.0 mi (1.6 km) upstream from Green River and 1.2 mi (1.9 km) east of Williamstown.

DRAINAGE AREA.--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. Altitude of gage is 595 ft (181 m), from topographic map.

REMARKS.--Records good above 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and fair below. Slight diurnal fluctuation at low flow prior to 1966 caused by mills upstream. Some regulation by Cheshire Reservoir 17 mi (27 km) upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--37 years, 274 ft<sup>3</sup>/s (7.760 m<sup>3</sup>/s), 28.19 in/yr (716 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), from rating curve extended above 4,300 ft<sup>3</sup>/s (122 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, 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s) Sept. 2, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft<sup>3</sup>/s (68.0 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 | 2030 | a*7680 217                                            | *10.59 3.228            | Mar. 30 | 2230 | 2830 80.1                                             | 6.04 1.841              |

a From rating curve extended above 2,200 ft<sup>3</sup>/s (62.3 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 11.80 ft (3.597 m) and 13.02 ft (3.968 m).

Minimum discharge not determined; minimum daily, 60 ft<sup>3</sup>/s (1.70 m<sup>3</sup>/s) July 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|-------|-------|------|------|------|------|
| 1     | 132  | 277  | 135  | 116  | 97   | 181   | 1260  | 304   | 110  | 150  | 83   | 90   |
| 2     | 122  | 220  | 120  | 116  | 97   | 142   | 800   | 293   | 130  | 130  | 190  | 110  |
| 3     | 113  | 208  | 110  | 116  | 97   | 135   | 896   | 304   | 115  | 110  | 120  | 155  |
| 4     | 106  | 216  | 115  | 113  | 97   | 135   | 784   | 270   | 105  | 100  | 86   | 110  |
| 5     | 100  | 208  | 120  | 113  | 97   | 375   | 918   | 280   | 100  | 100  | 84   | 105  |
| 6     | 97   | 220  | 120  | 113  | 97   | 299   | 1220  | 270   | 105  | 145  | 97   | 208  |
| 7     | 94   | 212  | 581  | 113  | 97   | 204   | 695   | 260   | 115  | 100  | 82   | 140  |
| 8     | 91   | 200  | 480  | 113  | 94   | 184   | 550   | 260   | 140  | 150  | 82   | 110  |
| 9     | 389  | 181  | 285  | 109  | 94   | 220   | 452   | 580   | 130  | 208  | 110  | 100  |
| 10    | 347  | 177  | 240  | 109  | 94   | 426   | 421   | 600   | 190  | 155  | 120  | 98   |
| 11    | 208  | 177  | 232  | 109  | 94   | 576   | 413   | 615   | 160  | 110  | 460  | 94   |
| 12    | 173  | 169  | 200  | 109  | 94   | 825   | 595   | 742   | 140  | 130  | 180  | 86   |
| 13    | 166  | 169  | 185  | 109  | 94   | 3580  | 842   | 752   | 120  | 160  | 150  | 92   |
| 14    | 196  | 162  | 170  | 106  | 94   | 5540  | 784   | 499   | 110  | 215  | 140  | 215  |
| 15    | 181  | 159  | 162  | 106  | 94   | 2080  | 512   | 402   | 100  | 140  | 175  | 200  |
| 16    | 162  | 159  | 155  | 106  | 94   | 1530  | 421   | 353   | 94   | 110  | 130  | 150  |
| 17    | 155  | 155  | 152  | 106  | 94   | 1090  | 387   | 321   | 90   | 96   | 205  | 286  |
| 18    | 155  | 152  | 148  | 106  | 91   | 716   | 368   | 308   | 180  | 94   | 244  | 237  |
| 19    | 152  | 152  | 142  | 103  | 91   | 585   | 332   | 413   | 270  | 86   | 165  | 293  |
| 20    | 184  | 148  | 142  | 103  | 91   | 483   | 304   | 342   | 170  | 80   | 135  | 680  |
| 21    | 484  | 148  | 173  | 103  | 91   | 452   | 290   | 300   | 179  | 90   | 120  | 595  |
| 22    | 290  | 145  | 152  | 103  | 91   | 440   | 283   | 270   | 193  | 80   | 205  | 365  |
| 23    | 228  | 145  | 145  | 103  | 91   | 468   | 342   | 240   | 160  | 74   | 215  | 290  |
| 24    | 208  | 142  | 132  | 103  | 91   | 395   | 1090  | 210   | 130  | 70   | 155  | 350  |
| 25    | 260  | 142  | 125  | 103  | 162  | 365   | 907   | 190   | 135  | 125  | 165  | 533  |
| 26    | 325  | 138  | 122  | 103  | 181  | 350   | 550   | 170   | 265  | 180  | 130  | 516  |
| 27    | 256  | 138  | 119  | 100  | 148  | 353   | 448   | 150   | 186  | 100  | 110  | 595  |
| 28    | 220  | 138  | 119  | 100  | 248  | 413   | 395   | 135   | 150  | 82   | 100  | 394  |
| 29    | 208  | 148  | 119  | 100  | ---  | 1050  | 361   | 125   | 180  | 76   | 97   | 344  |
| 30    | 192  | 152  | 116  | 100  | ---  | 1970  | 328   | 115   | 219  | 69   | 98   | 301  |
| 31    | 269  | ---  | 116  | 100  | ---  | 2500  | ---   | 110   | ---  | 60   | 94   | ---  |
| TOTAL | 6263 | 5157 | 5432 | 3312 | 2995 | 28062 | 17948 | 10183 | 4471 | 3575 | 4527 | 7842 |
| MEAN  | 202  | 172  | 175  | 107  | 107  | 905   | 598   | 328   | 149  | 115  | 146  | 261  |
| MAX   | 484  | 277  | 581  | 116  | 248  | 5540  | 1260  | 752   | 270  | 215  | 460  | 680  |
| MIN   | 91   | 138  | 110  | 100  | 91   | 135   | 283   | 110   | 90   | 60   | 82   | 86   |
| CFSM  | 1.53 | 1.30 | 1.33 | .81  | .81  | 6.86  | 4.53  | 2.49  | 1.13 | .87  | 1.11 | 1.98 |
| IN.   | 1.77 | 1.45 | 1.53 | .93  | .84  | 7.91  | 5.06  | 2.87  | 1.26 | 1.01 | 1.28 | 2.21 |

CAL YR 1976 TOTAL 115208 MEAN 315 MAX 4740 MIN 69 CFSM 2.39 IN 32.47  
WTR YR 1977 TOTAL 99767 MEAN 273 MAX 5540 MIN 60 CFSM 2.07 IN 28.12

NOTE.--No gage-height record most days May 22 to Sept. 16.

## 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 and periods of no gage-height record, which are poor.

Slight diurnal fluctuation at times caused by mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--28 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 (21.2 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 (24.1 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) |
|---------|------|-------------------------------------------------------|-------------------------|---------|------|-------------------------------------------------------|-------------------------|
| Mar. 13 |      | *a3580 101                                            | *b6.35 1.935            | Mar. 30 | 1915 | 948 26.8                                              | 3.63 1.106              |

a Slope-area measurement of peak flow.

b From floodmarks.

Minimum discharge not determined; minimum daily, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Jan. 28 to Feb. 10, Feb. 19-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN  | FEB  | MAR   | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 1     | 37   | 109  | 22   | 22   | 13   | 55    | 448  | 102  | 34   | 21   | 19   | 22   |
| 2     | 34   | 91   | 19   | 21   | 13   | 39    | 319  | 100  | 41   | 20   | 23   | 40   |
| 3     | 32   | 88   | 14   | 20   | 13   | 36    | 310  | 92   | 33   | 18   | 17   | 52   |
| 4     | 30   | 95   | 24   | 19   | 13   | 36    | 249  | 83   | 31   | 17   | 16   | 31   |
| 5     | 29   | 88   | 29   | 18   | 13   | 73    | 354  | 88   | 28   | 60   | 17   | 28   |
| 6     | 27   | 93   | 31   | 18   | 13   | 86    | 393  | 79   | 28   | 41   | 18   | 54   |
| 7     | 27   | 88   | 200  | 18   | 13   | 74    | 249  | 71   | 38   | 27   | 16   | 33   |
| 8     | 26   | 79   | 140  | 18   | 13   | 65    | 212  | 66   | 38   | 48   | 17   | 29   |
| 9     | 138  | 73   | 84   | 18   | 13   | 92    | 175  | 178  | 36   | 41   | 24   | 27   |
| 10    | 103  | 70   | 76   | 18   | 13   | 150   | 157  | 219  | 44   | 30   | 21   | 26   |
| 11    | 67   | 67   | 81   | 18   | 14   | 200   | 143  | 182  | 39   | 26   | 119  | 23   |
| 12    | 56   | 61   | 66   | 18   | 14   | 400   | 149  | 226  | 34   | 33   | 44   | 22   |
| 13    | 51   | 59   | 49   | 18   | 14   | 1700  | 163  | 257  | 31   | 34   | 36   | 25   |
| 14    | 57   | 56   | 43   | 17   | 15   | 1800  | 152  | 188  | 28   | 33   | 36   | 60   |
| 15    | 51   | 55   | 56   | 17   | 15   | 1100  | 126  | 152  | 27   | 25   | 44   | 40   |
| 16    | 45   | 52   | 48   | 17   | 14   | 740   | 110  | 126  | 24   | 23   | 30   | 38   |
| 17    | 42   | 50   | 44   | 16   | 14   | 502   | 100  | 110  | 23   | 21   | 53   | 69   |
| 18    | 41   | 49   | 40   | 16   | 14   | 324   | 92   | 104  | 38   | 21   | 43   | 57   |
| 19    | 39   | 46   | 38   | 16   | 13   | 249   | 86   | 131  | 33   | 20   | 34   | 98   |
| 20    | 57   | 44   | 40   | 15   | 13   | 198   | 81   | 100  | 27   | 20   | 30   | 262  |
| 21    | 143  | 42   | 41   | 15   | 13   | 175   | 76   | 90   | 35   | 24   | 27   | 213  |
| 22    | 97   | 41   | 35   | 15   | 13   | 175   | 74   | 79   | 28   | 23   | 48   | 137  |
| 23    | 79   | 40   | 37   | 15   | 13   | 201   | 117  | 71   | 25   | 18   | 37   | 110  |
| 24    | 73   | 39   | 35   | 15   | 18   | 149   | 344  | 66   | 23   | 16   | 33   | 120  |
| 25    | 99   | 38   | 32   | 14   | 35   | 128   | 274  | 60   | 25   | 37   | 34   | 148  |
| 26    | 133  | 37   | 30   | 14   | 50   | 117   | 205  | 54   | 34   | 31   | 29   | 160  |
| 27    | 105  | 38   | 29   | 14   | 40   | 126   | 172  | 50   | 26   | 21   | 26   | 146  |
| 28    | 90   | 38   | 28   | 13   | 86   | 191   | 152  | 45   | 23   | 18   | 25   | 118  |
| 29    | 83   | 40   | 26   | 13   | ---  | 668   | 128  | 41   | 28   | 17   | 24   | 104  |
| 30    | 76   | 35   | 25   | 13   | ---  | 791   | 112  | 38   | 25   | 16   | 27   | 88   |
| 31    | 119  | ---  | 23   | 13   | ---  | 800   | ---  | 36   | ---  | 16   | 22   | ---  |
| TOTAL | 2086 | 1801 | 1485 | 512  | 538  | 11440 | 5722 | 3284 | 927  | 816  | 989  | 2380 |
| MEAN  | 67.3 | 60.0 | 47.9 | 16.5 | 19.2 | 369   | 191  | 106  | 30.9 | 26.3 | 31.9 | 79.3 |
| MAX   | 143  | 109  | 200  | 22   | 86   | 1800  | 448  | 257  | 44   | 60   | 119  | 262  |
| MIN   | 26   | 35   | 14   | 13   | 13   | 36    | 74   | 36   | 23   | 16   | 16   | 22   |
| CFSM  | 1.58 | 1.41 | 1.12 | .39  | .45  | 8.66  | 4.48 | 2.49 | .73  | .62  | .75  | 1.86 |
| IN.   | 1.82 | 1.57 | 1.30 | .45  | .47  | 9.99  | 5.00 | 2.87 | .81  | .71  | .86  | 2.08 |

CAL YR 1976 TOTAL 37777 MEAN 103 MAX 1210 MIN 13 CFSM 2.42 IN 32.99  
WTR YR 1977 TOTAL 31980 MEAN 87.6 MAX 1800 MIN 13 CFSM 2.06 IN 27.93

NOTE.--No gage-height record Jan. 1 to Feb. 27, Mar. 9-16.

01333300 HOOSIC RIVER BELOW WILLIAMSTOWN, MASS.

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 to September 1977.

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1968 to May 1975 (no winter record in 1973).

pH: November 1968 to May 1975, August to September 1977 (no winter record in 1973).

DISSOLVED OXYGEN: November 1968 to May 1975, July to September 1977 (no winter record in 1973).

WATER TEMPERATURES: November 1968 to May 1975, July to September 1977 (no winter record in 1973).

INSTRUMENTATION.--Water-quality monitor since November 1968.

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

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 573 micromhos Feb. 20, 1974; minimum, 59 micromhos Apr. 19, 1972.

pH: Maximum, 9.9 units Dec. 24, 1970; minimum, 5.8 units July 5, 1970.

DISSOLVED OXYGEN: Maximum, 16.5 mg/L Feb. 15, 1971; minimum, 0.0 mg/L July 24, 25, 27, 28, 1970.

WATER TEMPERATURES: Maximum, 26.5°C July 27, 1970, July 20, 21, Aug. 11, 1977; minimum, freezing point on several days in water years 1970-71, 1973-75.

## EXTREMES FOR CURRENT PERIOD.--

pH: Maximum, 8.2 units Aug. 28; minimum, 6.8 units Sept. 22.

DISSOLVED OXYGEN: Maximum recorded, 12.5 mg/L Sept. 21; minimum, 2.3 mg/L July 29.

WATER TEMPERATURES: Maximum, 26.5°C July 20, 21, Aug. 11; minimum, 10.5°C Sept. 30.

## PH (UNITS), AUGUST TO SEPTEMBER 1977

| DAY    | MAX | MIN | MEAN      | MAX | MIN | MEAN |
|--------|-----|-----|-----------|-----|-----|------|
| AUGUST |     |     | SEPTEMBER |     |     |      |
| 1      | --- | --- | ---       | 7.9 | 7.5 | 7.7  |
| 2      | --- | --- | ---       | 8.1 | 7.6 | 7.8  |
| 3      | --- | --- | ---       | 7.7 | 7.6 | 7.7  |
| 4      | --- | --- | ---       | 7.8 | 7.6 | 7.7  |
| 5      | --- | --- | ---       | 7.9 | 7.7 | 7.8  |
| 6      | --- | --- | ---       | 7.8 | 7.7 | 7.7  |
| 7      | --- | --- | ---       | 7.9 | 7.7 | 7.8  |
| 8      | --- | --- | ---       | 7.9 | 7.3 | 7.7  |
| 9      | --- | --- | ---       | 7.7 | 7.1 | 7.4  |
| 10     | --- | --- | ---       | 7.8 | 7.2 | 7.5  |
| 11     | --- | --- | ---       | 7.7 | 7.2 | 7.5  |
| 12     | --- | --- | ---       | 7.6 | 7.2 | 7.3  |
| 13     | --- | --- | ---       | 7.2 | 7.0 | 7.1  |
| 14     | --- | --- | ---       | 7.2 | 6.9 | 7.1  |
| 15     | --- | --- | ---       | 7.3 | 7.0 | 7.1  |
| 16     | --- | --- | ---       | 7.1 | 7.0 | 7.0  |
| 17     | --- | --- | ---       | 7.1 | 7.0 | 7.1  |
| 18     | 7.8 | 7.5 | 7.6       | 7.2 | 7.0 | 7.1  |
| 19     | 8.0 | 7.4 | 7.7       | 7.1 | 7.0 | 7.0  |
| 20     | 8.0 | 7.5 | 7.8       | 7.2 | 7.0 | 7.1  |
| 21     | 8.1 | 7.6 | 7.8       | 7.1 | 7.1 | 7.1  |
| 22     | 7.9 | 7.5 | 7.7       | 7.2 | 6.8 | 7.1  |
| 23     | 8.1 | 7.6 | 7.8       | 7.3 | 7.1 | 7.2  |
| 24     | 7.7 | 7.6 | 7.6       | 7.2 | 7.1 | 7.2  |
| 25     | 8.0 | 7.6 | 7.7       | 7.2 | 7.1 | 7.1  |
| 26     | 8.0 | 7.6 | 7.8       | 7.2 | 7.0 | 7.1  |
| 27     | 8.1 | 7.6 | 7.9       | 7.2 | 7.0 | 7.1  |
| 28     | 8.2 | 7.6 | 7.9       | 7.1 | 7.0 | 7.0  |
| 29     | 8.2 | 7.6 | 7.9       | 7.4 | 7.0 | 7.2  |
| 30     | 7.8 | 7.5 | 7.6       | 7.2 | 7.0 | 7.1  |
| 31     | 7.8 | 7.6 | 7.7       | --- | --- | ---  |
| MONTH  | --- | --- | ---       | 8.1 | 6.8 | 7.3  |
| PERIOD | 8.2 | 6.8 | 7.5       |     |     |      |

01333300 HOOSIC RIVER BELOW WILLIAMSTOWN, MA--Continued

DISSOLVED OXYGEN (DO), MG/L, JULY TO SEPTEMBER 1977

| DAY    | MAX  | MIN  | MEAN | MAX | MIN    | MEAN | MAX  | MIN       | MEAN |
|--------|------|------|------|-----|--------|------|------|-----------|------|
|        |      | JULY |      |     | AUGUST |      |      | SEPTEMBER |      |
| 1      | ---  | ---  | ---  | 4.1 | 2.7    | 3.4  | 8.8  | 7.8       | 8.3  |
| 2      | ---  | ---  | ---  | 4.4 | 2.9    | 3.5  | ---  | ---       | ---  |
| 3      | ---  | ---  | ---  | 4.1 | 2.8    | 3.3  | ---  | ---       | ---  |
| 4      | ---  | ---  | ---  | 4.6 | 2.9    | 3.4  | ---  | ---       | ---  |
| 5      | ---  | ---  | ---  | 3.8 | 2.7    | 3.1  | ---  | ---       | ---  |
| 6      | 9.1  | 7.0  | 7.8  | 6.3 | 3.1    | 4.5  | ---  | ---       | ---  |
| 7      | 9.6  | 5.2  | 7.5  | 7.4 | 4.9    | 6.5  | ---  | ---       | ---  |
| 8      | 5.8  | 4.9  | 5.3  | 9.0 | 6.2    | 7.1  | ---  | ---       | ---  |
| 9      | 6.0  | 5.0  | 5.5  | 7.1 | 5.5    | 6.3  | 9.3  | 6.1       | 7.8  |
| 10     | 7.3  | 5.2  | 6.0  | 7.3 | 5.3    | 6.2  | 9.0  | 6.6       | 7.6  |
| 11     | 6.8  | 5.0  | 5.8  | 5.5 | 3.6    | 4.0  | 9.1  | 7.1       | 8.0  |
| 12     | 6.1  | 5.0  | 5.4  | 7.4 | 4.0    | 4.8  | 9.7  | 8.0       | 8.6  |
| 13     | 6.0  | 4.7  | 5.2  | 8.3 | 6.8    | 7.7  | 9.1  | 7.5       | 8.0  |
| 14     | 6.9  | 4.7  | 5.7  | 7.5 | 7.0    | 7.1  | 9.7  | 8.0       | 8.7  |
| 15     | 6.9  | 4.3  | 5.1  | 7.5 | 6.9    | 7.2  | 9.3  | 8.2       | 8.8  |
| 16     | 7.5  | 4.0  | 5.5  | 8.0 | 7.0    | 7.3  | 9.2  | 8.0       | 8.5  |
| 17     | 8.0  | 5.1  | 6.4  | 9.1 | 8.2    | 8.8  | 9.2  | 7.9       | 8.9  |
| 18     | 9.1  | 5.3  | 6.8  | 9.8 | 7.4    | 8.7  | 10.4 | 9.1       | 9.8  |
| 19     | 9.2  | 5.1  | 6.7  | 9.4 | 6.5    | 8.3  | 10.2 | 8.0       | 9.4  |
| 20     | 9.2  | 4.9  | 6.5  | 9.2 | 6.9    | 8.4  | 11.9 | 8.9       | 10.8 |
| 21     | 8.0  | 3.1  | 5.1  | 8.5 | 6.4    | 7.5  | 12.5 | 11.6      | 12.2 |
| 22     | 7.9  | 3.9  | 5.1  | 9.4 | 6.3    | 7.7  | 11.7 | 10.4      | 11.2 |
| 23     | 8.6  | 5.0  | 6.2  | 9.8 | 7.5    | 8.6  | 10.8 | 9.0       | 10.2 |
| 24     | 8.7  | 5.0  | 6.5  | 8.0 | 6.3    | 7.2  | ---  | ---       | ---  |
| 25     | 6.1  | 4.7  | 5.3  | 7.6 | 6.6    | 7.2  | 12.0 | 10.7      | 11.5 |
| 26     | 7.0  | 4.5  | 5.5  | 8.5 | 7.0    | 7.8  | 11.7 | 10.3      | 11.1 |
| 27     | 6.5  | 3.6  | 4.7  | 9.8 | 7.9    | 8.6  | 10.7 | 9.6       | 10.2 |
| 28     | 5.2  | 2.4  | 3.6  | 9.5 | 7.0    | 8.3  | 10.1 | 8.9       | 9.4  |
| 29     | 4.0  | 2.3  | 2.8  | 9.2 | 7.1    | 7.9  | 10.2 | 9.0       | 9.5  |
| 30     | 4.1  | 2.6  | 3.2  | 8.0 | 7.0    | 7.5  | 10.3 | 8.5       | 9.4  |
| 31     | 4.6  | 2.8  | 3.9  | 9.0 | 6.9    | 7.6  | ---  | ---       | ---  |
| MONTH  | 9.6  | 2.3  | 5.5  | 9.8 | 2.7    | 6.6  | 12.5 | 6.1       | 9.5  |
| PERIOD | 12.5 | 2.3  | 7.0  |     |        |      |      |           |      |

TEMPERATURE (DEG. C) OF WATER, JULY TO SEPTEMBER 1977

| DAY    | MAX  | MIN  | MEAN | MAX  | MIN    | MEAN | MAX  | MIN       | MEAN |
|--------|------|------|------|------|--------|------|------|-----------|------|
|        |      | JULY |      |      | AUGUST |      |      | SEPTEMBER |      |
| 1      | ---  | ---  | ---  | 21.0 | 19.5   | 20.5 | 22.5 | 19.5      | 21.0 |
| 2      | ---  | ---  | ---  | 22.5 | 19.0   | 20.5 | 22.0 | 21.0      | 21.5 |
| 3      | ---  | ---  | ---  | 21.0 | 18.5   | 20.0 | 21.5 | 20.5      | 21.0 |
| 4      | ---  | ---  | ---  | 22.5 | 18.5   | 21.0 | 21.5 | 18.5      | 20.0 |
| 5      | ---  | ---  | ---  | 23.0 | 20.5   | 22.0 | 20.0 | 18.5      | 19.5 |
| 6      | ---  | ---  | ---  | 22.0 | 21.0   | 21.5 | 20.5 | 18.5      | 19.5 |
| 7      | 21.0 | 17.0 | 19.0 | 21.5 | 20.5   | 21.0 | 20.5 | 17.5      | 19.0 |
| 8      | 20.0 | 18.0 | 18.5 | 22.5 | 20.0   | 21.0 | 20.0 | 17.0      | 18.5 |
| 9      | 21.0 | 17.0 | 19.0 | 24.0 | 21.0   | 22.0 | 19.5 | 17.0      | 18.0 |
| 10     | 22.0 | 18.0 | 20.0 | 21.0 | 19.5   | 20.0 | 19.0 | 17.5      | 18.0 |
| 11     | 20.0 | 17.5 | 19.0 | 26.5 | 19.0   | 22.5 | 18.5 | 15.5      | 17.0 |
| 12     | 19.0 | 17.5 | 18.5 | 24.0 | 20.0   | 22.0 | 17.5 | 13.5      | 15.5 |
| 13     | 22.0 | 18.0 | 20.0 | 22.5 | 16.0   | 19.5 | 16.0 | 15.0      | 15.5 |
| 14     | 23.0 | 19.0 | 21.0 | 23.5 | 20.5   | 22.0 | 17.5 | 15.5      | 16.5 |
| 15     | 23.5 | 18.5 | 21.0 | 21.0 | 17.0   | 19.0 | 17.0 | 14.0      | 15.5 |
| 16     | 24.5 | 20.0 | 22.5 | 20.5 | 15.0   | 18.0 | 16.0 | 15.0      | 15.5 |
| 17     | 23.5 | 21.5 | 22.5 | 22.0 | 18.5   | 20.5 | 15.5 | 15.0      | 15.0 |
| 18     | 25.5 | 21.0 | 23.0 | 19.0 | 16.5   | 17.5 | 17.5 | 15.5      | 16.5 |
| 19     | 25.5 | 22.0 | 23.5 | 18.5 | 15.0   | 17.0 | 18.0 | 16.5      | 17.0 |
| 20     | 26.5 | 22.0 | 24.0 | 18.0 | 16.0   | 17.0 | 17.0 | 12.0      | 14.5 |
| 21     | 26.5 | 23.5 | 25.0 | 19.0 | 14.0   | 16.5 | 12.5 | 11.5      | 12.0 |
| 22     | 24.0 | 20.0 | 22.0 | 18.0 | 16.5   | 17.5 | 12.5 | 11.5      | 12.0 |
| 23     | 22.0 | 17.5 | 19.5 | 18.5 | 15.0   | 17.0 | 13.5 | 12.0      | 12.5 |
| 24     | 22.0 | 18.0 | 20.0 | 18.0 | 16.5   | 17.0 | 13.0 | 11.5      | 12.5 |
| 25     | 20.5 | 19.0 | 19.5 | 18.5 | 15.0   | 17.0 | 11.5 | 11.0      | 11.0 |
| 26     | 20.5 | 17.5 | 18.5 | 19.0 | 15.0   | 17.0 | 13.0 | 11.0      | 12.0 |
| 27     | 20.5 | 16.0 | 18.5 | 19.5 | 16.0   | 18.0 | 13.5 | 12.5      | 13.0 |
| 28     | 21.0 | 16.5 | 18.5 | 22.0 | 18.0   | 20.0 | 13.5 | 12.0      | 12.5 |
| 29     | 21.0 | 18.0 | 19.5 | 24.5 | 20.5   | 22.5 | 13.5 | 12.0      | 13.0 |
| 30     | 20.0 | 18.5 | 19.5 | 23.5 | 21.0   | 22.5 | 13.5 | 10.5      | 12.0 |
| 31     | 22.0 | 18.0 | 20.0 | 21.5 | 20.5   | 21.0 | ---  | ---       | ---  |
| MONTH  | 26.5 | 16.0 | 20.5 | 26.5 | 14.0   | 19.5 | 22.5 | 10.5      | 16.0 |
| PERIOD | 26.5 | 10.5 | 18.5 |      |        |      |      |           |      |

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 and discharge measurements at miscellaneous sites are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a tabulation of discharge measurements made at miscellaneous sites. There was no discharge measurements made at low-flow partial-record stations during water year 1977.

#### 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 1977

| Annual maximum discharge at first stage partial record stations during water year 1977 |                                                    |                                                                                                                            |                                  |                  |                |                    |                                 |  |
|----------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------|----------------|--------------------|---------------------------------|--|
| 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                             | 1964-77          | 3-13-77        | 7.41               | 25                              |  |
| 01097452                                                                               | Jackstraw Brook at Hopkinton Road, Westborough, MA | Lat 42°15'28", long 71°36'13", Worcester County, at culvert on Hopkinton Rd. (Route 135), 0.9 mi southeast of Westborough. | 1.24                             | 1972-77          | 3-13-77        | 7.67               | 29                              |  |
| 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                             | 1963-77          | 3-23-77        | 14.07              | 179                             |  |
| 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                              | 1963-77          | 3-23-77        | 8.15               | 53                              |  |
| 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                             | 1963-77          | 3-23-77        | 10.86              | 111                             |  |
| 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                             | 1964-77          | 3-23-77        | 10.94              | 108                             |  |
| 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                             | 1964-77          | 3-23-77        | 9.63               | 17                              |  |
| 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                             | 1967-77          | 3-23-77        | 6.04               | 68                              |  |
| Blackstone River basin                                                                 |                                                    |                                                                                                                            |                                  |                  |                |                    |                                 |  |
| 01111250                                                                               | Dry Arm Brook near Wallum Lake, RI                 | Lat 41°58'22", long 71°45'03", Providence County, at culvert on State Highway 100, 1.8 mi south of Wallum Lake.            | 1.74                             | 1966-77          | 3-23-77        | 7.67               | 36                              |  |
| 01113600                                                                               | Blackstone River tributary No. 2 at Berkeley, RI   | Lat 41°55'27", long 71°24'49", Providence County, at culvert on State Highway 122, 0.5 mi southeast of Berkeley.           | 1.04                             | 1966-77          | 3-23-77        | 5.96               | 31                              |  |



Annual maximum discharge at crest-stage partial-record stations during water year 1977--Continued

| Station No.             | Station name                                           | Location                                                                                                           | Drainage area<br>(mi <sup>2</sup> ) | Period of record | Annual maximum    |                       |                                    |
|-------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------|-------------------|-----------------------|------------------------------------|
|                         |                                                        |                                                                                                                    |                                     |                  | Date              | Gage height<br>(feet) | Dis-charge<br>(ft <sup>3</sup> /s) |
| Pawtuxet River basin    |                                                        |                                                                                                                    |                                     |                  |                   |                       |                                    |
| 01115300                | Wilbur Hollow Brook near Clayville, RI                 | Lat 41°46'06", long 71°38'03", Providence County, at culvert on State Highway 12, 2.3 mi east of Clayville.        | 4.61                                | 1966-77          | 3-23-77           | 12.66                 | 160                                |
| 01115830                | Bear Brook near Coventry, RI                           | Lat 41°39'37", long 71°37'42", Kent County, at culvert on Fish Hill Rd., 3 mi south of Coventry.                   | 3.98                                | 1966-77          | 3-23-77           | 10.00                 | 154                                |
| 01116600                | Pocasset River near North Scituate, RI                 | Lat 41°50'13", long 71°31'49", Providence County, at culvert on Belfield Drive, 3 mi east of North Scituate.       | 1.34                                | 1966-77          | 3-23-77           | 8.15                  | 26                                 |
| 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                                | 1964-77          | 3-13-77           | 7.42                  | 18                                 |
| 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                                | 1963-77          | 3-13-77           | 11.16                 | 64                                 |
| 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                                | 1964-77          | 3-13-77           | 17.39                 | 204                                |
| 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                                | 1965-77          | 3-13-77           | 17.63                 | 92                                 |
| 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                                | 1964-77          | 3-13-77           | 8.25                  | 122                                |
| 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                                | 1964-77          | No data available |                       |                                    |
| 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          | 3-13-77           | 11.33                 | 52                                 |
| 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          | 9-26-77           | 4.08                  | 69                                 |
| 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                                | 1963-77          | 3-13-77           | 17.29                 | 49                                 |

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## 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 1977

Discharge measurements made at miscellaneous sites during water year 1977

| Stream                  | Tributary to                           | Location                                                                                                                                                  | Drainage area<br>(mi <sup>2</sup> ) | Measured previously<br>(water years) | Measurements |                                    |
|-------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------|--------------|------------------------------------|
|                         |                                        |                                                                                                                                                           |                                     |                                      | Date         | Dis-charge<br>(ft <sup>3</sup> /s) |
| Yawgunsk Brook basin    |                                        |                                                                                                                                                           |                                     |                                      |              |                                    |
| Yawgunsk Brook          | Block Island Sound<br>(Atlantic Ocean) | Lat 41°22'58", long 71°38'33", Washington County, at bridge on U.S. Highway 1 at Charlestown, RI, 0.2 mi above mouth.                                     | 1.61                                | 1966                                 | 11-12-76     | *3.7                               |
| Pawcatuck River basin   |                                        |                                                                                                                                                           |                                     |                                      |              |                                    |
| Wood River              | Pawcatuck River                        | Lat 41°30'51", long 71°42'19", Washington County, at bridge on State Highway 138, 0.2 mi southwest of Wyoming and 1.75 mi northeast of Hope Valley, RI.   | 70.8                                | -                                    | 11- 9-76     | *49                                |
| Brushy Brook            | Wood River                             | Lat 41°31'43", long 71°44'13", Washington County, at bridge on Sawmill Rd., 0.4 mi northeast of Moscow, and 1.75 mi north-west of Hope Valley, RI.        | 3.71                                | 1966-67                              | 11- 9-76     | *2.5                               |
| Moscow Brook            | Brushy Brook                           | Lat 41°31'38", long 71°44'12", Washington County, at bridge on Sawmill Rd., 0.3 mi northeast of Moscow, and 1.75 mi north-west of Hope Valley, RI.        | 6.37                                | 1966-67                              | 11- 9-76     | *2.8                               |
| 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                                | -                                    | 11- 9-76     | *11                                |
| Canonchet Brook         | do                                     | Lat 41°28'39", long 71°43'47", Washington County, at bridge on Rockville-Alton Rd., 1.3 mi southeast of Canonchet, and 1.3 mi northwest of Woodville, RI. | 5.89                                | -                                    | 11- 9-76     | *2.8                               |
| Wood River Tributary    | do                                     | Lat 41°26'15", long 71°43'25", Washington County, at bridge on Alton-Carolina Rd., at Alton, RI.                                                          | 2.05                                | -                                    | 11- 9-76     | *1.1                               |
| Wood River              | Pawcatuck River                        | Lat 41°26'10", long 71°43'17", Washington County, 0.1 mi south of Alton-Carolina Rd., 0.1 mi south of Alton, RI.                                          | 85.7                                | -                                    | 11- 9-76     | *77                                |
| Meadow Brook            | do                                     | Lat 41°27'59", long 71°41'26", Washington County, at culvert on Pine Hill Rd., 1.5 mi northwest of Carolina, RI.                                          | 5.53                                | 1965-74†                             | 11-10-76     | *1.4                               |
| Pawcatuck River         | Block Island Sound<br>(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                              | 11- 9-76     | *150                               |

† Operated as a continuous-record station.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
|------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|

## MERRIMACK RIVER BASIN

## 01094400 - NORTH NASHUA RIVER AT FITCHBURG, MA (LAT 42 34 34 LONG 071 47 19.01)

|            |      |     |     |     |            |      |    |      |     |
|------------|------|-----|-----|-----|------------|------|----|------|-----|
| NOV , 1976 |      |     |     |     | MAY , 1977 |      |    |      |     |
| 04...      | 1030 | 50  | 4.5 | 280 | 24...      | 1205 | 66 | 24.5 | 177 |
| DEC        |      |     |     |     | AUG        |      |    |      |     |
| 14...      | 1000 | 41  | .0  | 260 | 09...      | 1445 | 71 | 24.5 | 210 |
| JAN , 1977 |      |     |     |     | SEP        |      |    |      |     |
| 24...      | 1245 | 36  | .5  | --  | 12...      | 1100 | 16 | 18.5 | --  |
| MAR        |      |     |     |     |            |      |    |      |     |
| 08...      | 1030 | 118 | 4.5 | 197 |            |      |    |      |     |

