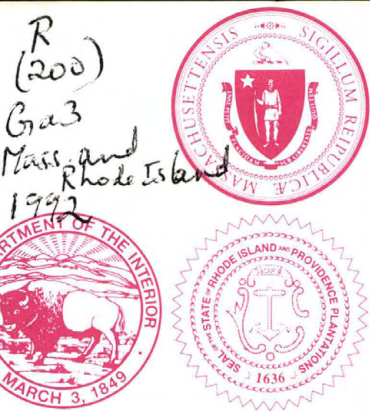
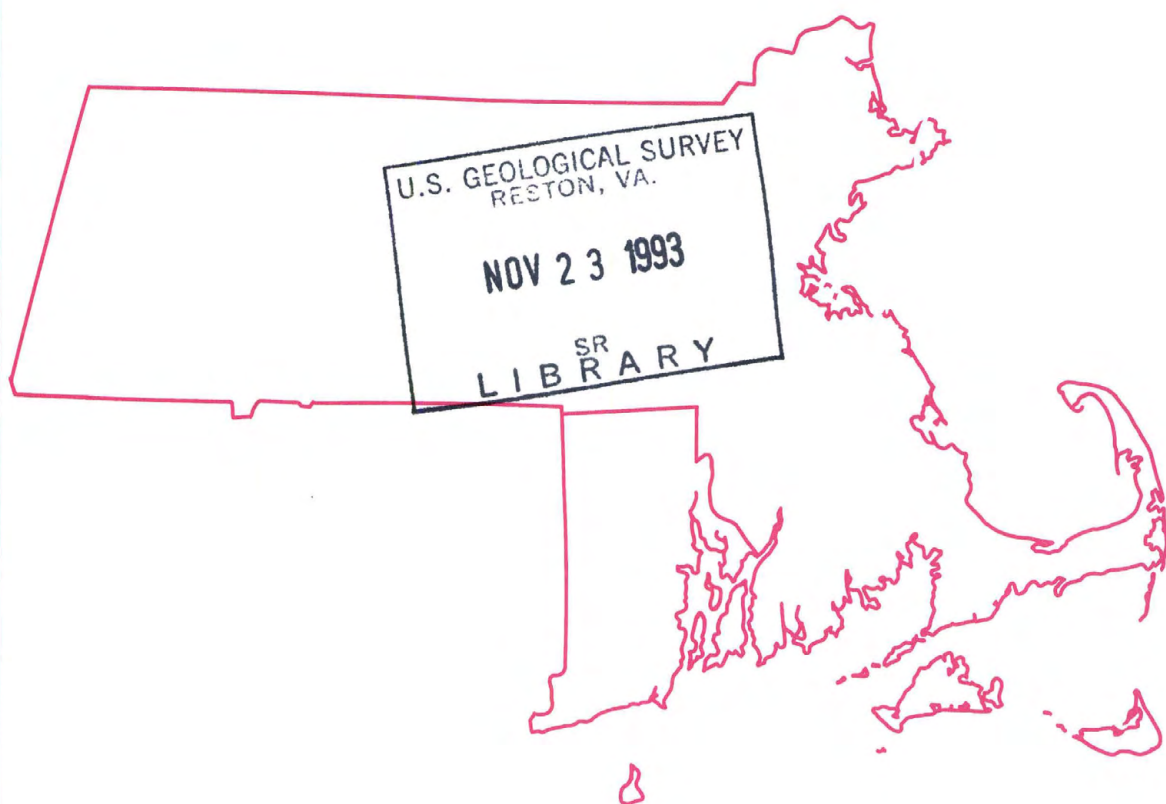




Water Resources Data Massachusetts and Rhode Island Water Year 1992



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-92-1
Prepared in cooperation with the States of Massachusetts and
Rhode Island and with other agencies

CALENDAR FOR WATER YEAR 1992

1991

OCTOBER

S	M	T	W	T	F	S
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27	28	29	30			



Water Resources Data Massachusetts and Rhode Island Water Year 1992

by R.S. Socolow, T.S. Shepard, G.G. Girouard, and R.A. Gadoury



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-92-1
Prepared in cooperation with the States of Massachusetts and
Rhode Island and with other agencies

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, *Secretary*

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, *Director*

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U.S. Geological Survey
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28 Lord Road, Suite 280
Marlborough, MA 01752

1993

PREFACE

This volume of the annual hydrologic data report of Massachusetts and Rhode Island is one of a series of annual reports that document hydrologic data gathered from the U.S Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Massachusetts and Rhode Island are contained in one volume. This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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This report was prepared in cooperation with the States of Massachusetts and Rhode Island and with other agencies under the general supervision of Michael C. Yurewicz, Massachusetts-Rhode Island District Chief, and Virginia A. de Lima, Subdistrict Chief, Rhode Island Office.

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16. Abstract (Limit: 200 words) Water-resources data for the 1992 water year for Massachusetts and Rhode Island consists of stage, discharge, and water quality of streams; contents of lakes and reservoirs; and ground-water levels. This report contains discharge records for 77 gaging stations, monthend contents for six lakes and reservoirs, water quality for nine gaging stations, and water levels for 128 observation wells. Also included are data for 60 low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data-collection program, and are published as miscellaneous discharge measurements and quality of ground water. A few pertinent stations 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.				
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b. Identifiers/Open-Ended Terms				
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SURFACE-WATER AND WATER-QUALITY STATIONS, IN DOWNSTREAM ORDER,
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(Letters after station name designate type of data: (d) discharge; (l) lake; (c) chemical; (b) biological; (m) microbiological;
(s) sediment; (t) water temperature)

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The following continuous-record surface-water discharge stations (gaging stations) in Massachusetts and Rhode Island have been discontinued. Daily streamflow records were collected and published for the period of record, expressed in water years, shown for each station.

Discontinued surface-water discharge stations.

Station Name	Station Number	Drainage Area (mi ²)	Period of Record
MERRIMACK RIVER BASIN			
Rocky Brook near Sterling, Mass.	01095000	1.95	1947-67
Boulder Brook near East Bolton, Mass.	01096906	1.32	1975-78
Boulder Brook at East Bolton, Mass.	01096910	1.60	1972-81
Beaverdam Brook at Natick, Mass.	01098320	7.27	1978-79
Course Brook at Natick, Mass.	01098340	3.44	1978-79
Pegan Brook at Natick, Mass.	01098360	.54	1978-79
Snake Brook at Wayland, Mass.	01098450	2.10	1978-79
Lake Cochituate outlet at Framingham, Mass.	01098500	21.1	1978-79
Hager Pond outlet at Marlborough, Mass.	01098710	1.80	1978-80
East Meadow River near Haverhill, Mass.	01100700	5.47	1963-74
IPSWICH RIVER BASIN			
Maple Meadow Brook at Wilmington, Mass.	01101300	4.04	1963-74
CHARLES RIVER BASIN			
Charles River at Millis, Mass.	01103305	84.0	1974-80
NEPONSET RIVER BASIN			
Mine Brook at Walpole, Mass.	01104850	6.00	1967-68
BLACKS CREEK BASIN			
Furnace Brook at Quincy, Mass.	01105557	3.81	1973-80
WEYMOUTH FORE RIVER BASIN			
Town Brook at Quincy, Mass.	01105585	4.22	1972-86
BOUND BROOK BASIN			
Bound Brook near Cohasset, Mass.	01105660	4.86	1970-71
NORTH RIVER BASIN			
Indian Head Brook near Hanson, Mass.	01105700	4.30	1958-60
Pudding Brook at East Pembroke, Mass.	01105800	1.38	1958-62
EEL RIVER BASIN			
Eel River near Plymouth, Mass.	01105876	14.7	1970-71
HERRING RIVER BASIN			
Herring River at North Harwich, Mass.	01105880	9.4	1966-88

Discontinued surface-water discharge stations--Continued.

Station Name	Station Number	Drainage Area (mi ²)	Period of Record
RED BROOK BASIN			
Red Brook below Route 25 near Wareham, Mass.	01105885	9.14	1981-86
WEWEANTIC RIVER BASIN			
Weweantic River at South Wareham, Mass.	01105895	56.1	1970-71
WEST BRANCH WESTPORT RIVER BASIN			
Adamsville Brook at Adamsville, R.I.	01106000	8.01	1941-78, 1987
TAUNTON RIVER BASIN			
Matfield River at Elmwood, Mass.	01106500	40.5	1958-60
Poor Meadow Brook at South Hanson, Mass.	01106900	14.6	1958-60
Dorchester Brook near Brockton, Mass.	01107000	4.67	1963-74
Taunton River at Titicut near Brockton, Mass.	01107200	182	1920-25
Fall Brook near Middleborough, Mass.	01107400	9.32	1967
Taunton River near Bridgewater, Mass.	01108000	258	1930-76, 1985-88
Wading River at West Mansfield, Mass.	01108500	19.5	1954-86
PALMER RIVER BASIN			
West Branch Palmer River near Rehoboth, Mass.	01109200	4.35	1962-74
BLACKSTONE RIVER BASIN			
Kettle Brook at Worcester, Mass.	01109500	31.6	1923-78
Blackstone River at Northbridge, Mass.	01110500	141	1940-77
Mumford River at East Douglas, Mass.	01111000	29.1	1939-51
West River below West Hill Dam near Uxbridge, Mass.	01111200	27.9	1962-90
Nipmuc River near Harrisville, R.I.	01111300	16.0	1964-91
Chepachet River at Chepachet, R.I.	01111400	17.4	1965-73
Chepachet River at Gazzaville, R.I.	01111410	19.2	1973-75
Blackstone River tributary at Woonsocket, R.I.	01112700	2.31	1965-74
PAWTUXET RIVER BASIN			
Mosquitohawk Brook near North Scituate, R.I.	01115100	3.06	1965-74
Pawtuxet River at Fiskeville, R.I.	01115500	102	1915-25
Nooseneck River at Nooseneck, R.I.	01115630	8.23	1964-81
Carr River near Nooseneck, R.I.	01115770	6.73	1964-80
Flat River near Coventry, R.I.	01115900	9.13	1961-64
Furnace Hill Brook at Cranston, R.I.	01116300	4.19	1965-74
ANNAQUATUCKET RIVER BASIN			
Annaquatucket River at Belleville, R.I.	01117100	6.4	1961-64
PAWCATUCK RIVER BASIN			
Beaver River at Kenyon, R.I.	01117472	11.7	1975-79
Meadow Brook near Carolina, R.I.	01117600	5.53	1965-74

Discontinued surface-water discharge stations--Continued.