## 01094500 - NORTH NASHUA RIVER NEAR LEOMINSTER, MA (LAT 42 30 06 LONG 071 43 23)

|            |      |    |     |     |            |      |     |      |     |
|------------|------|----|-----|-----|------------|------|-----|------|-----|
| NOV , 1976 |      |    |     |     | MAR , 1977 |      |     |      |     |
| 04...      | 1315 | 82 | 4.5 | 255 | 08...      | 1330 | 201 | 4.5  | 235 |
| DEC        |      |    |     |     | MAY        |      |     |      |     |
| 14...      | 1230 | 77 | .5  | 250 | 24...      | 1100 | 128 | 21.5 | 220 |
| JAN , 1977 |      |    |     |     | AUG        |      |     |      |     |
| 24...      | 1015 | 49 | .5  | --  | 09...      | 1230 | 66  | 24.5 | 210 |

## 01096000 - SQUANNACOOK RIVER NEAR WEST GROTON, MA (LAT 42 38 03 LONG 071 39 30)

|            |      |     |     |    |            |      |    |      |    |
|------------|------|-----|-----|----|------------|------|----|------|----|
| NOV , 1976 |      |     |     |    | JUN , 1977 |      |    |      |    |
| 03...      | 1100 | 45  | 2.0 | 95 | 03...      | 1315 | 65 | 14.5 | 67 |
| DEC        |      |     |     |    | JUL        |      |    |      |    |
| 16...      | 1015 | 39  | .0  | 93 | 27...      | 1025 | 24 | 18.5 | 75 |
| JAN , 1977 |      |     |     |    | SEP        |      |    |      |    |
| 28...      | 0915 | 31  | .0  | -- | 09...      | 1355 | 15 | 18.0 | -- |
| MAR        |      |     |     |    |            |      |    |      |    |
| 10...      | 0915 | 244 | 1.0 | 62 |            |      |    |      |    |

## 01096500 - NASHUA RIVER AT EAST PEPPERELL, MA (LAT 42 40 03 LONG 071 34 32)

|            |      |      |     |     |            |      |     |      |     |
|------------|------|------|-----|-----|------------|------|-----|------|-----|
| NOV , 1976 |      |      |     |     | JUN , 1977 |      |     |      |     |
| 03...      | 0910 | 278  | 3.5 | 191 | 03...      | 1000 | 255 | 26.0 | 395 |
| DEC        |      |      |     |     | JUL        |      |     |      |     |
| 16...      | 1145 | 259  | 1.0 | 182 | 27...      | 0815 | 229 | 26.5 | 325 |
| JAN , 1977 |      |      |     |     | AUG        |      |     |      |     |
| 28...      | 1200 | 173  | .5  | --  | 28...      | 0735 | 9.5 | 23.5 | --  |
| MAR        |      |      |     |     | SEP        |      |     |      |     |
| 10...      | 1300 | 1020 | 3.0 | 178 | 09...      | 1130 | 11  | 22.5 | --  |

## 01097000 - ASSABET RIVER AT MAYNARD, MA (LAT 42 25 55 LONG 071 27 01)

|            |      |     |     |     |            |      |     |      |     |
|------------|------|-----|-----|-----|------------|------|-----|------|-----|
| NOV , 1976 |      |     |     |     | JUN , 1977 |      |     |      |     |
| 04...      | 1545 | 68  | 3.5 | 200 | 08...      | 1210 | 83  | 17.5 | 205 |
| JAN , 1977 |      |     |     |     | AUG        |      |     |      |     |
| 13...      | 1535 | 55  | .0  | 225 | 10...      | 1030 | 82  | 22.5 | 175 |
| FEB        |      |     |     |     | SEP        |      |     |      |     |
| 04...      | 0800 | 43  | .0  | --  | 21...      | 1330 | 141 | 18.5 | --  |
| MAR        |      |     |     |     |            |      |     |      |     |
| 25...      | 1130 | 857 | 2.0 | 140 |            |      |     |      |     |

## 01099500 - CONCORD R BELOW R MEADOW BROOK, AT LOWELL, MA (LAT 42 38 12 LONG 071 18 09)

|            |      |      |     |     |            |      |      |      |     |
|------------|------|------|-----|-----|------------|------|------|------|-----|
| NOV , 1976 |      |      |     |     | MAY , 1977 |      |      |      |     |
| 19...      | 1545 | 192  | 4.5 | 245 | 05...      | 0800 | 1150 | 15.5 | 185 |
| DEC        |      |      |     |     | JUN        |      |      |      |     |
| 21...      | 1430 | 255  | .5  | 230 | 02...      | 1300 | 517  | 21.5 | 171 |
| FEB , 1977 |      |      |     |     | JUL        |      |      |      |     |
| 03...      | 0845 | 290  | .5  | --  | 21...      | 1245 | 102  | 24.5 | 125 |
| MAR        |      |      |     |     | SEP        |      |      |      |     |
| 25...      | 0930 | 2560 | 2.0 | 185 | 13...      | 1015 | 94   | 22.5 | --  |

## 01100000 - MERRIMACK RIVER BL CONCORD RIVER AT LOWELL, MA (LAT 42 38 45 LONG 071 17 56.01)

|            |      |       |     |     |            |      |      |      |     |
|------------|------|-------|-----|-----|------------|------|------|------|-----|
| OCT , 1976 |      |       |     |     | JUN , 1977 |      |      |      |     |
| 29...      | 1000 | 10000 | 2.5 | 166 | 02...      | 1430 | 3950 | 18.5 | 145 |
| FEB , 1977 |      |       |     |     | JUL        |      |      |      |     |
| 03...      | 0945 | 3440  | .5  | --  | 21...      | 1045 | 2170 | 29.0 | 305 |
| MAR        |      |       |     |     | SEP        |      |      |      |     |
| 29...      | 1600 | 19800 | 4.5 | 162 | 23...      | 1045 | 4960 | 18.5 | --  |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                            | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|---------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| MERRIMACK RIVER BASIN--CONTINUED                                                |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01100600 - SHAWSHEEN RIVER NEAR WILMINGTON, MA (LAT 42 34 05 LONG 071 12 55.01) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                      |      |                                               |                             |                                                            | JUL , 1977 |      |                                               |                             |                                                            |
| 29... 1155                                                                      | 59   | 3.0                                           | 220                         | 21... 1415                                                 | 28         | 21.5 | 80                                            |                             |                                                            |
| DEC 21... 1100                                                                  | 36   | .0                                            | 330                         | AUG 17... 0835                                             | 13         | 19.5 | --                                            |                             |                                                            |
| FEB , 1977                                                                      |      |                                               |                             | SEP 06... 1410                                             | 7.3        | 23.5 | --                                            |                             |                                                            |
| 01... 1400                                                                      | 28   | .0                                            | --                          | 27... 0720                                                 | 51         | 19.5 | --                                            |                             |                                                            |
| MAR 24... 1330                                                                  | 434  | 2.0                                           | 188                         |                                                            |            |      |                                               |                             |                                                            |
| JUN 02... 1215                                                                  | 25   | 12.5                                          | 285                         |                                                            |            |      |                                               |                             |                                                            |
| PARKER RIVER BASIN                                                              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01101000 - PARKER RIVER AT BYFIELD, MA (LAT 42 45 10 LONG 070 56 46)            |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                      |      |                                               |                             | JUL , 1977                                                 |            |      |                                               |                             |                                                            |
| 05... 1445                                                                      | 13   | 3.0                                           | 162                         | 19... 0700                                                 | .74        | 22.5 | 160                                           |                             |                                                            |
| DEC 13... 1530                                                                  | 12   | --                                            | 162                         |                                                            |            |      |                                               |                             |                                                            |
| IPSWICH RIVER BASIN                                                             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01101500 - IPSWICH RIVER AT SOUTH MIDDLETON, MA (LAT 42 34 10 LONG 071 01 39)   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| FEB , 1977                                                                      |      |                                               |                             | JUL , 1977                                                 |            |      |                                               |                             |                                                            |
| 01... 1245                                                                      | 7.2  | .5                                            | --                          | 19... 0900                                                 | 12         | 20.5 | 163                                           |                             |                                                            |
| MAR 24... 1130                                                                  | 434  | 2.0                                           | 145                         | SEP 13... 1310                                             | 5.5        | 21.5 | --                                            |                             |                                                            |
| MAY 16... 1015                                                                  | 194  | 15.5                                          | --                          |                                                            |            |      |                                               |                             |                                                            |
| 01102000 - IPSWICH RIVER NEAR IPSWICH, MA (LAT 42 39 35 LONG 070 53 39)         |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                      |      |                                               |                             | MAY , 1977                                                 |            |      |                                               |                             |                                                            |
| 18... 1230                                                                      | 26   | .5                                            | 440                         | 16... 1300                                                 | 627        | 16.5 | --                                            |                             |                                                            |
| DEC 13... 1230                                                                  | 35   | .5                                            | 210                         | JUL 20... 1430                                             | 26         | 29.0 | 225                                           |                             |                                                            |
| FEB , 1977                                                                      |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01... 1115                                                                      | 59   | .0                                            | --                          |                                                            |            |      |                                               |                             |                                                            |
| MYSTIC RIVER BASIN                                                              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01102500 - ABERJONA RIVER AT WINCHESTER, MA (LAT 42 26 50 LONG 071 08 22.01)    |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| DEC , 1976                                                                      |      |                                               |                             | AUG , 1977                                                 |            |      |                                               |                             |                                                            |
| 23... 1225                                                                      | 4.8  | 2.0                                           | --                          | 04... 1620                                                 | 16         | 26.0 | 790                                           |                             |                                                            |
| FEB , 1977                                                                      |      |                                               |                             | SEP 16... 1135                                             | 2.3        | 16.0 | 1125                                          |                             |                                                            |
| 08... 1415                                                                      | 5.5  | 1.0                                           | --                          |                                                            |            |      |                                               |                             |                                                            |
| APR 11... 1200                                                                  | 45   | 8.0                                           | 520                         |                                                            |            |      |                                               |                             |                                                            |
| CHARLES RIVER BASIN                                                             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01103305 - CHARLES RIVER NEAR MILLIS, MA (LAT 42 07 59 LONG 071 21 46.01)       |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                      |      |                                               |                             | MAY , 1977                                                 |            |      |                                               |                             |                                                            |
| 19... 0915                                                                      | 39   | 7.5                                           | --                          | 18... 1330                                                 | 171        | 21.0 | 189                                           |                             |                                                            |
| DEC 02... 1050                                                                  | 47   | 2.0                                           | --                          | JUL 22... 1215                                             | 27         | 27.0 | 450                                           |                             |                                                            |
| APR , 1977                                                                      |      |                                               |                             | SEP 09... 1400                                             | 16         | 21.0 | 540                                           |                             |                                                            |
| 06... 1520                                                                      | 507  | 7.0                                           | 139                         |                                                            |            |      |                                               |                             |                                                            |
| 01104000 - MOTHER BROOK AT DEDHAM, MA (LAT 42 15 18 LONG 071 09 53)             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                      |      |                                               |                             | MAY , 1977                                                 |            |      |                                               |                             |                                                            |
| 18... 0900                                                                      | 12   | 8.0                                           | --                          | 16... 1500                                                 | 133        | 19.0 | 120                                           |                             |                                                            |
| FEB , 1977                                                                      |      |                                               |                             | SEP 08... 1245                                             | 2.3        | 22.0 | 600                                           |                             |                                                            |
| 01... 1510                                                                      | 21   | 1.0                                           | --                          |                                                            |            |      |                                               |                             |                                                            |
| MAR 28... 1430                                                                  | 322  | 7.0                                           | 175                         |                                                            |            |      |                                               |                             |                                                            |

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                                 | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|--------------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| CHARLES RIVER BASIN--CONTINUED                                                       |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01104200 - CHARLES RIVER AT WELLESLEY, MA (LAT 42 18 59 LONG 071 13 42)              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                           |      |                                               |                             |                                                            | JUL , 1977 |      |                                               |                             |                                                            |
| 19...                                                                                | 1350 | 98                                            | 8.0                         | --                                                         | 22...      | 1355 | 43                                            | 30.0                        | 475                                                        |
| APR , 1977                                                                           |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 06...                                                                                | 1050 | 799                                           | 8.0                         | 194                                                        | 12...      | 1345 | 31                                            | 21.0                        | 575                                                        |
| MAY                                                                                  |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 18...                                                                                | 1145 | 669                                           | 21.0                        | 190                                                        |            |      |                                               |                             |                                                            |
| 01104500 - CHARLES RIVER AT WALTHAM, MA (LAT 42 22 20 LONG 071 14 03)                |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                           |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 05...                                                                                | 1000 | 193                                           | 4.0                         | 198                                                        | 02...      | 0945 | 182                                           | 14.5                        | 175                                                        |
| DEC                                                                                  |      |                                               |                             |                                                            | JUL        |      |                                               |                             |                                                            |
| 17...                                                                                | 1400 | 164                                           | .5                          | 245                                                        | 20...      | 1340 | 82                                            | 29.0                        | 250                                                        |
| FEB , 1977                                                                           |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 04...                                                                                | 0930 | 188                                           | .0                          | --                                                         | 14...      | 1330 | 55                                            | 21.5                        | --                                                         |
| NEPONSET RIVER BASIN                                                                 |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01105000 - NEPONSET RIVER AT NORWOOD, MA (LAT 42 10 39 LONG 071 12 05.01)            |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                           |      |                                               |                             |                                                            | MAY , 1977 |      |                                               |                             |                                                            |
| 18...                                                                                | 1145 | 11                                            | 9.0                         | --                                                         | 16...      | 0900 | 93                                            | 20.0                        | 199                                                        |
| DEC                                                                                  |      |                                               |                             |                                                            | JUL        |      |                                               |                             |                                                            |
| 22...                                                                                | 1130 | 23                                            | 2.0                         | --                                                         | 19...      | 1140 | 7.5                                           | 29.0                        | 600                                                        |
| FEB , 1977                                                                           |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 09...                                                                                | 1145 | 21                                            | 1.0                         | --                                                         | 08...      | 1205 | 4.6                                           | 21.0                        | 590                                                        |
| MAR                                                                                  |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 28...                                                                                | 1055 | 131                                           | 9.0                         | 220                                                        |            |      |                                               |                             |                                                            |
| 01105500 - EAST BRANCH NEPONSET RIVER AT CANTON, MA (LAT 42 09 16 LONG 071 08 47.01) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                           |      |                                               |                             |                                                            | JUL , 1977 |      |                                               |                             |                                                            |
| 18...                                                                                | 1030 | 15                                            | 9.0                         | --                                                         | 19...      | 1215 | 31                                            | 28.0                        | 375                                                        |
| JAN , 1977                                                                           |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 06...                                                                                | 1550 | 25                                            | 1.0                         | --                                                         | 17...      | 1315 | 12                                            | 23.0                        | --                                                         |
| FEB                                                                                  |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 09...                                                                                | 1445 | 23                                            | 1.0                         | --                                                         | 08...      | 0920 | 4.5                                           | 22.0                        | 440                                                        |
| MAR                                                                                  |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 28...                                                                                | 1215 | 131                                           | 9.0                         | 195                                                        |            |      |                                               |                             |                                                            |
| BLACKS CREEK BASIN                                                                   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01105557 - FURNACE BROOK AT QUINCY, MA (LAT 42 15 28 LONG 071 00 33)                 |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                           |      |                                               |                             |                                                            | AUG , 1977 |      |                                               |                             |                                                            |
| 20...                                                                                | 0940 | 2.5                                           | 11.0                        | --                                                         | 05...      | 1155 | .93                                           | 22.0                        | 840                                                        |
| FEB , 1977                                                                           |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 04...                                                                                | 1105 | 2.2                                           | 3.0                         | --                                                         | 15...      | 1005 | .64                                           | 15.0                        | 600                                                        |
| MAY                                                                                  |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 12...                                                                                | 1145 | 15                                            | 16.0                        | 380                                                        |            |      |                                               |                             |                                                            |
| WEYMOUTH FORE RIVER BASIN                                                            |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01105585 - TOWN BROOK AT QUINCY, MA (LAT 42 14 52 LONG 070 59 52.01)                 |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                           |      |                                               |                             |                                                            | MAY , 1977 |      |                                               |                             |                                                            |
| 20...                                                                                | 1100 | 1.7                                           | 11.0                        | --                                                         | 12...      | 1225 | 15                                            | 16.0                        | 460                                                        |
| DEC                                                                                  |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 15...                                                                                | 0940 | .93                                           | .0                          | --                                                         | 15...      | 1040 | 1.2                                           | 19.0                        | 850                                                        |
| FEB , 1977                                                                           |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 04...                                                                                | 1240 | 4.2                                           | 3.0                         | --                                                         |            |      |                                               |                             |                                                            |
| WEYMOUTH BACK RIVER BASIN                                                            |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01105600 - OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MA (LAT 42 11 25 LONG 070 56 43)     |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                           |      |                                               |                             |                                                            | AUG , 1977 |      |                                               |                             |                                                            |
| 20...                                                                                | 1225 | 2.3                                           | 11.5                        | --                                                         | 02...      | 1135 | .57                                           | 23.0                        | 520                                                        |
| MAY , 1977                                                                           |      |                                               |                             |                                                            | 19...      | 1110 | 1.2                                           | 18.0                        | --                                                         |
| 12...                                                                                | 1500 | 20                                            | 18.0                        | 200                                                        | SEP        |      |                                               |                             |                                                            |
| 23...                                                                                | 1005 | 4.8                                           | 18.0                        | --                                                         | 15...      | 1250 | .38                                           | 15.0                        | 460                                                        |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                          | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|-------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| NORTH RIVER BASIN                                                             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01105730 - INDIAN HEAD RIVER AT HANOVER, MA (LAT 42 06 02 LONG 070 49 23)     |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                    |      |                                               |                             |                                                            | AUG , 1977 |      |                                               |                             |                                                            |
| 19...                                                                         | 1425 | 23                                            | 4.5                         | --                                                         | 02...      | 1445 | 12                                            | 26.0                        | 510                                                        |
| APR , 1977                                                                    |      |                                               |                             |                                                            | 16...      | 1625 | 8.9                                           | 24.0                        | --                                                         |
| 07...                                                                         | 1145 | 177                                           | 8.0                         | 172                                                        | SEP        |      |                                               |                             |                                                            |
| MAY                                                                           |      |                                               |                             |                                                            | 13...      | 1105 | 4.1                                           | 19.0                        | 210                                                        |
| 23...                                                                         | 1350 | 40                                            | 22.0                        | 250                                                        |            |      |                                               |                             |                                                            |
| JONES RIVER BASIN                                                             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01105870 - JONES RIVER AT KINGSTON, MA (LAT 41 59 27 LONG 070 44 03)          |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                    |      |                                               |                             |                                                            | MAY , 1977 |      |                                               |                             |                                                            |
| 02...                                                                         | 1120 | 15                                            | 7.0                         | --                                                         | 23...      | 1210 | 22                                            | 22.0                        | 100                                                        |
| DEC                                                                           |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 15...                                                                         | 1245 | 10                                            | 1.0                         | --                                                         | 01...      | 1235 | 16                                            | 21.0                        | 169                                                        |
| FEB , 1977                                                                    |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 02...                                                                         | 1425 | 19                                            | .0                          | --                                                         | 13...      | 1255 | 13                                            | 15.5                        | 188                                                        |
| APR                                                                           |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 07...                                                                         | 1020 | 74                                            | 8.0                         | 71                                                         |            |      |                                               |                             |                                                            |
| HERRING RIVER BASIN                                                           |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01105880 - HERRING RIVER AT NORTH HARWICH, MA (LAT 41 42 00 LONG 070 06 27)   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                    |      |                                               |                             |                                                            | SEP , 1977 |      |                                               |                             |                                                            |
| 27...                                                                         | 1000 | 7.9                                           | 7.0                         | --                                                         | 07...      | 1310 | 3.1                                           | 21.0                        | 171                                                        |
| JAN , 1977                                                                    |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 05...                                                                         | 1500 | 1.6                                           | .0                          | --                                                         |            |      |                                               |                             |                                                            |
| WEST BRANCH WESTPORT RIVER BASIN                                              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01106000 - ADAMSVILLE BROOK AT ADAMSVILLE, RI (LAT 41 33 30 LONG 071 07 47)   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                    |      |                                               |                             |                                                            | MAY , 1977 |      |                                               |                             |                                                            |
| 22...                                                                         | 1105 | 28                                            | 11.0                        | --                                                         | 24...      | 1030 | 8.3                                           | 21.0                        | 90                                                         |
| DEC                                                                           |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 20...                                                                         | 1010 | 11                                            | 2.0                         | --                                                         | 03...      | 1420 | .21                                           | 22.0                        | 285                                                        |
| FEB , 1977                                                                    |      |                                               |                             |                                                            | 19...      | 1545 | .90                                           | 19.5                        | --                                                         |
| 10...                                                                         | 1300 | 6.1                                           | 2.0                         | --                                                         | SEP        |      |                                               |                             |                                                            |
| APR                                                                           |      |                                               |                             |                                                            | 19...      | 1105 | 4.0                                           | 20.0                        | 240                                                        |
| 08...                                                                         | 1110 | 49                                            | 8.0                         | --                                                         |            |      |                                               |                             |                                                            |
| TAUNTON RIVER BASIN                                                           |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01108500 - WADING RIVER AT WEST MANSFIELD, MA (LAT 42 00 00 LONG 071 15 38)   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                    |      |                                               |                             |                                                            | JUL , 1977 |      |                                               |                             |                                                            |
| 29...                                                                         | 1120 | 8.9                                           | 5.0                         | --                                                         | 21...      | 1000 | 1.0                                           | 28.0                        | 375                                                        |
| DEC                                                                           |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 06...                                                                         | 1030 | 5.1                                           | 1.0                         | --                                                         | 18...      | 1035 | 4.5                                           | 22.0                        | --                                                         |
| APR , 1977                                                                    |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 01...                                                                         | 1115 | 80                                            | 9.0                         | 165                                                        | 09...      | 1205 | 2.4                                           | 20.0                        | 450                                                        |
| MAY                                                                           |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 17...                                                                         | 1235 | 66                                            | 20.0                        | 185                                                        |            |      |                                               |                             |                                                            |
| 01109000 - WADING RIVER NEAR NORTON, MA (LAT 41 56 51 LONG 071 10 38)         |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                    |      |                                               |                             |                                                            | MAY , 1977 |      |                                               |                             |                                                            |
| 29...                                                                         | 1315 | 62                                            | 6.0                         | --                                                         | 17...      | 1440 | 95                                            | 19.0                        | 250                                                        |
| DEC                                                                           |      |                                               |                             |                                                            | JUL        |      |                                               |                             |                                                            |
| 06...                                                                         | 1205 | 21                                            | 1.0                         | --                                                         | 21...      | 1200 | 7.4                                           | 26.0                        | --                                                         |
| JAN , 1977                                                                    |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 31...                                                                         | 1515 | 51                                            | .5                          | --                                                         | 09...      | 1030 | 4.8                                           | 19.0                        | 245                                                        |
| APR                                                                           |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01...                                                                         | 1200 | 176                                           | 12.0                        | 164                                                        |            |      |                                               |                             |                                                            |
| 01109060 - THREEMILE RIVER AT NORTH DIGHTON, MA (LAT 41 51 58 LONG 071 07 24) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                    |      |                                               |                             |                                                            | MAY , 1977 |      |                                               |                             |                                                            |
| 01...                                                                         | 1340 | 141                                           | 9.0                         | --                                                         | 20...      | 1220 | 237                                           | 19.0                        | --                                                         |
| JAN , 1977                                                                    |      |                                               |                             |                                                            | JUL        |      |                                               |                             |                                                            |
| 31...                                                                         | 1255 | 124                                           | 1.0                         | --                                                         | 27...      | 1245 | 91                                            | 23.0                        | 375                                                        |
| APR                                                                           |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 04...                                                                         | 0900 | 361                                           | 10.0                        | 132                                                        | 12...      | 0955 | 41                                            | 18.0                        | 260                                                        |



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | TEMPERATURE (DEG C) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | TEMPERATURE (DEG C) | SPECIFIC CONDUCTANCE (MICRO-MHOS) |
|------|------|-------------------------------|---------------------|-----------------------------------|------|------|-------------------------------|---------------------|-----------------------------------|
|------|------|-------------------------------|---------------------|-----------------------------------|------|------|-------------------------------|---------------------|-----------------------------------|

## TAUNTON RIVER BASIN--CONTINUED

## 01109070 - SEGREGANSET RIVER NEAR DIGHTON, MA (LAT 41 50 25 LONG 071 08 36)

|            |      |    |     |    |            |      |     |      |     |
|------------|------|----|-----|----|------------|------|-----|------|-----|
| NOV , 1976 |      |    |     |    | MAY , 1977 |      |     |      |     |
| 01...      | 1120 | 18 | 9.0 | -- | 20...      | 1115 | 15  | 18.0 | 68  |
| DEC        |      |    |     |    | JUL        |      |     |      |     |
| 20...      | 1215 | 13 | 2.0 | -- | 27...      | 1220 | 6.5 | 22.0 | 225 |
| APR , 1977 |      |    |     |    | SEP        |      |     |      |     |
| 04...      | 1235 | 34 | 9.0 | 58 | 12...      | 1135 | 3.3 | 15.5 | 190 |

## BLACKSTONE RIVER BASIN

## 01109500 - KETTLE BROOK AT WORCESTER, MA (LAT 42 13 55 LONG 071 50 07)

|            |      |    |     |    |            |      |    |      |     |
|------------|------|----|-----|----|------------|------|----|------|-----|
| OCT , 1976 |      |    |     |    | APR , 1977 |      |    |      |     |
| 19...      | 1255 | 11 | 9.0 | -- | 14...      | 1513 | 63 | 15.0 | --  |
| NOV        |      |    |     |    | JUN        |      |    |      |     |
| 30...      | 1550 | 10 | 4.0 | -- | 06...      | 1030 | 13 | 22.0 | 690 |
| MAR , 1977 |      |    |     |    | SEP        |      |    |      |     |
| 04...      | 1210 | 47 | 1.5 | -- | 19...      | 1400 | 22 | 20.0 | --  |

## 01110000 - QUINSIGAMOND RIVER AT NORTH GRAFTON, MA (LAT 42 13 49 LONG 071 42 41)

|            |      |     |      |    |            |      |    |      |    |
|------------|------|-----|------|----|------------|------|----|------|----|
| OCT , 1976 |      |     |      |    | APR , 1977 |      |    |      |    |
| 19...      | 1500 | 4.0 | 11.0 | -- | 14...      | 1320 | 63 | 15.0 | -- |
| NOV        |      |     |      |    | SEP        |      |    |      |    |
| 24...      | 1430 | 4.8 | 4.0  | -- | 19...      | 1245 | 12 | 20.0 | -- |
| MAR , 1977 |      |     |      |    |            |      |    |      |    |
| 04...      | 0950 | 43  | 1.5  | -- |            |      |    |      |    |

## 01110500 - BLACKSTONE RIVER AT NORTHBRIDGE, MA (LAT 42 09 13 LONG 071 39 09)

|            |      |     |      |     |            |      |     |      |     |
|------------|------|-----|------|-----|------------|------|-----|------|-----|
| OCT , 1976 |      |     |      |     | APR , 1977 |      |     |      |     |
| 19...      | 1515 | 76  | 11.5 | --  | 07...      | 1315 | 774 | 5.5  | 186 |
| NOV        |      |     |      |     | MAY        |      |     |      |     |
| 24...      | 1445 | 96  | 5.0  | 505 | 17...      | 1600 | 364 | 19.0 | --  |
| JAN , 1977 |      |     |      |     | JUN        |      |     |      |     |
| 05...      | 1645 | 99  | 1.0  | 441 | 24...      | 1700 | 126 | 22.5 | 420 |
| FEB        |      |     |      |     | JUL        |      |     |      |     |
| 09...      | 1000 | 112 | .0   | 465 | 13...      | 1745 | 138 | 23.5 | 380 |
| 16...      | 1600 | 112 | 1.5  | 436 |            |      |     |      |     |

## 01111200 - WEST RIVER BELOW WEST HILL DAM, NR UXBRIDGE, MA (LAT 42 06 17 LONG 071 36 28)

|            |      |     |     |     |            |      |     |      |     |
|------------|------|-----|-----|-----|------------|------|-----|------|-----|
| DEC , 1976 |      |     |     |     | JUN , 1977 |      |     |      |     |
| 03...      | 0845 | 7.6 | 1.0 | 83  | 03...      | 0830 | 19  | 18.5 | 170 |
| JAN , 1977 |      |     |     |     | AUG        |      |     |      |     |
| 11...      | 0940 | 19  | .0  | 107 | 03...      | 1215 | 5.0 | 23.0 | 162 |
| FEB        |      |     |     |     | 04...      | 0920 | 4.9 | 22.0 | 178 |
| 16...      | 1020 | 20  | .0  | 87  | SEP        |      |     |      |     |
| APR        |      |     |     |     | 20...      | 0945 | 6.6 | 17.0 | --  |
| 08...      | 1100 | 160 | 4.5 | 98  |            |      |     |      |     |

## 01111300 - NIPMUC RIVER NEAR HARRISVILLE, RI (LAT 41 58 52 LONG 071 41 11)

|            |      |     |     |    |            |      |     |      |    |
|------------|------|-----|-----|----|------------|------|-----|------|----|
| NOV , 1976 |      |     |     |    | JUL , 1977 |      |     |      |    |
| 02...      | 0915 | 12  | 3.0 | 67 | 08...      | 0830 | 2.2 | 18.0 | 68 |
| 22...      | 0900 | 6.2 | .0  | 74 | SEP        |      |     |      |    |
| DEC        |      |     |     |    | 28...      | 0945 | 26  | 13.0 | 63 |
| 23...      | 0930 | 13  | .0  | -- |            |      |     |      |    |
| MAR , 1977 |      |     |     |    |            |      |     |      |    |
| 30...      | 0915 | 98  | 9.0 | 59 |            |      |     |      |    |

## 01111500 - BRANCH RIVER AT FORESTDALE, RI (LAT 41 59 47 LONG 071 33 47)

|            |      |     |     |     |            |      |     |      |     |
|------------|------|-----|-----|-----|------------|------|-----|------|-----|
| OCT , 1976 |      |     |     |     | FEB , 1977 |      |     |      |     |
| 26...      | 0900 | 107 | 9.0 | 104 | 22...      | 0950 | 70  | 1.0  | --  |
| NOV        |      |     |     |     | MAY        |      |     |      |     |
| 22...      | 1040 | 45  | 2.5 | 113 | 23...      | 1235 | 166 | 20.5 | --  |
| DEC        |      |     |     |     | JUN        |      |     |      |     |
| 23...      | 1030 | 90  | 2.0 | 123 | 27...      | 0630 | 40  | 21.5 | 98  |
| JAN , 1977 |      |     |     |     | SEP        |      |     |      |     |
| 25...      | 0830 | 92  | .0  | --  | 26...      | 0825 | 129 | 15.0 | 110 |

MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                                   | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|----------------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| BLACKSTONE RIVER BASIN--CONTINUED                                                      |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01112500 - BLACKSTONE RIVER AT WOONSOCKET, RI (LAT 42 00 22 LONG 071 30 13)            |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                             |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 02...                                                                                  | 1200 | 391                                           | 7.5                         | 243                                                        | 09...      | 1200 | 447                                           | 16.5                        | 254                                                        |
| 23...                                                                                  | 1000 | 197                                           | 2.5                         | --                                                         | AUG        |      |                                               |                             |                                                            |
| DEC                                                                                    |      |                                               |                             |                                                            | 11...      | 0700 | 158                                           | 24.0                        | 305                                                        |
| 15...                                                                                  | 1130 | 299                                           | 1.5                         | --                                                         | SEP        |      |                                               |                             |                                                            |
| FEB , 1977                                                                             |      |                                               |                             |                                                            | 13...      | 1245 | 112                                           | 18.0                        | 340                                                        |
| 14...                                                                                  | 0930 | 414                                           | 1.0                         | --                                                         |            |      |                                               |                             |                                                            |
| 28...                                                                                  | 0915 | 1580                                          | 1.0                         | 229                                                        |            |      |                                               |                             |                                                            |
| MOSHASSUCK RIVER BASIN                                                                 |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01114000 - MOSHASSUCK RIVER AT PROVIDENCE, RI (LAT 41 50 02 LONG 071 24 42)            |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                             |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 03...                                                                                  | 1115 | 22                                            | 8.0                         | 292                                                        | 27...      | 1050 | 45                                            | 11.0                        | 280                                                        |
| DEC                                                                                    |      |                                               |                             |                                                            | JUL        |      |                                               |                             |                                                            |
| 09...                                                                                  | 1100 | 31                                            | 1.0                         | 273                                                        | 08...      | 1105 | 9.4                                           | 19.0                        | 408                                                        |
| JAN , 1977                                                                             |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 27...                                                                                  | 1355 | 25                                            | 3.0                         | 295                                                        | 28...      | 1355 | 40                                            | 18.0                        | 245                                                        |
| WOONASQUATUCKET RIVER BASIN                                                            |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01114500 - WOONASQUATUCKET RIVER AT CENTERDALE, RI (LAT 41 51 32 LONG 071 29 16)       |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                             |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 03...                                                                                  | 0920 | 60                                            | 7.0                         | 140                                                        | 27...      | 0955 | 114                                           | 11.0                        | 137                                                        |
| DEC                                                                                    |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 09...                                                                                  | 0900 | 80                                            | 1.0                         | 148                                                        | 14...      | 0845 | 64                                            | 17.0                        | 131                                                        |
| JAN , 1977                                                                             |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 27...                                                                                  | 1200 | 34                                            | 1.5                         | 218                                                        | 12...      | 0630 | 18                                            | 25.0                        | 148                                                        |
| MAR                                                                                    |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 07...                                                                                  | 0850 | 113                                           | 2.5                         | --                                                         | 28...      | 1140 | 63                                            | 16.5                        | 126                                                        |
| PAWTUXET RIVER BASIN                                                                   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01115630 - NOOSENECK RIVER AT NOOSENECK, RI (LAT 41 37 36 LONG 071 37 59)              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                             |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 01...                                                                                  | 1300 | 12                                            | 7.5                         | 101                                                        | 17...      | 0955 | 12                                            | 15.0                        | 90                                                         |
| DEC                                                                                    |      |                                               |                             |                                                            | JUL        |      |                                               |                             |                                                            |
| 08...                                                                                  | 1525 | 20                                            | 1.0                         | 102                                                        | 06...      | 0805 | 5.0                                           | 18.0                        | 116                                                        |
| MAR , 1977                                                                             |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 08...                                                                                  | 0950 | 38                                            | .5                          | --                                                         | 29...      | 1000 | 9.0                                           | 14.0                        | 102                                                        |
| APR                                                                                    |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 26...                                                                                  | 1050 | 26                                            | 13.5                        | 81                                                         |            |      |                                               |                             |                                                            |
| 01115770 - CARR RIVER NEAR NOOSENECK, RI (LAT 41 38 35 LONG 071 36 30)                 |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                             |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 05...                                                                                  | 0900 | 4.6                                           | 6.5                         | 94                                                         | 17...      | 0920 | 9.9                                           | 19.5                        | 51                                                         |
| 14...                                                                                  | 1015 | 3.5                                           | 6.5                         | --                                                         | AUG        |      |                                               |                             |                                                            |
| DEC                                                                                    |      |                                               |                             |                                                            | 11...      | 1130 | 2.7                                           | 27.0                        | 104                                                        |
| 08...                                                                                  | 0830 | 16                                            | 1.5                         | 88                                                         | SEP        |      |                                               |                             |                                                            |
| FEB , 1977                                                                             |      |                                               |                             |                                                            | 29...      | 1100 | 4.4                                           | 16.5                        | 80                                                         |
| 01...                                                                                  | 0925 | 5.3                                           | .5                          | 129                                                        |            |      |                                               |                             |                                                            |
| APR                                                                                    |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 26...                                                                                  | 1335 | 18                                            | 14.0                        | 62                                                         |            |      |                                               |                             |                                                            |
| 01116000 - SOUTH BRANCH PAWTUXET RIVER AT WASHINGTON, RI (LAT 41 41 24 LONG 071 33 59) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                             |      |                                               |                             |                                                            | MAY , 1977 |      |                                               |                             |                                                            |
| 08...                                                                                  | 1100 | 88                                            | 5.5                         | 95                                                         | 02...      | 1015 | 117                                           | 13.5                        | 92                                                         |
| DEC                                                                                    |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 15...                                                                                  | 1430 | 50                                            | .5                          | --                                                         | 17...      | 0550 | 86                                            | 18.5                        | 83                                                         |
| FEB , 1977                                                                             |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 01...                                                                                  | 1030 | 125                                           | .5                          | 120                                                        | 15...      | 1045 | 36                                            | 18.5                        | 95                                                         |
| MAR                                                                                    |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 10...                                                                                  | 1350 | 246                                           | 4.5                         | 91                                                         |            |      |                                               |                             |                                                            |

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                                | TIME | INSTANTANEOUS DISCHARGE (CFS) | TEMPERATURE (DEG C) | SPECIFIC CONDUCTANCE (MICROMHOS) | DATE       | TIME | INSTANTANEOUS DISCHARGE (CFS) | TEMPERATURE (DEG C) | SPECIFIC CONDUCTANCE (MICROMHOS) |
|-------------------------------------------------------------------------------------|------|-------------------------------|---------------------|----------------------------------|------------|------|-------------------------------|---------------------|----------------------------------|
| POTOWOMUT RIVER BASIN                                                               |      |                               |                     |                                  |            |      |                               |                     |                                  |
| 01117000 - POTOWOMUT RIVER NEAR EAST GREENWICH, RI (LAT 41 38 28 LONG 071 26 45)    |      |                               |                     |                                  |            |      |                               |                     |                                  |
| NOV , 1976                                                                          |      |                               |                     |                                  | APR , 1977 |      |                               |                     |                                  |
| 08...                                                                               | 0930 | 20                            | 6.0                 | 144                              | 26...      | 0840 | 87                            | 13.5                | 115                              |
| DEC                                                                                 |      |                               |                     |                                  | JUN        |      |                               |                     |                                  |
| 15...                                                                               | 0900 | 17                            | .5                  | --                               | 16...      | 0815 | 30                            | 18.0                | 116                              |
| JAN , 1977                                                                          |      |                               |                     |                                  | SEP        |      |                               |                     |                                  |
| 24...                                                                               | 1500 | 27                            | .0                  | 157                              | 29...      | 1200 | 18                            | 25.5                | --                               |
| PAWCATUCK RIVER BASIN                                                               |      |                               |                     |                                  |            |      |                               |                     |                                  |
| 01117468 - BEAVER RIVER NEAR USQUEPAUG, RI (LAT 41 29 33 LONG 071 37 43.01)         |      |                               |                     |                                  |            |      |                               |                     |                                  |
| OCT , 1976                                                                          |      |                               |                     |                                  | APR , 1977 |      |                               |                     |                                  |
| 28...                                                                               | 1255 | 8.8                           | 3.5                 | --                               | 29...      | 0700 | 24                            | 8.0                 | 67                               |
| DEC                                                                                 |      |                               |                     |                                  | JUN        |      |                               |                     |                                  |
| 07...                                                                               | 1030 | 5.7                           | .0                  | 83                               | 06...      | 1330 | 12                            | 13.5                | 55                               |
| JAN , 1977                                                                          |      |                               |                     |                                  | AUG        |      |                               |                     |                                  |
| 28...                                                                               | 1315 | 9.4                           | .0                  | 52                               | 02...      | 1130 | 4.6                           | 16.5                | 50                               |
| MAR                                                                                 |      |                               |                     |                                  | SEP        |      |                               |                     |                                  |
| 02...                                                                               | 0815 | 33                            | .0                  | 79                               | 30...      | 1310 | 5.3                           | 11.5                | 61                               |
| 01117500 - PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI (LAT 41 26 42 LONG 071 40 53) |      |                               |                     |                                  |            |      |                               |                     |                                  |
| NOV , 1976                                                                          |      |                               |                     |                                  | APR , 1977 |      |                               |                     |                                  |
| 09...                                                                               | 1400 | 74                            | 4.0                 | 113                              | 28...      | 1245 | 265                           | 11.0                | 92                               |
| JAN , 1977                                                                          |      |                               |                     |                                  | AUG        |      |                               |                     |                                  |
| 04...                                                                               | 1245 | 79                            | .0                  | 127                              | 29...      | 1400 | 59                            | 25.0                | 99                               |
| FEB                                                                                 |      |                               |                     |                                  |            |      |                               |                     |                                  |
| 15...                                                                               | 0945 | 135                           | .5                  | 120                              |            |      |                               |                     |                                  |
| 01117800 - WOOD RIVER NEAR ARCADIA, RI (LAT 41 34 26 LONG 071 43 16)                |      |                               |                     |                                  |            |      |                               |                     |                                  |
| NOV , 1976                                                                          |      |                               |                     |                                  | MAY , 1977 |      |                               |                     |                                  |
| 01...                                                                               | 0900 | 54                            | 7.0                 | 61                               | 02...      | 0835 | 82                            | 10.0                | 56                               |
| DEC                                                                                 |      |                               |                     |                                  | JUN        |      |                               |                     |                                  |
| 08...                                                                               | 0935 | 90                            | 1.5                 | 68                               | 08...      | 0930 | 60                            | 12.5                | 40                               |
| JAN , 1977                                                                          |      |                               |                     |                                  | SEP        |      |                               |                     |                                  |
| 24...                                                                               | 0920 | 51                            | .0                  | 67                               | 14...      | 0840 | 16                            | 15.5                | 44                               |
| MAR                                                                                 |      |                               |                     |                                  |            |      |                               |                     |                                  |
| 01...                                                                               | 1150 | 217                           | .5                  | 72                               |            |      |                               |                     |                                  |
| 01118000 - WOOD RIVER AT HOPE VALLEY, RI (LAT 41 29 53 LONG 071 43 01)              |      |                               |                     |                                  |            |      |                               |                     |                                  |
| NOV , 1976                                                                          |      |                               |                     |                                  | FEB , 1977 |      |                               |                     |                                  |
| 09...                                                                               | 1015 | 68                            | 4.0                 | 94                               | 15...      | 0840 | 106                           | .5                  | 104                              |
| JAN , 1977                                                                          |      |                               |                     |                                  | AUG        |      |                               |                     |                                  |
| 04...                                                                               | 1210 | 71                            | .5                  | 97                               | 12...      | 1330 | 34                            | 23.5                | 94                               |
| 01118500 - PAWCATUCK RIVER AT WESTERLY, RI (LAT 41 23 01 LONG 071 50 01)            |      |                               |                     |                                  |            |      |                               |                     |                                  |
| OCT , 1976                                                                          |      |                               |                     |                                  | APR , 1977 |      |                               |                     |                                  |
| 19...                                                                               | 1145 | 151                           | 8.5                 | 108                              | 13...      | 1400 | 1210                          | 12.5                | 83                               |
| NOV                                                                                 |      |                               |                     |                                  | 28...      | 0900 | 742                           | 11.5                | 98                               |
| 08...                                                                               | 1400 | 200                           | 7.0                 | 143                              | MAY        |      |                               |                     |                                  |
| 09...                                                                               | 1155 | 191                           | 5.0                 | 99                               | 04...      | 1350 | 571                           | 16.0                | 96                               |
| 12...                                                                               | 1355 | 173                           | 7.0                 | --                               | JUN        |      |                               |                     |                                  |
| DEC                                                                                 |      |                               |                     |                                  | 15...      | 1340 | 445                           | 21.0                | 84                               |
| 08...                                                                               | 1245 | 388                           | 1.0                 | 142                              | 20...      | 0740 | 305                           | 19.5                | 93                               |
| 14...                                                                               | 0930 | 342                           | .0                  | 103                              | JUL        |      |                               |                     |                                  |
| JAN , 1977                                                                          |      |                               |                     |                                  | 20...      | 1410 | 155                           | 30.0                | 103                              |
| 12...                                                                               | 0940 | 640                           | .5                  | 109                              | AUG        |      |                               |                     |                                  |
| FEB                                                                                 |      |                               |                     |                                  | 09...      | 0950 | 132                           | 25.5                | 144                              |
| 08...                                                                               | 0950 | 300                           | .0                  | 109                              | 10...      | 1330 | 141                           | 26.0                | 123                              |
| MAR                                                                                 |      |                               |                     |                                  | SEP        |      |                               |                     |                                  |
| 10...                                                                               | 0750 | 1090                          | 3.0                 | 95                               | 14...      | 1020 | 167                           | 19.0                | 125                              |
| 16...                                                                               | 1030 | 1580                          | 7.0                 | 64                               |            |      |                               |                     |                                  |

## MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                                     | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|------------------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| THAMES RIVER BASIN                                                                       |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01123360 - QUINEBAUG R BL E BRIMSFIELD DAM AT FISKDALE, MA (LAT 42 06 31 LONG 072 07 27) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| DEC , 1976                                                                               |      |                                               |                             |                                                            | FEB , 1977 |      |                                               |                             |                                                            |
| 02...                                                                                    | 1445 | 20                                            | 1.0                         | 86                                                         | 18...      | 1200 | 44                                            | .0                          | 93                                                         |
| JAN , 1977                                                                               |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 14...                                                                                    | 1445 | 56                                            | .5                          | 93                                                         | 06...      | 1200 | 47                                            | 18.5                        | 89                                                         |
| 01123600 - QUINEBAUG R BL WESTVILLE DAM NR SOUTHBRIDGE, MA (LAT 42 04 58 LONG 072 03 27) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| JAN , 1977                                                                               |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 11...                                                                                    | 1515 | 73                                            | .0                          | 88                                                         | 06...      | 1000 | 78                                            | 19.0                        | 93                                                         |
| FEB                                                                                      |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 18...                                                                                    | 1330 | 59                                            | .5                          | 118                                                        | 21...      | 1045 | 54                                            | 13.5                        | --                                                         |
| 01124350 - FRENCH RIVER BELOW DAM, AT HODGES VILLAGE, MA (LAT 42 07 06 LONG 071 52 54)   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| DEC , 1976                                                                               |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 02...                                                                                    | 1240 | 10                                            | .0                          | 78                                                         | 01...      | 1400 | 15                                            | 19.0                        | 126                                                        |
| JAN , 1977                                                                               |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 07...                                                                                    | 1200 | 11                                            | .5                          | 92                                                         | 18...      | 1200 | 8.6                                           | 20.0                        | --                                                         |
| FEB                                                                                      |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 17...                                                                                    | 1220 | 7.0                                           | .0                          | 128                                                        | 30...      | 1000 | 37                                            | 17.0                        | --                                                         |
| MAR                                                                                      |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 25...                                                                                    | 1345 | 160                                           | 1.5                         | 102                                                        |            |      |                                               |                             |                                                            |
| 01124500 - LITTLE RIVER AT BUFFUMVILLE, MA (LAT 42 06 57 LONG 071 53 26)                 |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| DEC , 1976                                                                               |      |                                               |                             |                                                            | MAR , 1977 |      |                                               |                             |                                                            |
| 02...                                                                                    | 1200 | 11                                            | 1.5                         | 102                                                        | 25...      | 1600 | 189                                           | 1.5                         | 101                                                        |
| JAN , 1977                                                                               |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 07...                                                                                    | 1030 | 16                                            | .5                          | 87                                                         | 01...      | 1545 | 16                                            | 19.0                        | 133                                                        |
| FEB                                                                                      |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 17...                                                                                    | 1430 | 18                                            | 1.0                         | 122                                                        |            |      |                                               |                             |                                                            |
| 01125000 - FRENCH RIVER AT WEBSTER, MA (LAT 42 03 03 LONG 071 53 08)                     |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| DEC , 1976                                                                               |      |                                               |                             |                                                            | MAR , 1977 |      |                                               |                             |                                                            |
| 03...                                                                                    | 1145 | 30                                            | 1.0                         | 159                                                        | 24...      | 1640 | 613                                           | 2.0                         | 207                                                        |
| JAN , 1977                                                                               |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 07...                                                                                    | 1400 | 42                                            | 1.0                         | 168                                                        | 01...      | 0715 | 51                                            | 18.5                        | 123                                                        |
| FEB                                                                                      |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 17...                                                                                    | 1600 | 43                                            | .5                          | 210                                                        | 20...      | 1400 | 67                                            | 15.5                        | --                                                         |
| CONNECTICUT RIVER BASIN                                                                  |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01161500 - TARBELL BROOK NEAR WINCHENDON, MA (LAT 42 42 45 LONG 072 05 09)               |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                               |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 20...                                                                                    | 1015 | 3.8                                           | 6.0                         | --                                                         | 12...      | 0915 | 68                                            | 6.0                         | --                                                         |
| DEC                                                                                      |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 09...                                                                                    | 1130 | 18                                            | .5                          | --                                                         | 04...      | 1345 | 6.1                                           | 24.0                        | --                                                         |
| MAR , 1977                                                                               |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 03...                                                                                    | 0900 | 16                                            | 1.0                         | --                                                         | 22...      | 0900 | 5.5                                           | 11.5                        | 62                                                         |
| 01162000 - MILLERS RIVER NEAR WINCHENDON, MA (LAT 42 41 03 LONG 072 05 02)               |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                               |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 20...                                                                                    | 1145 | 23                                            | 6.5                         | --                                                         | 26...      | 1100 | 704                                           | 9.0                         | --                                                         |
| DEC                                                                                      |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 10...                                                                                    | 0930 | 120                                           | .5                          | --                                                         | 03...      | 0900 | 75                                            | 17.0                        | --                                                         |
| MAR , 1977                                                                               |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 03...                                                                                    | 1110 | 106                                           | 1.0                         | --                                                         | 16...      | 1130 | 9.0                                           | 20.0                        | 125                                                        |
| 17...                                                                                    | 0830 | 1180                                          | 1.0                         | --                                                         |            |      |                                               |                             |                                                            |
| 21...                                                                                    | 1030 | 480                                           | 2.0                         | --                                                         |            |      |                                               |                             |                                                            |
| 01162500 - PRIEST BROOK NEAR WINCHENDON, MA (LAT 42 40 57 LONG 072 06 56)                |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                               |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 20...                                                                                    | 1600 | 3.8                                           | 6.5                         | --                                                         | 26...      | 1525 | 150                                           | 9.0                         | --                                                         |
| DEC                                                                                      |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 10...                                                                                    | 1050 | 32                                            | .5                          | --                                                         | 03...      | 1215 | 19                                            | 17.0                        | --                                                         |
| MAR , 1977                                                                               |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 03...                                                                                    | 1315 | 21                                            | 1.0                         | --                                                         | 22...      | 1000 | 25                                            | 11.0                        | 48                                                         |

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
|------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|

## CONNECTICUT RIVER BASIN--CONTINUED

## 01163200 - OTTER RIVER AT OTTER RIVER, MA (LAT 42 35 18 LONG 072 02 29)

|            |      |    |     |    |            |      |    |      |     |
|------------|------|----|-----|----|------------|------|----|------|-----|
| NOV , 1976 |      |    |     |    | JUN , 1977 |      |    |      |     |
| 05...      | 1015 | 26 | 5.5 | -- | 30...      | 1300 | 25 | 17.0 | --  |
| 10...      | 0925 | 19 | 4.0 | -- | SEP        |      |    |      |     |
| JAN , 1977 |      |    |     |    | 23...      | 0945 | 45 | 12.0 | 140 |
| 04...      | 0930 | 13 | .5  | -- |            |      |    |      |     |

## 01164000 - MILLERS RIVER AT SOUTH ROYALSTON, MA (LAT 42 37 47 LONG 072 09 03)

|            |      |     |     |    |            |      |     |      |    |
|------------|------|-----|-----|----|------------|------|-----|------|----|
| NOV , 1976 |      |     |     |    | MAY , 1977 |      |     |      |    |
| 02...      | 1500 | 190 | 5.0 | -- | 02...      | 1110 | 534 | 13.0 | -- |
| FEB , 1977 |      |     |     |    | SEP        |      |     |      |    |
| 11...      | 0900 | 75  | .5  | -- | 16...      | 0945 | 51  | 13.0 | -- |
| MAR        |      |     |     |    |            |      |     |      |    |
| 28...      | 1645 | 720 | 4.0 | -- |            |      |     |      |    |

## 01165000 - EAST BRANCH TULLY RIVER NEAR ATHOL, MA (LAT 42 38 32 LONG 072 13 34)

|            |      |     |     |    |            |      |     |      |    |
|------------|------|-----|-----|----|------------|------|-----|------|----|
| NOV , 1976 |      |     |     |    | MAY , 1977 |      |     |      |    |
| 01...      | 1030 | 35  | 6.0 | -- | 02...      | 1145 | 129 | 12.0 | -- |
| DEC        |      |     |     |    | JUN        |      |     |      |    |
| 07...      | 1625 | 17  | 2.0 | -- | 13...      | 1345 | 17  | 17.0 | -- |
| MAR , 1977 |      |     |     |    | SEP        |      |     |      |    |
| 07...      | 1550 | 70  | 1.5 | -- | 22...      | 1210 | 10  | 16.0 | 35 |
| 18...      | 0945 | 406 | 2.0 | -- |            |      |     |      |    |

## 01165300 - LAKE ROHUNTA OUTLET NEAR ATHOL, MA (LAT 42 34 13 LONG 072 16 22)

|            |      |     |      |    |            |      |    |      |    |
|------------|------|-----|------|----|------------|------|----|------|----|
| OCT , 1976 |      |     |      |    | APR , 1977 |      |    |      |    |
| 18...      | 0840 | 7.5 | 11.0 | -- | 12...      | 1510 | 60 | 8.0  | -- |
| DEC        |      |     |      |    | JUN        |      |    |      |    |
| 03...      | 1045 | 8.6 | 4.0  | -- | 13...      | 1600 | 26 | 17.0 | -- |
| JAN , 1977 |      |     |      |    | AUG        |      |    |      |    |
| 13...      | 1600 | 13  | 1.0  | -- | 08...      | 1430 | 18 | 26.0 | -- |
| 17...      | 1045 | 12  | 1.0  | -- | SEP        |      |    |      |    |
| MAR        |      |     |      |    | 22...      | 1335 | 17 | 16.0 | 65 |
| 07...      | 1200 | 42  | 1.0  | -- |            |      |    |      |    |

## 01165500 - MOSS BROOK AT WENDELL DEPOT, MA (LAT 42 36 10 LONG 072 21 36)

|            |      |    |     |    |            |      |     |      |    |
|------------|------|----|-----|----|------------|------|-----|------|----|
| NOV , 1976 |      |    |     |    | JUN , 1977 |      |     |      |    |
| 02...      | 0930 | 11 | 3.0 | -- | 13...      | 1200 | 9.6 | 16.5 | -- |
| MAR , 1977 |      |    |     |    | SEP        |      |     |      |    |
| 09...      | 1435 | 26 | 2.0 | -- | 21...      | 1330 | 17  | 11.0 | 42 |
| APR        |      |    |     |    |            |      |     |      |    |
| 18...      | 1030 | 17 | 8.0 | -- |            |      |     |      |    |

## 01166500 - MILLERS RIVER AT ERVING, MA (LAT 42 35 51 LONG 072 26 19)

|            |      |      |     |    |            |      |     |      |     |
|------------|------|------|-----|----|------------|------|-----|------|-----|
| NOV , 1976 |      |      |     |    | MAY , 1977 |      |     |      |     |
| 02...      | 1225 | 455  | 5.0 | -- | 02...      | 1245 | 840 | 13.5 | --  |
| DEC        |      |      |     |    | JUN        |      |     |      |     |
| 14...      | 1250 | 378  | .5  | -- | 13...      | 0915 | 425 | 14.0 | --  |
| MAR , 1977 |      |      |     |    | SEP        |      |     |      |     |
| 18...      | 1445 | 3490 | 2.0 | -- | 21...      | 1230 | 375 | 14.5 | 155 |

## 01168151 - DEERFIELD RIVER NEAR ROWE, MA (LAT 42 40 57 LONG 072 58 37.01)

|            |      |     |     |    |            |      |      |      |    |
|------------|------|-----|-----|----|------------|------|------|------|----|
| NOV , 1976 |      |     |     |    | APR , 1977 |      |      |      |    |
| 04...      | 1130 | 906 | 5.0 | -- | 01...      | 1530 | 2640 | 2.0  | -- |
| DEC        |      |     |     |    | MAY        |      |      |      |    |
| 15...      | 1205 | 81  | 4.0 | -- | 04...      | 1555 | 112  | 11.0 | -- |

## 01168500 - DEERFIELD RIVER AT CHARLEMONT, MA (LAT 42 37 33 LONG 072 51 20)

|            |      |      |     |    |            |      |      |      |    |
|------------|------|------|-----|----|------------|------|------|------|----|
| DEC , 1976 |      |      |     |    | MAY , 1977 |      |      |      |    |
| 15...      | 1455 | 195  | 3.0 | -- | 05...      | 1330 | 1200 | 11.0 | -- |
| MAR , 1977 |      |      |     |    |            |      |      |      |    |
| 16...      | 1050 | 2410 | 2.0 | -- |            |      |      |      |    |

## MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                             | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|----------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                               |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01169000 - NORTH RIVER AT SHATTUCKVILLE, MA (LAT 42 38 18 LONG 072 43 32)        |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                       |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 29...                                                                            | 1315 | 117                                           | 1.0                         | --                                                         | 27...      | 1235 | 376                                           | 8.0                         | --                                                         |
| DEC                                                                              |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 14...                                                                            | 1500 | 49                                            | 1.0                         | --                                                         | 16...      | 1115 | 50                                            | 18.0                        | --                                                         |
| FEB , 1977                                                                       |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 10...                                                                            | 1520 | 39                                            | 4.0                         | --                                                         | 15...      | 1400 | 68                                            | 21.5                        | 128                                                        |
| MAR                                                                              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 15...                                                                            | 1230 | 1400                                          | 3.0                         | --                                                         |            |      |                                               |                             |                                                            |
| 01169900 - SOUTH RIVER NEAR CONWAY, MA (LAT 42 32 31 LONG 072 41 39)             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                       |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 03...                                                                            | 1240 | 26                                            | 5.0                         | --                                                         | 14...      | 1400 | 20                                            | 17.0                        | --                                                         |
| DEC                                                                              |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 08...                                                                            | 1510 | 56                                            | .5                          | --                                                         | 10...      | 1010 | 6.5                                           | 19.5                        | --                                                         |
| FEB , 1977                                                                       |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 08...                                                                            | 1225 | 1.0                                           | .5                          | --                                                         | 20...      | 1530 | 71                                            | 13.0                        | 124                                                        |
| MAR                                                                              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 21...                                                                            | 1530 | 84                                            | 5.0                         | --                                                         |            |      |                                               |                             |                                                            |
| 01170000 - DEERFIELD RIVER NEAR WEST DEERFIELD, MA (LAT 42 32 09 LONG 072 39 14) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| MAR , 1977                                                                       |      |                                               |                             |                                                            | MAY , 1977 |      |                                               |                             |                                                            |
| 31...                                                                            | 1330 | 9400                                          | 2.0                         | --                                                         | 04...      | 1155 | 1020                                          | 11.0                        | --                                                         |
| 01170100 - GREEN RIVER NEAR COLRAIN, MA (LAT 42 42 12 LONG 072 40 16)            |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                       |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 29...                                                                            | 1515 | 59                                            | 5.5                         | --                                                         | 16...      | 1345 | 26                                            | 17.0                        | --                                                         |
| NOV                                                                              |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 03...                                                                            | 1625 | 62                                            | 5.0                         | --                                                         | 09...      | 1145 | 14                                            | 22.0                        | --                                                         |
| MAR , 1977                                                                       |      |                                               |                             |                                                            | 15...      | 1215 | 24                                            | 20.5                        | 105                                                        |
| 15...                                                                            | 0930 | 549                                           | 2.0                         | --                                                         |            |      |                                               |                             |                                                            |
| APR                                                                              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 27...                                                                            | 1545 | 189                                           | 8.0                         | --                                                         |            |      |                                               |                             |                                                            |
| 01170500 - CONNECTICUT RIVER AT MONTAGUE CITY, MA (LAT 42 34 48 LONG 072 34 30)  |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                       |      |                                               |                             |                                                            | AUG , 1977 |      |                                               |                             |                                                            |
| 04...                                                                            | 1600 | 10400                                         | 10.0                        | --                                                         | 17...      | 1115 | 10400                                         | 17.0                        | --                                                         |
| 01171300 - FORT RIVER NEAR AMHERST, MA (LAT 42 21 28 LONG 072 30 17)             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                       |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 14...                                                                            | 1100 | 22                                            | 10.5                        | --                                                         | 25...      | 1150 | 614                                           | 8.0                         | --                                                         |
| DEC                                                                              |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 07...                                                                            | 1030 | 17                                            | .5                          | --                                                         | 08...      | 1400 | 42                                            | 13.0                        | 79                                                         |
| FEB , 1977                                                                       |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 22...                                                                            | 1550 | 18                                            | .5                          | --                                                         | 16...      | 1230 | 27                                            | 19.0                        | --                                                         |
| MAR                                                                              |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 14...                                                                            | 1510 | 776                                           | 2.0                         | --                                                         | 20...      | 1315 | 95                                            | 13.0                        | --                                                         |
| 01171500 - MILL RIVER AT NORTHAMPTON, MA (LAT 42 19 05 LONG 072 39 21)           |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                       |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 21...                                                                            | 1245 | 204                                           | 9.0                         | --                                                         | 25...      | 1400 | 551                                           | 8.5                         | --                                                         |
| NOV                                                                              |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 18...                                                                            | 1110 | 39                                            | .5                          | --                                                         | 07...      | 1515 | 76                                            | 15.0                        | 85                                                         |
| FEB , 1977                                                                       |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 22...                                                                            | 1210 | 34                                            | .5                          | --                                                         | 18...      | 1130 | 56                                            | 19.0                        | --                                                         |
| MAR                                                                              |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 14...                                                                            | 1115 | 1340                                          | 2.0                         | --                                                         | 21...      | 0830 | 119                                           | 13.0                        | 85                                                         |
| 01172500 - WARE RIVER NEAR BARRE, MA (LAT 42 25 35 LONG 072 01 30)               |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                       |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 05...                                                                            | 1430 | 20                                            | 5.0                         | --                                                         | 15...      | 1150 | 140                                           | 9.0                         | --                                                         |
| JAN , 1977                                                                       |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 04...                                                                            | 1210 | 15                                            | .5                          | --                                                         | 15...      | 1500 | 40                                            | 18.0                        | --                                                         |
| MAR                                                                              |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 03...                                                                            | 1615 | 83                                            | 1.0                         | --                                                         | 19...      | 1455 | 25                                            | 19.0                        | 130                                                        |



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                               | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|------------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                                 |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01173500 - WARE RIVER AT GIBBS CROSSING, MA (LAT 42 14 07 LONG 072 16 45)          |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                         |      |                                               |                             |                                                            | MAR , 1977 |      |                                               |                             |                                                            |
| 18...                                                                              | 1300 | 49                                            | 9.5                         | --                                                         | 30...      | 1605 | 920                                           | 9.0                         | --                                                         |
| DEC                                                                                |      |                                               |                             |                                                            | MAY        |      |                                               |                             |                                                            |
| 01...                                                                              | 1115 | 61                                            | .5                          | --                                                         | 17...      | 0930 | 324                                           | 8.5                         | --                                                         |
| 01174000 - HOP BROOK NEAR NEW SALEM, MA (LAT 42 28 42 LONG 072 20 05)              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                         |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 01...                                                                              | 1430 | 3.8                                           | 6.0                         | --                                                         | 15...      | 1145 | 3.8                                           | 16.0                        | --                                                         |
| 30...                                                                              | 1030 | 2.0                                           | .5                          | --                                                         | AUG        |      |                                               |                             |                                                            |
| MAR , 1977                                                                         |      |                                               |                             |                                                            | 19...      | 0845 | 2.3                                           | 12.0                        | 78                                                         |
| 07...                                                                              | 1005 | 6.3                                           | 1.0                         | --                                                         | SEP        |      |                                               |                             |                                                            |
| APR                                                                                |      |                                               |                             |                                                            | 20...      | 0845 | 3.6                                           | 14.5                        | 83                                                         |
| 18...                                                                              | 1445 | 5.6                                           | 12.0                        | --                                                         |            |      |                                               |                             |                                                            |
| 01174500 - EAST BRANCH SWIFT RIVER NEAR HARDWICK, MA (LAT 42 23 36 LONG 072 14 21) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| MAR , 1977                                                                         |      |                                               |                             |                                                            | SEP , 1977 |      |                                               |                             |                                                            |
| 30...                                                                              | 1700 | 443                                           | 3.0                         | --                                                         | 23...      | 0800 | 62                                            | 16.0                        | 45                                                         |
| 01174600 - CADWELL CREEK NEAR PELHAM, MA (LAT 42 21 16 LONG 072 23 18)             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                         |      |                                               |                             |                                                            | SEP , 1977 |      |                                               |                             |                                                            |
| 26...                                                                              | 1215 | 1.9                                           | 7.5                         | --                                                         | 12...      | 1445 | .32                                           | 15.0                        | 79                                                         |
| MAR , 1977                                                                         |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 30...                                                                              | 1320 | 5.6                                           | 7.0                         | --                                                         |            |      |                                               |                             |                                                            |
| 01174900 - CADWELL CREEK NEAR BELCHERTOWN, MA (LAT 42 20 08 LONG 072 22 12)        |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                         |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 26...                                                                              | 1440 | 5.8                                           | 8.0                         | --                                                         | 11...      | 1300 | 6.6                                           | 7.0                         | --                                                         |
| MAR , 1977                                                                         |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 30...                                                                              | 1045 | 23                                            | .5                          | --                                                         | 12...      | 1230 | .25                                           | 12.0                        | 38                                                         |
| 01175500 - SWIFT RIVER AT WEST WARE, MA (LAT 42 16 04 LONG 072 19 59)              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                         |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 18...                                                                              | 1430 | 115                                           | 14.5                        | --                                                         | 02...      | 1045 | 112                                           | 10.0                        | 41                                                         |
| NOV                                                                                |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 12...                                                                              | 1400 | 109                                           | 5.5                         | --                                                         | 29...      | 1200 | 118                                           | 19.0                        | --                                                         |
| APR , 1977                                                                         |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 25...                                                                              | 1615 | 49                                            | 8.0                         | --                                                         |            |      |                                               |                             |                                                            |
| 01175670 - SEVENMILE RIVER NEAR SPENCER, MA (LAT 42 15 54 LONG 072 00 19)          |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                         |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 19...                                                                              | 1045 | .68                                           | 9.5                         | --                                                         | 14...      | 1650 | 22                                            | 14.0                        | --                                                         |
| NOV                                                                                |      |                                               |                             |                                                            | 15...      | 0930 | 21                                            | 9.0                         | --                                                         |
| 17...                                                                              | 1300 | 2.0                                           | 4.0                         | --                                                         | JUN        |      |                                               |                             |                                                            |
| 30...                                                                              | 1400 | 2.2                                           | .5                          | --                                                         | 06...      | 1400 | 5.0                                           | 24.0                        | 119                                                        |
| FEB , 1977                                                                         |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 23...                                                                              | 1430 | 3.0                                           | .5                          | --                                                         | 30...      | 1245 | 7.9                                           | 15.0                        | --                                                         |
| 01176000 - QUABOAG RIVER AT WEST BRIMFIELD, MA (LAT 42 10 56 LONG 072 15 51)       |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                         |      |                                               |                             |                                                            | MAR , 1977 |      |                                               |                             |                                                            |
| 14...                                                                              | 1640 | 57                                            | 11.0                        | --                                                         | 02...      | 1030 | 280                                           | 1.0                         | --                                                         |
| DEC                                                                                |      |                                               |                             |                                                            | APR        |      |                                               |                             |                                                            |
| 01...                                                                              | 1300 | 36                                            | .5                          | --                                                         | 13...      | 1425 | 525                                           | 13.0                        | --                                                         |
| JAN , 1977                                                                         |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 19...                                                                              | 1500 | 53                                            | .5                          | --                                                         |            |      |                                               |                             |                                                            |
| 01177000 - CHICOPEE RIVER AT INDIAN ORCHARD, MA (LAT 42 09 38 LONG 072 30 52)      |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| DEC , 1976                                                                         |      |                                               |                             |                                                            | MAR , 1977 |      |                                               |                             |                                                            |
| 06...                                                                              | 1430 | 67                                            | 1.5                         | 138                                                        | 03...      | 1145 | 990                                           | 2.0                         | 153                                                        |