Station Name	Station Number	Drainage Area (mi ²)	Period of Record
THAMES RIVER BASIN			
Quinebaug River below East Brimfield Dam near Fiskdale, Mass.	01123360	67.4	1973-90
Quinebaug River at Westville, Mass.	01123500	93.6	1940-62
Quinebaug River below Westville Dam near Southbridge, Mass.	01123600	99.0	1963-90
French River below Hodges Village Dam at Hodges Village, Mass.	01124350	31.2	1962-90
Little River near Oxford, Mass.	01124500	26.0	1939-90
Browns Brook near Webster, Mass.	01124750	.49	1963-77
French River at Webster, Mass.	01125000	84.0	1949-81
Bucks Horn Brook at Greene, R.I.	01126200	5.52	1965-74
CONNECTICUT RIVER BASIN			
Tarbell Brook near Winchendon, Mass.	01161500	17.8	1916-82
Otter River near Gardner, Mass.	01163000	20.0	1916-17
Millers River at South Royalston, Mass.	01164000	189	1939-90
East Branch Tully River near Athol, Mass.	01165000	50.5	1916-90
Lake Rohunta Outlet near Athol, Mass.	01165300	20.3	1965-85
Moss Brook at Wendell Depot, Mass.	01165500	12.1	1909-10, 1916-82
Whetstone Brook at Depot Road at Wendell Depot, Mass.	01166105	5.22	1985-91
Bassett Brook near Northampton, Mass.	01171800	5.56	1963-74
Natty Pond Brook Templeton Rd (DS) near Hubbardston, Mass.	01172680	1.63	1985-88
Natty Pond Brook near Hubbardston, Mass.	01172800	5.48	1985-88
Moose Brook near Barre, Mass.	01173260	4.63	1963-74
Hop Brook near New Salem, Mass.	01174000	3.39	1947-82
East Branch Fever Brook near Petersham, Mass.	01174050	4.85	1984-85
West Branch Swift River near Shutesbury, Mass.	01174565	12.6	1984-85
Dickey Brook near Cooleyville, Mass.	01174570	1.19	1985-89
Dickey Brook tributary near Cooleyville, Mass.	01174575	1.06	1985-89
Mill River at Springfield, Mass.	01178000	33.2	1939-51
Westfield River at West Chesterfield, Mass.	01178500	110	1946-51
Westfield River at Knightville, Mass.	01179500	161	1909-90
Sykes Brook at Knightville, Mass.	01180000	1.73	1945-74
Middle Branch Westfield River at Goss Heights, Mass.	01180500	52.7	1910-90
Walker Brook near Becket Center, Mass.	01180800	2.94	1963-77
Great Brook near Westfield, Mass.	01183450	22.6	1973-82
Fall River below Otis Reservoir near Otis, Mass.	01185100	16.5	1969-82
HOUSATONIC RIVER BASIN			
Town Brook at Bridge Street at Lanesborough, Mass.	01197015	10.6	1980-83
Marsh Brook at Lenox, Mass.	01197300	2.12	1963-74
Green River at Great Barrington, Mass.	01198000	51.0	1952-71
Schenob Brook near Sheffield, Mass.	01198030	23.3	1971-72
Willard Brook near Sheffield, Mass.	01198070	3.20	1971-72
Hubbard Brook at Sheffield, Mass.	01198075	25.8	1971-72
HUDSON RIVER BASIN			
Dry Brook at Adams, Mass.	01331400	7.67	1963-74
North Branch Hoosic River at North Adams, Mass.	01332000	40.9	1931-90

The following continuous-record surface-water-quality stations have been discontinued. Daily records of temperature (temp.), specific conductance (S.C.), pH (pH), dissolved oxygen (D.O.) or sediment (sed.) were collected and published for the period of record, expressed in water years, shown for each station. Those stations currently being operated as water-quality partial-record stations (sampled quarterly or more frequently) are shown with an asterisk (*) beside the station number.

Discontinued continuous-record surface-water-quality stations

Station Name	Station Number	Drainage Area (mi ²)	Type of record	Period of record (water years)
MERRIMACK RIVER BASIN				
North Nashua River near Lancaster, Mass.	01094700	128	Temp., S.C., pH, D.O.	1969-74
Merrimack River above Concord River at Lowell, Mass.	01096570	3956	Temp., S.C., pH, D.O.	1968-72
Boulder Brook near East Bolton, Mass.	01096906	1.32	Temp., S.C.	1971-78
Boulder Brook at East Bolton, Mass.	01096910	1.60	Temp., S.C.	1971-78
Nashoba Brook near Acton, Mass.	01097300	12.8	Temp., S.C.	1972-74, 1976-78
Merrimack River at West Newbury, Mass.	01100750	--	Temp., S.C., pH, D.O.	1969-76
NORTH RIVER BASIN				
Indian Head River at Hanover, Mass.	01105730	30.3	Temp., S.C.	1970-71
JONES RIVER BASIN				
Jones River at Kingston, Mass.	01105870	15.7	Temp., S.C.	1970-71
EEL RIVER BASIN				
Eel River near Plymouth, Mass.	01105876	14.7	Temp. S.C.	1970-71 1971
WEWEANTIC RIVER BASIN				
Weweantic River at South Wareham, Mass.	01105895	56.1	Temp., S.C.	1970-71
WEST BRANCH WESTPORT RIVER BASIN				
Adamsville Brook at Adamsville, Mass.	01106000	8.01	Temp., S.C.	1973-74
PALMER RIVER BASIN				
West Branch Palmer River near Rehoboth, Mass.	01109200	4.35	Temp., S.C.	1973-74
BLACKSTONE RIVER BASIN				
Blackstone River at Millville, Mass.	01111230*	263	Temp., S.C., pH, D.O.	1969-81
POTOWOMUT RIVER BASIN				
Hunt River near East Greenwich, R.I.	01117000	23.0	Temp., S.C.	1977-81

Discontinued continuous-record surface-water-quality stations--Continued

Station Name	Station Number	Drainage Area (mi ²)	Type of record	Period of record (water years)
PAWCATUCK RIVER BASIN				
Chipuxet River at West Kingston, R.I.	01117350	9.99	Temp., S.C.	1974-83
Usquepaug River near Usquepaug, R.I.	01117420	36.1	Temp., S.C.	1975-83
Beaver River near Usquepaug, R.I.	01117468	8.87	Temp. S.C.	1979-83
Beaver River at Kenyon, R.I.	01117472	11.7	Temp., S.C.	1979-80, 1982-83 1976-79
THAMES RIVER BASIN				
Quinebaug River near Dudley, Mass.	01123990	156	Temp., S.C., pH, D.O.	1969-81
Browns Brook near Webster, Mass.	01124750	.49	Temp., S.C.	1972-77
CONNECTICUT RIVER BASIN				
Millers River at South Royalston, Mass.	01164000	189	Temp.	1966
Deerfield River near West Deerfield, Mass.	01170000	557	Temp., S.C.	1969-70
Moose Brook near Barre, Mass.	01173260	4.63	Temp., S.C.	1972-73
Hop Brook near New Salem, Mass.	01174000	3.39	Temp., S.C.	1972-73
Chicopee River at Chicopee Falls, Mass.	01177100	711	Temp., S.C., pH D.O.	1973-81 1973-76, 1978-81
Connecticut River at West Springfield, Mass.	01177200	9623	Temp., S.C., pH, D.O.	1972-75, 1977, 1979-81
Walker Brook near Becket Center, Mass.	01180800	2.94	Temp., S.C.	1972-77
Westfield River at West Springfield, Mass.	01183600	513	Temp., S.C., pH, D.O.	1972-76
Connecticut River at Agawam, Mass.	01183750	--	Temp., S.C., D.O. pH	1969-81 1969-76, 1979-81
HOUSATONIC RIVER BASIN				
Housatonic River near Great Barrington, Mass.	01197500	282	Sed.	1979-80
HUDSON RIVER BASIN				
Hoosic River below Williamstown, Mass.	01333300	204	Temp., S.C., pH, D.O.	1969-75, 1978-81

Water Resources Data for Massachusetts and Rhode Island, 1992

By R.S. Socolow, T.S. Shepard, G.G. Girouard, and R.A. Gadoury

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of Massachusetts and Rhode Island each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the States. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data-Massachusetts and Rhode Island."

This report series includes records of stage, discharge, and water quality of streams; contents of lakes and reservoirs; and water levels of ground-water wells. This volume contains records for water discharge at 77 gaging stations; monthend contents at 6 lakes and reservoirs; water quality at 9 gaging stations; and water levels at 128 observation wells. Also included are data for 60 low-flow partial-record stations. Locations of these sites are shown in figures 1, 2, and 3. Miscellaneous hydrologic data were collected at various sites not involved in the systematic data-collection program and are published as misce-

laneous discharge measurements and quality of ground water. A few pertinent stations (not included above) in bordering States are also included in this report. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Massachusetts and Rhode Island.

This series of annual reports for Massachusetts and Rhode Island began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Massachusetts and Rhode Island were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 1A and 1B." For the 1961 through 1970 water years, the data

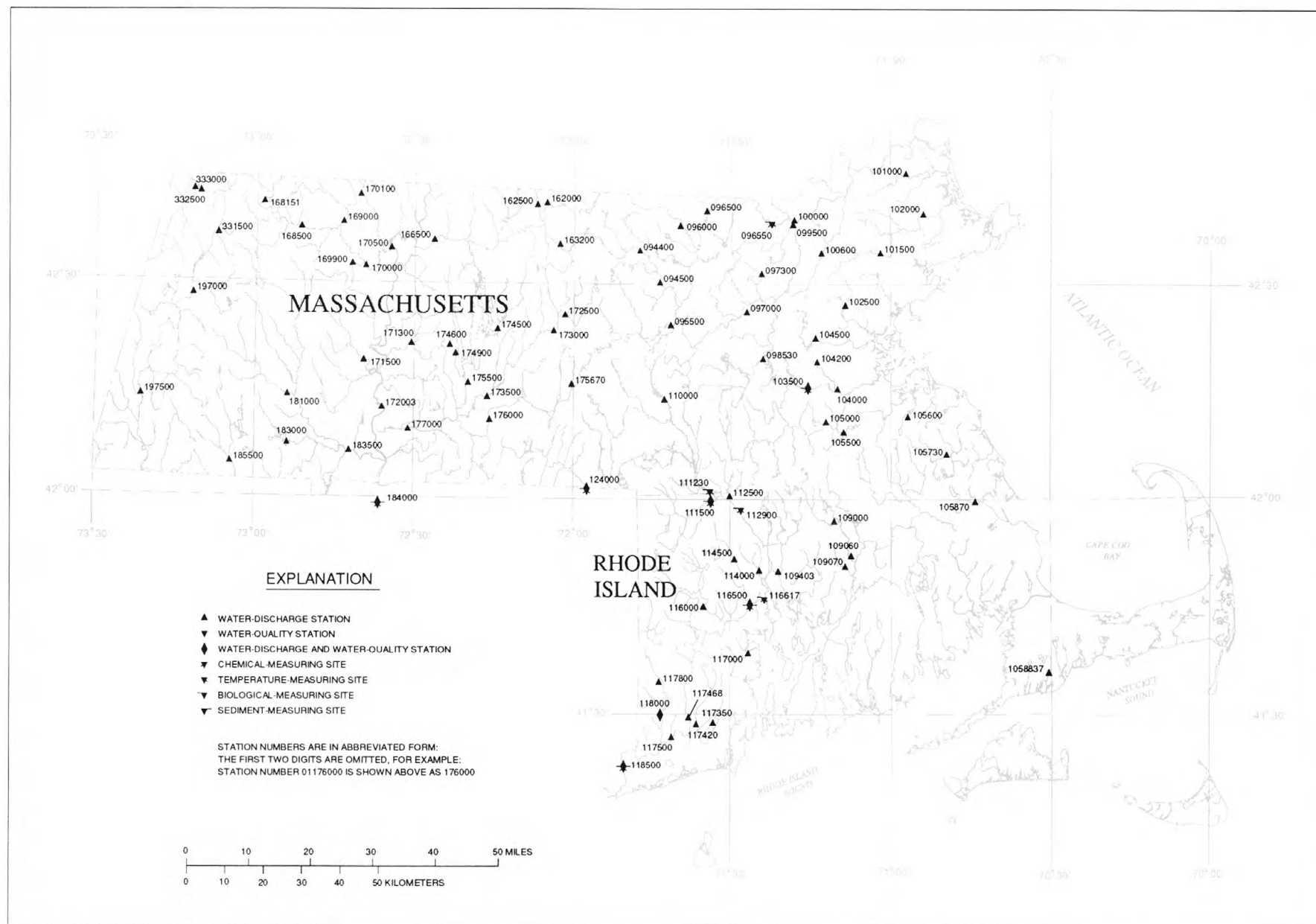


Figure 1.--Location of gaging-stations.