## MISCELLANEOUS TEMPERATURE AND SPECIFIC CONDUCTANCE MEASUREMENTS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                                      | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|-------------------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| CONNECTICUT RIVER BASIN--CONTINUED                                                        |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01179500 - WESTFIELD RIVER AT KNIGHTVILLE, MA (LAT 42 17 16 LONG 072 51 53)               |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                                |      |                                               |                             |                                                            | SEP , 1977 |      |                                               |                             |                                                            |
| 16...                                                                                     | 1000 | 144                                           | .5                          | 65                                                         | 15...      | 1500 | 122                                           | 21.0                        | 63                                                         |
| JAN , 1977                                                                                |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 12...                                                                                     | 1300 | 90                                            | .5                          | --                                                         |            |      |                                               |                             |                                                            |
| 01180500 - MIDDLE B WESTFIELD RIVER AT GOSS HEIGHTS, MA (LAT 42 15 31 LONG 072 52 23)     |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                                |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 16...                                                                                     | 1145 | 47                                            | 5.0                         | 54                                                         | 18...      | 1130 | 114                                           | 10.0                        | 93                                                         |
| JAN , 1977                                                                                |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 04...                                                                                     | 1415 | 24                                            | .5                          | --                                                         | 14...      | 1100 | 42                                            | 18.5                        | 43                                                         |
| 12...                                                                                     | 1400 | 24                                            | .5                          | --                                                         | SEP        |      |                                               |                             |                                                            |
| FEB                                                                                       |      |                                               |                             |                                                            | 15...      | 1145 | 24                                            | 19.0                        | 62                                                         |
| 23...                                                                                     | 1115 | 17                                            | 1.0                         | 74                                                         |            |      |                                               |                             |                                                            |
| 01181000 - WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA (LAT 42 14 14 LONG 072 53 46)    |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                                |      |                                               |                             |                                                            | FEB , 1977 |      |                                               |                             |                                                            |
| 21...                                                                                     | 1530 | 547                                           | 9.0                         | --                                                         | 18...      | 1110 | 37                                            | .5                          | --                                                         |
| 22...                                                                                     | 1650 | 224                                           | 7.0                         | --                                                         | MAR        |      |                                               |                             |                                                            |
| NOV                                                                                       |      |                                               |                             |                                                            | 25...      | 1240 | 220                                           | .5                          | --                                                         |
| 18...                                                                                     | 1515 | 75                                            | 4.0                         | --                                                         | APR        |      |                                               |                             |                                                            |
| DEC                                                                                       |      |                                               |                             |                                                            | 22...      | 1600 | 147                                           | 15.0                        | --                                                         |
| 20...                                                                                     | 1300 | 82                                            | 1.0                         | --                                                         | JUN        |      |                                               |                             |                                                            |
| JAN , 1977                                                                                |      |                                               |                             |                                                            | 24...      | 1230 | 36                                            | 18.0                        | --                                                         |
| 03...                                                                                     | 1240 | 38                                            | .5                          | --                                                         |            |      |                                               |                             |                                                            |
| 01183450 - GREAT BROOK NEAR WESTFIELD, MA (LAT 42 05 18 LONG 072 43 24)                   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                                |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 26...                                                                                     | 1145 | 14                                            | 3.0                         | 128                                                        | 07...      | 1830 | 32                                            | 14.0                        | 173                                                        |
| MAR , 1977                                                                                |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 01...                                                                                     | 1615 | 71                                            | 1.5                         | 102                                                        | 27...      | 1715 | 93                                            | 18.0                        | --                                                         |
| APR                                                                                       |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 18...                                                                                     | 1000 | 32                                            | 9.0                         | 92                                                         |            |      |                                               |                             |                                                            |
| 01183500 - WESTFIELD RIVER NEAR WESTFIELD, MA (LAT 42 06 24 LONG 072 41 58)               |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| DEC , 1976                                                                                |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 06...                                                                                     | 1245 | 242                                           | 1.0                         | 189                                                        | 08...      | 1145 | 507                                           | 14.0                        | 138                                                        |
| JAN , 1977                                                                                |      |                                               |                             |                                                            | AUG        |      |                                               |                             |                                                            |
| 12...                                                                                     | 1340 | 277                                           | .5                          | 246                                                        | 16...      | 1445 | 319                                           | 22.0                        | --                                                         |
| 01185100 - FALL RIVER BELOW OTIS RESERVOIR, NEAR OTIS, MA (LAT 42 09 42 LONG 073 03 48)   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                                |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 26...                                                                                     | 0945 | 108                                           | 8.5                         | 70                                                         | 20...      | 1100 | 3.2                                           | 9.0                         | 96                                                         |
| 01185500 - WEST BRANCH FARMINGTON RIVER NEAR NEW BOSTON, MA (LAT 42 04 45 LONG 073 04 24) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                                |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 26...                                                                                     | 1230 | 345                                           | 8.0                         | 57                                                         | 19...      | 1500 | 147                                           | 8.5                         | 88                                                         |
| NOV                                                                                       |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 16...                                                                                     | 1330 | 171                                           | 3.5                         | 76                                                         | 29...      | 1330 | 47                                            | 18.0                        | --                                                         |
| JAN , 1977                                                                                |      |                                               |                             |                                                            | SEP        |      |                                               |                             |                                                            |
| 04...                                                                                     | 0930 | 180                                           | .0                          | --                                                         | 14...      | 1400 | 34                                            | 18.0                        | 103                                                        |

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE                                                                                    | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) | DATE       | TIME | INSTAN-<br>TANEOUS<br>DIS-<br>CHARGE<br>(CFS) | TEMPER-<br>ATURE<br>(DEG C) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(MICRO-<br>MHOS) |
|-----------------------------------------------------------------------------------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| HOUSATONIC RIVER BASIN                                                                  |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01197000 - EAST BRANCH HOUSATONIC RIVER AT COLTSVILLE, MA (LAT 42 28 10 LONG 073 11 49) |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                              |      |                                               |                             |                                                            | FEB , 1977 |      |                                               |                             |                                                            |
| 27...                                                                                   | 0845 | 108                                           | 7.5                         | --                                                         | 24...      | 1130 | 27                                            | 1.0                         | 174                                                        |
| DEC                                                                                     |      |                                               |                             |                                                            | APR        |      |                                               |                             |                                                            |
| 14...                                                                                   | 1100 | 32                                            | .0                          | --                                                         | 19...      | 1030 | 132                                           | 9.5                         | 183                                                        |
| JAN , 1977                                                                              |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 14...                                                                                   | 1030 | 30                                            | .5                          | --                                                         | 08...      | 1000 | 50                                            | 13.0                        | --                                                         |
| 01197500 - HOUSATONIC RIVER NEAR GREAT BARRINGTON, MA (LAT 42 13 55 LONG 073 21 19)     |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| NOV , 1976                                                                              |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 15...                                                                                   | 1015 | 286                                           | 3.0                         | 320                                                        | 18...      | 1600 | 725                                           | 9.0                         | 151                                                        |
| JAN , 1977                                                                              |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 14...                                                                                   | 1230 | 193                                           | .0                          | --                                                         | 09...      | 1000 | 275                                           | 13.0                        | --                                                         |
| FEB                                                                                     |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 24...                                                                                   | 1500 | 165                                           | 1.5                         | 233                                                        |            |      |                                               |                             |                                                            |
| HUDSON RIVER BASIN                                                                      |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 01331500 - HOOSIC RIVER AT ADAMS, MA (LAT 42 36 40 LONG 073 07 28)                      |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                              |      |                                               |                             |                                                            | FEB , 1977 |      |                                               |                             |                                                            |
| 15...                                                                                   | 1100 | 48                                            | 8.5                         | 178                                                        | 15...      | 1220 | 32                                            | 3.0                         | --                                                         |
| DEC                                                                                     |      |                                               |                             |                                                            | APR        |      |                                               |                             |                                                            |
| 14...                                                                                   | 0930 | 38                                            | .0                          | --                                                         | 04...      | 1500 | 300                                           | 4.5                         | --                                                         |
| JAN , 1977                                                                              |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 27...                                                                                   | 1045 | 32                                            | .0                          | --                                                         | 22...      | 0900 | 39                                            | 18.0                        | --                                                         |
| 01332000 - NORTH BRANCH HOOSIC RIVER AT NORTH ADAMS, MA (LAT 42 42 08 LONG 073 05 37)   |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| DEC , 1976                                                                              |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 02...                                                                                   | 1400 | 36                                            | .5                          | 80                                                         | 04...      | 1345 | 340                                           | 4.5                         | --                                                         |
| JAN , 1977                                                                              |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 13...                                                                                   | 1330 | 20                                            | .0                          | --                                                         | 08...      | 1630 | 41                                            | 13.0                        | --                                                         |
| FEB                                                                                     |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 15...                                                                                   | 1045 | 20                                            | .5                          | --                                                         |            |      |                                               |                             |                                                            |
| 01332500 - HOOSIC RIVER NEAR WILLIAMSTOWN, MA (LAT 42 42 21 LONG 073 10 50)             |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                              |      |                                               |                             |                                                            | JUN , 1977 |      |                                               |                             |                                                            |
| 15...                                                                                   | 1200 | 188                                           | 9.0                         | --                                                         | 22...      | 1630 | 190                                           | 19.0                        | --                                                         |
| DEC                                                                                     |      |                                               |                             |                                                            | JUL        |      |                                               |                             |                                                            |
| 13...                                                                                   | 1250 | 167                                           | .0                          | --                                                         | 06...      | 1345 | 143                                           | 18.0                        | 280                                                        |
| JAN , 1977                                                                              |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 13...                                                                                   | 1415 | 105                                           | .0                          | --                                                         |            |      |                                               |                             |                                                            |
| 01333000 - GREEN RIVER AT WILLIAMSTOWN, MA (LAT 42 42 32 LONG 073 11 50)                |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| OCT , 1976                                                                              |      |                                               |                             |                                                            | APR , 1977 |      |                                               |                             |                                                            |
| 15...                                                                                   | 0830 | 52                                            | 8.5                         | --                                                         | 05...      | 1130 | 249                                           | 4.5                         | --                                                         |
| DEC                                                                                     |      |                                               |                             |                                                            | JUN        |      |                                               |                             |                                                            |
| 03...                                                                                   | 0950 | 11                                            | .0                          | --                                                         | 07...      | 1530 | 36                                            | 13.0                        | 150                                                        |
| JAN , 1977                                                                              |      |                                               |                             |                                                            | 21...      | 1400 | 30                                            | 17.0                        | --                                                         |
| 27...                                                                                   | 1230 | 14                                            | .0                          | --                                                         |            |      |                                               |                             |                                                            |
| FEB                                                                                     |      |                                               |                             |                                                            |            |      |                                               |                             |                                                            |
| 16...                                                                                   | 1045 | 13                                            | .5                          | --                                                         |            |      |                                               |                             |                                                            |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## BARNSTABLE COUNTY

413956070164301. Local number AIW 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) above mean sea level. Measuring point: Top of casing, at land-surface datum. Prior to Sept. 28, 1977, 0.7 ft (0.2 m) above 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, OCTOBER 1976 TO MARCH 1977  
HIGH FOR DAY

| DAY | OCT   | NOV   | DEC   | JAN   | FEB   | MAR   |
|-----|-------|-------|-------|-------|-------|-------|
| 5   | 24.76 | 24.87 | 25.08 | 25.18 | 24.24 | 23.96 |
| 10  | 24.81 | 24.88 | 25.09 | 25.20 | 24.35 | 24.00 |
| 15  | 24.84 | 24.91 | 25.12 | 24.29 | 24.15 | 23.91 |
| 20  | 24.84 | 24.94 | 25.13 | 24.20 | 24.16 | 23.85 |
| 25  | 24.84 | 24.98 | 25.13 | 24.17 | 23.99 | 23.70 |
| EOM | 24.84 | 25.04 | 25.15 | 24.15 | 23.95 |       |

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 28 | 24.84       | DEC 28 | 25.13       | FEB 23 | 24.19       | APR 26 | 22.68       | JUN 23 | 22.97       |
| NOV 29 | 25.04       | JAN 26 | 24.16       | MAR 28 | 23.66       | MAY 27 | 23.25       | SEP 28 | 24.29       |

414154070165001. Local number, AIW 247 (Formerly published as Barnstable 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) above mean sea level. Measuring point: Top of casing, 2.0 ft (0.6 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, 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 24.14       | MAR. 24, 1976 | 22.42       | SEP. 30, 1976 | 24.66       | MAR. 30, 1977 | 24.46       |
| NOV. 26       | 24.50       | APR. 28       | 22.51       | OCT. 28       | 24.84       | APR. 26       | 23.61       |
| DEC. 31       | 25.00       | MAY 25        | 22.82       | NOV. 30       | 25.25       | MAY 25        | 23.70       |
| DEC. 16, 1975 | 24.09       | JUNE 28       | 23.35       | DEC. 23       | 25.37       | AUG. 25       | 24.25       |
| JAN. 21, 1976 | 23.19       | JULY 27       | 23.82       | JAN. 26, 1977 | 24.88       | SEP. 28       | 24.66       |
| FEB. 26       | 22.47       | AUG. 27       | 24.19       | FEB. 24       | 24.94       |               |             |

414129070361401. Local number, BHW 198 (Formerly published as Bourne 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) above mean sea level. 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. 19.

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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 33.84       | MAR. 23, 1976 | 31.77       | SEP. 29, 1976 | 34.27       | MAR. 30, 1977 | 32.84       |
| NOV. 26       | 34.04       | APR. 27       | 32.15       | OCT. 28       | 34.24       | APR. 26       | 31.99       |
| DEC. 30       | 34.11       | MAY 25        | 32.73       | NOV. 29       | 34.36       | MAY 26        | 32.10       |
| DEC. 15, 1975 | 33.12       | JUNE 29       | 33.39       | DEC. 28       | 34.48       | AUG. 25       | 31.88       |
| JAN. 20, 1976 | 32.01       | JULY 27       | 33.69       | JAN. 27, 1977 | 33.83       | SEP. 28       | 33.18       |
| FEB. 24       | 31.33       | AUG. 27       | 34.02       | FEB. 24       | 33.55       |               |             |

414518070020301. Local number, 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), corrected, above mean sea level. 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 28 | 10.21       | DEC 28 | 10.82       | FEB 23 | 10.72       | APR 27 | 10.35       | JUN 23 | 10.45       | AUG 25 | 10.91       |
| NOV 29 | 10.60       | JAN 27 | 10.58       | MAR 28 | 10.56       | MAY 27 | 10.42       | JUL 26 | 10.79       | SEP 27 | 11.17       |

414630070014901. Local number, BMW 22 (Formerly published as Brewster 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) above mean sea level. 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 29.78       | JULY 23, 1975 | 30.90       | MAR. 24, 1976 | 29.21       | NOV. 29, 1976 | 32.08       |
| NOV. 26       | 30.09       | AUG. 26       | 31.19       | APR. 28       | 29.47       | DEC. 28       | 32.30       |
| DEC. 27       | 31.22       | SEP. 25       | 31.40       | MAY 27        | 28.79       | JAN. 27, 1977 | 31.75       |
| JAN. 29, 1975 | 30.85       | OCT. 29       | 31.45       | JUNE 28       | 30.28       | FEB. 23       | 32.10E      |
| FEB. 25       | 30.70       | NOV. 25       | 31.02       | JULY 29       | 30.74       | MAR. 28       | 31.62       |
| MAR. 26       | 30.38       | DEC. 16       | 30.97       | AUG. 26       | 31.12       | APR. 27       | 31.08       |
| APR. 29       | 30.20       | JAN. 21, 1976 | 29.74       | SEP. 29       | 31.60       | MAY 25        | 31.10       |
| MAY 28        | 30.37       | FEB. 24       | 29.29       | OCT. 28       | 31.86       | SEP. 27       | 32.20       |
| JUNE 25       | 30.54       |               |             |               |             |               |             |

E, ESTIMATED.

414100070011101. Local number, CGW 138 (Formerly published as Chatham 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) above mean sea level. Measuring point: Top of casing, 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.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 24.31       | JULY 23, 1975 | 24.20       | APR. 29, 1976 | 22.52       | DEC. 29, 1976 | 24.97       |
| NOV. 26       | 24.54       | AUG. 26       | 24.67       | MAY 26        | 22.84       | JAN. 27, 1977 | 23.97       |
| DEC. 27       | 24.70       | SEP. 25       | 24.79       | JUNE 29       | 23.40       | FEB. 23       | 23.96       |
| JAN. 29, 1975 | 24.19       | OCT. 29       | 24.64       | JULY 27       | 23.95       | MAR. 28       | 23.87       |
| FEB. 25       | 23.98       | NOV. 25       | 24.27       | AUG. 27       | 24.31       | APR. 28       | 23.23       |
| MAR. 26       | 23.64       | DEC. 17       | 23.97       | SEP. 29       | 24.71       | MAY 25        | 23.37       |
| APR. 29       | 23.37       | JAN. 20, 1976 | 22.91       | OCT. 29       | 24.81       | AUG. 25       | 24.23       |
| MAY 28        | 23.47       | FEB. 24       | 22.20       | NOV. 29       | 24.89       | SEP. 27       | 24.48       |
| JUNE 25       | 23.70       |               |             |               |             |               |             |

413449070322401. Local number, FSW 5.

LOCATION.--Lat 41°34'49", long 70°32'24", Hydrologic Unit 01090002, near old pumping house, about 300 ft (90 m) southwest of water tank, 400 ft (120 m) northwest of intersection of Fresh Pond Road and State Highway 28 in Falmouth.

Owner: Town of Falmouth.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in (0.06 m), depth 50 ft (15.2 m), cased to 50 ft (15.2 m), open end.

DATUM.--Land-surface datum is 11.18 ft (3.41 m) above mean sea level. Measuring point: Top of casing, 0.23 ft (0.05 m) above land-surface datum.

PERIOD OF RECORD.--August 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.55 ft (0.78 m) below land-surface datum, May 1, 1958; lowest measured, 5.69 ft (1.73 m) below land-surface datum, Dec. 31, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1976 TO AUGUST 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 5.23        | DEC 28 | 5.61        | FEB 23 | 4.95        | APR 28 | 3.69        | JUN 23 | 3.86        | AUG 25 | 4.59        |
| NOV 29 | 5.60        | JAN 27 | 4.97        | MAR 30 | 4.45        | MAY 26 | 4.24        | JUL 27 | 4.45        |        |             |

413821070293101. Local number, MIW 13 (Formerly published as Mashpee 13).

LOCATION.--Lat 41°38'21", long 70°29'31", Hydrologic Unit 01090002, 30 ft (9.1 m) east of Lovells Road and 150 ft (45.7 m) south of Quashnet Road in Mashpee.

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 72 ft (21.9 m), screened 69 to 72 ft (21.0 to 21.9 m).

DATUM.--Land-surface datum is 70.92 ft (21.62 m) above mean sea level. Measuring point: Top of casing, 4.0 ft (1.2 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, 29.01 ft (8.84 m) below land-surface datum, July 28, 1972; lowest measured, 33.98 ft (10.36 m) below land-surface datum, Jan. 31, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 31.70       | JULY 23, 1975 | 31.72       | MAR. 23, 1976 | 30.27       | NOV. 29, 1976 | 31.37       |
| NOV. 27       | 32.09       | AUG. 26       | 31.71       | APR. 27       | 30.52       | DEC. 28       | 31.50       |
| DEC. 30       | 32.65       | SEP. 25       | 31.98       | MAY 26        | 30.76       | JAN. 27, 1977 | 31.52       |
| JAN. 30, 1975 | 32.88       | OCT. 29       | 32.21       | JUNE 29       | 30.94       | FEB. 23       | 31.50       |
| FEB. 25       | 32.57       | NOV. 25       | 32.31       | JULY 28       | 31.13       | MAR. 30       | 31.50       |
| MAR. 26       | 32.10       | DEC. 15       | 32.23       | AUG. 25       | 31.34       | APR. 28       | 31.12       |
| APR. 29       | 31.82       | JAN. 20, 1976 | 31.17       | SEP. 29       | 31.43       | MAY 26        | 30.81       |
| MAY 28        | 31.65       | FEB. 25       | 30.27       | OCT. 27       | 31.48       | SEP. 28       | 30.78       |
| JUNE 25       | 31.64       |               |             |               |             |               |             |



414418070241601. Local number, SDW 252 (Formerly published as Sandwich 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.--Augured 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) above mean sea level. 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, 46.13 ft (14.06 m) below land-surface datum, May 25, 1973; lowest measured, 48.23 ft (14.70 m) below land-surface datum, Oct. 25, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 47.67       | JULY 23, 1975 | 47.46       | APR. 28, 1976 | 46.62       | DEC. 23, 1976 | 47.73       |
| NOV. 26       | 47.56       | AUG. 26       | 47.55       | MAY 28        | 46.94       | JAN. 26, 1977 | 47.52       |
| DEC. 30       | 47.67       | SEP. 25       | 47.65       | JUNE 28       | 47.26       | FEB. 24       | 47.61       |
| JAN. 30, 1975 | 47.57       | OCT. 29       | 47.40       | JULY 28       | 47.41       | MAR. 30       | 47.14       |
| FEB. 25       | 47.48       | NOV. 25       | 47.28       | AUG. 27       | 47.42       | APR. 26       | 46.88       |
| MAR. 26       | 47.23       | DEC. 17       | 47.39       | SEP. 27       | 47.50       | MAY 26        | 46.89       |
| APR. 29       | 47.05       | JAN. 20, 1976 | 46.74       | OCT. 28       | 47.52       | AUG. 25       | 47.35       |
| MAY 28        | 47.13       | FEB. 25       | 46.50       | NOV. 30       | 47.68       | SEP. 28       | 47.17       |
| JUNE 25       | 47.21       | MAR. 24       | 46.55       |               |             |               |             |

414124070265901. Local number, SDW 253 (Formerly published as Sandwich 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.--Augured 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) above mean sea level. 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 48.23       | JULY 23, 1975 | 49.51       | APR. 28, 1976 | 47.83       | DEC. 28, 1976 | 49.96       |
| NOV. 26       | 48.55       | AUG. 26       | 49.42       | MAY 26        | 47.96       | JAN. 27, 1977 | 49.71       |
| DEC. 30       | 48.90       | SEP. 25       | 49.52       | JUNE 28       | 48.25       | FEB. 24       | 49.94       |
| JAN. 30, 1975 | 48.80       | OCT. 29       | 49.70       | JULY 28       | 48.62       | MAR. 28       | 49.31       |
| FEB. 25       | 48.82       | NOV. 25       | 49.49       | AUG. 25       | 48.64       | APR. 27       | 48.98       |
| MAR. 26       | 48.70       | DEC. 17       | 49.40       | SEP. 27       | 48.99       | MAY 25        | 48.83       |
| APR. 29       | 48.66       | JAN. 21, 1976 | 48.56       | OCT. 28       | 49.35       | AUG. 25       | 48.92       |
| MAY 28        | 48.80       | FEB. 25       | 48.08       | NOV. 29       | 49.63       | SEP. 28       | 49.00       |
| JUNE 25       | 48.86       | MAR. 24       | 47.81       |               |             |               |             |

420239070062001. Local number, 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), corrected, above mean sea level. 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, OCTOBER 1976 TO AUGUST 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 11.15J      | DEC 27 | 11.14J      | FEB 23 | 10.93J      | APR 26 | 10.90 J     | JUN 23 | 10.90J      |
| NOV 29 | 11.17J      | JAN 26 | 10.98J      | MAR 29 | 10.51 J     | MAY 25 | 10.50 J     | AUG 25 | 11.32J      |

J, NEARBY WELL EITHER BEING PUMPED OR PUMPED RECENTLY.

420206070045901. Local number, TSW 89 (Formerly published as Truro 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) above mean sea level. 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, 10.71 ft (3.26 m) below land-surface datum, June 27, 1967; lowest measured, 13.29 ft (4.05 m) below land-surface datum, Jan. 17, 1975.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 22, 1974 | 12.52       | APR. 24, 1975 | 11.75       | OCT. 29, 1975 | 12.11       | OCT. 27, 1976 | 12.53       |
| OCT. 29       | 12.56       | APR. 29       | 11.64       | NOV. 24       | 11.99       | NOV. 29       | 12.50       |
| NOV. 23       | 12.46       | MAY 19        | 11.91       | DEC. 29       | 11.68       | DEC. 27       | 12.58       |
| NOV. 26       | 12.40       | MAY 28        | 11.89       | JAN. 29, 1976 | 11.28       | JAN. 26, 1977 | 12.01       |
| DEC. 17       | 12.35       | JUNE 25       | 12.00       | FEB. 25       | 11.18       | FEB. 23       | 12.11       |
| DEC. 27       | 12.36       | JULY 22       | 12.38       | MAR. 24       | 11.32       | MAR. 29       | 11.93       |
| JAN. 17, 1975 | 13.29       | JULY 23       | 12.36       | APR. 28       | 11.61       | APR. 26       | 11.96       |
| JAN. 29       | 12.05       | AUG. 19       | 12.46       | MAY 25        | 11.89       | MAY 25        | 12.00       |
| FEB. 19       | 12.01       | AUG. 26       | 12.50       | JUNE 28       | 12.27       | JULY 26       | 12.32       |
| FEB. 25       | 11.95       | SEP. 25       | 12.43       | JULY 27       | 12.48       | AUG. 25       | 12.49       |
| MAR. 24       | 12.26       | SEP. 29       | 12.38       | AUG. 26       | 12.68       | SEP. 27       | 12.46       |
| MAR. 26       | 11.79       | OCT. 22       | 13.26       | SEP. 28       | 12.69       |               |             |

415353069585401. Local number, WNW 17 (Formerly published as Wellfleet 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) above mean sea level. 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 11.12       | JULY 23, 1975 | 10.58       | APR. 28, 1976 | 8.69        | JAN. 26, 1977 | 10.57       |
| NOV. 26       | 11.39       | AUG. 26       | 10.77       | MAY 25        | 9.08        | FEB. 23       | 10.54       |
| DEC. 27       | 11.60       | SEP. 25       | 10.83       | JUNE 28       | 9.69        | MAR. 29       | 10.44       |
| JAN. 27, 1975 | 10.87       | OCT. 29       | 10.41       | JULY 27       | 10.17       | APR. 26       | 10.01       |
| FEB. 25       | 10.53       | NOV. 25       | 10.28       | AUG. 26       | 10.64       | MAY 25        | 10.07       |
| MAR. 26       | 10.13       | DEC. 16       | 10.02       | SEP. 28       | 11.09       | JULY 26       | 10.72       |
| APR. 29       | 9.86        | JAN. 21, 1976 | 8.97        | OCT. 28       | 11.37       | AUG. 25       | 11.01       |
| MAY 28        | 10.00       | FEB. 25       | 8.25        | NOV. 29       | 11.63       | SEP. 28       | 11.27       |
| JUNE 25       | 10.21       | MAR. 24       | 8.41        | DEC. 27       | 11.72       |               |             |

BERKSHIRE COUNTY

423503073075401. Local number, CUW 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 6.75        | DEC 27 | 8.03        | FEB 24 | 11.90       | APR 28 | 1.27        | JUN 28 | 6.51        | AUG 23 | 6.10        |
| NOV 26 | 6.42        | JAN 27 | 10.54       | MAR 29 | 5.44        | MAY 27 | 4.37        | JUL 25 | 7.47        | SEP 26 | 1.73        |

421316073212801. Local number, 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 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 1976 TO SEPTEMBER 1977  
HIGH FOR DAY

| DAY | OCT   | NOV   | DEC   | JAN   | FEB   | MAR  | APR  | MAY   | JUN   | JUL   | AUG   | SEP   |
|-----|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|
| 5   | 12.65 | 10.60 | 12.39 | 12.25 | 12.69 | 8.90 | 4.97 | 8.40  | 10.86 | 12.19 | 12.74 | 12.66 |
| 10  | 11.32 | 10.71 | 9.05  | 12.50 | 12.74 | 8.10 | 6.06 | 5.50  | 11.14 | 12.52 | 12.72 | 12.70 |
| 15  | 10.92 | 11.08 | 10.45 | 12.65 | 12.60 | 4.40 | 7.27 | 6.93  | 11.26 | 12.61 | 12.60 | 12.73 |
| 20  | 11.29 | 11.40 | 11.13 | 12.55 | 12.75 | 5.66 | 8.75 | 8.24  | 11.67 | 12.65 | 12.55 | 8.75  |
| 25  | 10.59 | 11.82 | 11.44 | 11.90 | 11.89 | 5.10 | 5.38 | 9.52  | 11.82 | 12.68 | 12.53 | 7.32  |
| EOM | 10.36 | 12.14 | 11.93 | 12.56 | 11.60 | 5.11 | 7.17 | 10.45 | 12.01 | 12.72 | 12.57 |       |

420912073043001. Local number, OTW 7 (Formerly published as Otis 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 8.25        | JULY 24, 1975 | 7.14        | APR. 28, 1976 | 7.65        | JAN. 26, 1977 | 9.26        |
| NOV. 26       | 7.66        | AUG. 27       | 8.72        | MAY 27        | 7.40        | FEB. 24       | 9.33        |
| DEC. 26       | 7.67        | SEP. 24       | 8.71        | JUNE 24       | 8.77        | MAR. 28       | 6.54        |
| JAN. 29, 1975 | 7.34        | OCT. 29       | 7.38        | JULY 27       | 9.23        | APR. 28       | 5.98        |
| FEB. 26       | 6.20        | NOV. 25       | 7.14        | AUG. 26       | 8.35        | MAY 27        | 7.38        |
| MAR. 26       | 5.57        | DEC. 29       | 7.71        | SEP. 22       | 9.13        | JUNE 28       | 8.64        |
| APR. 28       | 7.64        | JAN. 22, 1976 | 7.95        | OCT. 26       | 7.94        | JULY 25       | 9.82        |
| MAY 28        | 7.94        | FEB. 25       | 5.96        | NOV. 26       | 8.69        | AUG. 23       | 9.32        |
| JUNE 25       | 8.27        | MAR. 29       | 7.03        | DEC. 27       | 8.75        | SEP. 26       | 7.71        |

422745073112001. Local number, PTW 51 (Formerly published as Pittsfield 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 31, 1974 | 16.53       | JULY 24, 1975 | 14.58       | APR. 29, 1976 | 14.32       | JAN. 27, 1977 | 18.68       |
| NOV. 27       | 15.15       | AUG. 28       | 14.72       | MAY 28        | 14.21       | FEB. 24       | 20.30       |
| DEC. 27       | 14.77       | SEP. 25       | 14.43       | JUNE 25       | 15.34       | MAR. 29       | 13.91       |
| JAN. 30, 1975 | 14.36       | OCT. 30       | 13.89       | JULY 28       | 17.59       | APR. 28       | 13.33       |
| FEB. 27       | 14.25       | NOV. 26       | 13.69       | AUG. 27       | 15.36       | MAY 27        | 13.68       |
| MAR. 27       | 13.53       | DEC. 30       | 14.20       | SEP. 23       | 17.19       | JUNE 28       | 15.78       |
| APR. 29       | 13.65       | JAN. 26, 1976 | 14.85       | OCT. 27       | 16.41       | JULY 25       | 17.09       |
| MAY 29        | 13.91       | FEB. 26       | 13.46       | NOV. 26       | 16.26       | AUG. 23       | 16.85       |
| JUNE 26       | 13.88       | MAR. 30       | 13.97       | DEC. 27       | 16.03       | SEP. 26       | 15.55       |

## GROUND-WATER LEVELS IN MASSACHUSETTS

420351073193601. Local number, SJW 59 (Formerly published as Sheffield 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.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

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, 9.54 ft (2.91 m) below land-surface datum, Feb. 25, 1976; lowest measured, 19.69 ft (6.00 m) below land-surface datum, Jan. 25, 1966.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 12.90       | JULY 24, 1975 | 11.95       | APR. 28, 1976 | 10.30       | JAN. 26, 1977 | 12.43       |
| NOV. 26       | 12.96       | AUG. 27       | 11.98       | MAY 27        | 10.26       | FEB. 24       | 12.98       |
| DEC. 26       | 12.56       | SEP. 24       | 12.41       | JUNE 24       | 10.54       | MAR. 28       | 11.59       |
| JAN. 29, 1975 | 12.06       | OCT. 29       | 11.20       | JULY 27       | 11.11       | APR. 28       | 10.63       |
| FEB. 26       | 11.56       | NOV. 25       | 11.05       | AUG. 26       | 10.42       | MAY 27        | 10.10       |
| MAR. 27       | 11.53       | DEC. 29       | 11.24       | SEP. 22       | 10.94       | JUNE 28       | 10.71       |
| APR. 28       | 11.72       | JAN. 22, 1976 | 11.38       | OCT. 26       | 11.07       | JULY 25       | 11.63       |
| MAY 28        | 12.05       | FEB. 25       | 9.54        | NOV. 26       | 11.50       | AUG. 23       | 11.82       |
| JUNE 25       | 12.12       | MAR. 29       | 10.29       | DEC. 27       | 11.94       | SEP. 26       | 11.07       |

## BRISTOL COUNTY

415447071155301. Local number, ATW 83 (Formerly published as Attleboro 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, 2.03 ft (0.62 m) below land-surface datum, Dec. 29, 1969; lowest measured, 5.23 ft (1.59 m) below land-surface datum, Aug. 26, 1964.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 3.66        | JULY 22, 1975 | 4.36        | APR. 28, 1976 | 3.68        | JAN. 27, 1977 | 3.80        |
| NOV. 22       | 3.70        | AUG. 25       | 4.72        | MAY 27        | 3.89        | FEB. 23       | 3.87        |
| DEC. 27       | 3.66        | SEP. 26       | 3.61        | JUNE 28       | 4.54        | MAR. 30       | 3.01        |
| JAN. 27, 1975 | 3.15        | OCT. 28       | 3.28        | JULY 27       | 4.77        | APR. 27       | 3.52        |
| FEB. 24       | 3.39        | NOV. 20       | 3.23        | AUG. 26       | 3.78        | MAY 27        | 3.81        |
| MAR. 25       | 3.27        | DEC. 30       | 2.88        | SEP. 27       | 4.19        | JUNE 27       | 3.74        |
| APR. 28       | 3.57        | JAN. 26, 1976 | 3.45        | OCT. 27       | 3.47        | JULY 25       | 4.48        |
| MAY 27        | 3.91        | FEB. 25       | 3.48        | NOV. 23       | 3.90        | AUG. 25       | 4.14        |
| JUNE 24       | 3.92        | MAR. 30       | 3.46        | DEC. 27       | 3.88        | SEP. 26       | 3.66        |

414228071091401. Local number, FRW 67 (Formerly published as Fall River 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 (41.2 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, OCTOBER 1974 TO AUGUST 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | F           | JULY 28, 1975 | 7.62        | MAR. 28, 1976 | 7.91        | DEC. 27, 1976 | 8.95        |
| DEC. 2        | 9.91        | AUG. 25       | 8.00        | APR. 27       | 8.36        | JAN. 27, 1977 | 8.56        |
| DEC. 26       | 9.69        | SEP. 26       | 6.59        | MAY 24        | 8.60        | FEB. 28       | 7.61        |
| JAN. 22, 1975 | 7.86        | OCT. 27       | 7.59        | JUNE 28       | 8.96        | MAR. 29       | 5.80        |
| FEB. 25       | 7.84        | NOV. 25       | 8.60        | JULY 27       | 9.55        | APR. 21       | 6.99        |
| MAR. 21       | 7.68        | JAN. 2, 1976  | 7.45        | SEP. 27       | 8.90        | JUNE 26       | 7.98        |
| APR. 25       | 7.60        | JAN. 27       | 6.44        | OCT. 28       | 8.99        | JULY 25       | 8.61        |
| MAY 23        | 8.10        | FEB. 29       | 6.20        | NOV. 22       | 9.13        | AUG. 25       | 7.93        |
| JUNE 23       | 7.60        |               |             |               |             |               |             |

F, WATER LEVEL BELOW BOTTOM OF WELL.