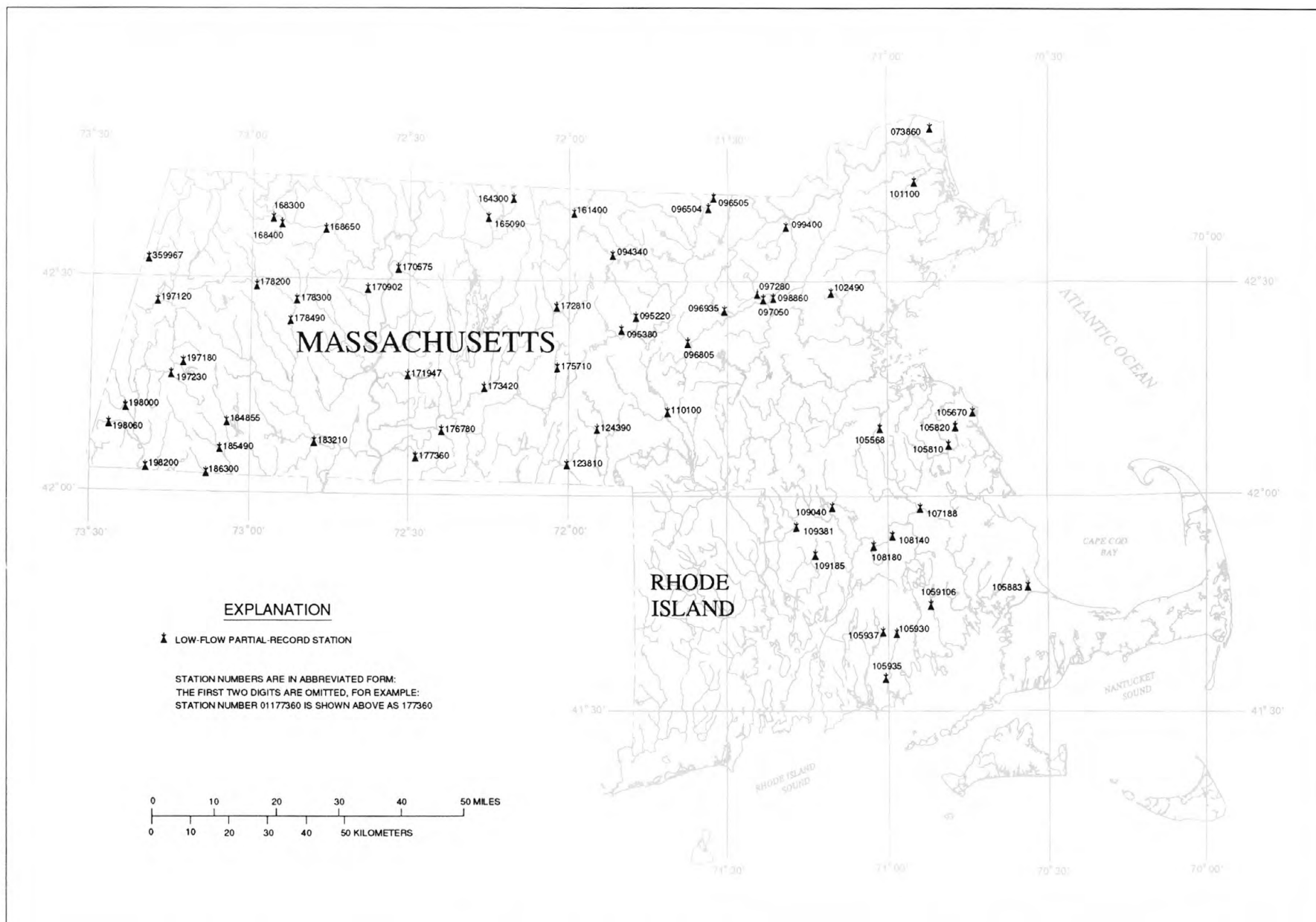


Figure 2.--Location of partial-record stations.

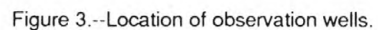


Figure 3.--Location of observation wells.

were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1939 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have 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 volume is identified as "U.S. Geological Survey Water-Data Report MA-RI-92-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports are also available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including current prices, for ordering specific reports may be obtained from the District Office at the address given on the back of the title page or by telephone (508) 485-6360. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO 80225.

COOPERATION

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

Massachusetts: Department of Environmental Management, R. Kendall, Commissioner, Division of Resource Conservation, R. H. Thibedeau, Director; Department of Environmental Protection, D. S. Greenbaum, Commissioner, Division of Water Pollution Control, Brian M. Donahoe, Director; Metropolitan District Commission, M. I. Bhatti, Commissioner, Division of Watershed Management, Joseph M. McGinn, Director, Parks Engineering and Construction Division, F. D. Faucher, Director.

Rhode Island: State Water Resources Board, S. M. Wick, Chairman, Thomas Walker, Acting General Manager; Department of Environmental Management, Louise Durfee, Director, Division of Water Resources, E. S. Szysmanski, Chief.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, in collecting records for one gaging station published in this report. Organizations supplying data are acknowledged in the station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

Runoff for the 1992 water year was in the normal range in Massachusetts and Rhode Island, except for the Hoosic River basin in western Massachusetts and parts of southeastern Massachusetts and southern Rhode Island, where runoff was below normal (within the lowest 25 percent of record). The monthly and yearly discharges for three index gaging stations and median monthly and yearly discharges for the reference period 1961-90 are compared in figure 4. Maps showing monthly surface-water conditions during the 1992 water year in Massachusetts and Rhode Island are presented in figure 5. The maps show the areas of normal, above-normal (within the highest 25 percent of record), or below-normal runoff for each month and are based on records for many of the streamflow gaging-stations contained in this report. Additional statistics for each gaging station contained in this report are provided with the tables of daily mean discharge.

Storms and Droughts

No unusually high floods were recorded during the year. The recurrence intervals of peak discharges at most gaging stations were less than 1.5 years

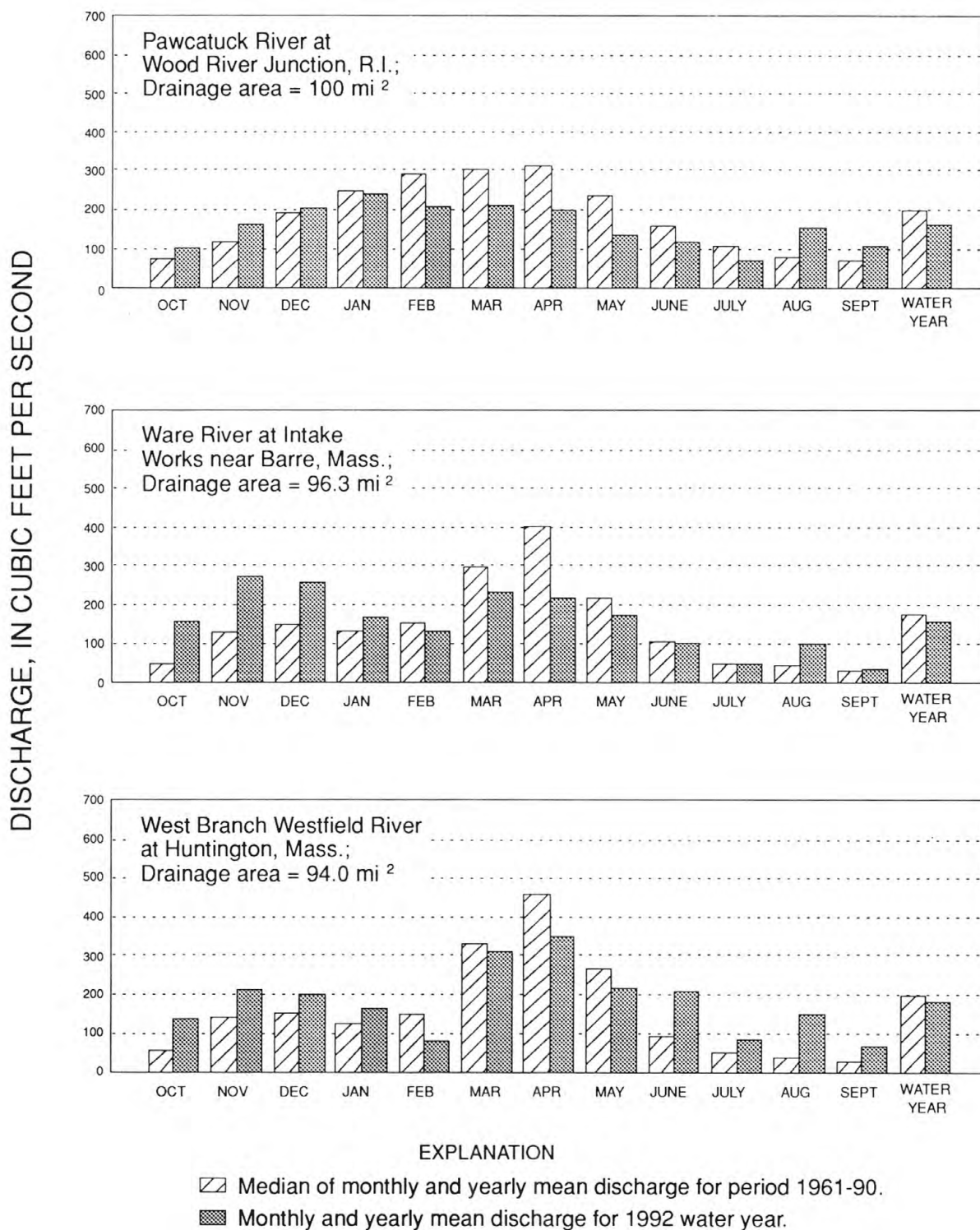


Figure 4.--Comparison of discharge at three long-term index stations during the 1992 water year with median discharge for period 1961-90.

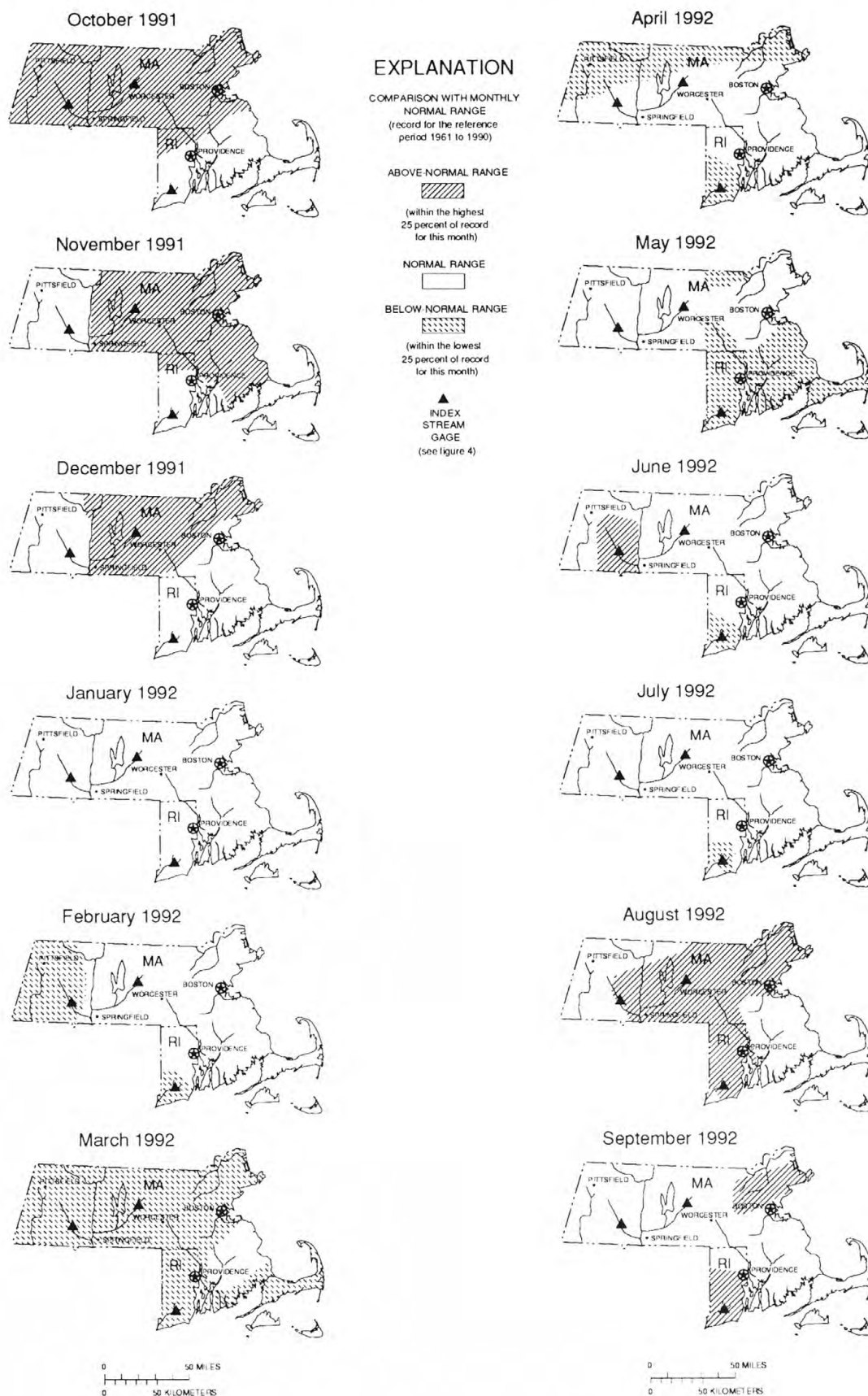


Figure 5.--Monthly surface-water conditions during the 1992 water year in Massachusetts and Rhode Island.

(peaks having a 1 in 1.5 chance of occurring in any given year). The highest recurrence interval for a peak at a gaging station occurred on Mar. 27 at North River at Shattuckville, Mass., where the interval was about 3.5 years. Comparison of low flows with the flow duration curves (a curve that defines the percentage of time a given flow will be exceeded) showed that during the summer streamflow declined to about the 90 percent flow duration discharge throughout much of the two State region, but declined to about the 93 percent discharge in southern Rhode Island, to the 95 percent discharge in southeastern Massachusetts and to the 96 percent discharge in northwestern Massachusetts.

Reservoir Storage

Monthend storage of Quabbin Reservoir in central Massachusetts ranged from 101.3 percent of usable capacity in April to 96.6 percent of usable capacity in September. The combined monthend storage of Borden Brook and Cobble Mountain Reservoirs in western Massachusetts ranged from 73 percent of usable capacity in October to 97 percent of usable capacity in June. The monthend storage of Scituate Reservoir in central Rhode Island ranged from 86 percent of usable capacity in October to 108 percent of usable capacity in March.

Water Quality

Selected water-quality characteristics--dissolved-oxygen concentration, specific conductance, pH, and water temperature--measured at long-term surface-water sites in Massachusetts and Rhode Island indicated that all values were within the previously measured period-of-record extremes, except that a new low dissolved-oxygen concentration of 1.3 milligrams per liter and a new low pH of 5.4 was measured on August 4 at Pawtuxet River at Cranston, R.I.

Ground-Water Levels

Two new high water levels for periods of record were measured during the 1992 water year: Southborough 12 (July 1990-) in March and Providence 1051 (January 1948-) in April. Three new low water levels for periods of record were measured during the water year: Barnstable 230 (January 1958-) and Ply-

mouth 494 (August 1985-) in October and Cheshire 2 (October 1951-) in March. During October through March, 29 new monthly high water levels and 12 new monthly low water levels were measured. During April through September, 18 new monthly high water levels and 15 new monthly low water levels were measured. Monthly water levels and median, maximum, and minimum monthly levels for periods of record of three index observation wells in western and eastern Massachusetts and northern Rhode Island are shown in figure 6. Maps showing monthly ground-water conditions during the 1992 water year in Massachusetts and Rhode Island are presented in figure 7. The maps show the areas of normal, above-normal, or below-normal water levels for each month and are based on records of 93 Massachusetts wells and 19 Rhode Island wells having five or more years of record. Hydrographs plotted below each ground-water table contained in this report provide additional information on water level trends.

SPECIAL NETWORKS AND PROGRAMS

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management.

The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

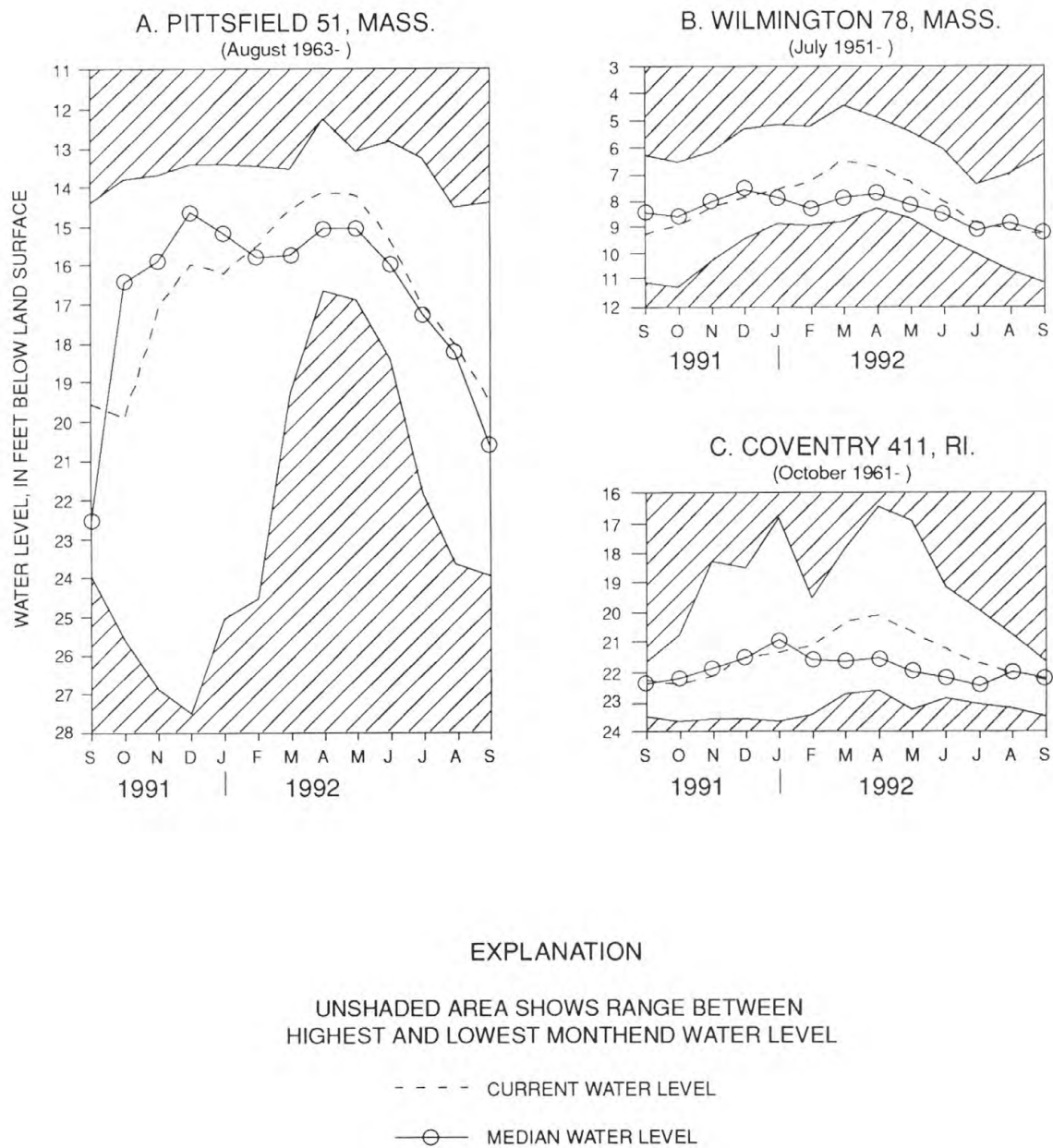


Figure 6.--Comparison of monthly water levels in selected observation wells during the 1992 water year with average, maximum, and minimum levels for periods of record.