414705071045301. Local number, F3W 23 (Formerly published as Freetown 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, 10.78 ft (3.29 m) below land-surface datum, Dec. 28, 1972; lowest measured, 15.70 ft (4.79 m) below land-surface datum, Jan. 29, 1966.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 14.42       | JULY 22, 1975 | 13.65       | APR. 28, 1976 | 12.87       | JAN. 27, 1977 | 14.58       |
| NOV. 22       | 14.64       | AUG. 25       | 14.05       | MAY 27        | 13.30       | FEB. 23       | 14.69       |
| DEC. 27       | 14.62       | SEP. 26       | 14.12       | JUNE 28       | 13.80       | MAR. 30       | 13.15       |
| JAN. 27, 1975 | 13.59       | OCT. 28       | 13.70       | JULY 27       | 14.11       | APR. 27       | 12.87       |
| FEB. 24       | 13.73       | NOV. 20       | 13.41       | AUG. 26       | 13.68       | MAY 27        | 12.96       |
| MAR. 25       | 13.32       | DEC. 30       | 12.86       | SEP. 27       | 13.97       | JUNE 27       | 12.60       |
| APR. 28       | 13.11       | JAN. 26, 1976 | 12.42       | OCT. 27       | 14.36       | JULY 25       | 13.32       |
| MAY 27        | 13.48       | FEB. 25       | 12.06       | NOV. 23       | 14.60       | AUG. 25       | 13.80       |
| JUNE 24       | 13.29       | MAR. 30       | 12.45       | DEC. 27       | 14.89       | SEP. 26       | 13.35       |



414025070572801. Local number, NGW 116 (Formerly published as New Bedford 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 4.19        | JULY 22, 1975 | 4.38        | APR. 28, 1976 | 4.12        | JAN. 28, 1977 | 3.80E       |
| NOV. 22       | 4.04        | AUG. 25       | 4.48        | MAY 27        | 4.29        | FEB. 23       | 4.15        |
| DEC. 30       | 3.76        | SEP. 26       | 3.24        | JUNE 28       | 4.72        | MAR. 30       | 3.50        |
| JAN. 27, 1975 | 3.36        | OCT. 28       | 3.60        | JULY 27       | 4.79        | APR. 27       | 3.85        |
| FEB. 24       | 3.12        | NOV. 20       | 3.50        | AUG. 26       | 3.91        | MAY 27        | 3.99        |
| MAR. 25       | 3.41        | DEC. 30       | 3.35        | SEP. 27       | 4.48        | JUNE 27       | 3.36        |
| APR. 28       | 3.77        | JAN. 26, 1976 | 3.99        | OCT. 27       | 3.10        | JULY 25       | 4.43        |
| MAY 27        | 4.20        | FEB. 25       | 3.67        | NOV. 23       | 4.19        | AUG. 25       | 3.69        |
| JUNE 24       | 3.82        | MAR. 30       | 3.73        | DEC. 27       | 3.81        | SEP. 26       | 3.50        |

E, ESTIMATED.

415812071111101. Local number, N4W 37 (Formerly published as Norton 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, 10.64 ft (3.24 m) below land-surface datum, Aug. 25, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 6.51        | JULY 22, 1975 | 9.40        | APR. 28, 1976 | 7.47        | JAN. 27, 1977 | 7.52        |
| NOV. 25       | 7.70        | AUG. 25       | 10.06       | MAY 27        | 8.20        | FEB. 23       | 7.78        |
| DEC. 27       | 6.31        | SEP. 26       | 6.72        | JUNE 28       | 9.43        | MAR. 30       | 4.12        |
| JAN. 27, 1975 | 4.62        | OCT. 28       | 4.91        | JULY 27       | 10.19       | APR. 27       | 6.47        |
| FEB. 24       | 6.07        | NOV. 20       | 5.21        | AUG. 26       | 7.20        | MAY 27        | 7.24        |
| MAR. 25       | 5.51        | DEC. 30       | 4.54        | SEP. 27       | 8.31        | JUNE 27       | 7.35        |
| APR. 28       | 6.64        | JAN. 26, 1976 | 6.39        | OCT. 27       | 5.87        | JULY 25       | 8.60        |
| MAY 27        | 8.12        | FEB. 25       | 5.57        | NOV. 23       | 7.66        | AUG. 25       | 9.18        |
| JUNE 24       | 8.32        | MAR. 30       | 6.12        | DEC. 27       | 7.88        | SEP. 26       | 7.71        |



414714071175901. Local number, SHW 275 (Formerly published as Seekonk 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, 5.52 ft (1.68 m) below land-surface datum, Dec. 18, 1973; lowest measured, 8.00 ft (2.44 m) below land-surface datum, Aug. 27, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 7.05        | JULY 22, 1975 | 7.21        | APR. 28, 1976 | 7.00        | JAN. 27, 1977 | 6.88        |
| NOV. 22       | 6.91        | AUG. 25       | 7.46        | MAY 27        | 7.03        | FEB. 23       | 6.81        |
| DEC. 30       | 6.80        | SEP. 26       | 6.36        | JUNE 28       | 7.39        | MAR. 30       | 6.26        |
| JAN. 27, 1975 | 6.25        | OCT. 28       | 6.57        | JULY 27       | 7.20        | APR. 27       | 6.68        |
| FEB. 24       | 6.37        | NOV. 20       | 6.60        | AUG. 26       | 7.00        | MAY 27        | 6.78        |
| MAR. 25       | 6.42        | DEC. 30       | 6.17        | SEP. 27       | 7.17        | JUNE 27       | 6.93        |
| APR. 28       | 6.71        | JAN. 26, 1976 | 6.00        | OCT. 27       | 6.49        | JULY 25       | 7.40        |
| MAY 27        | 7.06        | FEB. 25       | 6.40        | NOV. 23       | 7.05        | AUG. 25       | 7.00        |
| JUNE 24       | 6.98        | MAR. 30       | 6.67        | DEC. 27       | 6.81        | SEP. 26       | 6.54        |

415457071060101. Local number, TAW 337 (Formerly published as Taunton 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, 10.29 ft (3.14 m) below land-surface datum, Aug. 25, 1964.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 9.10        | JULY 22, 1975 | 9.67        | APR. 28, 1976 | 8.77        | JAN. 27, 1977 | 9.12        |
| NOV. 22       | 9.26        | AUG. 25       | 9.88        | MAY 27        | 9.11        | FEB. 23       | 8.90        |
| DEC. 30       | 8.94        | SEP. 26       | 9.01        | JUNE 28       | 9.66        | MAR. 30       | 7.44        |
| JAN. 27, 1975 | 7.95        | OCT. 28       | 8.20        | JULY 27       | 9.92        | APR. 27       | 8.18        |
| FEB. 24       | 8.40        | NOV. 20       | 8.05        | AUG. 26       | 9.12        | MAY 27        | 8.48        |
| MAR. 25       | 8.04        | DEC. 30       | 7.55        | SEP. 27       | 9.58        | JUNE 27       | 8.85        |
| APR. 28       | 8.48        | JAN. 26, 1976 | 8.02        | OCT. 27       | 8.80        | JULY 25       | 9.46        |
| MAY 27        | 9.02        | FEB. 25       | 7.84        | NOV. 23       | 9.27        | AUG. 25       | 9.55        |
| JUNE 24       | 9.09        | MAR. 30       | 8.23        | DEC. 27       | 9.30        | SEP. 26       | 9.18        |

## GROUND-WATER LEVELS IN MASSACHUSETTS

## ESSEX COUNTY

423734071080901. Local number, AJW 26 (Formerly published as Andover 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 (57.6 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 11.34       | JULY 22, 1975 | 12.09       | APR. 26, 1976 | 9.22        | JAN. 26, 1977 | 12.04       |
| NOV. 22       | 11.48       | AUG. 25       | 12.04       | MAY 25        | 10.44       | FEB. 25       | 11.32       |
| DEC. 24       | 8.86        | SEP. 23       | 12.15       | JUNE 28       | 11.78       | MAR. 29       | 5.34        |
| JAN. 27, 1975 | 7.59        | OCT. 24       | 9.10        | JULY 26       | 12.28       | APR. 27       | 7.14        |
| FEB. 24       | 9.68        | NOV. 24       | 7.10        | AUG. 25       | 11.05       | MAY 25        | 9.44        |
| MAR. 28       | 7.50        | DEC. 23       | 7.23        | SEP. 21       | 12.06       | JUNE 27       | 11.50       |
| APR. 24       | 9.45        | JAN. 21, 1976 | 8.70        | OCT. 28       | 12.09       | JULY 26       | 12.10       |
| MAY 23        | 11.60       | FEB. 23       | 7.38        | NOV. 24       | 12.15       | AUG. 25       | 12.29       |
| JUNE 24       | 11.38       | MAR. 25       | 6.98        | DEC. 27       | 12.17       | SEP. 28       | 12.13       |

423845071091701. Local number, AJW 69.

LOCATION.--Lat 42°38'45", long 71°09'17", Hydrologic Unit 01070002, about 40 ft (12 m) north of Argilla Road and 300 ft (90 m) west of Andover Street in Andover.

Owner: Sidney P. White.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 24 ft (7.3 m), cased with stone to 24 ft (7.3 m).

DATUM.--Altitude of land-surface datum is 65 ft (20 m). Measuring point: Top edge of stone casing, 3.10 ft (0.94 m) above land-surface datum.

PERIOD OF RECORD.--May 1962 to December 1975 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level 12.55 ft (3.82 m) below land-surface datum, Mar. 31, 1969; lowest, 22.98 ft (7.00 m) below land-surface datum, Sept. 28, 1962.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, MAY 1962 TO DECEMBER 1975  
HIGH FOR DAY

| DAY  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  | NOV.  | DEC.  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 5    | ..... | ..... | ..... | ..... | ..... | 20.07 | 21.55 | 21.19 | 22.53 | 22.66 | 18.84 | 19.00 |
| 10   | ..... | ..... | ..... | ..... | ..... | 20.21 | 21.80 | 22.07 | 22.71 | 16.12 | 18.80 | 17.22 |
| 15   | ..... | ..... | ..... | ..... | ..... | 20.53 | 20.15 | 22.13 | 22.83 | 16.34 | ..... | 17.35 |
| 20   | ..... | ..... | ..... | ..... | ..... | 20.84 | 20.25 | 21.40 | 22.90 | 17.17 | ..... | 18.00 |
| 25   | ..... | ..... | ..... | ..... | ..... | 19.42 | 21.11 | 20.49 | 21.77 | 22.94 | 18.10 | 18.72 |
| EOM  | ..... | ..... | ..... | ..... | 19.79 | 21.32 | 20.63 | 22.42 | 22.82 | 18.90 | ..... | 19.38 |
| 1963 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 19.77 | 20.12 | 21.27 | 17.38 | 18.70 | 20.65 | 21.35 | 20.64 | 22.19 | 20.82 | 20.79 | 17.62 |
| 10   | 19.95 | 20.42 | 21.14 | 17.55 | 19.05 | 20.88 | 20.87 | 20.86 | 22.51 | 20.55 | 18.90 | 17.73 |
| 15   | 20.14 | 20.62 | 20.79 | 18.11 | 19.54 | 21.14 | 19.87 | 21.00 | 22.75 | 20.70 | 18.85 | 17.88 |
| 20   | 20.15 | 20.83 | 19.71 | 18.30 | 19.91 | 21.36 | 20.10 | 21.23 | 22.84 | 20.88 | 19.02 | 18.20 |
| 25   | 19.93 | 21.00 | 18.95 | 18.50 | 20.14 | 21.64 | 20.29 | 21.35 | 22.74 | 21.17 | 19.04 | 18.59 |
| EOM  | 20.07 | 21.10 | 17.65 | 18.60 | 20.44 | 21.94 | 20.43 | 21.81 | 22.56 | 20.69 | 18.35 | 19.00 |
| 1964 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 19.18 | 16.99 | 18.50 | 16.81 | 17.86 | 20.74 | 21.00 | 20.08 | 18.46 | 19.05 | 19.16 | 18.68 |
| 10   | 19.36 | 16.50 | 16.78 | 16.99 | 18.69 | 20.83 | 20.55 | 18.38 | 18.52 | 19.16 | 19.25 | 18.69 |
| 15   | 19.45 | 17.14 | 16.15 | 16.79 | 19.05 | 20.47 | 20.57 | 18.36 | 18.66 | 19.28 | 19.32 | 18.69 |
| 20   | 19.50 | 17.64 | 15.93 | 16.36 | 19.29 | 21.14 | 20.87 | 18.44 | 18.76 | 19.04 | 19.27 | 18.70 |
| 25   | 17.66 | 18.23 | 16.10 | 16.78 | 19.77 | 21.63 | 21.26 | 18.37 | 18.83 | 18.92 | 19.34 | 18.62 |
| EOM  | 16.80 | 18.60 | 16.25 | 17.31 | 20.13 | 22.01 | 21.25 | 18.42 | 18.97 | 19.05 | 18.75 | 17.78 |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, MAY 1962 TO DECEMBER 1975  
HIGH FOR DAY

| 1965 |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DAY  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  | NOV.  | DEC.  |
| 5    | 17.69 | 18.37 | 16.47 | 17.23 | 17.30 | 18.48 | 19.24 | 18.10 | 20.10 | 20.25 | 19.14 | 18.64 |
| 10   | 17.72 | 17.94 | 16.24 | 17.35 | 17.59 | 18.71 | 19.37 | 18.21 | 20.06 | 20.15 | 19.21 | 18.08 |
| 15   | 17.83 | 17.67 | 16.41 | 17.23 | 17.86 | 18.79 | 18.95 | 18.71 | 20.09 | 20.10 | 19.30 | 18.14 |
| 20   | 17.86 | 17.67 | 16.69 | 16.61 | 18.00 | 18.93 | 18.60 | 19.26 | 20.19 | 18.67 | 19.33 | 17.99 |
| 25   | 17.90 | 17.42 | 16.92 | 16.88 | 18.23 | 19.06 | 19.02 | 19.71 | 20.21 | 18.90 | 19.41 | 18.03 |
| EOM  | 18.14 | 16.75 | 17.07 | 16.98 | 18.40 | 19.18 | 18.55 | 19.99 | 20.25 | 19.03 | 18.91 | 17.54 |
| 1966 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 17.46 | 16.46 | 14.74 | 14.40 | 15.64 | 17.72 | 18.47 | 19.55 | 19.07 | 18.76 | 17.10 | 15.58 |
| 10   | 17.02 | 16.63 | 13.97 | 14.64 | 15.94 | 17.63 | 18.78 | 19.65 | 19.22 | 19.01 | 16.24 | 15.61 |
| 15   | 16.63 | 15.60 | 13.70 | 14.86 | 16.23 | 17.16 | 18.90 | 19.72 | 19.40 | 19.12 | 15.49 | 15.65 |
| 20   | 16.61 | 15.30 | 13.65 | 15.12 | 17.03 | 17.77 | 19.09 | 19.77 | 19.24 | 18.32 | 15.42 | 15.71 |
| 25   | 16.54 | 15.30 | 13.72 | 15.47 | 17.29 | 18.09 | 19.20 | 19.77 | 18.93 | 18.21 | 15.58 | 15.85 |
| EOM  | 16.47 | 15.49 | 14.10 | 15.86 | 17.32 | 18.17 | 19.34 | 19.90 | 19.25 | 18.40 | 15.47 | 15.67 |
| 1967 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 15.85 | 15.08 | 16.44 | 14.22 | 14.47 | 14.89 | 16.21 | 18.85 | ..... | 17.45 | 19.07 | 16.57 |
| 10   | 16.03 | 15.36 | 16.42 | 14.08 | 14.48 | 15.23 | 16.73 | 17.63 | ..... | 18.20 | 18.80 | 16.50 |
| 15   | 16.21 | 15.66 | 15.77 | 14.12 | 14.29 | 15.60 | 17.02 | 18.34 | ..... | 18.51 | 18.37 | 16.11 |
| 20   | 16.32 | 15.74 | 15.86 | 13.62 | 14.50 | 15.99 | 17.35 | 19.12 | ..... | 18.80 | 17.53 | 16.19 |
| 25   | 15.94 | 15.94 | 15.95 | 13.53 | 14.95 | 16.25 | 17.73 | 19.30 | 19.50 | 19.05 | 17.12 | 16.24 |
| EOM  | 15.23 | 16.16 | 14.52 | 14.07 | 14.53 | 16.55 | 18.33 | 18.75 | 18.27 | 19.05 | 17.03 | 16.35 |
| 1968 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 16.50 | 15.77 | 17.21 | 13.85 | 15.85 | 16.50 | 15.70 | 17.97 | 19.57 | 19.82 | 19.75 | 14.89 |
| 10   | 16.65 | 15.67 | 17.30 | 14.36 | 16.19 | 16.68 | 16.15 | 18.33 | 19.60 | 19.72 | 18.88 | 14.69 |
| 15   | 16.45 | 15.94 | 16.78 | 14.81 | 15.60 | 16.04 | 16.36 | 18.65 | 19.65 | 19.80 | 18.29 | 14.44 |
| 20   | 16.67 | 16.30 | 12.80 | 15.02 | 16.06 | 16.06 | 16.72 | 18.97 | 19.67 | 19.76 | 18.04 | 14.31 |
| 25   | 16.73 | 16.80 | 12.79 | 15.35 | 16.27 | 16.29 | 17.05 | 19.30 | 19.72 | 19.73 | 16.09 | 14.24 |
| EOM  | 16.69 | 17.08 | 13.35 | 15.54 | 16.51 | 15.70 | 17.62 | 19.52 | 19.83 | 19.73 | 15.55 | 14.33 |
| 1969 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 14.49 | 14.62 | ..... | 12.68 | 14.49 | 16.62 | 18.23 | 18.19 | 19.25 | 18.39 | 18.12 | 15.18 |
| 10   | 14.48 | 14.90 | ..... | 12.93 | 15.09 | 16.82 | 18.54 | 18.29 | 18.13 | 18.27 | 15.98 | 14.98 |
| 15   | 14.71 | 15.19 | ..... | 13.29 | 15.55 | 16.98 | 17.02 | 18.52 | 18.18 | 18.32 | 14.74 | 14.37 |
| 20   | 14.81 | 15.46 | ..... | 13.41 | 15.84 | 17.17 | 17.17 | 18.90 | 18.74 | 18.82 | 14.65 | 14.50 |
| 25   | 14.43 | 15.54 | 13.90 | 13.55 | 16.07 | 17.27 | 18.11 | 19.11 | 19.04 | 18.99 | 14.81 | 14.56 |
| EOM  | 14.52 | 15.64 | 12.55 | 13.78 | 16.43 | 17.62 | 18.30 | 19.25 | 18.75 | 19.06 | 14.96 | 13.03 |
| 1970 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 13.50 | 14.84 | 15.43 | 13.50 | 15.24 | 15.85 | 16.96 | 19.19 | 19.36 | 18.48 | 16.46 | 15.79 |
| 10   | 14.25 | 14.40 | 15.52 | 13.56 | 15.59 | 16.06 | 17.47 | 19.33 | 19.45 | 18.63 | 16.13 | 16.03 |
| 15   | 14.91 | 13.75 | 15.63 | 14.01 | 15.76 | 16.42 | 17.96 | 19.40 | 19.43 | 18.69 | 15.62 | 16.23 |
| 20   | 15.43 | 14.19 | 15.54 | 14.49 | 14.98 | 16.72 | 18.37 | 19.47 | 19.12 | 18.57 | 15.65 | 16.09 |
| 25   | 15.56 | 14.71 | 14.93 | 14.65 | 15.48 | 17.05 | 18.81 | 19.15 | 19.40 | 17.07 | 15.85 | 16.21 |
| EOM  | 16.23 | 15.06 | 14.69 | 14.85 | 15.98 | 16.96 | 19.06 | 19.41 | 19.20 | 16.89 | 15.76 | 16.46 |
| 1971 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 16.64 | 17.70 | 15.55 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 10   | 16.71 | 17.75 | 15.40 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 15   | 16.94 | 17.35 | 15.35 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 20   | 16.98 | 17.01 | 13.57 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 25   | 17.23 | 16.68 | 13.38 | 14.45 | 14.36 | 16.45 | 18.67 | 16.70 | ..... | 17.09 | 14.72 | 16.47 |
| EOM  | 17.47 | 16.37 | ..... | ..... | ..... | ..... | ..... | ..... | 16.49 | ..... | ..... | ..... |
| 1972 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 10   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 15   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 20   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 25   | 16.44 | 16.05 | 12.99 | 14.66 | 14.95 | 15.45 | 16.84 | 17.70 | 17.80 | 17.79 | 15.66 | ..... |
| EOM  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 16.19 |
| 1973 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 10   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 15   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 20   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 14.94 |
| 25   | 15.99 | 16.66 | 16.57 | 15.29 | 16.30 | 17.54 | 17.42 | 17.94 | 19.20 | 17.90 | ..... | ..... |
| EOM  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 16.95 | ..... |

423845071091701. Local number, AJW 69 (Continued).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, MAY 1962 TO DECEMBER 1975  
HIGH FOR DAY

| 1974 |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DAY  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  | NOV.  | DEC.  |
| 5    | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 10   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 15   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 20   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 25   | 16.24 | 16.02 | ..... | ..... | 16.29 | 17.24 | 18.50 | ..... | 16.85 | 16.50 | 16.71 | 15.90 |
| EOM  | ..... | ..... | 15.55 | 15.85 | ..... | ..... | ..... | 19.62 | ..... | ..... | ..... | ..... |
| 1975 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 10   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 15   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 20   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 25   | ..... | 16.67 | ..... | 16.03 | 16.84 | 17.83 | 18.42 | 19.71 | 18.17 | 16.65 | 16.02 | 16.08 |
| EOM  | 15.32 | ..... | 16.66 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

423641071102501. Local number, 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 (33.5 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; lowest measured, 15.52 ft (4.73 m) below land-surface datum, Nov. 22, 1971.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, NOVEMBER 1968 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| NOV. 25, 1968 | 14.69       | FEB. 23, 1971 | 14.77       | MAY 24, 1973  | 13.10       | AUG. 25, 1975 | 15.22       |
| DEC. 26       | 14.19       | MAR. 24       | 13.78       | JUNE 25       | 13.32       | SEP. 23       | 15.27       |
| JAN. 27, 1969 | 14.17       | APR. 22       | 13.85       | JULY 25       | 13.60       | OCT. 24       | 14.17       |
| FEB. 25       | 14.25       | MAY 21        | 13.68       | AUG. 24       | 14.12       | NOV. 24       | 13.35       |
| MAR. 26       | 13.40       | JUNE 23       | 14.39       | SEP. 25       | 14.53       | DEC. 23       | 13.63       |
| APR. 25       | 13.16       | JULY 23       | 14.89       | OCT. 25       | 14.96       | JAN. 21, 1976 | 12.91       |
| MAY 26        | 13.86       | AUG. 23       | 15.03       | NOV. 26       | 14.95       | FEB. 23       | 12.85       |
| JUNE 26       | 14.47       | SEP. 27       | 15.34       | DEC. 20       | 13.85       | MAR. 25       | 13.18       |
| JULY 25       | 14.90       | OCT. 22       | 15.43       | JAN. 23, 1974 | 13.77       | APR. 26       | 13.78       |
| AUG. 26       | 14.99       | NOV. 22       | 15.52       | FEB. 22       | 13.57       | MAY 25        | 13.96       |
| SEP. 25       | 15.08       | DEC. 21       | 14.58       | MAR. 26       | 13.37       | JUNE 28       | 14.68       |
| OCT. 27       | 15.26       | JAN. 24, 1972 | 14.42       | APR. 29       | 13.57       | JULY 26       | 15.15       |
| NOV. 25       | 13.88       | FEB. 22       | 14.48       | MAY 24        | 13.56       | AUG. 25       | 14.69       |
| DEC. 30       | 13.03       | MAR. 23       | 14.85       | JUNE 25       | 14.02       | SEP. 21       | 15.09       |
| JAN. 27, 1970 | 13.82       | APR. 21       | 13.26       | JULY 25       | 14.76       | OCT. 28       | 14.98       |
| FEB. 25       | 13.33       | MAY 23        | 13.99       | AUG. 26       | 15.29       | NOV. 24       | 15.24       |
| MAR. 27       | 13.69       | JUNE 23       | 12.77       | SEP. 23       | 15.19       | DEC. 27       | 15.40       |
| APR. 28       | 13.27       | JULY 25       | 13.74       | OCT. 25       | 14.61       | JAN. 26, 1977 | 15.45       |
| MAY 26        | 13.54       | AUG. 25       | 14.47       | NOV. 22       | 14.80       | FEB. 25       | 15.50       |
| JUNE 26       | 14.00       | SEP. 25       | 14.81       | DEC. 23       | 14.31       | MAR. 30       | 14.94       |
| JULY 28       | 14.42       | OCT. 25       | 14.84       | JAN. 24, 1975 | 13.82       | APR. 27       | 13.20       |
| AUG. 25       | 14.89       | NOV. 24       | 13.82       | FEB. 21       | 14.10       | MAY 25        | 13.32       |
| SEP. 25       | 15.23       | DEC. 26       | 13.39       | MAR. 24       | 13.78       | JUNE 28       | 14.19       |
| OCT. 27       | 15.02       | JAN. 25, 1973 | 13.32       | APR. 23       | 13.80       | JULY 26       | 14.80       |
| NOV. 24       | 15.04       | FEB. 22       | 13.44       | MAY 22        | 14.27       | AUG. 26       | 15.12       |
| DEC. 22       | 14.94       | MAR. 23       | 13.62       | JUNE 23       | 14.66       | SEP. 29       | 15.11       |
| JAN. 25, 1971 | 15.06       | APR. 24       | 12.97       | JULY 21       | 15.15       |               |             |

424322070592401. Local number, GCW 168 (Formerly published as Georgetown 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 4.91        | JULY 21, 1975 | 5.65        | APR. 26, 1976 | 4.22        | JAN. 26, 1977 | 4.82        |
| NOV. 21       | 4.80        | AUG. 25       | 5.90        | MAY 25        | 4.66        | FEB. 24       | 4.85        |
| DEC. 23       | 4.20        | SEP. 23       | 5.80        | JUNE 28       | 5.70        | MAR. 29       | 2.84        |
| JAN. 24, 1975 | 3.95        | OCT. 24       | 4.40        | JULY 26       | 6.06        | APR. 27       | 3.45        |
| FEB. 21       | 4.22        | NOV. 24       | 3.59        | AUG. 25       | 5.22        | MAY 25        | 4.33        |
| MAR. 24       | 3.75        | DEC. 23       | 4.04        | SEP. 21       | 5.68        | JUNE 27       | 4.93        |
| APR. 23       | 4.29        | JAN. 21, 1976 | 3.83        | OCT. 28       | 5.02        | JULY 26       | 5.50        |
| MAY 22        | 4.74        | FEB. 23       | 3.14        | NOV. 24       | 5.42        | AUG. 25       | 5.75        |
| JUNE 23       | 5.09        | MAR. 25       | 3.60        | DEC. 27       | 5.49        | SEP. 28       | 5.23        |

424841071004101. Local number, 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: 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 1976 TO SEPTEMBER 1977  
HIGH FOR DAY

| DAY | OCT   | NOV   | DEC   | JAN   | FEB   | MAR   | APR  | MAY  | JUN   | JUL   | AUG   | SEP   |
|-----|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|
| 5   | 14.44 | 14.46 | 14.66 | 14.71 | 14.23 | 12.75 | 8.93 | 9.30 | 10.13 | 11.70 | 12.86 | 13.55 |
| 10  | 14.45 | 14.51 | 14.53 | 14.73 | 14.28 | 12.19 | 9.85 | 9.25 | 10.43 | 11.93 | 13.00 | 13.66 |
| 15  | 14.46 | 14.56 | 14.53 | 14.21 | 14.17 | 11.26 | 9.02 | 9.11 | 10.70 | 12.15 | 13.13 | 13.76 |
| 20  | 14.51 | 14.59 | 14.59 | 14.15 | 14.10 | 10.91 | 9.22 | 9.33 | 10.97 | 12.35 | 13.24 | 13.80 |
| 25  | 14.35 | 14.61 | 14.65 | 14.16 | 13.81 | 9.98  | 9.18 | 9.56 | 11.24 | 12.55 | 13.35 | 13.75 |
| EOM | 14.41 | 14.64 | 14.67 | 14.20 | 13.20 | 9.11  | 9.13 | 9.86 | 11.45 | 12.70 | 13.45 | 13.78 |



424520070562401. Local number, NIW 27 (Formerly published as Newbury 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 (16.8 m). Measuring point: Top of hole in base of wooden recorder shelter, 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, OCTOBER 1974 TO SEPTEMBER 1977

HIGH FOR DAY

| 1974 |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DAY  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  | NOV.  | DEC.  |
| 5    | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 9.92  | 9.65  | 6.51  |
| 10   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.05 | 9.36  | 6.54  |
| 15   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.23 | 9.20  | 6.75  |
| 20   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 9.73  | 9.10  | 6.16  |
| 25   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 9.56  | 8.71  | 6.14  |
| EOM  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 9.62  | 8.49  | 6.44  |
| 1975 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 6.63  | 5.39  | 5.30  | 4.87  | 6.24  | 8.12  | 8.94  | 10.38 | 10.10 | 8.92  | 7.30  | ..... |
| 10   | 6.52  | 5.70  | 5.52  | 4.96  | 6.58  | 7.96  | 9.21  | 9.45  | 10.30 | 9.26  | 7.60  | ..... |
| 15   | 4.96  | 6.07  | 5.67  | 5.18  | 6.84  | 8.00  | 9.42  | 9.65  | 10.40 | 8.78  | 5.47  | ..... |
| 20   | 5.06  | 6.35  | 5.35  | 5.40  | 7.08  | 8.12  | 9.65  | 10.00 | 10.50 | 7.27  | 5.74  | ..... |
| 25   | 5.17  | 4.85  | 5.18  | 5.66  | 7.43  | 8.40  | 9.78  | 10.31 | 9.98  | 7.15  | ..... | 5.60  |
| EOM  | 5.19  | 5.15  | 5.23  | 5.97  | 7.84  | 8.68  | 10.11 | 10.07 | 8.63  | 6.99  | ..... | 4.95  |
| 1976 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 5.10  | 4.83  | 4.67  | 4.98  | 6.41  | 7.97  | 9.67  | 10.55 | 10.54 | 11.34 | 10.09 | 10.61 |
| 10   | 5.21  | 5.09  | 4.85  | 5.26  | 6.56  | 8.26  | 10.00 | 9.72  | 10.76 | 11.16 | 10.19 | 10.33 |
| 15   | 4.75  | 5.20  | 4.89  | 5.55  | 6.74  | 8.57  | 10.13 | 9.57  | 10.86 | 10.91 | 10.29 | 10.32 |
| 20   | 5.19  | 4.70  | 4.80  | 5.91  | 6.98  | 8.89  | 10.25 | 9.67  | 10.96 | 10.99 | 10.37 | 10.43 |
| 25   | 5.50  | 4.87  | 4.82  | 6.26  | 7.24  | 9.20  | 10.44 | 9.97  | 11.11 | 10.40 | 10.50 | 10.47 |
| EOM  | 4.94  | 5.01  | 4.92  | 6.37  | 7.61  | 9.48  | 10.61 | 10.31 | 11.22 | 10.08 | 10.58 | 10.58 |
| 1977 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 10.72 | 9.70  | 5.26  | 4.64  | 5.26  | 6.78  | 8.79  | 10.22 | 11.38 | ..... | ..... | ..... |
| 10   | 10.62 | 9.81  | 5.07  | 4.83  | 4.88  | 7.25  | 9.05  | 10.44 | 11.56 | ..... | ..... | ..... |
| 15   | 9.32  | 9.09  | 4.68  | 5.02  | 4.99  | 7.45  | 9.35  | 10.66 | 11.72 | ..... | ..... | ..... |
| 20   | 9.47  | 8.94  | 4.91  | 5.31  | 5.31  | 7.84  | 9.63  | 10.80 | 11.62 | ..... | ..... | ..... |
| 25   | 9.68  | 7.70  | 4.32  | 4.89  | 5.71  | 8.21  | 9.90  | 11.00 | 11.21 | ..... | ..... | ..... |
| EOM  | 9.67  | 5.95  | 4.53  | 4.99  | 6.30  | 8.50  | 10.11 | 11.19 | 11.08 | ..... | ..... | ..... |

425011070520801. Local number, SBW 8.

LOCATION.--Lat 42°50'11", long 70°52'08", Hydrologic Unit 01070002, about 30 ft (9.1 m) north of Mudnock Road and about 200 ft (61 m) west of Boston and Maine Railroad tracks in Salisbury.

Owner: Edwin Oliveira.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in (0.76 m), depth 18 ft (5.5 m) cased with brick to 18 ft (5.5 m), open end.

DATUM.--Altitude of land-surface datum is 20 ft (6.1 m). Measuring point: Top inside edge of brick casing, at land-surface datum.