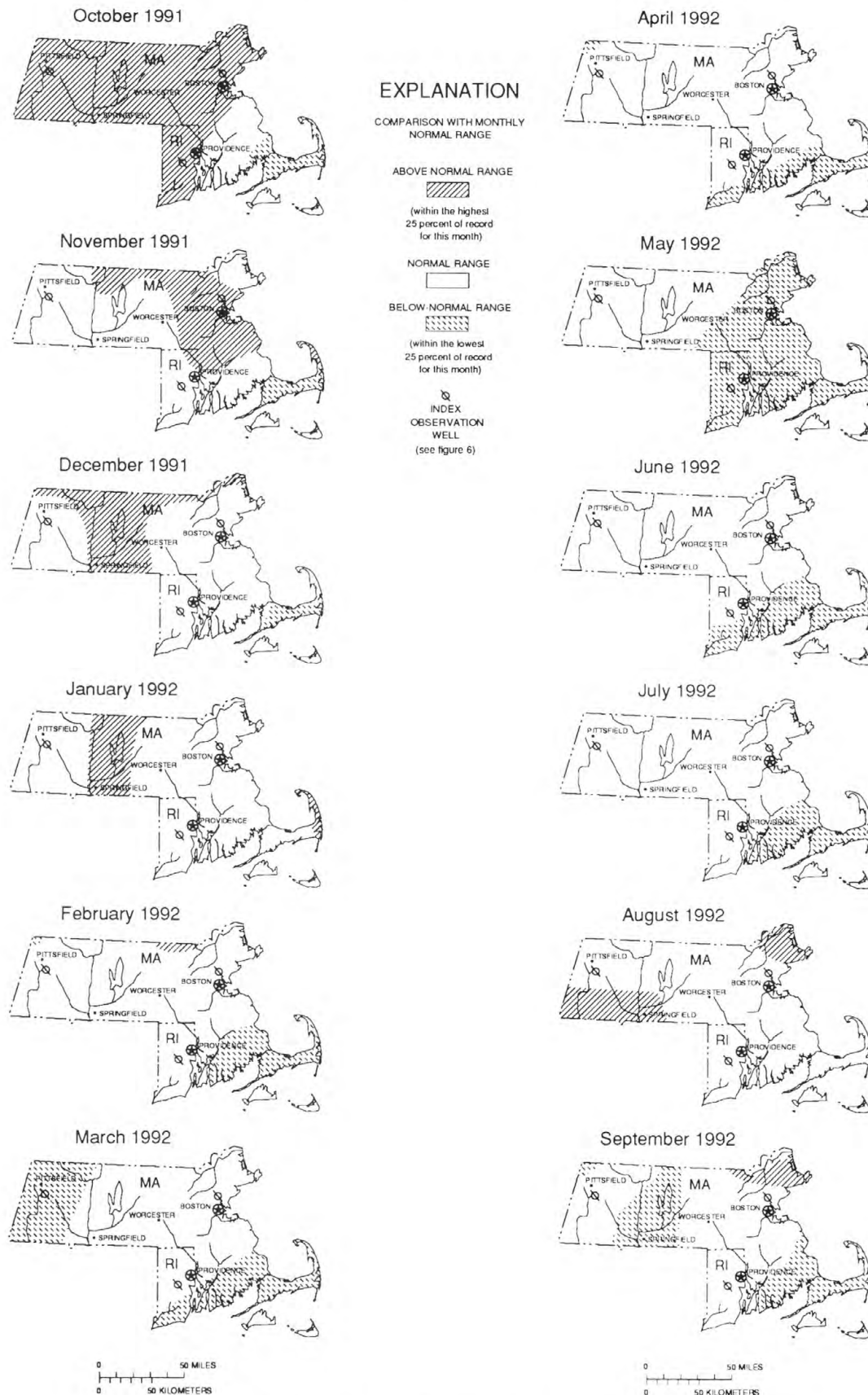


Figure 7.--Monthly ground-water conditions during the 1992 water year in Massachusetts and Rhode Island.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1992 water year that began October 1, 1991, and ended September 30, 1992. A calendar of the water year is provided on the inside of the front cover. The records contain stream-flow data, stage and content data for lakes and reservoirs, water-quality data for surface water, and ground-water-level data.

The locations of the stations and wells where the data were collected are shown in figures 1, 2 and 3. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station-Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for surface-water stations and the "latitude-longitude" system is used for wells.

Downstream Order System

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 mainstream station are listed before that station. A station on a tributary that enters between two mainstream 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 with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This down-

stream order and system of identification shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between continuous-record stations and other types of stations; therefore, the station number for a continuous-record station indicates downstream-order position in a list made up of all 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 station number (usually eight digits, but sometimes nine or more if needed) appears just to the left of the station name. The first two digits indicate the Part number (formerly used in Water-Supply Papers to designate major river systems) and the last six or more digits indicate the downstream order within the Part. For example, in the station number 01094400, "01" is the Part number for "North Atlantic Slope Basins" and "094400" is the downstream order number.

Latitude-Longitude System

The identification numbers for wells are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude is found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure 8.)

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.

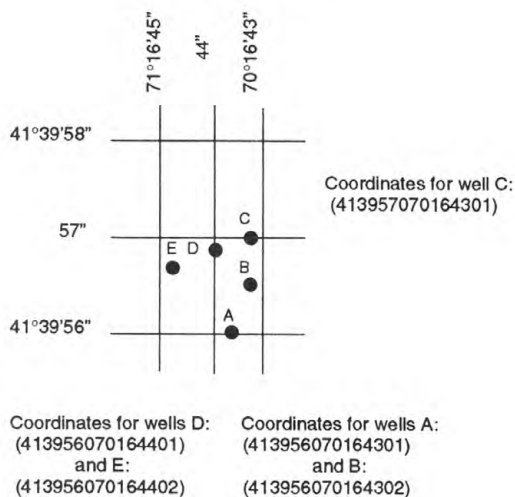


Figure 8.--System for numbering wells (latitude and longitude)

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. There were no crest-stage stations this year. Location of all complete-record stations for which data are given in this report are shown in figure 1; location of all partial-record stations for which data are given in this report are shown in figure 2.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks; in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6; and in U.S. Geological Survey Water-Supply Paper 2175, "Measurement and Computation of Stream-flow: Volume 1--Measurement of Stage and Discharge (p. 1-284); Volume 2--Computation of Discharge (p. 285-631)" by S.E. Rantz and others (1982).

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharge is computed by applying the daily mean stage (gage height) to the stage-discharge rating table or by applying each recorded stage in the day to the rating table and computing the mean from the sum of the individual discharges. 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 determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

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 or contents. 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 from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other

remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted 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 most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to sea level (see glossary), and a condensed history of the types, locations and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily discharge will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a REMARKS paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were ever revised after the station was discontinued. Of course, if the data for a discontinued station were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the

nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the EXTREMES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

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

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS _ - _ BY WATER YEAR (WY)," and will list the first and last water years of

the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS _ - _," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (See line headings below.), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the

manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

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

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that has been exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations 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 table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. 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.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records 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 measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. Discharges listed for partial-record stations and miscellaneous sites are generally shown to three significant figures.

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, unless it is so stated. 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 Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the District Office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the Massachusetts-Rhode Island District Office at the address given on the back of the title page or by telephone (508) 485-6360.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records", as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are

obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 1.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory.

Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the Massachusetts-Rhode Island District Office.

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. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

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 a 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 upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; 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, mean, maximum, and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the

Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1.

Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description. LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates. The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

Printed Output	Remark
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range non-ideal colony count)
L	Biological organism count less than 0.5 per cent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Only water-level data from a national network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in Massachusetts and Rhode Island are shown in figure 2.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table.

The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well. Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported daily or for every fifth day and the end of each month (eom). Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most

measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of three parts, the station description, the data table of water levels observed during the water year, and the hydrograph showing water level fluctuations during the most recent five-year period. Hydrographs are based on end-of-month measurements, including these wells for which 5-day or more frequent water levels are published. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base, and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) sea level; it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that

also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence. A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum. For most wells all taped measurements of water level are published. For wells equipped with digital recorders, tables of daily mean water levels and the means, highs, and lows for each month are published. Abbreviated tables are published for wells.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a

balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National Water Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and effi-

cient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

- * Station Header File - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.

- * Daily Values File - Contains more than 220 million daily values of stream flows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.

- * Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.

- * Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.

- * Ground-Water Site Inventory Data Base - Contains inventory data for more than 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on CD-ROM discs. Beginning with the 1990 water year, all

water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

DEFINITION OF TERMS

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

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 ft³ or about 326,000 gallons or 1,233 m³.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

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

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

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 and 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, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while 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, non-spore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35° plus or minus 1.0° on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5° plus or minus 0.2° on M-F° medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded 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. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35° plus or minus 1.0° on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, 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° for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter, and periphyton and benthic organisms in grams per square mile.

Dry mass refers to the mass of residue present after drying in an oven at 105° for zooplankton and 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.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

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 or liters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

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.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft³/s) is the rate of discharge representing a volume of 1 ft³ passing a given point during 1 second and is equivalent to 7.48 gal/s or 448.8 gal/min or 0.02832 m³/s.

Cubic feet per second per square mile [(ft³/s)/mi²] 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.

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.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Dissolved refers to that material in a representative water sample which passes through a 0.45-mm membrane filter. This is a convenient operational definition used by Federal agencies that collect water

data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified 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 specified.

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 more 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 computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

Hydrologic Bench-Mark Network, is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or 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 eight-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 an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (mG/G, mg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (mG/L, mg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. 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 solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929), is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly

called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN), is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust-particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter or liter. Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the Survey's computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

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, of a particle 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 the 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	0.004 - 0.062	Sedimentation
Sand	0.062 - 2.0	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 matter 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.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

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

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by mea-

suring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [$\text{mg C}/(\text{m}^2\text{time})$] for periphyton and macrophytes and [$\text{mg C}/(\text{m}^3\text{time})$] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [$\text{mg O}_2/(\text{m}^2\text{time})$] for periphyton and macrophytes and [$\text{mg O}_2/(\text{m}^3\text{time})$] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

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

Return period is the average time interval between occurrences of a hydrological event of a

given or greater magnitude, usually expressed in years. May also be called recurrence interval.

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.

Sea Level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

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.

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

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus sus-

pended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow (7Q10) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating 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 microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and 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 lives

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

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 artifi-

cial 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.

Surface area of a lake is that area outlined on the latest Survey topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

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

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

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

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-mm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the

sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

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

Taxonomy is the division of biology 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

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

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 year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-ft of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or

chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

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

Tritium network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year

ending September 30, 1992, is called the "1992 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to 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 sold by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, CO 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for 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, Chap. D1. 1975. 65 pages.
- 1-D2 *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chap. D2. 1976. 24 pages.
- 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, Chap. D1. 1974. 116 pages.
- 2-D2 *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1 *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chap. E1. 1971. 126 pages.
- 2-E2 *Borehole geophysics applied to ground-water investigations*, by W. Scott Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.
- 2-F1 *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1 *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chap. A1. 1967. 30 pages.
- 3-A2 *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chap. A2. 1967. 12 pages.
- 3-A3 *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chap. A3. 1968. 60 pages.
- 3-A4 *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chap. A4. 1967. 44 pages.
- 3-A5 *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chap. A5. 1967. 29 pages.
- 3-A6 *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chap. A6. 1968. 13 pages.
- 3-A7 *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chap. A7. 1968. 28 pages.
- 3-A8 *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chap. A8. 1969. 65 pages.
- 3-A9 *Measurement of time-of-travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chap. A9. 1982. 44 pages.
- 3-A10 *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chap. A10. 1985. 59 pages.
- 3-A11 *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chap. A11. 1969. 22 pages.
- 3-A12 *Fluorometric procedures for dye tracing*, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chap. A12. Rev. 1986. 34 pages.
- 3-A13 *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chap. A13. 1983. 53 pages.
- 3-A14 *The use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chap. A14. 1983. 46 pages.
- 3-A15 *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chap. A15. 1984. 48 pages.
- 3-A16 *Measurements of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chap. A16. 1986. 52 pages.
- 3-A17 *Acoustic velocity meter systems*, by Antonius Laenen: USGS--TWRI Book 3, Chap. A17. 1985. 38 pages.
- 3-A18 *Determination of stream reation coefficients by use of tracers*, by F. A. Kilpatrick, R. E. Rathbun, N. Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52p.
- 3-A19 *Levels of streamflow gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 pages.
- 3-B1 *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS--TWRI Book 3, Chap. B1. 1971. 26 pages.
- 3-B2 *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chap. B2. 1976. 172 pages.
- 3-B3 *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chap. B3. 1980. 106 pages.
- 3-B4 *Regression modeling of ground-water flow*, by Richard L. Cooley and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.
- 3-B5 *Definition of Boundary and Initial Conditions in the Analysis of Saturated Ground-Water Flow Systems--An Introduction*, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chap. B5. 1987. 15 pages.
- 3-B6 *The Principle of Superposition and its Application in Ground-Water Hydraulics*, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chap. B6. 1987. 28 pages.
- 3-C1 *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chap. C1. 1970. 55 pages.
- 3-C2 *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chap. C2. 1970. 59 pages.
- 3-C3 *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chap. C3. 1972. 66 pages.
- 4-A1 *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chap. A1. 1968. 39 pages.