PERIOD OF RECORD.--October 1960 to May 1965 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.47 ft (0.45 m) below land-surface datum, Apr. 16, 1961; lowest, 11.72 ft (3.57 m) below land-surface datum, Sept. 22, 1964.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

HIGH FOR DAY

| DAY | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP   |
|-----|-------|------|------|------|------|------|------|------|------|------|------|-------|
| 5   | ..... | 9.07 | 8.27 | 7.06 | 8.61 | 6.25 | 3.54 | 4.04 | 6.78 | 8.98 | 8.16 | 9.09  |
| 10  | 10.87 | 8.86 | 8.28 | 7.33 | 8.86 | 5.30 | 2.47 | 4.56 | 7.40 | 9.17 | 8.47 | 9.36  |
| 15  | 10.94 | 8.71 | 8.42 | 7.54 | 9.07 | 5.02 | 2.15 | 5.09 | 7.62 | 9.51 | 9.02 | 9.79  |
| 20  | 10.96 | 8.68 | 7.24 | 7.61 | 8.93 | 4.89 | 3.13 | 5.58 | 8.11 | 8.79 | 9.50 | 10.00 |
| 25  | 10.62 | 8.74 | 6.33 | 7.87 | 8.10 | 3.93 | 3.58 | 6.33 | 8.37 | 8.69 | 9.67 | 8.55  |
| EOM | 10.17 | 8.56 | 7.19 | 8.27 | 6.81 | 3.90 | 4.25 | 5.98 | 8.58 | 8.13 | 9.32 | 7.48  |



425011070520801. Local number, SBW 8 (Continued).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962  
HIGH FOR DAY

| DAY | OCT  | NOV  | DEC  | JAN   | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-----|------|------|------|-------|------|------|------|------|------|------|------|------|
| 5   | 7.24 | 7.85 | 4.93 | 5.69  | 6.45 | 7.43 | 3.64 | 4.14 | 7.91 | 8.76 | 9.36 | 8.74 |
| 10  | 7.27 | 6.72 | 5.43 | 4.26  | 6.70 | 7.17 | 4.07 | 4.88 | 7.75 | 9.14 | 9.55 | 8.94 |
| 15  | 7.38 | 6.89 | 5.39 | 4.60E | 6.95 | 5.64 | 3.30 | 5.57 | 7.88 | 9.24 | 9.53 | 9.29 |
| 20  | 7.45 | 6.44 | 5.68 | 4.95E | 7.15 | 4.70 | 4.07 | 6.09 | 8.32 | 9.39 | 9.58 | 9.54 |
| 25  | 7.62 | 3.57 | 5.72 | 5.30E | 7.35 | 4.57 | 4.90 | 6.65 | 8.55 | 9.44 | 9.55 | 9.60 |
| EOM | 7.70 | 4.37 | 5.05 | 5.65E | 7.50 | 4.36 | 5.10 | 7.38 | 8.45 | 9.24 | 9.06 | 8.59 |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963  
HIGH FOR DAY

| DAY | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG    | SEP   |
|-----|------|------|------|------|------|------|------|------|------|-------|--------|-------|
| 5   | 8.15 | 3.68 | 4.90 | 6.90 | 7.55 | 7.86 | 4.40 | 4.82 | 7.11 | 9.53  | 10.35E | 10.94 |
| 10  | 3.45 | 3.69 | 3.27 | 7.01 | 7.59 | 7.57 | 4.85 | 5.56 | 7.47 | 9.68  | 10.10E | 11.02 |
| 15  | 4.50 | 4.25 | 4.70 | 6.89 | 7.63 | 6.94 | 5.27 | 5.68 | 7.83 | 9.71  | 10.11E | 11.22 |
| 20  | 5.19 | 4.95 | 5.52 | 7.08 | 7.66 | 5.54 | 5.12 | 5.37 | 8.20 | 9.95  | 10.35E | 11.24 |
| 25  | 5.73 | 4.52 | 5.97 | 7.08 | 7.70 | 4.90 | 5.04 | 6.05 | 8.65 | 10.15 | 10.50E | 11.00 |
| EOM | 5.03 | 5.16 | 6.36 | 7.40 | 7.74 | 4.59 | 5.39 | 6.62 | 9.15 | 10.60 | 10.71  | 10.56 |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964  
HIGH FOR DAY

| DAY | OCT  | NOV   | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL   | AUG   | SEP   |
|-----|------|-------|------|------|------|------|------|------|------|-------|-------|-------|
| 5   | 9.91 | 10.13 | 3.97 | 5.02 | 4.36 | 4.40 | 4.09 | 5.60 | 8.21 | 10.14 | 10.18 | 11.06 |
| 10  | 9.67 | 5.50  | 3.60 | 4.66 | 4.02 | 3.15 | 3.52 | 6.01 | 8.46 | 10.05 | 10.46 | 11.30 |
| 15  | 9.64 | 5.32  | 4.65 | 5.27 | 4.85 | 2.75 | 2.71 | 6.41 | 8.83 | 9.45  | 10.70 | 11.46 |
| 20  | 9.65 | 5.92  | 5.47 | 6.12 | 5.24 | 3.56 | 3.68 | 6.79 | 9.25 | 9.40  | 10.97 | 11.65 |
| 25  | 9.72 | 6.04  | 6.16 | 4.44 | 5.80 | 4.00 | 4.25 | 7.31 | 9.60 | 9.40  | 11.00 | 11.64 |
| EOM | 9.56 | 3.37  | 6.64 | 4.56 | 6.05 | 3.57 | 4.96 | 7.94 | 9.98 | 9.81  | 10.95 | 11.60 |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1964 TO MAY 1965  
HIGH FOR DAY

| DAY | OCT   | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  |
|-----|-------|------|------|------|------|------|------|------|
| 5   | 11.55 | 9.24 | 6.59 | 4.83 | 7.11 | 5.14 | 4.94 | 5.27 |
| 10  | 11.54 | 9.26 | 6.91 | 5.06 | 6.51 | 3.60 | 5.29 | 5.94 |
| 15  | 11.54 | 9.31 | 5.31 | 5.25 | 5.71 | 4.28 | 4.47 | 6.46 |
| 20  | 10.90 | 9.30 | 6.11 | 6.09 | 5.66 | 4.73 | 3.73 | 6.70 |
| 25  | 9.37  | 8.91 | 6.40 | 6.50 | 6.21 | 4.90 | 4.57 | 7.13 |
| EOM | 9.25  | 5.90 | 3.58 | 6.80 | 6.04 | 4.67 | 4.47 | 7.85 |

E, ESTIMATED.

425103070513401. Local number, 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. Folsom.

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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 28 | 6.16        | DEC 27 | 6.29        | FEB 24 | 4.95        | APR 27 | 3.86        | JUN 27 | 6.11        | AUG 25 | 7.48        |
| NOV 24 | 6.37        | JAN 26 | 5.67        | MAR 29 | 3.60        | MAY 25 | 5.24        | JUL 26 | 7.00        | SEP 28 | 6.64        |

423845070542501. Local number, TQW 1 (Formerly published as Topsfield 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 15.27       | JULY 21, 1975 | 13.45       | APR. 26, 1976 | 11.25       | JAN. 26, 1977 | 16.38       |
| NOV. 21       | 15.30       | AUG. 25       | 14.63       | MAY 25        | 13.05       | FEB. 24       | 15.51       |
| NOV. 23       | 11.45       | SEP. 23       | 15.34       | JUNE 28       | 13.37       | MAR. 29       | 6.92        |
| JAN. 24, 1975 | 7.64        | OCT. 24       | 13.99       | JULY 26       | 14.63       | APR. 27       | 7.12        |
| FEB. 21       | 10.37       | NOV. 24       | 9.25        | AUG. 25       | 15.07       | MAY 25        | 9.95        |
| MAR. 24       | 8.04        | DEC. 23       | 9.48        | SEP. 21       | 15.66       | JUNE 27       | 11.98       |
| APR. 23       | 10.40       | JAN. 21, 1976 | 8.49        | OCT. 28       | 16.37       | JULY 26       | 13.13       |
| MAY 22        | 11.74       | FEB. 23       | 8.73        | NOV. 24       | 16.75       | AUG. 25       | 14.36       |
| JUNE 23       | 12.29       | MAR. 25       | 8.65        | DEC. 27       | 16.92       | SEP. 28       | 15.21       |

423505070491702. Local number, WPW 76 (Formerly published as Wenham 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 (18.3 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, 1.05 ft (0.32 m) below land-surface datum, Mar. 29, 1977; lowest measured, 4.36 ft (1.33 m) below land-surface datum, Sept. 28, 1971.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 3.10        | JULY 21, 1975 | 3.88        | APR. 26, 1976 | 2.50        | JAN. 26, 1977 | 2.87        |
| NOV. 21       | 3.09        | AUG. 25       | 2.93        | MAY 25        | 3.04        | FEB. 24       | 2.86        |
| DEC. 23       | 2.58        | SEP. 23       | 3.36        | JUNE 28       | 4.06        | MAR. 29       | 1.05        |
| JAN. 24, 1975 | 2.10        | OCT. 24       | 1.66        | JULY 26       | 4.22        | APR. 27       | 1.31        |
| FEB. 21       | 2.71        | NOV. 24       | 1.68        | AUG. 25       | 2.52        | MAY 25        | 1.60        |
| MAR. 24       | 2.12        | DEC. 23       | 2.45        | SEP. 21       | 3.66        | JUNE 27       | 1.97        |
| APR. 23       | 2.52        | JAN. 21, 1976 | 1.98        | OCT. 28       | 3.32        | JULY 26       | 2.69        |
| MAY 22        | 2.97        | FEB. 23       | 1.60        | NOV. 24       | 3.79        | AUG. 25       | 3.28        |
| JUNE 23       | 3.15        | MAR. 25       | 1.93        | DEC. 27       | 3.73        | SEP. 28       | 2.46        |

424800070594501. Local number, WZW 4.

LOCATION.--Lat 42°48'00", long 70°59'45", Hydrologic Unit 01070002, about 100 ft (30 m) east of Church Street and 1,000 ft (300 m) north of State Highway 113 in West Newbury.

Owner: William Climo.

AQUIFER.--Merrimack Quartzite.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 96 in (2.44 m), depth 21.5 ft (6.55 m) cased with stone to 7.5 ft (2.29 m), open end.

DATUM.--Altitude of land-surface datum is 65 ft (19.8 m). Measuring point: Top inside lip of casing, 2.7 ft (0.8 m) above land-surface datum.

PERIOD OF RECORD.--October 1960 to May 1965 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.13 ft (0.65 m) below land-surface datum, Oct. 7, 1962; lowest, 12.75 ft (3.89 m) below land-surface datum, Sept. 19, 1963.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1960 TO MAY 1965

## HIGH FOR DAY

| 1960 |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DAY  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  | NOV.  | DEC.  |
| 5    | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.34 | 7.68  | 9.34  |
| 10   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.50 | 7.75  | 9.34  |
| 15   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.69 | 8.16  | 9.44  |
| 20   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.74 | 8.47  | 8.05  |
| 25   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.57 | 8.88  | 6.58  |
| EOM  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.24 | 9.17  | 7.25  |
| 1961 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 6.67  | 9.35  | 5.63  | 5.75  | 6.85  | 9.53  | 10.67 | 10.67 | 11.45 | 7.22  | 9.41  | 7.21  |
| 10   | 7.27  | 9.62  | 5.56  | 6.45  | 7.05  | 9.80  | 10.85 | 10.87 | 11.62 | 7.36  | 8.80  | 7.81  |
| 15   | 7.77  | 9.85  | 6.54  | 4.83  | 8.14  | 9.98  | 11.02 | 11.13 | 11.74 | 8.18  | 8.25  | 8.22  |
| 20   | 8.16  | 9.23  | 6.93  | 5.59  | 8.59  | 10.24 | 10.65 | 11.36 | 11.79 | 8.37  | 7.99  | 8.46  |
| 25   | 8.62  | 5.90  | 6.30  | 6.55  | 9.01  | 10.37 | 10.79 | 11.43 | 10.00 | 8.62  | 5.27  | 8.63  |
| EOM  | 9.09  | 5.29  | 5.35  | 7.02  | 9.28  | 10.58 | 10.55 | 11.36 | 7.11  | 9.07  | 6.46  | 7.80  |
| 1962 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 7.63E | 8.14  | 9.50  | 5.66  | 7.44  | 10.02 | 10.74 | 11.47 | 11.65 | 9.66  | 5.83  | 7.50  |
| 10   | 7.54E | 8.45  | 9.26  | 6.67  | 7.48  | 10.03 | 10.94 | 11.61 | 11.76 | 4.89  | 6.24  | 5.93  |
| 15   | 7.62E | 8.85  | 6.09  | 6.55  | 8.25  | 10.28 | 11.10 | 11.71 | 11.92 | 6.40  | 6.37  | 6.73  |
| 20   | 7.75E | 9.27  | 5.73  | 6.71  | 8.83  | 10.50 | 11.24 | 11.72 | 11.83 | 7.23  | 7.15  | 7.61  |
| 25   | 7.84E | 9.60  | 5.01  | 7.50  | 9.21  | 10.59 | 11.30 | 11.81 | 11.86 | 7.85  | 6.74  | 8.31  |
| EOM  | 7.60E | 9.56  | 5.66  | 8.19  | 9.73  | 10.51 | 11.38 | 11.67 | 10.67 | 8.09  | 7.38  | 8.64  |
| 1963 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 8.81  | 8.56  | 10.36 | 6.11  | 7.83  | 8.98  | 11.00 | 11.94 | 12.56 | 12.35 | 12.02 | 6.03  |
| 10   | 9.16  | 8.99  | 9.48  | 6.59  | 7.99  | 9.44  | 11.17 | 12.07 | 12.61 | 12.38 | 6.42  | 5.98  |
| 15   | 8.80  | 9.42  | 9.00  | 7.17  | 8.16  | 9.80  | 11.30 | 12.14 | 12.70 | 12.48 | 6.16  | 6.22  |
| 20   | 8.46  | 9.73  | 8.04  | 7.68  | 7.40  | 10.07 | 11.45 | 12.23 | 12.74 | 12.56 | 6.97  | 7.31  |
| 25   | 7.74  | 10.00 | 7.15  | 7.83  | 7.38  | 10.37 | 11.67 | 12.33 | 12.66 | 12.61 | 7.32  | 7.78  |
| EOM  | 8.58  | 10.16 | 5.94  | 8.07  | 8.35  | 10.85 | 11.88 | 12.45 | 12.49 | 12.36 | 4.34  | 8.22  |
| 1964 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 8.37  | 6.73  | 7.48  | 6.88  | 8.37  | 10.21 | 11.22 | 11.74 | 12.19 | 12.44 | 12.00 | 11.04 |
| 10   | 8.14  | 6.48  | 5.53  | 6.25  | 8.77  | 10.42 | 11.20 | 11.85 | 12.28 | 12.47 | 12.06 | 11.02 |
| 15   | 7.82  | 7.20  | 5.83  | 5.51  | 9.13  | 10.59 | 11.17 | 11.96 | 12.35 | 12.50 | 12.11 | 11.46 |
| 20   | 8.09  | 7.72  | 6.36  | 6.67  | 9.40  | 10.82 | 11.30 | 12.07 | 12.42 | 12.32 | 12.14 | 9.92  |
| 25   | 5.50  | 8.19  | 7.07  | 7.25  | 9.66  | 11.05 | 11.46 | 12.09 | 12.42 | 12.02 | 12.13 | 9.40  |
| EOM  | 6.37  | 8.43  | 6.14  | 7.77  | 9.98  | 11.22 | 11.60 | 12.12 | 12.44 | 11.97 | 11.40 | 7.40  |
| 1965 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 8.39  | 9.50  | 7.25  | 7.45  | 7.76  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 10   | 8.51  | 8.57  | 6.72  | 7.54  | 8.31  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 15   | 8.62  | 7.60  | 7.06  | 6.91  | 8.70  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 20   | 8.69  | 7.75  | 7.50  | 6.44  | 9.05  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 25   | 8.76  | 8.02  | 7.79  | 7.14  | 9.36  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| EOM  | 9.22  | 7.32  | 7.40  | 7.19  | 9.63  | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

E, ESTIMATED.

## GROUND-WATER LEVELS IN MASSACHUSETTS

## FRANKLIN COUNTY

433809072435601. Local number, CSW 8 (Formerly published as Colrain 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 31, 1974 | 21.42       | JULY 24, 1975 | 18.73       | APR. 29, 1976 | 17.61       | JAN. 27, 1977 | 22.01       |
| NOV. 27       | 21.17       | AUG. 28       | 19.58       | MAY 28        | 18.10       | FEB. 24       | 22.62       |
| DEC. 26       | 20.56       | SEP. 25       | 19.71       | JUNE 28       | 19.28       | MAR. 27       | 19.01       |
| JAN. 30, 1975 | 19.31       | OCT. 30       | 17.87       | JULY 28       | 20.40       | APR. 28       | 15.69       |
| FEB. 27       | 18.39       | NOV. 26       | 17.34       | AUG. 26       | 21.07       | MAY 27        | 17.53       |
| MAR. 27       | 16.33       | DEC. 30       | 17.95       | SEP. 28       | 21.49       | JUNE 28       | 18.65       |
| APR. 29       | 16.84       | JAN. 26, 1976 | 18.70       | OCT. 27       | 21.61       | JULY 25       | 20.15       |
| MAY 29        | 18.27       | FEB. 26       | 17.15       | NOV. 26       | 22.44       | SEP. 26       | 21.16       |
| JUNE 26       | 17.94       | MAR. 30       | 16.65       | DEC. 27       | 22.01       |               |             |

423310072355801. Local number, DFW 44 (Formerly published as Deerfield 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 (42.7 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, 1.57 ft (0.48 m) below land-surface datum, Sept. 25, 1975; lowest measured, 5.46 ft (1.66 m) below land-surface datum, July 29, 1965.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 31, 1974 | 2.65        | JULY 24, 1975 | 2.65        | APR. 29, 1976 | 2.32        | JAN. 27, 1977 | 3.59        |
| NOV. 27       | 2.60        | AUG. 28       | 3.27        | MAY 28        | 2.53        | FEB. 24       | 3.19        |
| DEC. 27       | 2.73        | SEP. 25       | 1.57        | JUNE 28       | 2.97        | MAR. 27       | 2.26        |
| JAN. 30, 1975 | 2.14        | OCT. 30       | 2.50        | JULY 28       | 4.19        | APR. 28       | 2.29        |
| FEB. 27       | 2.10        | NOV. 26       | 2.42        | AUG. 26       | 3.39        | MAY 27        | 2.30        |
| MAR. 27       | 2.42        | DEC. 30       | 2.45        | SEP. 28       | 2.80        | JUNE 28       | 2.58        |
| APR. 29       | 2.82        | JAN. 26, 1976 | 2.69        | OCT. 27       | 2.48        | JULY 26       | 3.13        |
| MAY 29        | 3.45        | FEB. 26       | 2.18        | NOV. 26       | 2.99        | AUG. 22       | 2.84        |
| JUNE 26       | 2.90        | MAR. 30       | 2.47        | DEC. 27       | 3.33        | SEP. 27       | 1.92        |

423305072320301. Local number, MSW 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 2.02        | DEC 27 | 2.92        | FEB 24 | 3.44        | APR 28 | 1.38        | JUN 28 | 3.19        | AUG 22 | 3.65        |
| NOV 26 | 2.56        | JAN 27 | 3.30        | MAR 27 | 1.07        | MAY 27 | 3.66        | JUL 27 | 3.26        | SEP 27 | 2.67        |

423424072170301. Local number, ORW 5 (Formerly published as Orange 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 31, 1974 | 6.03        | JULY 24, 1975 | 5.17        | APR. 29, 1976 | 4.90        | JAN. 27, 1977 | 6.79        |
| NOV. 27       | 5.70        | AUG. 28       | 5.62        | MAY 28        | 5.08        | FEB. 24       | 6.80        |
| DEC. 27       | 5.68        | SEP. 25       | 5.27        | JUNE 28       | 5.71        | MAR. 27       | 4.78        |
| JAN. 30, 1975 | 5.57        | OCT. 30       | 4.40        | JULY 28       | 5.91        | APR. 28       | 4.27        |
| FEB. 27       | 5.10        | NOV. 26       | 4.53        | AUG. 27       | 5.65        | MAY 26        | 4.86        |
| MAR. 27       | 4.96        | DEC. 30       | 5.09        | SEP. 28       | 6.06        | JUNE 27       | 5.56        |
| APR. 29       | 5.26        | JAN. 26, 1976 | 5.44        | OCT. 27       | 5.78        | JULY 26       | 5.87        |
| MAY 29        | 5.85        | FEB. 26       | 4.22        | NOV. 26       | 6.23        | AUG. 22       | 5.94        |
| JUNE 26       | 5.80        | MAR. 30       | 4.70        | DEC. 27       | 6.29        | SEP. 27       | 5.80        |

422605072435401. Local number, 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 16.68       | DEC 27 | 19.98       | FEB 24 | 20.13       | APR 28 | 13.89       | JUN 28 | 14.10       | AUG 22 | 14.23       |
| NOV 26 | 17.79       | JAN 27 | 19.50       | MAR 27 | 15.74       | MAY 27 | 14.98       | JUL 26 | 14.21       | SEP 27 | 16.41       |

HAMPDEN COUNTY

420357072511601. Local number, GLW 5 (Formerly published as Granville 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 34.24       | JULY 24, 1975 | 32.31       | APR. 28, 1976 | 30.34       | JAN. 26, 1977 | 34.25       |
| NOV. 26       | 34.44       | AUG. 27       | 32.66       | MAY 27        | 29.80       | FEB. 25       | 34.48       |
| DEC. 26       | 34.13       | SEP. 24       | 32.98       | JUNE 24       | 30.35       | MAR. 28       | 33.80       |
| JAN. 29, 1975 | 33.50       | OCT. 29       | 31.20       | JULY 27       | 31.23       | APR. 28       | 32.97       |
| FEB. 26       | 33.45       | NOV. 25       | 30.68       | AUG. 26       | 31.84       | MAY 27        | 32.22       |
| MAR. 26       | 32.63       | DEC. 29       | 30.60       | SEP. 22       | 32.47       | JUNE 28       | 32.00       |
| APR. 28       | 31.27       | JAN. 22, 1976 | 30.76       | OCT. 26       | 33.08       | JULY 25       | 32.28       |
| MAY 28        | 31.50       | FEB. 25       | 30.18       | NOV. 26       | 33.51       | AUG. 23       | 32.80       |
| JUNE 25       | 32.00       | MAR. 29       | 30.13       | DEC. 27       | 33.95       | SEP. 26       | 33.14       |



420259072581701. Local number, GLW 6 (Formerly published as Granville 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, 7.66 ft (2.33 m) below land-surface datum, Aug. 26, 1971.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 5.90        | JULY 24, 1975 | 3.52        | APR. 28, 1976 | 3.39        | JAN. 27, 1977 | 7.03        |
| NOV. 26       | 4.90        | AUG. 27       | 6.15        | MAY 27        | 3.59        | FEB. 24       | 7.16        |
| DEC. 26       | 3.83        | SEP. 24       | 4.89        | JUNE 24       | 6.05        | MAR. 28       | 3.44        |
| JAN. 29, 1975 | 3.02        | OCT. 29       | 3.59        | JULY 27       | 6.78        | APR. 28       | 2.96        |
| FEB. 26       | 2.77        | NOV. 25       | 2.90        | AUG. 26       | 6.17        | JUNE 28       | 5.58        |
| MAR. 26       | 2.77        | DEC. 29       | 3.20        | SEP. 22       | 6.74        | JULY 25       | 5.99        |
| APR. 28       | 3.35        | JAN. 22, 1976 | 3.77        | OCT. 26       | 5.09        | AUG. 23       | 6.29        |
| MAY 28        | 4.60        | FEB. 25       | 2.86        | NOV. 26       | 6.42        | SEP. 26       | 3.00        |
| JUNE 25       | 5.32        | MAR. 29       | 2.78        | DEC. 27       | 6.20        |               |             |

420905072254001. Local number, XJW 55 (Formerly published as Wilbraham 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 (0.91 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, 32.00 ft (9.75 m) below land-surface datum, Feb. 25, 1976; lowest measured, 45.44 ft (13.85 m) below land-surface datum, Jan. 24, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 40.84       | JULY 25, 1975 | 41.66       | APR. 28, 1976 | 35.82       | JAN. 26, 1977 | 44.36       |
| NOV. 26       | 41.10       | AUG. 27       | 41.98       | MAY 27        | 37.21       | FEB. 25       | 44.69       |
| DEC. 26       | 40.09       | SEP. 24       | 42.58       | JUNE 24       | 38.59       | MAR. 29       | 40.07       |
| JAN. 29, 1975 | 37.76       | OCT. 29       | 37.95       | JULY 27       | 40.93       | APR. 27       | 35.40       |
| FEB. 26       | 37.40       | NOV. 25       | 36.23       | AUG. 26       | 41.64       | MAY 27        | 34.77       |
| MAR. 26       | 36.69       | DEC. 29       | 36.10       | SEP. 22       | 42.35       | JUNE 28       | 38.20       |
| APR. 28       | 36.29       | JAN. 22, 1976 | 36.74       | OCT. 26       | 43.24       | JULY 27       | 40.66       |
| MAY 28        | 38.98       | FEB. 25       | 32.00       | NOV. 26       | 43.70       | AUG. 24       | 40.44       |
| JUNE 25       | 40.68       | MAR. 29       | 35.00       | DEC. 27       | 44.17       | SEP. 27       | 43.36       |

420646072420101. Local number, WYW 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.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 26 | 7.23        | DEC 27 | 10.56       | FEB 25 | 10.87       | APR 27 | 8.92        | JUN 28 | 8.83        | AUG 24 | 8.30        |
| NOV 26 | 10.81       | JAN 26 | 9.86        | MAR 29 | 9.09        | MAY 26 | 7.44        | JUL 27 | 8.98        | SEP 27 | 8.35        |



## HAMPSHIRE COUNTY

421355072322001. Local number, 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) above mean sea level. 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, OCTOBER 1976 TO JULY 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 9.11        | DEC 27 | 8.83        | FEB 24 | 9.45        | APR 28 | 5.82        | JUN 24 | 7.69        |
| NOV 26 | 9.12        | JAN 27 | 9.23        | MAR 27 | 6.16        | MAY 26 | 6.54        | JUL 31 | 8.79        |

421627072201701. Local number, WEW 43 (Formerly published as Ware 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 30, 1974 | 9.22        | JULY 25, 1975 | 9.00        | APR. 28, 1976 | 8.53        | JAN. 27, 1977 | 9.96        |
| NOV. 26       | 9.18        | AUG. 27       | 9.12        | MAY 27        | 8.64        | FEB. 24       | 10.19       |
| DEC. 26       | 9.15        | SEP. 24       | 9.33        | JUNE 28       | 9.28        | MAR. 27       | 8.98        |
| JAN. 29, 1975 | 9.00        | OCT. 29       | 8.42        | JULY 28       | 9.31        | APR. 28       | 9.10        |
| FEB. 26       | 9.00        | NOV. 25       | 8.34        | AUG. 26       | 9.57        | MAY 26        | 9.31        |
| MAR. 26       | 9.00        | DEC. 29       | 8.19        | SEP. 27       | 9.69        | JUNE 27       | 9.53        |
| APR. 28       | 9.06        | JAN. 22, 1976 | 8.03        | OCT. 27       | 9.49        | JULY 26       | 9.59        |
| MAY 28        | 9.23        | FEB. 25       | 6.78        | NOV. 26       | 9.56        | AUG. 22       | 9.39        |
| JUNE 25       | 9.03        | MAR. 29       | 7.55        | DEC. 27       | 9.88        | SEP. 27       | 9.43        |

## MIDDLESEX COUNTY

422812071244401. Local number, ALW 158 (Formerly published as Acton 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 19.14       | JULY 22, 1975 | 19.21       | APR. 27, 1976 | 17.25       | JAN. 27, 1977 | 20.60       |
| NOV. 22       | 19.00       | AUG. 28       | 19.85       | MAY 28        | 17.69       | FEB. 25       | 20.68       |
| DEC. 24       | 18.34       | SEP. 26       | 20.07       | JUNE 25       | 18.48       | MAR. 30       | 18.59       |
| JAN. 27, 1975 | 17.47       | OCT. 28       | 19.52       | JULY 28       | 19.34       | APR. 28       | 17.48       |
| FEB. 24       | 17.34       | NOV. 28       | 18.57       | AUG. 27       | 19.68       | MAY 26        | 17.08       |
| MAR. 28       | 17.16       | DEC. 24       | 17.82       | SEP. 23       | 19.96       | JUNE 28       | 18.00       |
| APR. 24       | 16.99       | JAN. 30, 1976 | 17.49       | OCT. 27       | 20.23       | JULY 27       | 18.89       |
| MAY 23        | 17.88       | FEB. 24       | 16.35       | NOV. 29       | 20.32       | AUG. 26       | 19.32       |
| JUNE 24       | 18.58       | MAR. 26       | 16.70       | DEC. 28       | 20.45       | SEP. 29       | 19.74       |

423349071134101. Local number, BCW 363 (Formerly published as Billerica 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 (50.6 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, 12.60 ft (3.84 m) below land-surface datum, Dec. 7, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 8.20        | JULY 21, 1975 | 8.89        | APR. 26, 1976 | 5.42        | JAN. 27, 1977 | 10.51       |
| NOV. 21       | 8.53        | AUG. 25       | 11.27       | MAY 25        | 6.12        | FEB. 25       | 10.07       |
| DEC. 23       | 5.70        | SEP. 23       | 10.94       | JUNE 28       | 8.82        | MAR. 30       | 2.04        |
| JAN. 24, 1975 | 4.31        | OCT. 24       | 5.75        | JULY 26       | 10.34       | APR. 28       | 2.92        |
| FEB. 21       | 3.95        | NOV. 24       | 3.95        | AUG. 25       | 9.38        | MAY 26        | 4.79        |
| MAR. 24       | 3.89        | DEC. 23       | 4.37        | SEP. 21       | 11.15       | JUNE 28       | 7.51        |
| APR. 23       | 4.79        | JAN. 21, 1976 | 4.39        | OCT. 28       | 10.72       | JULY 27       | 9.63        |
| MAY 22        | 5.41        | FEB. 23       | 2.31        | NOV. 29       | 11.44       | AUG. 26       | 11.24       |
| JUNE 23       | 6.97        | MAR. 25       | 3.69        | DEC. 27       | 10.97       | SEP. 29       | 11.23       |

422316071092501. Local number, CAW 667.

LOCATION.--Lat 42°23'16", long 71°09'25", Hydrologic Unit, 01090001, 270 ft (80 m) east of Blanchard Road and 950 ft (290 m) south of Concord Avenue, at Fresh Pond Golf Course in Cambridge.

Owner: Cambridge Water Department.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in (0.2 m), depth 129 ft (39.2 m), casing information not available.

DATUM.--Land-surface datum is 11.63 ft (3.54 m) above mean sea level. Measuring point: Top of casing, 0.39 ft (0.12 m) above land-surface datum.

PERIOD OF RECORD.--October 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.14 ft (1.57 m) below land-surface datum, Dec. 29, 1969; lowest measured, 27.21 ft (8.29 m) below land-surface datum, Dec. 27, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 13.01       | DEC 28 | 9.66        | FEB 25 | 9.11        | APR 28 | 5.38        | JUN 28 | 6.91        | AUG 25 | 12.01       |
| NOV 29 | 13.32       | JAN 27 | 9.15        | MAR 30 | 7.06        | MAY 26 | 5.71        | JUL 27 | 9.48        | SEP 29 | 14.06       |

423845071231401. Local number, 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 & 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: Mrs. Harold Blakie.

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) above mean sea level. 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 28 | 8.80        | DEC 27 | 8.99        | FEB 24 | 10.09       | APR 27 | 6.44        | JUN 27 | 9.54        | AUG 25 | 10.68       |
| NOV 24 | 8.53        | JAN 26 | 9.58        | MAR 29 | 5.48        | MAY 25 | 7.64        | JUL 26 | 10.34       | SEP 28 | 10.28       |

423546071190702. Local number, CHW 385 (Formerly published as Chelmsford 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) above mean sea level. 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 16.97       | JULY 22, 1975 | 17.26       | APR. 26, 1976 | 15.36       | JAN. 26, 1977 | 17.97       |
| NOV. 22       | 17.27       | AUG. 25       | 17.53       | MAY 25        | 15.79       | FEB. 24       | 17.98       |
| DEC. 24       | 16.71       | SEP. 23       | 17.69       | JUNE 28       | 16.93       | MAR. 29       | 15.46       |
| JAN. 27, 1975 | 16.34       | OCT. 24       | 16.41       | JULY 26       | 17.46       | APR. 27       | 15.38       |
| FEB. 24       | 16.33       | NOV. 24       | 16.05       | AUG. 25       | 17.22       | MAY 25        | 15.52       |
| MAR. 28       | 15.88       | DEC. 23       | 16.11       | SEP. 21       | 17.59       | JUNE 27       | 16.25       |
| APR. 24       | 15.87       | JAN. 21, 1976 | 15.70       | OCT. 28       | 17.39       | JULY 26       | 16.88       |
| MAY 23        | 15.95       | FEB. 23       | 14.85       | NOV. 24       | 17.68       | AUG. 25       | 17.20       |
| JUNE 24       | 16.58       | MAR. 25       | 14.88       | DEC. 27       | 17.87       | SEP. 28       | 17.01       |

422637071202701. Local number, CTW 165 (Formerly published as Concord 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) above mean sea level. 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 40.22       | JULY 22, 1975 | 40.02       | APR. 27, 1976 | 38.50       | JAN. 27, 1977 | 41.79       |
| NOV. 22       | 40.72       | AUG. 28       | 40.58       | MAY 28        | 38.46       | FEB. 25       | 42.11       |
| DEC. 24       | 40.70       | SEP. 26       | 40.82       | JUNE 25       | 38.74       | MAR. 30       | 41.49       |
| JAN. 27, 1975 | 40.84       | OCT. 28       | 41.12       | JULY 28       | 39.32       | APR. 28       | 40.70       |
| FEB. 24       | 40.46       | NOV. 28       | 41.13       | AUG. 27       | 39.71       | MAY 26        | 40.25       |
| MAR. 28       | 40.06       | DEC. 24       | 40.60       | SEP. 23       | 40.12       | JUNE 28       | 39.89       |
| APR. 24       | 39.70       | JAN. 30, 1976 | 40.49       | OCT. 27       | 40.59       | JULY 27       | 40.20       |
| MAY 23        | 39.48       | FEB. 24       | 39.65       | NOV. 29       | 41.06       | AUG. 26       | 40.50       |
| JUNE 24       | 39.71       | MAR. 26       | 38.92       | DEC. 28       | 41.40       | SEP. 29       | 41.00       |

422650071214402. Local number, CTW 167 (Formerly published as Concord 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 (41.2 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 7.33        | JULY 22, 1975 | 8.47        | APR. 27, 1976 | 6.22        | JAN. 27, 1977 | 7.98        |
| NOV. 22       | 7.32        | AUG. 28       | 8.95        | MAY 28        | 6.43        | FEB. 25       | 8.30E       |
| DEC. 24       | 6.63        | SEP. 26       | 8.04        | JUNE 25       | 6.47        | MAR. 30       | 5.37        |
| JAN. 27, 1975 | 5.67        | OCT. 28       | 5.69        | JULY 28       | 7.67        | APR. 28       | 5.48        |
| FEB. 24       | 5.64        | NOV. 28       | 5.84        | AUG. 27       | 7.86        | MAY 26        | 6.26        |
| MAR. 28       | 5.35        | DEC. 24       | 5.94        | SEP. 23       | 8.10        | JUNE 28       | 6.97        |
| APR. 24       | 6.20        | JAN. 30, 1976 | 5.58        | OCT. 27       | 7.43        | JULY 27       | 8.06        |
| MAY 23        | 7.35        | FEB. 24       | 5.18        | NOV. 29       | 7.99        | AUG. 26       | 8.26        |
| JUNE 24       | 7.87        | MAR. 26       | 5.47        | DEC. 28       | 8.22        | SEP. 29       | 7.55        |

E, ESTIMATED.