- 4-A2 *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chap. A2. 1968. 15 pages.
- 4-B1 *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chap. B1. 1972. 18 pages.
- 4-B2 *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chap. B2. 1973. 20 pages.
- 4-B3 *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chap. B3. 1973. 15 pages.
- 4-D1 *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chap. D1. 1970. 17 pages.
- 5-A1 *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad, M. J. Fishman, L. C. Friedman, D. E. Erdmann, and S. S. Duncan, editors: USGS--TWRI Book 5, Chap. A1. 1979. 626 pages.
- 5-A2 *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chap. A2. 1971. 31 pages.
- 5-A3 *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chap. A3. 1972. 40 pages.
- 5-A4 *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chap. A4. 1977. 332 pages.
- 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, Chap. A5. 1977. 95 pages.
- 5-A6 *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chap. A6. 1982. 181 pages.
- 5-C1 *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chap. C1. 1969. 58 pages.
- 6-A1 *A modular three-dimensional finite-difference groundwater flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1, 1988. 586 pages.
- 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, Chap. C1. 1976. 116 pages.
- 7-C2 *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chap. C2. 1978. 90 pages.
- 7-C3 *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chap. C3. 1981. 110 pages.
- 8-A1 *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chap. A1. 1968. 23 pages.
- 8-A2 *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chap. A2. 1983. 57 pages.
- 8-B2 *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chap. B2. 1968. 15 pages.

The following remark codes may appear with the water-quality data in this report:

**Printed
Output**

Remark

E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Note: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (ug/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Present data above the ug/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey will begin using new trace-element protocols in the near future.

MERRIMACK RIVER BASIN

35

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 upstream from Fifth Street Bridge at Fitchburg and 1.8 mi upstream from Baker Brook.

DRAINAGE AREA.--63.4 mi².

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

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by mills and reservoirs upstream. Flow affected by diversions for municipal use.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	147	158	140	78	82	226	114	411	33	94	16
2	100	120	142	121	72	78	196	144	315	28	47	14
3	86	100	162	114	67	70	169	358	202	26	33	22
4	78	89	196	150	59	67	147	247	136	37	37	39
5	72	81	156	236	59	67	132	197	111	40	48	29
6	188	75	141	206	e52	69	118	160	645	46	33	25
7	221	73	125	171	52	128	113	159	364	38	26	23
8	164	70	124	143	53	249	110	131	280	31	23	23
9	141	65	190	121	55	186	103	136	260	61	92	22
10	138	64	243	118	e50	163	101	122	168	42	98	20
11	135	352	195	108	e54	297	106	108	120	53	69	38
12	201	364	170	93	e44	279	153	97	93	39	50	34
13	198	249	204	95	e44	186	137	95	76	34	36	29
14	197	208	321	190	48	138	118	97	64	32	36	23
15	151	195	354	197	47	113	104	81	54	49	34	38
16	158	188	247	e130	181	95	98	104	47	63	39	28
17	134	168	185	103	133	87	185	97	44	41	56	21
18	158	151	170	e96	105	81	219	85	40	38	219	18
19	126	142	e145	91	107	79	216	80	37	31	159	21
20	103	132	e135	e80	113	78	195	70	56	32	98	18
21	90	136	144	e75	94	75	178	63	86	27	66	17
22	86	429	137	e70	81	68	169	56	55	23	49	21
23	81	924	127	131	76	70	157	48	44	53	38	48
24	77	569	122	316	73	66	143	44	77	39	39	29
25	75	408	107	183	73	65	244	59	122	24	31	23
26	74	288	e100	e115	194	69	247	55	75	20	26	24
27	73	229	99	96	184	709	204	52	58	19	23	27
28	71	200	94	83	133	432	168	56	49	18	23	25
29	74	182	117	81	108	282	143	49	41	35	34	23
30	72	167	242	78	---	234	126	44	37	32	29	19
31	100	---	178	77	---	237	---	63	---	50	23	---
TOTAL	3741	6565	5230	4008	2489	4899	4725	3271	4167	1134	1708	757
MEAN	121	219	169	129	85.8	158	157	106	139	36.6	55.1	25.2
MAX	221	924	354	316	194	709	247	358	645	63	219	48
MIN	71	64	94	70	44	65	98	44	37	18	23	14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1992, BY WATER YEAR (WY)

MEAN	81.1	122	137	129	146	235	236	150	99.1	49.0	54.5	46.3
MAX	182	219	284	262	294	528	600	277	368	82.8	137	121
(WY)	1976	1976	1974	1979	1984	1983	1987	1984	1982	1973	1991	1991
MIN	24.7	31.3	43.6	24.6	34.6	84.1	84.1	63.2	36.1	27.4	15.8	15.8
(WY)	1981	1979	1981	1981	1980	1989	1985	1985	1985	1985	1987	1984

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1973 - 1992

ANNUAL TOTAL	50484.2	42694	
ANNUAL MEAN	138	117	124
HIGHEST ANNUAL MEAN			169
LOWEST ANNUAL MEAN			59.5
HIGHEST DAILY MEAN	1010	Apr 22	2830
LOWEST DAILY MEAN	9.2	Aug 7	7.9
ANNUAL SEVEN-DAY MINIMUM	18	Aug 3	12
INSTANTANEOUS PEAK FLOW			3510
INSTANTANEOUS PEAK STAGE			5.71
INSTANTANEOUS LOW FLOW			8.8
10 PERCENT EXCEEDS	245	220	258
50 PERCENT EXCEEDS	103	93	81
90 PERCENT EXCEEDS	26	29	26

e Estimated

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 upstream from Wekepeke Brook, 2.5 mi southeast of Leominster, and 6.1 mi upstream from confluence with Nashua River.

DRAINAGE AREA.--110 mi², includes 2.1 mi² above outlet of Ashby (Fitchburg) Reservoir.

PERIOD OF RECORD.--Discharge: September 1935 to current year.
Water-quality records: Water years 1955, 1958.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: Drainage area. WDR MA-RI-82-1: 1981.

GAGE.--Water-stage recorder. Datum of gage is 270.04 ft above sea level.

REMARKS.--Records good. 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 from the Southeast Well Field since 1958. Maximum discharge since at least 1850, that of Mar. 18, 1936.

REVISIONS.--The maximum discharge for water year 1978 has been revised to 2,400 ft³/s Jan. 9, 1978, superseding the figure published in the report for 1978; the peak discharge published for Jan. 26, 1978, was not the maximum for the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	195	232	263	230	136	141	376	188	890	74	163	50
2	170	189	238	199	127	141	322	218	569	67	92	43
3	148	158	272	189	119	135	283	675	327	62	72	70
4	136	141	354	265	112	128	252	399	220	89	93	96
5	123	129	275	412	112	126	230	300	179	88	103	68
6	342	122	240	345	104	130	209	249	1300	102	70	58
7	394	117	219	282	101	230	198	235	747	86	60	56
8	265	113	225	238	103	381	195	212	496	72	54	55
9	215	106	339	206	102	276	185	232	555	124	277	56
10	203	107	428	203	92	245	183	205	303	90	198	50
11	198	631	344	185	99	506	188	184	223	105	128	84
12	293	691	296	154	92	486	254	167	180	79	97	68
13	257	454	344	162	86	311	229	161	153	73	77	62
14	256	361	590	354	97	237	199	164	132	71	86	54
15	200	322	630	351	94	202	180	144	117	103	75	66
16	228	299	425	e220	396	174	172	183	105	127	93	61
17	203	264	316	e175	225	163	332	166	98	89	136	52
18	248	236	286	160	169	155	376	149	92	79	476	46
19	199	217	244	150	171	156	353	141	86	69	280	49
20	167	205	224	125	174	154	311	126	102	71	176	49
21	155	215	238	118	151	149	281	115	153	64	129	44
22	140	719	222	117	137	141	262	105	111	58	104	45
23	126	1460	209	291	132	148	247	93	93	93	86	111
24	120	956	202	598	128	138	230	85	143	91	82	64
25	120	715	175	279	129	137	398	117	206	62	77	53
26	117	500	165	194	353	146	400	103	137	54	65	58
27	115	389	166	165	286	1080	318	96	111	53	61	69
28	111	332	160	145	211	697	262	102	103	53	58	59
29	110	304	211	140	179	481	229	90	89	76	70	53
30	105	280	413	137	---	388	205	81	79	86	64	47
31	153	---	297	137	---	409	---	117	---	110	56	---
TOTAL	5812	10964	9010	6926	4417	8391	7859	5602	8099	2520	3658	1796
MEAN	187	365	291	223	152	271	262	181	270	81.3	118	59.9
MAX	394	1460	630	598	396	1080	400	675	1300	127	476	111
MIN	105	106	160	117	86	126	172	81	79	53	54	43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1992, BY WATER YEAR (WY)

MEAN	112	173	199	205	225	376	412	244	164	90.7	83.2	89.1
MAX	606	485	520	465	534	1289	1126	503	642	392	286	595
(WY)	1956	1956	1987	1956	1970	1936	1987	1984	1982	1938	1938	1938
MIN	39.4	44.4	58.6	50.3	63.7	140	133	85.4	64.3	42.9	38.1	36.7
(WY)	1942	1950	1966	1981	1980	1965	1985	1965	1964	1936	1941	1984

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1935 - 1992

ANNUAL TOTAL	88450	75054	
ANNUAL MEAN	242	205	197
HIGHEST ANNUAL MEAN			307
LOWEST ANNUAL MEAN			81.2
HIGHEST DAILY MEAN	1540	1460	7530
LOWEST DAILY MEAN	34	43	22
ANNUAL SEVEN-DAY MINIMUM	44	49	32
INSTANTANEOUS PEAK FLOW		1860	16300
INSTANTANEOUS PEAK STAGE		4.64	20.53
INSTANTANEOUS LOW FLOW		34	11
10 PERCENT EXCEEDS	448	383	410
50 PERCENT EXCEEDS	189	157	125
90 PERCENT EXCEEDS	59	66	50

e Estimated

MERRIMACK RIVER BASIN

37

01095500 NASHUA RIVER AT CLINTON, MA

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

DRAINAGE AREA.--107.69 mi², since July 1937.

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

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

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

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

AVERAGE DISCHARGE.--96 years, 190 ft³/s, 23.96 in/yr, adjusted to present drainage area.

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Mean	Per square mile	Runoff, in inches
October.....	133	1.24	1.43
November.....	313	2.91	3.24
December.....	268	2.49	2.87
Calendar year 1990.....	219	2.03	27.63
January.....	215	2.00	2.31
February.....	150	1.39	1.50
March.....	278	2.58	2.98
April.....	254	2.36	2.63
May.....	179	1.66	1.92
June.....	219	2.03	2.27
July.....	41.0	.38	.44
August.....	191	1.77	2.04
September.....	-1.70	-.02	-.02
Water year 1991.....	187	1.74	23.61

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

MERRIMACK RIVER BASIN

01096000 SQUANNAHOOK 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 downstream from Trout Brook and 2.7 mi northwest of West Groton.

DRAINAGE AREA.--63.7 mi², excludes 2.16 mi², above outlet of Ashby Reservoir.

PERIOD OF RECORD.--Discharge: October 1949 to current year.

Water-quality records: Water year 1957.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 244.27 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional regulation at low flow by mill upstream; regulation greater prior to 1961. Entire flow from 2.16 mi² upstream from outlet of Ashby Reservoir diverted for municipal supply of Fitchburg except for occasional periods of spill.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	126	179	e170	93	87	229	132	271	56	61	20
2	93	156	164	139	84	95	203	123	704	48	70	18
3	84	126	166	127	78	89	177	227	358	43	47	19
4	76	103	190	132	76	86	154	256	202	48	39	28
5	70	90	188	244	74	84	142	193	143	66	46	30
6	90	82	156	275	e67	88	131	153	397	69	40	31
7	229	77	142	212	65	100	128	133	769	71	32	27
8	195	73	136	172	67	215	122	118	383	57	27	24
9	132	71	146	145	65	203	116	120	392	62	44	23
10	102	69	221	135	e59	171	111	123	268	77	81	21
11	89	175	216	126	61	205	112	112	181	69	73	24
12	96	627	183	e98	58	331	129	101	141	66	52	25
13	128	432	183	104	53	223	136	97	114	53	39	24
14	108	295	293	140	55	163	126	91	97	46	35	22
15	90	243	426	243	56	135	113	85	85	48	34	20
16	95	217	321	e160	108	116	108	87	75	70	35	19
17	101	196	216	e110	194	108	155	93	67	70	42	17
18	118	168	182	109	139	102	291	87	60	56	107	16
19	134	150	e160	e88	119	101	267	80	53	48	183	19
20	108	140	e140	82	127	94	233	74	53	49	110	18
21	91	134	147	78	109	95	206	71	288	52	73	17
22	85	234	146	77	95	90	192	64	228	43	54	17
23	78	805	138	84	89	90	174	57	124	39	45	21
24	75	721	132	231	87	85	155	53	96	41	38	23
25	74	484	115	244	83	85	219	56	145	39	33	23
26	71	344	e98	e160	132	86	290	60	127	34	29	23
27	69	261	103	e100	218	229	233	56	93	31	27	27
28	69	222	100	99	161	389	188	51	85	29	25	28
29	69	207	103	93	127	256	159	52	79	26	23	27
30	63	189	204	92	---	214	142	51	66	25	22	24
31	70	---	237	92	---	215	---	47	---	27	22	---
TOTAL	3056	7217	5531	4361	2799	4630	5141	3103	6144	1558	1588	675
MEAN	98.6	241	178	141	96.5	149	171	100	205	50.3	51.2	22.5
MAX	229	805	426	275	218	389	291	256	769	77	183	31
MIN	63	69	98	77	53	84	108	47	53	25	22	16
CFSM	1.55	3.78	2.80	2.21	1.52	2.34	2.69	1.57	3.22	.79	.80	.35
IN.	1.78	4.21	3.23	2.55	1.63	2.70	3.00	1.81	3.59	.91	.93	.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1887 - 1992, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1887	53.1	296	1956	9.41	1965
1888	100	304	1956	12.6	1965
1889	119	301	1987	22.7	1966
1890	117	323	1956	20.1	1981
1891	130	328	1970	33.6	1980
1892	224	554	1983	81.5	1989
1893	274	654	1987	75.8	1985
1894	148	343	1954	51.9	1965
1895	82.2	315	1982	21.0	1965
1896	37.5	84.7	1951	8.26	1965
1897	30.5	98.8	1986	6.21	1966
1898	32.3	245	1954	6.80	1965

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1887 - 1992

	ANNUAL TOTAL	ANNUAL MEAN	HIGHEST ANNUAL MEAN	LOWEST ANNUAL MEAN	HIGHEST DAILY MEAN	LOWEST DAILY MEAN	ANNUAL SEVEN-DAY MINIMUM	INSTANTANEOUS PEAK FLOW	INSTANTANEOUS PEAK STAGE	INSTANTANEOUS LOW FLOW	ANNUAL RUNOFF (CFSM)	ANNUAL RUNOFF (INCHES)	10 PERCENT EXCEEDS	50 PERCENT EXCEEDS	90 PERCENT EXCEEDS
1991	51081	140			964	12	14				2.20	29.83	269	108	21
1992	45803	125			805	16	18	1070	5.51	16	1.96	26.75	232	96	28
1887-1992			112	174	3420	2.0	4.3	4220	8.16		1.76	23.91	252	68	15
			35.9		Apr 6 1987	Sep 7 1965	Aug 28 1966	Nov 23 1987	Apr 6 1987	Sep 17 1987					

e Estimated

MERRIMACK RIVER BASIN

39

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 downstream from powerplant of James River-Pepperell Co. at East Pepperell and 0.8 mi upstream from Nissitissit River.

DRAINAGE AREA.--Total above gage, 435 mi², net above gage, 316 mi², flow diverted from 119 mi², 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.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 169.04 ft above sea level.

REMARKS.--Records good. Extremes and daily discharge include water released while diverting flow of Nashua River for use of Boston metropolitan district and water diverted into basin from Ware River basin since 1955 for municipal use of Fitchburg. Prior to October 1981, water diverted around station through plant of James River-Pepperell Co. was added to daily figures. Flow regulated by powerplant immediately upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	791	486	927	862	508	590	1120	630	670	351	173	227
2	669	640	887	751	483	514	1040	595	1780	243	243	180
3	586	600	885	666	444	500	949	986	1810	212	299	162
4	520	512	966	665	425	478	860	1270	1150	211	265	163
5	482	491	1010	965	406	461	780	1040	817	165	263	167
6	512	443	892	1140	378	455	726	878	1150	233	309	167
7	854	404	808	1030	368	497	668	762	2330	305	247	167
8	974	391	760	888	365	842	623	687	2300	120	184	167
9	807	387	814	777	365	984	594	679	1760	184	169	164
10	669	374	1060	714	360	884	568	685	1470	258	441	162
11	595	439	1130	672	356	916	561	615	1070	376	506	148
12	610	1300	1020	594	354	1310	633	552	848	371	427	165
13	675	1670	964	547	348	1230	694	505	691	357	385	164
14	653	1310	1130	636	255	955	641	490	586	271	362	163
15	619	1050	1540	1040	301	786	579	470	504	257	245	161
16	573	958	1540	940	458	681	536	455	443	258	210	160
17	591	867	1210	658	948	615	664	490	385	268	278	157
18	635	786	1000	590	770	575	992	460	362	232	468	157
19	685	711	898	514	646	557	1050	429	360	172	987	132
20	620	661	813	451	631	545	973	386	258	240	808	57
21	502	638	794	423	596	510	884	381	197	272	586	32
22	566	884	802	407	531	528	820	364	604	251	331	34
23	496	1860	768	427	484	501	769	347	495	239	341	159
24	456	2840	737	1090	464	493	696	283	382	234	408	219
25	444	2570	687	1330	450	472	790	253	453	164	349	215
26	443	1920	607	955	632	467	1030	288	524	79	296	160
27	388	1430	577	701	1040	801	1020	317	443	41	270	138
28	379	1040	560	601	901	1630	886	306	383	191	211	151
29	355	920	548	548	727	1580	775	279	332	197	162	162
30	365	859	809	520	---	1220	691	205	356	140	90	161
31	386	---	1010	510	---	1090	---	210	---	156	175	---
TOTAL	17900	29441	28153	22612	14994	23667	23612	16297	24913	7048	10488	4621
MEAN	577	981	908	729	517	763	787	526	830	227	338	154
MAX	974	2840	1540	1330	1040	1630	1120	1270	2330	376	987	227
MIN	355	374	548	407	255	455	536	205	197	41	90	32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1992, BY WATER YEAR (WY)

	306	481	586	590	665	1130	1233	725	494	257	221	237
MEAN	306	481	586	590	665	1130	1233	725	494	257	221	237
MAX	1356	1781	1535	1417	1544	3930	3676	1382	1976	1366	966	1671
(WY)	1956	1956	1987	1979	1970	1936	1987	1953	1982	1938	1938	1938
MIN	91.1	108	134	116	186	386	369	236	154	90.0	71.3	84.2
(WY)	1942	1965	1966	1981	1980	1989	1985	1965	1941	1966	1966	1941

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1936 - 1992

ANNUAL TOTAL	245810	223746	
ANNUAL MEAN	673	611	576
HIGHEST ANNUAL MEAN			969
LOWEST ANNUAL MEAN			214
HIGHEST DAILY MEAN	3090	2840	19400
LOWEST DAILY MEAN	40	32	1.1
ANNUAL SEVEN-DAY MINIMUM	108	104	14
INSTANTANEOUS PEAK FLOW		2990	20900
INSTANTANEOUS PEAK STAGE		6.19	19.10
INSTANTANEOUS LOW FLOW		13	
10 PERCENT EXCEEDS	1230	1040	1240
50 PERCENT EXCEEDS	591	529	364
90 PERCENT EXCEEDS	140	171	97

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 downstream side of Tyngsboro bridge on State Highway 113, 6.2 mi upstream from Pawtucket Dam, and 2 mi 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 TEMPERATURE: 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) or by discharge measurements on the day of sampling.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)
OCT 30...	0830	4040	96	--	15.0	9.0	1.4	725	--	--
MAR 10...	1200	8020	123	--	8.0	4.0	1.9	760	12.8	98
APR 06...	1230	7110	94	--	9.0	6.0	15	720	13.9	118
MAY 12...	1350	8870	86	7.1	22.0	14.0	1.4	767	10.5	101
JUN 18...	1020	8080	110	7.0	26.0	22.5	2.4	767	8.5	97
AUG 20...	1130	9200	125	7.1	21.0	20.5	1.0	762	7.8	87

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOC- CI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (MG/L AS K) (00932)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00931)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	
OCT 30...	57	--	17	5.0	0.97	11	57	1	1.1	0
MAR 10...	36	20	19	5.8	1.1	15	61	1	1.3	0
APR 06...	84	110	14	4.2	0.81	11	61	1	1.1	0
MAY 12...	K14	K5	13	4.1	0.77	9.5	58	1	1.0	0
JUN 18...	39	210	43	13	2.5	21	50	1	1.8	0
AUG 20...	80	K18	22	6.8	1.2	15	58	1	1.5	0

DATE	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	HY- DROXIDE WATER DIS IT FIELD MG/L AS OH (71834)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00613)
OCT 30...	12	0	10	7.0	16	0.20	6.3	61	55	<0.010
MAR 10...	12	0	10	7.9	22	0.20	6.2	72	67	<0.010
APR 06...	9	0	7	6.7	18	<0.10	4.9	64	52	<0.010
MAY 12...	8	0	7	6.9	15	0.20	4.6	62	47	0.010
JUN 18...	13	0	11	9.9	36	0.10	6.2	127	100	0.040
AUG 20...	16	0	13	7.3	22	<0.10	5.2	78	69	0.010

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01096550 MERRIMACK RIVER ABOVE LOWELL, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT 30...	0.230	0.160	0.50	0.060	0.050	0.010	50	23	<3	160
MAR 10...	0.310	0.210	0.50	0.050	<0.010	0.020	--	--	--	--
APR 06...	0.210	0.120	0.30	0.030	0.020	0.010	50	15	<3	96
MAY 12...	0.170	0.110	0.20	0.020	0.020	0.030	--	--	--	--
JUN 18...	0.390	0.130	0.50	0.080	0.050	0.050	120	33	40	620
AUG 20...	0.490	0.140	0.40	0.060	0.020	0.030	--	--	--	--

[illegible]

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 upstream from bridge on State Highway 27, 1.7 mi downstream from Assabet Brook, and 7.1 mi upstream from confluence with Sudbury River.

DRAINAGE AREA.--116 mi².