422627071154002. Local number, LTW 104 (Formerly published as Lexington 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, 1.46 ft (0.44 m) below land-surface datum, Mar. 30, 1977; lowest measured, 4.35 ft (1.32 m) below land-surface datum, Aug. 26, 1975.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 3.01        | JULY 22, 1975 | 3.36        | APR. 27, 1976 | 2.50        | JAN. 27, 1977 | 2.98        |
| NOV. 22       | 3.02        | AUG. 26       | 4.35        | MAY 28        | 2.91        | FEB. 25       | 1.88        |
| DEC. 24       | 2.68        | SEP. 26       | 2.29        | JUNE 25       | 3.49        | MAR. 30       | 1.46        |
| JAN. 27, 1975 | 2.25        | OCT. 28       | 2.43        | JULY 28       | 3.57        | APR. 28       | 1.86        |
| FEB. 24       | 2.15        | NOV. 28       | 1.98        | AUG. 27       | 3.23        | MAY 26        | 2.45        |
| MAR. 28       | 2.27        | DEC. 24       | 2.15        | SEP. 23       | 3.24        | JUNE 28       | 3.03        |
| APR. 24       | 2.72        | JAN. 30, 1976 | 2.60        | OCT. 27       | 2.89        | JULY 27       | 3.38        |
| MAY 23        | 3.03        | FEB. 24       | 2.10        | NOV. 29       | 3.17        | AUG. 25       | 3.33        |
| JUNE 24       | 3.34        | MAR. 25       | 2.12        | DEC. 28       | 3.08        | SEP. 29       | 2.69        |

423812071174801. Local number, 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) above mean sea level. 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 28 | 17.40       | DEC 27 | 17.83       | FEB 24 | 17.13       | APR 27 | 9.84        | JUN 27 | 11.87       | AUG 25 | 14.80       |
| NOV 24 | 17.58       | JAN 26 | 17.57       | MAR 29 | 11.28       | MAY 25 | 9.72        | JUL 26 | 13.54       | SEP 28 | 15.60       |

424055071435301. Local number, TRW 13 (Formerly published as Townsend 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 (95.4 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 31, 1974 | 14.38       | JULY 24, 1975 | 13.28       | APR. 29, 1976 | 11.50       | JAN. 28, 1977 | 15.17       |
| NOV. 27       | 14.41       | AUG. 28       | 13.92       | MAY 28        | 12.05       | FEB. 25       | 15.37       |
| DEC. 26       | 13.71       | SEP. 25       | 14.28       | JUNE 28       | 12.74       | MAR. 28       | 13.99       |
| JAN. 30, 1975 | 13.44       | OCT. 30       | 13.41       | JULY 28       | 13.41       | APR. 28       | 12.52       |
| FEB. 27       | 13.12       | NOV. 26       | 12.92       | AUG. 27       | 13.73       | MAY 26        | 12.09       |
| MAR. 27       | 12.60       | DEC. 30       | 12.44       | SEP. 28       | 14.22       | JUNE 27       | 12.78       |
| APR. 29       | 11.68       | JAN. 26, 1976 | 12.60       | OCT. 27       | 14.61       | JULY 26       | 13.34       |
| MAY 29        | 12.30       | FEB. 26       | 12.00       | NOV. 29       | 14.85       | AUG. 22       | 13.86       |
| JUNE 26       | 12.70       | MAR. 30       | 11.27       | DEC. 27       | 14.75       | SEP. 27       | 14.55       |

423329071122501. Local number, XMW 10.

LOCATION.--Lat 42°33'29", long 71°12'25", Hydrologic Unit 01090001, about 50 ft (15 m) south of Hopkins Street and 0.3 mi (0.5 km) west of Shawsheen Avenue (State Highway 129) in Wilmington.

Owner: L. Chisholm.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in (0.91 m), depth 9.0 ft (2.7 m), cased with stone to 9.0 ft (2.7 m), open end.

DATUM.--Land-surface datum is 113.63 ft (34.63 m) above mean sea level. Measuring point: Projecting stone in well, 0.17 ft (0.05 m) above land-surface datum.

PERIOD OF RECORD.--July 1940 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.45 ft (0.14 m) below land-surface datum, Feb. 27, 1968; dry, Sept. 27, 1941, Nov. 1, 1941, Oct. 30, 1957, Aug. 26, 1974.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 28 | 4.23        | DEC 27 | 4.66        | FEB 25 | 1.52        | APR 28 | 0.90        | JUN 28 | 3.80        | AUG 26 | 6.01        |
| NOV 29 | 4.99        | JAN 27 | 3.87        | MAR 30 | 0.85        | MAY 26 | 2.34        | JUL 27 | 5.55        | SEP 29 | 5.21        |

423401071093801. Local number, 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 1976 TO SEPTEMBER 1977  
HIGH FOR DAY

| DAY | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 5   | 9.16 | 8.73 | 8.95 | 8.81 | 8.21 | 6.42 | 5.06 | 5.99 | 6.83 | 7.86 | 8.40 | 9.17 |
| 10  | 9.10 | 8.74 | 8.71 | 8.85 | 8.24 | 6.17 | 5.39 | 5.48 | 7.07 | 8.04 | 8.48 | 9.29 |
| 15  | 9.13 | 8.76 | 8.67 | 8.50 | 7.50 | 5.51 | 5.67 | 5.60 | 7.19 | 8.24 | 8.65 | 9.39 |
| 20  | 9.15 | 8.81 | 8.65 | 8.47 | 7.35 | 5.57 | 5.97 | 5.91 | 7.34 | 8.37 | 8.77 | 9.21 |
| 25  | 8.94 | 8.87 | 8.60 | 8.31 | 7.17 | 4.80 | 5.49 | 6.22 | 7.52 | 8.43 | 8.89 | 9.19 |
| EOM | 8.78 | 8.94 | 8.73 | 8.23 | 6.99 | 4.92 | 5.67 | 6.57 | 7.67 | 8.60 | 9.06 | 8.97 |



## GROUND-WATER LEVELS IN MASSACHUSETTS

423306071101501. Local number, XMW 447 (Formerly published as Wilmington 447).

LOCATION.--Lat 42°33'06", long 71°10'15", Hydrologic Unit 01090001, 15 ft (4.6 m) east of Glen Road and 0.1 mi (0.16 km) south of railroad tracks in Wilmington.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation artesian well, diameter 1.25 in (0.03 m), depth 15.3 ft (4.7 m), screened 13.3 to 15.3 ft (4.1 to 4.7 m).

DATUM.--Altitude of land-surface datum is 85 ft (26 m). Measuring point: Top of casing, 2.0 ft (0.6 m) above land-surface datum.

PERIOD OF RECORD.--June 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, 1.60 ft (0.49 m) above land-surface datum, Feb. 25, 1977; lowest measured, 1.16 ft (0.35 m) below land-surface datum, Aug. 22, 1966.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | + .87       | JULY 22, 1975 | + 0.11      | APR. 26, 1976 | + 0.97      | JAN. 27, 1977 | + 1.14      |
| NOV. 21       | + .77       | AUG. 26       | + 0.12      | MAY 25        | + 0.78      | FEB. 25       | + 1.60      |
| DEC. 24       | + .83       | SEP. 23       | + 0.79      | JUNE 28       | + 0.32      | MAR. 30       | + 0.93      |
| JAN. 27, 1975 | + 1.09      | OCT. 24       | + 0.11      | JULY 26       | + 0.38      | APR. 28       | + 0.92      |
| FEB. 24       | + 1.24      | NOV. 24       | + 1.15      | AUG. 25       | + 0.56      | MAY 26        | + 0.74      |
| MAR. 28       | + 1.02      | DEC. 23       | + 0.97      | SEP. 21       | + 0.64      | JUNE 28       | + 0.74      |
| APR. 24       | + 0.86      | JAN. 21, 1976 | + 1.26      | OCT. 28       | + 0.77      | JULY 27       | + 0.63      |
| MAY 23        | + 0.78      | FEB. 23       | + 1.22      | NOV. 24       | + 0.69      | AUG. 26       | + 0.66      |
| JUNE 24       | + 0.02      | MAR. 25       | + 1.05      | DEC. 27       | + 0.88      | SEP. 29       | + 0.85      |

+, WATER LEVEL ABOVE LAND SURFACE.

423306071101502. Local number, XMW 448 (Formerly published as Wilmington 448).

LOCATION.--Lat 42°33'06", long 71°10'15", Hydrologic Unit 01090001, 15 ft (4.6 m) east of Glen Road and 0.1 mi (0.16 km) south of railroad tracks in Wilmington.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial silty organic muck of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation swamp-level well, diameter 4.0 in (0.10 m), depth 4.4 ft (1.3 m), perforated casing, 0 to 4.4 ft (0 to 1.3 m).

DATUM.--Altitude of land-surface datum is 85 ft (26 m). Measuring point: Top of casing, 2.1 ft (0.6 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, 1.04 ft (0.32 m) above land-surface datum, Feb. 25, 1977; lowest measured, 2.04 ft (0.62 m) below land-surface datum, Sept. 17, 1965.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | + .25       | JULY 22, 1975 | + 0.71      | APR. 26, 1976 | + 0.40      | JAN. 27, 1977 | + 0.72      |
| NOV. 21       | + .23       | AUG. 26       | + 0.55      | MAY 25        | + 0.21      | FEB. 25       | + 1.04      |
| DEC. 24       | + .20       | SEP. 23       | + 0.16      | JUNE 28       | + 0.05      | MAR. 30       | + 0.31      |
| JAN. 27, 1975 | + 0.08      | OCT. 24       | + 1.02      | JULY 26       | + 0.09      | APR. 28       | + 0.33      |
| FEB. 24       | + 0.86      | NOV. 24       | + 0.25      | AUG. 25       | + 0.12      | MAY 26        | + 0.22      |
| MAR. 28       | + 0.27      | DEC. 23       | + 0.23      | SEP. 21       | + 0.22      | JUNE 28       | + 0.22      |
| APR. 24       | + 0.23      | JAN. 21, 1976 | + 0.68      | OCT. 28       | + 0.26      | JULY 27       | + 0.33      |
| MAY 23        | + 0.16      | FEB. 23       | + 0.28      | NOV. 24       | + 0.26      | AUG. 26       | + 0.24      |
| JUNE 24       | + 0.64      | MAR. 25       | + 0.28      | DEC. 27       | + 0.77      | SEP. 29       | + 0.49      |

+, WATER LEVEL ABOVE LAND SURFACE.



422819071065701. Local number, XOW 14 (Formerly published as Winchester 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: E. B. Rotondi.

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) above mean sea level. 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 10.03       | AUG. 25, 1975 | 13.40       | APR. 26, 1976 | 10.74       | JAN. 27, 1977 | 9.82        |
| NOV. 21       | 10.05       | SEP. 23       | 13.44       | MAY 25        | 10.69       | FEB. 25       | 9.16        |
| DEC. 23       | 7.42        | OCT. 24       | 7.71        | JUNE 28       | 12.58       | MAR. 30       | 6.00        |
| JAN. 24, 1975 | 7.10        | NOV. 24       | 6.45        | JULY 26       | 13.52       | APR. 28       | 6.90        |
| FEB. 21       | 9.56        | DEC. 23       | 8.98        | AUG. 25       | 10.69       | MAY 26        | 9.32        |
| MAR. 24       | 7.05        | JAN. 21, 1976 | 8.12        | SEP. 23       | 11.38       | JUNE 28       | 11.78       |
| APR. 23       | 9.59        | JAN. 30       | 6.54        | OCT. 27       | 11.40       | JULY 27       | 12.86       |
| MAY 22        | 10.37       | FEB. 23       | 8.55        | NOV. 29       | 11.57       | AUG. 26       | 13.30       |
| JUNE 23       | 11.15       | MAR. 26       | 7.88        | DEC. 28       | 11.22       | SEP. 29       | 13.70       |
| JULY 21       | 12.76       |               |             |               |             |               |             |

423115071032001. Local number, WAW 38 (Formerly published as Wakefield 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 8.26        | JULY 21, 1975 | 8.53        | APR. 26, 1976 | 6.47        | JAN. 26, 1977 | 7.59        |
| NOV. 21       | 8.29        | AUG. 25       | 9.02        | MAY 25        | 7.00        | FEB. 24       | 7.30        |
| DEC. 23       | 6.98        | SEP. 23       | 8.78        | JUNE 28       | 8.23        | MAR. 29       | 4.84        |
| JAN. 24, 1975 | 5.93        | OCT. 24       | 6.86        | JULY 26       | 8.62        | APR. 27       | 5.68        |
| FEB. 21       | 6.38        | NOV. 24       | 5.92        | AUG. 25       | 7.32        | MAY 25        | 6.17        |
| MAR. 24       | 5.90        | DEC. 23       | 6.30        | SEP. 21       | 7.60        | JUNE 27       | 7.63        |
| APR. 23       | 6.34        | JAN. 21, 1976 | 5.98        | OCT. 28       | 7.53        | JULY 26       | 7.75        |
| MAY 22        | 7.02        | FEB. 23       | 5.13        | NOV. 24       | 7.97        | AUG. 25       | 8.29        |
| JUNE 23       | 7.64        | MAR. 26       | 5.83        | DEC. 27       | 8.10        | SEP. 28       | 8.26        |

421852071220501. Local number, WKW 2 (Formerly published as Wayland 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 to 33 ft (9.4 to 10.0 m).

DATUM.--Land-surface datum is 157.75 ft (48.08 m) above mean sea level. 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 below land-surface datum, Mar. 27, 1972; lowest measured, 17.29 ft below land-surface datum, Feb. 23, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 16.00       | JULY 22, 1975 | 16.39       | APR. 27, 1976 | 15.52       | JAN. 27, 1977 | 16.77       |
| NOV. 25       | 16.20       | AUG. 26       | 16.70       | MAY 26        | 15.90       | FEB. 25       | 17.00       |
| DEC. 30       | 15.74       | SEP. 26       | 15.94       | JUNE 24       | 16.45       | MAR. 30       | 14.91       |
| JAN. 28, 1975 | 14.94       | OCT. 28       | 15.18       | JULY 27       | 16.93       | APR. 28       | 14.80       |
| FEB. 25       | 15.23       | NOV. 28       | 15.11       | AUG. 26       | 16.60       | MAY 26        | 15.11       |
| MAR. 25       | 15.40       | DEC. 24       | 15.39       | SEP. 22       | 16.88       | JUNE 28       | 15.98       |
| APR. 25       | 15.38       | JAN. 30, 1976 | 14.89       | OCT. 27       | 16.50       | JULY 27       | 16.54       |
| MAY 27        | 15.75       | FEB. 24       | 14.57       | NOV. 29       | 16.98       | AUG. 26       | 16.94       |
| JUNE 27       | 16.08       | MAR. 26       | 15.25       | DEC. 28       | 17.07       | SEP. 29       | 16.65       |

NORFOLK COUNTY

421250071090901. Local number, DDW 231 (Formerly published as Dedham 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 (19.8 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, 3.35 ft (1.02 m) below land-surface datum, Mar. 29, 1977; lowest measured, 13.81 ft (4.21 m) below land-surface datum, Sept. 27, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 7.89        | JULY 23, 1975 | 10.75       | APR. 29, 1976 | 6.80        | JAN. 28, 1977 | 7.54        |
| NOV. 22       | 7.94        | AUG. 26       | 10.38       | MAY 28        | 7.92        | FEB. 24       | 6.35        |
| DEC. 27       | 5.57        | SEP. 25       | 10.33       | JUNE 28       | 10.57       | MAR. 29       | 3.35        |
| JAN. 29, 1975 | 4.99        | OCT. 29       | 5.16        | JULY 27       | 12.35       | APR. 27       | 3.95        |
| FEB. 27       | 4.43        | NOV. 25       | 4.63        | AUG. 26       | 9.60        | MAY 28        | 5.19        |
| MAR. 25       | 4.80        | DEC. 15       | 5.33        | OCT. 5        | 9.38        | JUNE 27       | 7.32        |
| APR. 28       | 5.90        | JAN. 30, 1976 | 4.46        | OCT. 28       | 7.30        | JULY 26       | 9.56        |
| MAY 29        | 7.10        | FEB. 25       | 5.05        | NOV. 23       | 7.90        | AUG. 26       | 11.17       |
| JUNE 25       | 8.04        | MAR. 30       | 5.34        | DEC. 28       | 7.88        | SEP. 27       | 11.23       |

421435071165701. Local number, 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 (48.8 m). Measuring point: Top of casing, 3 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 34.83       | DEC 27 | 35.18       | FEB 23 | 35.22       | APR 27 | 31.56       | JUN 27 | 32.33       | AUG 25 | 33.87       |
| NOV 23 | 34.98       | JAN 27 | 35.17       | MAR 30 | 32.66       | MAY 27 | 31.94       | JUL 25 | 33.10       | SEP 26 | 34.56       |

420432071151201. Local number, 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 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 20.15       | DEC 27 | 20.29       | FEB 23 | 19.75       | APR 27 | 17.90       | JUN 27 | 18.70       | AUG 26 | 20.01       |
| NOV 23 | 20.20       | JAN 27 | 19.74       | MAR 30 | 17.40       | MAY 27 | 18.01       | JUL 25 | 19.43       | SEP 26 | 20.20       |

420545071174001. Local number NNW 27 (Formerly published as Norfolk 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 (48.8 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, 5.00 ft (1.52 m) below land-surface datum, Dec. 29, 1969; lowest measured, 7.87 ft (2.40 m) below land-surface datum, Aug. 24, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 6.35        | OCT. 28, 1975 | 7.44        | APR. 28, 1976 | 6.12        | JAN. 27, 1977 | 5.55        |
| NOV. 22       | 6.27        | NOV. 20       | 7.69        | MAY 27        | 6.20        | FEB. 23       | 7.20        |
| DEC. 27       | 6.08        | DEC. 30       | 4.73        | JUNE 28       | 6.52        | MAR. 30       | 5.64        |
| JAN. 27, 1975 | 5.80        | JAN. 26, 1976 | 6.70        | JULY 27       | 7.06        | APR. 27       | 5.89        |
| FEB. 24       | 5.92        | FEB. 25       | 5.68        | AUG. 26       | 6.40        | MAY 27        | 6.09        |
| MAR. 25       | 5.85        | MAR. 30       | 5.60        | SEP. 27       | 6.63        | JUNE 27       | 6.41        |
| APR. 28       | 6.10        |               | 5.92        | OCT. 27       | 6.24        | JULY 25       | 7.00        |
| MAY 27        | 6.34        |               | 5.73        | NOV. 23       | 6.46        | AUG. 25       | 6.92        |
| JUNE 24       | 7.13        |               | 5.91        | DEC. 27       | 6.46        | SEP. 26       | 6.44        |

420954070564501. Local number, 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, 5.33 ft (1.62 m) below land-surface datum, Jan. 30, 1976; lowest measured, 22.06 ft (6.72 m) below land-surface datum, Nov. 22, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 16.25       | DEC 28 | 15.80       | FEB 24 | 13.86       | APR 27 | 7.69        | JUN 28 | 10.67       | AUG 26 | 17.12       |
| NOV 23 | 17.05       | JAN 28 | 14.20       | MAR 29 | 6.27        | MAY 28 | 8.93        | JUL 26 | 13.71       | SEP 27 | 19.08       |

## GROUND-WATER LEVELS IN MASSACHUSETTS

421147070571901. Local number, 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.--Augured 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 (27.4 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, 3.34 ft (1.02 m) below land-surface datum, Jan. 30, 1976; lowest, 18.10 ft (5.52 m) below land-surface datum, Sept. 27, 1965.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, JANUARY 1965 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| JAN. 29, 1965 | 5.30        | MAR. 26, 1968 | 4.41        | MAY 21, 1971  | 4.58        | JULY 29, 1974 | 5.90        |
| FEB. 27       | 4.49        | APR. 25       | 4.78        | JUNE 24       | 5.86        | AUG. 27       | 6.09        |
| MAR. 26       | 5.10        | MAY 23        | 5.13        | JULY 26       | 6.50        | SEP. 25       | 5.22        |
| APR. 26       | 5.05        | JUNE 25       | 5.38        | AUG. 25       | 6.41        | NOV. 22       | 4.97        |
| MAY 19        | 5.88        | JULY 25       | 7.30        | SEP. 27       | 6.53        | DEC. 30       | 4.96        |
| JUNE 24       | 9.88        | AUG. 27       | 7.38        | OCT. 26       | 6.27        | JAN. 30, 1975 | 4.58        |
| JULY 26       | 12.62       | SEP. 24       | 8.14        | NOV. 24       | 5.70        | FEB. 27       | 3.95        |
| AUG. 24       | 16.05       | OCT. 28       | 8.22        | DEC. 23       | 4.99        | MAR. 27       | 4.43        |
| SEP. 27       | 18.10       | NOV. 25       | 5.35        | JAN. 26, 1972 | 5.09        | APR. 30       | 4.78        |
| OCT. 28       | 17.46       | DEC. 26       | 5.20        | FEB. 28       | 5.89        | MAY 29        | 5.18        |
| NOV. 22       | 17.74       | JAN. 27, 1969 | 5.40        | MAR. 27       | 4.44        | JUNE 24       | 5.20        |
| DEC. 28       | 16.82       | FEB. 27       | 4.62        | APR. 25       | 4.50        | JULY 22       | 5.58        |
| JAN. 26, 1966 | 15.69       | MAR. 26       | 3.52        | MAY 24        | 5.45        | AUG. 25       | 5.69        |
| MAR. 3        | 5.44        | APR. 25       | 4.22        | JUNE 26       | 4.57        | SEP. 26       | 3.93        |
| MAR. 28       | 6.05        | MAY 27        | 4.98        | JULY 26       | 5.21        | OCT. 28       | 4.38        |
| APR. 26       | 6.70        | JUNE 24       | 6.19        | AUG. 28       | 5.81        | NOV. 20       | 4.48        |
| MAY 26        | 6.83        | JULY 29       | 6.30        | SEP. 26       | 5.02        | DEC. 31       | 3.85        |
| JUNE 29       | 8.96        | AUG. 26       | 6.81        | OCT. 27       | 5.10        | JAN. 30, 1976 | 3.34        |
| JULY 25       | 8.22        | SEP. 24       | 5.97        | NOV. 28       | 4.42        | FEB. 25       | 4.17        |
| AUG. 23       | 11.28       | OCT. 29       | 8.28        | DEC. 28       | 4.12        | MAR. 30       | 4.51        |
| SEP. 28       | 10.97       | NOV. 28       | 5.20        | JAN. 30, 1973 | 3.99        | APR. 28       | 4.70        |
| OCT. 26       | 8.21        | DEC. 29       | 3.69        | FEB. 23       | 3.99        | MAY 28        | 5.36        |
| NOV. 22       | 6.28        | JAN. 27, 1970 | 5.25        | MAR. 26       | 4.50        | JUNE 28       | 10.25       |
| DEC. 6        | 6.10        | FEB. 25       | 4.40        | APR. 25       | 4.14        | JULY 27       | 9.32        |
| JAN. 26, 1967 | 6.30        | MAR. 24       | 4.46        | MAY 29        | 4.56        | AUG. 26       | 7.17        |
| FEB. 28       | 5.77        | APR. 23       | 4.58        | JUNE 26       | 4.86        | SEP. 27       | 5.91        |
| MAR. 31       | 5.43        | MAY 22        | 4.73        | JULY 26       | 6.25        | NOV. 23       | 5.52        |
| APR. 26       | 4.99        | JUNE 29       | 5.54        | AUG. 27       | 6.14        | DEC. 27       | 5.07        |
| MAY 31        | 4.50        | JULY 28       | 8.33        | SEP. 26       | 7.16        | JAN. 28, 1977 | 5.52        |
| JUNE 28       | 5.31        | AUG. 26       | 6.33        | OCT. 26       | 9.27        | FEB. 24       | 4.74        |
| JULY 27       | 5.85        | SEP. 24       | 7.82        | NOV. 27       | 7.12        | MAR. 29       | 3.94        |
| AUG. 23       | 6.20        | OCT. 27       | 6.38        | DEC. 20       | 3.94        | APR. 27       | 4.22        |
| SEP. 28       | 6.80        | NOV. 23       | 5.03        | JAN. 29, 1974 | 4.43        | MAY 28        | 4.78        |
| OCT. 24       | 6.17        | DEC. 29       | 4.87        | FEB. 25       | 4.07        | JUNE 28       | 4.89        |
| NOV. 28       | 5.39        | JAN. 28, 1971 | 4.99        | MAR. 27       | 4.30        | JULY 26       | 6.50        |
| DEC. 27       | 5.41        | FEB. 25       | 4.36        | APR. 26       | 4.40        | AUG. 26       | 9.06        |
| JAN. 26, 1968 | 5.04        | MAR. 29       | 4.68        | MAY 28        | 4.97        | SEP. 27       | 10.01       |
| FEB. 27       | 5.44        | APR. 26       | 4.89        | JUNE 28       | 5.14        |               |             |

421120070562801. Local number, XGW 4 (Formerly published as Weymouth 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.--Augured 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 (27.4 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 6.93        | JULY 22, 1975 | 8.33        | APR. 28, 1976 | 6.72        | JAN. 28, 1977 | 6.48        |
| NOV. 25       | 7.08        | AUG. 25       | 8.50        | MAY 27        | 6.95        | FEB. 24       | 7.05        |
| DEC. 31       | 6.90        | SEP. 26       | 6.26        | JUNE 28       | 8.60        | MAR. 29       | 5.54        |
| JAN. 30, 1975 | 6.20        | OCT. 28       | 6.22        | JULY 27       | 8.65        | APR. 27       | 6.05        |
| FEB. 27       | 5.46        | NOV. 20       | 6.30        | AUG. 26       | 7.71        | MAY 28        | 6.82        |
| MAR. 27       | 6.15        | DEC. 31       | 5.58        | SEP. 27       | 7.96        | JUNE 28       | 6.69        |
| APR. 30       | 6.90        | JAN. 30, 1976 | 5.04        | OCT. 27       | 6.67        | JULY 26       | 7.58        |
| MAY 29        | 7.39        | FEB. 25       | 5.94        | NOV. 23       | 7.47        | AUG. 26       | 8.17        |
| JUNE 24       | 7.70        | MAR. 30       | 6.50        | DEC. 27       | 7.36        | SEP. 27       | 7.35        |

## PLYMOUTH COUNTY

420321070433502. Local number, D4W 79 (Formerly published as Duxbury 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 (16.8 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, 6.44 ft (1.96 m) below land-surface datum, Mar. 27, 1969; lowest measured, 10.68 ft (3.26 m) below land-surface datum, Sept. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 9.08        | JULY 23, 1975 | 9.01        | APR. 28, 1976 | 8.27        | JAN. 28, 1977 | 7.98        |
| NOV. 27       | 8.95        | AUG. 26       | 9.21        | MAY 28        | 8.66        | FEB. 24       | 8.06        |
| DEC. 27       | 8.62        | SEP. 25       | 8.59        | JUNE 28       | 9.45        | MAR. 29       | 7.29        |
| JAN. 30, 1975 | 7.56        | OCT. 29       | 8.11        | JULY 27       | 9.72        | APR. 27       | 7.81        |
| FEB. 27       | 7.55        | NOV. 25       | 7.48        | AUG. 26       | 8.97        | MAY 28        | 8.28        |
| MAR. 27       | 7.94        | DEC. 15       | 7.73        | SEP. 28       | 9.22        | JUNE 27       | 8.38        |
| APR. 30       | 8.36        | JAN. 30, 1976 | 7.23        | OCT. 28       | 8.36        | JULY 26       | 9.00        |
| MAY 29        | 8.67        | FEB. 25       | 7.34        | NOV. 23       | 8.53        | AUG. 26       | 8.81        |
| JUNE 25       | 8.93        | MAR. 30       | 7.87        | DEC. 28       | 8.22        | SEP. 27       | 8.55        |

420317070432901. Local number, D4W 80 (Formerly published as Duxbury 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 end.

DATUM.--Altitude of land-surface datum is 65 ft (19.8 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, 20.02 ft (6.10 m) below land-surface datum, Dec. 30, 1969; lowest measured, 24.02 ft (7.32 m) below land-surface datum, Sept. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 22.75       | JULY 22, 1975 | 22.81       | APR. 28, 1976 | 22.08       | JAN. 28, 1977 | 21.58       |
| NOV. 26       | 22.62       | AUG. 25       | 22.85       | MAY 27        | 22.41       | FEB. 24       | 21.77       |
| DEC. 30       | 22.27       | SEP. 26       | 22.21       | JUNE 28       | 22.88       | MAR. 29       | 21.07       |
| JAN. 30, 1975 | 20.95       | OCT. 28       | 21.98       | JULY 27       | 23.19       | APR. 27       | 21.65       |
| FEB. 27       | 21.45       | NOV. 20       | 21.35       | AUG. 26       | 22.66       | MAY 28        | 21.99       |
| MAR. 27       | 21.77       | DEC. 30       | 20.20       | SEP. 27       | 23.01       | JUNE 27       | 22.15       |
| APR. 30       | 22.14       | JAN. 30, 1976 | 20.17       | OCT. 28       | 22.43       | JULY 26       | 22.64       |
| MAY 29        | 22.53       | FEB. 25       | 20.68       | NOV. 23       | 22.60       | AUG. 26       | 22.82       |
| JUNE 24       | 22.63       | MAR. 30       | 21.61       | DEC. 27       | 21.80       | SEP. 27       | 22.45       |



420056070575701. Local number, EBW 30 (Formerly published as East Bridgewater 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 (25.9 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 13.21       | JULY 22, 1975 | 11.21       | APR. 29, 1976 | 7.88        | JAN. 28, 1977 | 10.39       |
| NOV. 22       | 12.34       | AUG. 26       | 12.09       | MAY 27        | 9.15        | FEB. 24       | 10.40       |
| DEC. 30       | 10.35       | SEP. 26       | 12.98       | JUNE 28       | 11.25       | MAR. 29       | 3.48        |
| JAN. 30, 1975 | 5.55        | OCT. 28       | 6.93        | JULY 27       | 13.43       | APR. 27       | 5.04        |
| FEB. 27       | 4.45        | NOV. 20       | 6.13        | AUG. 26       | 11.60       | MAY 28        | 6.90        |
| MAR. 27       | 4.93        | DEC. 30       | 4.44        | SEP. 28       | 11.61       | JUNE 28       | 8.53        |
| APR. 28       | 6.18        | JAN. 30, 1976 | 2.66        | OCT. 28       | 12.11       | JULY 26       | 10.44       |
| MAY 29        | 8.50        | FEB. 25       | 3.75        | NOV. 23       | 12.20       | AUG. 26       | 12.44       |
| JUNE 24       | 9.00        | MAR. 30       | 4.56        | DEC. 28       | 12.31       | SEP. 27       | 13.77       |

420353070520301. Local number, HGW 76 (Formerly published as Hanson 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 (21.6 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, 6.50 ft (1.98 m) below land-surface datum, Sept. 27, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 24, 1974 | 4.65        | JULY 22, 1975 | 5.12        | APR. 28, 1976 | 4.57        | JAN. 28, 1977 | 4.74        |
| NOV. 22       | 4.60        | AUG. 25       | 5.44        | MAY 27        | 4.92        | FEB. 24       | 4.67        |
| DEC. 31       | 4.72        | SEP. 26       | 4.25        | JUNE 28       | 5.48        | MAR. 29       | 3.60        |
| JAN. 30, 1975 | 4.08        | OCT. 28       | 4.30        | JULY 27       | 5.89        | APR. 27       | 4.29        |
| FEB. 27       | 3.60        | NOV. 20       | 4.28        | AUG. 26       | 5.07        | MAY 28        | 4.55        |
| MAR. 27       | 4.23        | DEC. 30       | 3.74        | SEP. 28       | 4.97        | JUNE 28       | 4.66        |
| APR. 30       | 4.55        | JAN. 30, 1976 | 3.47        | OCT. 28       | 4.55        | JULY 26       | 5.01        |
| MAY 28        | 4.84        | FEB. 25       | 4.10        | NOV. 23       | 4.96        | AUG. 26       | 5.02        |
| JUNE 24       | 4.97        | MAR. 30       | 4.34        | DEC. 28       | 4.88        | SEP. 27       | 4.61        |



415228070554601. Local number, 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, 10.05 ft (3.06 m) below land-surface datum, Jan. 4, 1973; lowest, 23.59 ft (7.19 m) below land-surface datum, Oct. 26, 1966.

OBSERVED WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1976 TO MARCH 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 18.41       | DEC 27 | 18.76       | FEB 23 | 17.76       |
| NOV 23 | 18.35       | JAN 27 | 17.48       | MAR 30 | 14.74       |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, APRIL TO SEPTEMBER 1977  
HIGH FOR DAY

| DAY | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-----|-------|-------|-------|-------|-------|-------|
| 5   | ..... | 14.00 | 14.41 | 14.29 | 16.02 | 17.38 |
| 10  | ..... | 14.14 | 14.69 | 14.55 | 16.28 | 17.59 |
| 15  | ..... | 13.80 | 14.02 | 14.84 | 16.50 | 17.75 |
| 20  | ..... | 13.70 | 13.72 | 15.12 | 16.71 | 17.87 |
| 25  | 13.74 | 13.81 | 13.81 | 15.45 | 16.91 | 17.81 |
| EOM | 13.92 | 14.20 | 14.03 | 15.75 | 17.20 | 17.61 |

415433070583302. Local number, MTW 82 (Formerly published as Middleborough 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 (13.8 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-table level measured, 1.57 ft (0.48 m) below land-surface datum, Dec. 29, 1969; lowest measured, 17.30 ft (5.27 m) below land-surface datum, Nov. 22, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 15.39       | JULY 23, 1975 | 12.85       | APR. 28, 1976 | 7.55        | JAN. 28, 1977 | 8.56        |
| NOV. 22       | 14.59       | AUG. 26       | 14.40       | MAY 27        | 10.80       | FEB. 24       | 9.96        |
| DEC. 30       | 10.36       | SEP. 26       | 14.96       | JUNE 28       | 13.82       | MAR. 30       | 2.88        |
| JAN. 27, 1975 | 4.29        | OCT. 28       | 8.55        | JULY 27       | 17.18       | APR. 27       | 4.87        |
| FEB. 24       | 5.86        | NOV. 20       | 6.07        | AUG. 26       | 10.59       | MAY 27        | 6.31        |
| MAR. 25       | 4.26        | DEC. 30       | 3.78        | SEP. 27       | 14.08       | JUNE 27       | 7.59        |
| APR. 28       | 5.52        | JAN. 26, 1976 | 4.28        | OCT. 27       | 15.12       | JULY 25       | 11.38       |
| MAY 27        | 8.62        | FEB. 25       | 4.82        | NOV. 23       | 13.73       | AUG. 25       | 13.92       |
| JUNE 24       | 10.42       | MAR. 30       | 5.26        | DEC. 27       | 13.32       | SEP. 26       | 14.29       |

415453070434901. Local number, 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 (8.34 m) below land-surface datum, Jan. 28, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 25.43       | DEC 27 | 26.30       | FEB 24 | 25.42       | APR 27 | 24.01       | JUN 27 | 23.69       | AUG 25 | 24.41       |
| NOV 23 | 25.85       | JAN 28 | 25.98       | MAR 30 | 25.04       | MAY 27 | 23.81       | JUL 26 | 23.90       | SEP 26 | 24.89       |

414518070435701. Local number, WFW 51 (Formerly published as Wareham 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 12.5 ft (3.8 m), cased with tile to 12.5 ft (3.8 m), open end.

DATUM.--Altitude of land-surface datum is 21 ft (6.4 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, 3.38 ft (1.03 m) below land-surface datum, Dec. 27, 1972; lowest measured, 10.98 ft (3.35 m) below land-surface datum, Dec. 28, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 25, 1974 | 9.16        | JULY 22, 1975 | 7.48        | APR. 28, 1976 | 6.08        | JAN. 28, 1977 | 7.46        |
| NOV. 25       | 9.51        | AUG. 25       | 8.17        | MAY 27        | 6.51        | FEB. 23       | 6.55        |
| DEC. 30       | 9.36        | SEP. 26       | 8.34        | JUNE 28       | 6.91        | MAR. 30       | 5.40        |
| JAN. 28, 1975 | 7.92        | OCT. 28       | 7.79        | JULY 27       | 7.47        | APR. 27       | 5.04        |
| FEB. 25       | 7.60        | NOV. 20       | 7.27        | AUG. 26       | 7.48        | MAY 27        | 5.46        |
| MAR. 26       | 6.84        | DEC. 30       | 6.15        | SEP. 27       | 8.02        | JUNE 27       | 5.40        |
| APR. 29       | 6.82        | JAN. 26, 1976 | 5.76        | OCT. 27       | 8.22        | JULY 25       | 7.20        |
| MAY 28        | 7.20        | FEB. 25       | 5.37        | NOV. 23       | 8.13        | AUG. 25       | 7.44        |
| JUNE 24       | 6.54        | MAR. 30       | 5.17        | DEC. 27       | 8.22        | SEP. 26       | 7.70        |

SUFFOLK COUNTY

422133071033801. Local number, BGW 925 (Formerly published as Boston 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 end.

DATUM.--Altitude of land-surface datum is 35 ft (11.7 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 31, 1974 | 22.63       | JULY 22, 1975 | 21.25       | APR. 30, 1976 | 21.17       | JAN. 27, 1977 | 22.39       |
| NOV. 22       | 22.17       | AUG. 26       | 20.82       | JUNE 4        | 21.00       | FEB. 25       | 22.70       |
| DEC. 24       | 21.95       | SEP. 23       | 20.24       | JUNE 29       | 21.62       | MAR. 30       | 22.37       |
| JAN. 21, 1975 | 21.82       | OCT. 31       | 18.61       | JULY 29       | 22.19       | APR. 28       | 22.30       |
| FEB. 24       | 22.10       | NOV. 24       | 19.22       | AUG. 30       | 22.15       | MAY 26        | 22.47       |
| MAR. 28       | 22.66       | DEC. 23       | 20.45       | SEP. 30       | 22.48       | JUNE 28       | 22.63       |
| APR. 24       | 22.55       | JAN. 21, 1976 | 19.78       | OCT. 28       | 22.65       | JULY 27       | 22.21       |
| MAY 23        | 22.75       | FEB. 24       | 20.34       | NOV. 29       | 22.62       | AUG. 26       | 21.84       |
| JUNE 24       | 22.22       | MAR. 30       | 20.47       | DEC. 28       | 22.70       | SEP. 29       | 21.50       |

## WORCESTER COUNTY

422058072085501. Local number, HHW 1 (Formerly published as Hardwick 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.

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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 14.95       | JULY 25, 1975 | 15.58       | APR. 27, 1976 | 13.50       | JAN. 27, 1977 | 16.92       |
| NOV. 25       | 13.89       | AUG. 26       | 15.99       | MAY 26        | 14.17       | FEB. 24       | 17.15       |
| DEC. 30       | 13.12       | SEP. 26       | 15.96       | JUNE 28       | 14.16       | MAR. 27       | 11.64       |
| JAN. 28, 1975 | 12.05       | OCT. 28       | 11.38       | JULY 28       | 16.18       | APR. 28       | 11.46       |
| FEB. 25       | 13.16       | NOV. 28       | 10.93       | AUG. 26       | 16.27       | MAY 27        | 13.18       |
| MAR. 25       | 11.00       | DEC. 27       | 13.24       | SEP. 27       | 16.76       | JUNE 27       | 15.19       |
| APR. 25       | 12.90       | JAN. 30, 1976 | 10.19       | OCT. 27       | 16.59       | JULY 26       | 15.94       |
| MAY 27        | 14.72       | FEB. 24       | 10.76       | NOV. 26       | 16.78       | AUG. 22       | 16.08       |
| JUNE 27       | 15.02       | MAR. 26       | 12.00       | DEC. 27       | 16.71       | SEP. 27       | 16.70       |

421837071380901. Local number, NUW 38 (Formerly published as Northborough 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 (86.9 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 below land-surface datum, Sept. 28, 1965.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 5.62        | JULY 25, 1975 | 7.90        | APR. 27, 1976 | 4.28        | JAN. 26, 1977 | 5.57        |
| NOV. 25       | 5.15        | AUG. 26       | 9.57        | MAY 26        | 5.10        | FEB. 22       | 5.58        |
| DEC. 30       | 4.90        | SEP. 26       | 8.94        | JUNE 24       | 7.17        | MAR. 28       | 2.97        |
| JAN. 28, 1975 | 3.92        | OCT. 28       | 4.85        | JULY 27       | 9.93        | APR. 27       | 3.24        |
| FEB. 25       | 2.14        | NOV. 28       | 4.20        | AUG. 26       | 8.54        | MAY 27        | 5.41        |
| MAR. 25       | 3.66        | DEC. 24       | 4.85        | SEP. 22       | 9.90        | JUNE 27       | 6.48        |
| APR. 25       | 4.75        | JAN. 30, 1976 | 2.62        | OCT. 26       | 8.44        | JULY 27       | 8.27        |
| MAY 27        | 5.40        | FEB. 24       | 2.94        | NOV. 26       | 6.68        | AUG. 24       | 9.59        |
| JUNE 27       | 6.26        | MAR. 26       | 4.11        | DEC. 27       | 5.75        | SEP. 26       | 9.68        |

420610071421401. Local number, 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 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, 2.04 ft (0.62 m) below land-surface datum, Jan. 30, 1976; 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 26 | 3.30        | DEC 27 | 3.58        | FEB 25 | 3.40        | APR 27 | 2.49        | JUN 27 | 2.89        | AUG 25 | 3.43        |
| NOV 26 | 3.54        | JAN 26 | 3.61        | MAR 28 | 2.26        | MAY 27 | 2.68        | JUL 27 | 3.22        | SEP 27 | 3.08        |

422805071480801. Local number, 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 28 | 13.57       | DEC 28 | 8.83        | FEB 25 | 7.41        | APR 28 | 3.13        | JUN 27 | 5.02        | AUG 24 | 8.63        |
| NOV 29 | 11.49       | JAN 28 | 8.45        | MAR 28 | 2.77        | MAY 26 | 2.91        | JUL 27 | 8.50        | SEP 26 | 10.80       |

423717072043101. Local number, TMW 3 (Formerly published as Templeton 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, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 31, 1974 | 3.75        | JULY 24, 1975 | 3.81        | APR. 29, 1976 | 3.53        | JAN. 28, 1977 | 3.82        |
| NOV. 27       | 3.35        | AUG. 28       | 3.98        | MAY 28        | 2.82        | FEB. 24       | 3.80        |
| DEC. 27       | 3.56        | SEP. 25       | 3.05        | JUNE 28       | 4.16        | MAR. 28       | 3.06        |
| JAN. 30, 1975 | 3.30        | OCT. 30       | 3.19        | JULY 28       | 3.97        | APR. 28       | 2.67        |
| FEB. 27       | 2.90        | NOV. 26       | 3.12        | AUG. 27       | 3.89        | MAY 26        | 3.78        |
| MAR. 27       | 3.00        | DEC. 30       | 3.45        | SEP. 28       | 4.09        | JUNE 27       | 3.99        |
| APR. 29       | 3.53        | JAN. 26, 1976 | 3.62        | OCT. 27       | 3.62        | JULY 26       | 4.10        |
| MAY 29        | 4.04        | FEB. 26       | 2.87        | NOV. 29       | 3.80        | AUG. 22       | 4.05        |
| JUNE 26       | 3.97        | MAR. 30       | 3.26        | DEC. 27       | 3.75        | SEP. 27       | 3.73        |

420313071514201. Local number, WLW 1 (Formerly published as Webster 1).

LOCATION.--Lat 42°03'13", long 71°51'42", Hydrologic Unit 01100001, 100 ft (30.5 m) east of State Highway 52 and 100 ft (30.5 m) south of Memorial Beach Drive in Webster.

Owner: Town of Webster.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in (0.06 m), depth 27.0 ft (8.2 m) cased to 27.0 ft (8.2 m), open end.

DATUM.--Altitude of land-surface datum is 500 ft (152 m). Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--September 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, 10.28 ft (3.13 m) below land-surface datum, Mar. 25, 1968; lowest measured, 17.90 ft (5.46 m) below land-surface datum, Dec. 20, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| OCT. 29, 1974 | 14.07       | AUG. 26, 1975 | 15.38       | MAY 26, 1976  | 13.63       | FEB. 25, 1977 | 15.80       |
| NOV. 25       | 14.00       | SEP. 26       | 15.58       | JUNE 24       | 14.13       | MAR. 29       | 12.90       |
| DEC. 30       | 13.72       | OCT. 28       | 14.22       | JULY 27       | 14.93       | APR. 27       | 12.65       |
| JAN. 28, 1975 | 13.47       | NOV. 28       | 13.13       | AUG. 26       | 14.59       | MAY 27        | 12.74       |
| FEB. 25       | 13.95       | DEC. 24       | 12.97       | SEP. 22       | 14.65       | JUNE 27       | 13.71       |
| MAR. 25       | 13.75       | JAN. 30, 1976 | 13.62       | OCT. 26       | 15.16       | JULY 27       | 14.51       |
| APR. 25       | 13.98       | FEB. 24       | 13.33       | NOV. 26       | 15.40       | AUG. 25       | 15.20       |
| MAY 27        | 14.18       | MAR. 26       | 13.81       | DEC. 27       | 15.48       | SEP. 25       | 15.10       |
| JUNE 27       | 14.32       | APR. 27       | 13.95       | JAN. 26, 1977 | 15.50       |               |             |

421410072081301. Local number, 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 19.78       | DEC 27 | 20.33       | FEB 24 | 20.89       | APR 28 | 19.32       | JUN 27 | 18.88       | AUG 22 | 19.54       |
| NOV 26 | 20.08       | JAN 27 | 20.52       | MAR 27 | 20.17       | MAY 26 | 18.77       | JUL 26 | 19.05       | SEP 27 | 19.87       |

421522072113401. Local number, WUW 10 (Formerly published as West Brookfield 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 end.

DATUM.--Land-surface datum is 833.23 ft (253.99 m) above mean sea level. 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, OCTOBER 1974 TO DECEMBER 1975  
HIGH FOR DAY

| 1974 |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DAY  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  | NOV.  | DEC.  |
| 5    | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4.35  | 2.82  |
| 10   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4.93  | 4.24  | 2.17  |
| 15   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 5.41  | 4.29  | 2.49  |
| 20   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4.36  | 4.69  | 2.34  |
| 25   | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4.91  | 2.95  | 2.59  |
| EOM  | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4.92  | 3.75  | 3.40  |
| 1975 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 3.98  | 3.47  | 2.76  | 1.92  | 4.00  | 6.90  | 8.09  | 9.52  | 10.95 | 5.60  | 3.05  | ..... |
| 10   | 4.20  | 4.20  | 2.94  | 2.13  | 4.63  | 6.45  | 8.59  | 9.78  | 11.14 | 6.03  | 2.49  | ..... |
| 15   | 2.12  | 4.74  | 2.76  | 2.41  | 4.91  | 5.63  | 8.00  | 9.93  | 11.34 | 4.65  | 1.94  | ..... |
| 20   | 2.09  | 4.76  | 1.90  | 2.64  | 5.43  | 6.66  | 8.67  | 10.18 | 11.49 | 2.39  | 2.22  | ..... |
| 25   | 2.01  | 2.09  | 1.86  | 2.93  | 6.03  | 6.95  | 8.80  | 10.45 | 11.00 | 2.36  | 2.07  | 3.96  |
| EOM  | 2.27  | 2.19  | 1.98  | 3.82  | 6.58  | 7.55E | 9.19  | 10.77 | 5.07  | 2.80  | ..... | 2.44  |

E, ESTIMATED.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, JANUARY TO SEPTEMBER 1976

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| JAN 30 | 2.01        | MAR 31 | 2.79        | MAY 31 | 5.75        | JUL 31 | 10.43       | SEP 27 | 11.73       |
| FEB 29 | 2.17        | APR 30 | 4.21        | JUN 30 | 8.38        | AUG 27 | 10.29       |        |             |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 12.12       | DEC 27 | 11.20       | FEB 24 | 12.08       | APR 28 | 2.01        | JUN 27 | 7.08        | AUG 22 | 9.91        |
| NOV 26 | 11.89       | JAN 27 | 11.74       | MAR 27 | 2.07        | MAY 26 | 4.31        | JUL 26 | 9.12        | SEP 27 | 10.88       |



423430072015201. Local number, 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) above mean sea level. 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 27 | 9.99        | DEC 27 | 7.70        | FEB 24 | 10.23       | APR 28 | 3.33        | JUN 27 | 5.66        | AUG 22 | 11.14       |
| NOV 29 | 9.08        | JAN 28 | 9.37        | MAR 24 | 3.72        | MAY 26 | 4.15        | JUL 26 | 9.57        | SEP 27 | 12.04       |

421538071451301. Local number, XSW 274 (Formerly published as Worcester 274).

LOCATION.--Lat 42°15'58", 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 below land-surface datum, Mar. 27, 1972; lowest measured, 24.62 ft (7.50 m) below land-surface datum, Oct. 25, 1968.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1974 TO SEPTEMBER 1977

| DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL | DATE          | WATER LEVEL |
|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| JUNE 27, 1975 | 23.69       | JAN. 30, 1976 | 22.30       | AUG. 27, 1976 | 23.68       | MAR. 28, 1977 | 22.86       |
| JULY 23       | 23.68       | FEB. 24       | 22.78       | SEP. 27       | 23.97       | APR. 28       | 22.77       |
| AUG. 26       | 23.91       | MAR. 26       | 23.12       | OCT. 28       | 23.51       | MAY 27        | 23.30       |
| SEP. 26       | 23.18       | APR. 27       | 23.29       | NOV. 29       | 23.00       | JUNE 27       | 23.50       |
| OCT. 28       | 23.14       | MAY 26        | 23.41       | DEC. 28       | 23.71       | JULY 27       | 23.53       |
| NOV. 28       | 22.97       | JUNE 28       | 23.74       | JAN. 28, 1977 | 23.80       | AUG. 25       | 23.75       |
| DEC. 24       | 23.00       | JULY 28       | 23.67       | FEB. 25       | 23.55       | SEP. 26       | 24.54       |



## KENT COUNTY

414022071332801. Local number, 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 Ave., 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, 18.50 ft (5.64 m) below land-surface datum, Dec. 27, 1972; lowest measured, 23.73 ft (7.23 m) below land-surface datum, Jan. 29, 1966.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1976 TO JUNE 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 21.92       | DEC 24 | 22.23       | FEB 26 | 21.91       | APR 23 | 20.13       | JUN 25 | 21.02       |
| NOV 27 | 22.12       | JAN 29 | 22.12       | MAR 26 | 19.93       | MAY 28 | 20.84       |        |             |

413907071465001. Local number, 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 (115 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, 12.87 ft (3.92 m) below land-surface datum, Mar. 26, 1977; 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 16.90       | DEC 24 | 16.13       | FEB 27 | 16.00       | APR 23 | 15.21       | JUN 25 | 16.30       | AUG 26 | 16.86       |
| NOV 27 | 16.49       | JAN 29 | 16.20       | MAR 26 | 12.87       | MAY 27 | 15.60       | JUL 28 | 16.66       | SEP 24 | 16.69       |

## PROVIDENCE COUNTY

415710071402201. Local number, 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 (5.72 m) below land-surface datum, Nov. 3, 1970.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 17.30       | DEC 24 | 16.70       | MAR 26 | 14.57       | MAY 28 | 13.81       | JUL 28 | 16.31       | SEP 24 | 18.02       |
| NOV 26 | 17.02       | FEB 26 | 17.12       | APR 23 | 13.64       | JUN 25 | 14.95       | AUG 27 | 17.35       |        |             |

415628071254601. Local number, 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, 9.60 ft (2.93 m) below land-surface datum, Mar. 26, 1969; 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 13.19       | DEC 24 | 12.62       | MAR 26 | 9.94        | MAY 28 | 12.23       | JUL 28 | 14.61       | SEP 24 | 13.78       |
| NOV 26 | 13.16       | FEB 26 | 11.66       | APR 23 | 12.05       | JUN 25 | 13.44       | AUG 27 | 14.98       |        |             |

415437071242201. Local number, 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, 0.02 ft (0.01 m) above land-surface datum, Mar. 26, 1969; 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 3.94        | DEC 24 | 5.30        | FEB 26 | 4.03        | APR 23 | 4.15        | JUN 25 | 4.14        | AUG 27 | 5.24        |
| NOV 26 | 5.42        | JAN 29 | 5.34        | MAR 26 | 1.55        | MAY 28 | 3.96        | JUL 28 | 5.02        | SEP 24 | 4.98        |

415948071325001. Local number, NSW 21.

LOCATION.--Lat 41°59'48", long 71°32'50", Hydrologic Unit 01090003, town of North Smithfield, 500 ft (152 m) south-west 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) above mean sea level. 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 8.05J       | DEC 24 | 8.02J       | FEB 26 | 6.49        | APR 23 | 7.14        | JUN 25 | 8.45        | AUG 26 | 9.85        |
| NOV 26 | 8.34J       | JAN 29 | 7.88        | MAR 26 | 4.93        | MAY 28 | 7.40        | JUL 28 | 9.34        | SEP 24 | 9.81        |

J, WELL EITHER BEING PUMPED OR PUMPED RECENTLY.

415318071220401. Local number, 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 4.33        | DEC 24 | 5.22        | FEB 26 | 5.17        | APR 23 | 3.67        | JUN 25 | 4.44        | AUG 27 | 5.17        |
| NOV 26 | 4.84        | JAN 29 | 5.33        | MAR 26 | 4.05        | MAY 27 | 3.98        | JUL 28 | 4.88        | SEP 24 | 5.17        |

414746071255601. Local number, 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), above mean sea level. 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, 5.08 ft (1.55 m) below land-surface datum, Apr. 20, May 4, 1953; 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 6.93        | DEC 24 | 7.08        | FEB 26 | 7.10        | APR 23 | 6.59        | JUN 25 | 6.70        | AUG 27 | 7.07        |
| NOV 27 | 7.17        | JAN 29 | 7.11        | MAR 26 | 6.42        | MAY 28 | 6.63        | JUL 28 | 6.75        | SEP 24 | 6.91        |

414939071260801. Local number, 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 (3.0 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.

PERIOD OF RECORD.--January 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.68 ft (0.21 m) below land-surface datum, July 28, 1977; 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 1.61        | DEC 24 | 1.35        | FEB 26 | 1.62        | APR 23 | 0.72        | JUN 25 | 1.17        | AUG 27 | 1.21        |
| NOV 27 | 1.37        | JAN 31 | 1.36        | MAR 26 | 0.71        | MAY 28 | 0.86        | JUL 28 | 0.68        | SEP 24 | 0.94        |

## WASHINGTON COUNTY

412214071394001. Local number, 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 (7.9 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, 12.79 ft (3.90 m) below land-surface datum, Apr. 25, 1953; 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 20.37       | DEC 24 | 20.56       | FEB 26 | 19.74       | APR 23 | 14.47       | JUN 25 | 17.37       | AUG 27 | 19.34       |
| NOV 27 | 20.39       | JAN 29 | 19.14       | MAR 26 | 16.12       | MAY 28 | 16.52       | JUL 28 | 18.61       | SEP 24 | 19.44       |

413423071431901. Local number, 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 Road 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.--Altitude of land-surface datum is 130 ft (40 m). 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, 3.27 ft (1.00 m) below land-surface datum, Dec. 27, 1972; lowest measured, 7.74 (2.36 m) below land-surface datum, Sept. 27, 1957.

## WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 6.23J       | DEC 24 | 6.43J       | FEB 26 | 5.65J       | APR 23 | 4.60        | JUN 25 | 5.92        | AUG 27 | 6.67        |
| NOV 27 | 6.62J       | JAN 29 | 6.12J       | MAR 26 | 3.60        | MAY 28 | 5.34J       | JUL 28 | 6.47        | SEP 24 | 6.51        |

J, AFFECTED BY STAGE OF A NEARBY STREAM.

413307071323601. Local number, 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) above mean sea level. 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 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 12.58       | DEC 24 | 12.75       | MAR 26 | 10.39       | MAY 28 | 9.77        | JUL 28 | 11.29       | SEP 24 | 12.40       |
| NOV 27 | 12.73       | FEB 26 | 12.14       | APR 23 | 9.26        | JUN 25 | 10.37       | AUG 27 | 11.93       |        |             |

413337071323801. Local number EXW 347.

LOCATION.--Lat 41°33'37", long 71°32'38", Hydrologic Unit 01099995, town of Exeter, about 50 ft (15 m) west of dirt road to Exeter State (Dr. Joseph H. Ladd) School, 500 ft (150 m) south of Reynolds Road, and 1.2 mi (1.9 km) southwest of Exeter.

Owner: State Department of Public Welfare.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in (0.91 m), depth 34 ft (10.4 m), cased with concrete to 34 ft (10.4 m), open end.

DATUM.--Altitude of land-surface datum is 175 ft (53 m). Measuring point: Floor of recorder shelter, 3.00 ft (0.91 m) below land-surface datum.

PERIOD OF RECORD.--January 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.50 ft (7.16 m) below land-surface datum, Apr. 13, 1977; dry in Sept. 19, 1976 to Jan. 12, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, JANUARY 1976 TO AUGUST 1977

| HIGH FOR DAY<br>1976 |        |        |        |        |        |        |        |        |        |      |      |      |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|------|
| DAY                  | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE   | JULY   | AUG.   | SEPT.  | OCT. | NOV. | DEC. |
| 5                    | 29.12J | 25.73J | 27.42J | 27.58J | 29.16J | 30.15J | 31.60J | 33.24J | 33.64J | F    | F    | F    |
| 10                   | 28.75J | 25.96J | 27.66J | 27.73J | 29.31J | 30.34J | 31.87J | 33.30J | 33.88J | F    | F    | F    |
| 15                   | 28.43J | 26.38J | 27.74J | 28.02J | 29.47J | 30.57J | 32.14J | 33.04J | 33.97J | F    | F    | F    |
| 20                   | 28.10J | 26.91J | 27.28J | 28.31J | 29.63J | 30.81J | 32.41J | 33.12J | F      | F    | F    | F    |
| 25                   | 28.21J | 27.11J | .....  | 28.62J | 29.77J | .....  | 32.66J | 33.28J | F      | F    | F    | F    |
| EOM                  | 26.63J | 27.15J | 27.42J | 28.94J | 29.94J | 31.33J | 32.99J | 33.48J | F      | F    | F    | F    |

| 1977 |        |        |        |        |        |        |        |        |       |       |       |       |
|------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 5    | F      | 33.79J | 32.75J | 28.03J | 28.16J | 29.37J | 30.48J | 32.23J | ..... | ..... | ..... | ..... |
| 10   | F      | 33.80J | 32.15J | 26.64J | 28.51J | 29.67J | 30.75J | 32.51E | ..... | ..... | ..... | ..... |
| 15   | .....  | 33.80J | 31.64J | 26.61J | 28.51J | 29.71J | 31.02J | 32.75E | ..... | ..... | ..... | ..... |
| 20   | .....  | 33.75J | 30.91J | 27.08J | 28.58J | 29.87J | 31.30J | 32.96E | ..... | ..... | ..... | ..... |
| 25   | .....  | 33.78J | 29.69J | 27.37J | .....  | .....  | 31.61J | 31.18E | ..... | ..... | ..... | ..... |
| EOM  | 33.77J | 33.35J | 28.36J | 27.84J | 29.08J | 30.25J | 31.94J | 33.39J | ..... | ..... | ..... | ..... |

E, ESTIMATED.

F, WATER LEVEL BELOW BOTTOM OF WELL.

J, NEARBY WELL EITHER BEING PUMPED OR PUMPED RECENTLY.

413148071281601. Local number, NKW 255.

LOCATION.--Lat 41°31'48", long 71°28'16", Hydrologic Unit 01090004, town of North Kingston, 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, 12.33 ft (3.76 m) below land-surface datum, Sept. 27, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 9.56        | DEC 24 | 10.34       | MAR 26 | 7.63        | MAY 28 | 8.56        | JUL 28 | 9.83        | SEP 24 | 9.54        |
| NOV 27 | 10.35       | FEB 26 | 10.06       | APR 23 | 7.91        | JUN 25 | 8.87        | AUG 27 | 9.94        |        |             |

413308071280501. Local number, NKW 450.

LOCATION.--Lat 41°33'08", long 71°28'05", Hydrologic Unit 01090004, town of North Kingston, 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, 9.85 ft (3.00 m) below land-surface datum, June 24, 1972; lowest measured, 16.45 ft (5.02 m) below land-surface datum, Dec. 29, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 14.95       | DEC 24 | 15.18       | FEB 26 | 11.34       | APR 23 | 11.61       | JUN 25 | 13.01       | AUG 27 | 14.71       |
| NOV 27 | 15.20       | JAN 30 | 14.58       | MAR 26 | 12.05       | MAY 28 | 12.48       | JUL 28 | 14.30       | SEP 24 | 15.03       |

412717071415301. Local number, 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 (6.30 m) below land-surface datum, May 23, 1958. Dry several times in 1965-67, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977  
HIGH FOR DAY

| DAY | OCT   | NOV   | DEC | JAN | FEB | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-----|-------|-------|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|
| 5   | ..... | 27.41 | F   | F   | F   | F     | 26.36 | 24.62 | 24.76 | 25.18 | 25.76 | 26.32 |
| 10  | ..... | 27.49 | F   | F   | F   | F     | 25.95 | 24.59 | 24.83 | 25.26 | 25.85 | 26.42 |
| 15  | ..... | 27.58 | F   | F   | F   | F     | ..... | 24.62 | 24.91 | 25.35 | 25.97 | 26.53 |
| 20  | 27.11 | 27.66 | F   | F   | F   | 27.59 | ..... | 24.66 | 24.96 | 25.43 | 26.06 | 26.62 |
| 25  | 27.21 | F     | F   | F   | F   | 27.29 | 24.84 | 24.66 | 25.04 | ..... | 26.15 | 26.71 |
| EOM | 27.32 | F     | F   | F   | F   | 26.76 | 24.71 | 24.73 | 25.10 | 25.66 | 26.24 | 26.78 |

F, WATER LEVEL BELOW BOTTOM OF WELL.

412932071374302. Local number 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), above mean sea level. Measuring point: Floor of recorder shelter, 0.65 ft (0.20 m) above land-surface datum.

PERIOD OF RECORD.--December 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.50 ft (1.68 m) below land-surface datum, Mar. 26, 1977; lowest, 7.78 ft (2.35 m) below land-surface datum, Sept. 25, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, JANUARY 1976 TO SEPTEMBER 1977  
HIGH FOR DAY

| 1976 |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DAY  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. | OCT.  | NOV.  | DEC.  |
| 5    | 5.99J | 5.53J | 6.04J | 6.11J | 6.50J | 6.81J | ..... | 7.57J | 7.60J | ..... | 7.54J | 7.72J |
| 10   | 5.88J | 5.65J | 6.04J | 6.23J | 6.60J | 6.92J | ..... | 7.08J | 7.65J | 7.53J | 7.57J | 7.52J |
| 15   | 5.78J | 5.82J | 5.98J | 6.34J | 6.62J | 7.00J | ..... | 7.31J | 7.67J | 7.64J | 7.61J | 7.58J |
| 20   | 5.92J | 5.88J | 5.96J | 6.44J | 6.58J | 7.06J | ..... | 7.42J | 7.69J | 7.51J | 7.64J | 7.54J |
| 25   | 6.03J | 5.94J | ..... | 6.55J | 6.66J | ..... | ..... | 7.53J | ..... | 7.53J | 7.67J | 7.56J |
| EOM  | 5.56J | 6.01J | 6.12J | 6.58J | 6.75J | ..... | 7.53J | 7.55J | ..... | 7.52J | 7.72J | 7.57J |
| 1977 |       |       |       |       |       |       |       |       |       |       |       |       |
| 5    | 7.56J | 7.09J | 6.40J | ..... | 6.23E | 6.58J | 7.08J | 7.48J | ..... | ..... | ..... | ..... |
| 10   | 7.54J | 7.16J | 6.39J | ..... | ..... | 6.67E | 7.16J | ..... | ..... | ..... | ..... | ..... |
| 15   | 6.97J | 7.21J | 6.08J | ..... | ..... | 6.74J | 7.22J | 7.57J | 7.68J | ..... | ..... | ..... |
| 20   | 7.00J | 7.26J | 6.03J | 5.74J | ..... | 6.87  | 7.29J | ..... | 7.55J | ..... | ..... | ..... |
| 25   | ..... | 7.02J | 5.53J | 5.93E | ..... | ..... | 7.38J | 7.52J | 7.45J | ..... | ..... | ..... |
| EOM  | 7.06J | 6.72J | 5.57J | 6.09J | 6.49J | 6.97J | 7.45J | 7.59J | 7.53J | ..... | ..... | ..... |

E, ESTIMATED.

J, AFFECTED BY STAGE OF NEARBY STREAM.



412918071321001. Local number, SNW 6.

LOCATION.--Lat 41°29'18", long 71°32'10", Hydrologic Unit 01090005, town of South Kingston, 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) above mean sea level. 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 1976 TO SEPTEMBER 1977  
HIGH FOR DAY

| DAY | OCT   | NOV   | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 5   | 14.61 | 14.34 | 14.58 | 14.35 | 14.00 | 13.39 | 11.49 | 11.42 | 12.07 | 12.47 | 12.99 | 13.21 |
| 10  | 14.63 | 14.35 | 14.56 | 14.12 | 14.10 | 13.19 | 11.04 | 11.52 | 12.13 | 12.59 | 13.10 | 13.30 |
| 15  | 14.59 | 14.41 | 14.54 | 13.98 | 13.94 | 12.88 | 10.99 | 11.53 | 12.12 | 12.70 | 13.16 | 13.45 |
| 20  | 14.62 | 14.46 | 14.51 | 13.98 | 13.92 | 12.60 | 11.12 | 11.63 | 12.21 | 12.74 | 13.12 | 13.53 |
| 25  | 14.41 | ..... | 14.41 | ..... | 13.74 | 11.88 | 11.16 | 11.74 | 12.33 | 12.85 | 13.13 | 13.50 |
| EOM | 14.35 | 14.55 | 14.35 | 14.01 | 13.62 | 11.81 | 11.33 | 11.91 | 12.35 | 12.89 | 13.14 | 13.39 |

412923071361601. Local number, SNW 515.

LOCATION.--Lat 41°29'23", long 71°36'16", Hydrologic Unit 01090005, town of South Kingston, 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) above mean sea level. Measuring point: Top edge of concrete casing on south rim of well, 0.50 ft (0.15 m) above land-surface datum (since Dec. 27, 1975).

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; lowest measured, 30.11 ft (9.18 m) below land-surface datum, Oct. 25, 1969.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 29.08       | DEC 24 | 28.78       | FEB 26 | 27.01       | APR 23 | 25.34       | JUL 28 | 28.55       | SEP 24 | 28.73       |
| NOV 27 | 29.01       | JAN 29 | 28.18       | MAR 26 | 25.86       | JUN 25 | 27.17       | AUG 27 | 28.82       |        |             |

412154071462901. Local number, 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 (13.72 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, 10.34 ft (3.15 m) below land-surface datum, Dec. 27, 1972; lowest measured, 14.39 ft (4.39 m) below land-surface datum, Aug. 25, 1971.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL | DATE   | WATER LEVEL |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| OCT 23 | 13.22       | DEC 24 | 13.09       | FEB 26 | 12.83       | APR 23 | 11.24       | JUN 25 | 12.70       | AUG 27 | 13.52       |
| NOV 27 | 13.42       | JAN 29 | 13.06       | MAR 26 | 11.04       | MAY 28 | 12.69       | JUL 28 | 13.56       | SEP 24 | 13.09       |



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# FACTORS FOR CONVERTING U.S. CUSTOMARY UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the U.S. customary units published herein to the International System of Units (SI). Subsequent reports will contain both the U.S. customary and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

| Multiply U.S. customary units              | By                                                                         | To obtain SI units                                                                                                                             |
|--------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Length</i>                              |                                                                            |                                                                                                                                                |
| inches (in)                                | $2.54 \times 10^1$<br>$2.54 \times 10^{-2}$                                | millimeters (mm)<br>meters (m)                                                                                                                 |
| feet (ft)                                  | $3.048 \times 10^{-1}$                                                     | meters (m)                                                                                                                                     |
| miles (mi)                                 | $1.609 \times 10^0$                                                        | kilometers (km)                                                                                                                                |
| <i>Area</i>                                |                                                                            |                                                                                                                                                |
| acres                                      | $4.047 \times 10^3$<br>$4.047 \times 10^{-1}$<br>$4.047 \times 10^{-3}$    | square meters (m <sup>2</sup> )<br>square hectometers (hm <sup>2</sup> )<br>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)                              | $3.785 \times 10^0$<br>$3.785 \times 10^0$<br>$3.785 \times 10^{-3}$       | liters (L)<br>cubic decimeters (dm <sup>3</sup> )<br>cubic meters (m <sup>3</sup> )                                                            |
| million gallons                            | $3.785 \times 10^3$<br>$3.785 \times 10^{-3}$                              | cubic meters (m <sup>3</sup> )<br>cubic hectometers (hm <sup>3</sup> )                                                                         |
| cubic feet (ft <sup>3</sup> )              | $2.832 \times 10^1$<br>$2.832 \times 10^{-2}$                              | cubic decimeters (dm <sup>3</sup> )<br>cubic meters (m <sup>3</sup> )                                                                          |
| cfs-days                                   | $2.447 \times 10^3$<br>$2.447 \times 10^{-3}$                              | cubic meters (m <sup>3</sup> )<br>cubic hectometers (hm <sup>3</sup> )                                                                         |
| acre-feet (acre-ft)                        | $1.233 \times 10^3$<br>$1.233 \times 10^{-3}$<br>$1.233 \times 10^{-6}$    | cubic meters (m <sup>3</sup> )<br>cubic hectometers (hm <sup>3</sup> )<br>cubic kilometers (km <sup>3</sup> )                                  |
| <i>Flow</i>                                |                                                                            |                                                                                                                                                |
| cubic feet per second (ft <sup>3</sup> /s) | $2.832 \times 10^1$<br>$2.832 \times 10^{-2}$                              | liters per second (L/s)<br>cubic decimeters per second (dm <sup>3</sup> /s)                                                                    |
| gallons per minute (gal/min)               | $6.309 \times 10^{-2}$<br>$6.309 \times 10^{-2}$<br>$6.309 \times 10^{-5}$ | cubic meters per second (m <sup>3</sup> /s)<br>liters per second (L/s)<br>cubic decimeters per second (dm <sup>3</sup> /s)                     |
| million gallons per day                    | $4.381 \times 10^1$<br>$4.381 \times 10^{-2}$                              | cubic meters per second (m <sup>3</sup> /s)<br>cubic decimeters per second (dm <sup>3</sup> /s)<br>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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