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 above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional diurnal fluctuation at low flow by mills upstream; greater regulation prior to 1969. Since 1962, high flow affected by retarding reservoirs and, since 1970, occasional release at low flow by these reservoirs. Maximum discharge since at least 1886, that of Aug. 20, 1955.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	117	298	241	167	199	293	221	200	62	70	53
2	186	149	285	208	158	175	285	213	406	54	78	50
3	165	149	297	193	146	171	270	293	438	36	84	53
4	145	137	324	214	137	167	242	360	315	47	52	83
5	134	109	342	312	133	165	223	342	212	59	67	115
6	150	90	321	363	e125	163	211	282	334	93	65	114
7	185	80	281	332	117	175	203	248	482	100	55	94
8	186	77	262	274	118	240	197	225	484	94	45	75
9	167	80	285	236	e120	279	189	226	383	94	74	66
10	136	91	346	217	e115	263	184	236	286	102	155	63
11	113	111	385	206	e115	285	184	228	215	122	164	66
12	106	157	358	180	e110	382	206	202	173	103	158	68
13	105	163	331	167	e110	402	220	185	146	97	149	64
14	102	164	350	200	e110	338	218	176	126	82	128	58
15	92	163	390	275	e130	267	199	163	108	95	107	54
16	83	159	384	283	e235	232	186	159	100	139	105	34
17	81	155	350	e240	327	210	220	160	92	98	130	31
18	94	153	314	e200	278	197	348	151	78	145	231	40
19	105	151	273	e185	220	184	393	140	74	111	303	52
20	92	147	250	e170	208	182	370	130	59	46	304	48
21	80	137	247	e160	188	180	327	116	69	59	241	43
22	73	152	256	e150	168	181	287	109	84	57	172	41
23	68	239	252	e170	156	179	269	99	77	45	126	56
24	64	549	246	e300	152	179	240	90	71	58	100	74
25	63	599	228	e400	148	172	252	90	104	46	73	76
26	63	545	202	e380	208	169	322	90	129	47	69	76
27	63	454	187	e310	311	221	345	87	123	48	66	94
28	60	380	185	e265	310	319	307	82	111	41	64	89
29	57	339	192	e230	252	361	272	64	97	40	72	79
30	54	320	238	e200	---	327	240	52	74	50	71	68
31	72	---	268	e180	---	298	---	47	---	38	61	---
TOTAL	3345	6316	8927	7441	5072	7262	7702	5266	5650	2308	3639	1977
MEAN	108	211	288	240	175	234	257	170	188	74.5	117	65.9
MAX	201	599	390	400	327	402	393	360	484	145	304	115
MIN	54	77	185	150	110	163	184	47	59	36	45	3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1992, BY WATER YEAR (WY)

MEAN	88.0	152	188	210	243	400	375	236	154	71.8	62.2	63.3
MAX	375	542	476	670	696	776	1052	443	788	254	561	542
(WY)	1956	1956	1987	1979	1970	1983	1987	1954	1982	1959	1955	1954
MIN	9.92	22.1	35.6	37.6	72.5	143	127	114	39.0	11.6	5.18	5.00
(WY)	1958	1950	1950	1966	1965	1989	1966	1986	1949	1966	1966	1957

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1941 - 1992

ANNUAL TOTAL	67935		64905				
ANNUAL MEAN	186		177		187		
HIGHEST ANNUAL MEAN					296		1984
LOWEST ANNUAL MEAN					73.3		1966
HIGHEST DAILY MEAN	751	Apr 23	599	Nov 25	3650		Aug 20 1955
LOWEST DAILY MEAN	17	Aug 9	31	Sep 17	.20		Feb 7 1965
ANNUAL SEVEN-DAY MINIMUM	22	Jul 19	41	Sep 16	1.0		Feb 2 1965
INSTANTANEOUS PEAK FLOW			614	Nov 24	4250		Aug 20 1955
INSTANTANEOUS PEAK STAGE			3.95	Nov 24	8.96		Aug 20 1955
INSTANTANEOUS LOW FLOW			18	Jul 20			
10 PERCENT EXCEEDS	350		327		415		
50 PERCENT EXCEEDS	165		161		125		
90 PERCENT EXCEEDS	41		59		24		

e Estimated

MERRIMACK RIVER BASIN

43

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 downstream from dam at North Acton, 2.2 mi northeast of Acton, and 5 mi upstream from mouth.

DRAINAGE AREA.--12.8 mi².

PERIOD OF RECORD.--Discharge: Occasional low-flow measurements, water years 1962-63. July 1963 to current year.
Water quality records: Water years 1972-74, 1976-78.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 155 ft above sea level, from topographic map.

REMARKS.--Records good. Occasional regulation since 1967 by pond upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	24	29	23	15	18	48	18	31	4.2	3.6	2.5
2	14	32	26	18	e13	18	41	18	82	3.7	5.2	2.1
3	12	26	25	17	12	17	34	48	57	3.1	3.5	1.9
4	11	19	32	21	10	16	28	67	29	2.9	2.7	5.0
5	8.3	15	37	50	9.9	16	25	42	16	3.0	7.7	7.9
6	15	14	28	58	9.3	16	23	29	39	3.9	13	5.3
7	34	12	25	41	8.7	20	22	23	79	5.7	4.9	4.2
8	32	11	24	29	8.6	41	21	21	54	4.6	3.5	4.0
9	20	9.9	30	22	8.8	40	19	22	30	4.7	4.2	3.6
10	15	9.6	48	22	8.3	32	18	24	19	6.8	20	3.4
11	13	14	51	21	7.7	42	18	20	14	5.3	15	3.2
12	12	36	42	e16	7.7	84	26	17	11	4.9	8.3	3.4
13	14	42	40	15	6.9	67	29	16	6.9	3.9	5.7	3.3
14	12	32	55	22	6.6	40	22	15	6.9	3.2	4.7	2.9
15	10	24	76	39	7.2	30	20	14	6.7	2.7	4.7	2.5
16	11	20	68	33	31	25	17	15	5.9	4.6	4.6	2.1
17	12	18	45	17	61	23	30	15	5.0	5.2	11	1.8
18	18	15	34	13	32	23	57	14	4.5	4.1	33	1.6
19	23	14	30	11	25	22	49	13	4.1	3.4	56	1.7
20	17	14	27	9.1	25	20	36	11	4.0	3.1	36	1.7
21	11	13	26	8.4	21	22	29	9.9	4.0	3.2	17	1.5
22	9.0	32	28	8.1	18	21	25	8.9	4.0	2.9	9.2	1.5
23	9.2	77	27	10	16	21	24	8.0	3.4	2.2	6.7	2.0
24	8.7	87	26	51	16	20	22	6.8	3.1	2.1	5.4	2.8
25	8.1	68	21	56	15	19	31	7.0	7.2	2.1	4.5	2.3
26	7.7	55	18	27	34	20	41	7.6	7.5	2.1	4.1	2.3
27	7.7	44	16	15	63	42	35	6.5	6.0	1.9	3.8	7.2
28	7.7	37	16	13	43	66	26	5.5	13	1.7	3.5	6.1
29	7.8	34	16	13	28	57	21	5.1	8.0	1.5	3.5	4.1
30	8.6	31	31	13	---	48	19	4.3	5.2	2.0	3.5	3.1
31	9.7	---	e34	14	---	42	---	4.3	---	2.6	3.2	---
TOTAL	415.5	879.5	1031	725.6	567.7	988	856	535.9	566.4	107.3	311.7	97.0
MEAN	13.4	29.3	33.3	23.4	19.6	31.9	28.5	17.3	18.9	3.46	10.1	3.23
MAX	34	87	76	58	63	84	57	67	82	6.8	56	7.9
MIN	7.7	9.6	16	8.1	6.6	16	17	4.3	3.1	1.5	2.7	1.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

MEAN	9.03	18.2	22.6	25.1	30.2	45.7	41.3	25.1	15.6	6.30	4.64	4.08
MAX	29.3	47.3	55.2	101	88.7	96.9	93.6	57.0	72.5	19.2	19.2	15.7
(WY)	1976	1976	1987	1979	1976	1977	1987	1978	1982	1982	1991	1991
MIN	.63	1.20	2.34	2.58	6.30	15.1	12.7	8.59	2.96	.68	.17	.27
(WY)	1969	1966	1966	1966	1980	1989	1966	1965	1964	1966	1966	1965

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1963 - 1992

ANNUAL TOTAL	7506.65	7081.6	
ANNUAL MEAN	20.6	19.3	20.6
HIGHEST ANNUAL MEAN			36.1 1978
LOWEST ANNUAL MEAN			7.09 1965
HIGHEST DAILY MEAN	168 Aug 20	87 Nov 24	560 Jan 26 1979
LOWEST DAILY MEAN	.18 Jul 24	1.5 Jul 29	.05 Sep 6 1968
ANNUAL SEVEN-DAY MINIMUM	.24 Jul 20	1.7 Sep 17	.11 Aug 28 1966
INSTANTANEOUS PEAK FLOW		92 Nov 24	679 Jan 26 1979
INSTANTANEOUS PEAK STAGE		3.57 Nov 24	5.73 Jan 26 1979
INSTANTANEOUS LOW FLOW		1.4 Sep 21	.02 Sep 6 1968
10 PERCENT EXCEEDS	44	42	50
50 PERCENT EXCEEDS	14	15	11
90 PERCENT EXCEEDS	1.6	3.2	1.4

e Estimated

MERRIMACK RIVER BASIN

01098530 SUDBURY RIVER AT SAXONVILLE, MA

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

DRAINAGE AREA.--106 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 110.55 ft above sea level (Massachusetts Department of Public Works benchmark).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by reservoirs upstream and affected by diversions and spill. Flow diverted as needed for use of Boston metropolitan district. Part of flow from Wachusett Reservoir on Nashua River is diverted into Sudbury Reservoir en route to Boston metropolitan district.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	403	401	311	165	212	170	375	284	254	e128	69	120
2	373	442	298	152	212	172	349	290	204	e103	39	108
3	346	412	340	148	206	230	327	412	165	e94	25	120
4	306	375	407	197	200	227	303	345	139	e93	21	148
5	224	334	381	281	197	225	290	319	110	e75	21	94
6	265	290	357	259	189	221	276	296	334	e112	17	82
7	316	256	334	267	186	256	255	269	370	e77	14	78
8	273	242	327	245	185	267	243	236	341	e75	13	75
9	256	225	344	225	183	260	234	246	343	e112	66	80
10	187	219	365	222	151	256	230	237	319	e83	52	73
11	91	315	341	208	112	372	235	214	265	e69	43	107
12	128	399	320	190	108	430	273	201	232	e58	97	85
13	94	380	308	183	92	393	258	186	206	e58	35	77
14	79	359	322	226	69	358	248	154	190	e56	50	73
15	70	331	335	240	69	324	238	144	174	e66	83	68
16	101	308	326	214	257	298	230	144	160	e64	123	31
17	87	283	305	194	183	282	322	139	151	e44	179	17
18	114	264	289	185	194	271	340	118	143	e37	376	15
19	99	238	270	163	251	276	337	73	e135	e30	443	17
20	85	225	257	157	290	277	326	68	e132	e25	397	14
21	76	222	260	136	210	265	311	62	126	e22	317	12
22	70	327	261	128	193	244	296	55	125	e18	203	11
23	65	502	254	195	186	238	297	50	e125	e20	177	31
24	63	472	254	408	175	232	278	44	e146	e25	159	16
25	62	479	239	350	151	226	353	46	e177	e23	145	12
26	59	439	228	322	230	227	376	42	e153	e20	137	32
27	57	397	198	286	227	396	364	36	e148	19	136	83
28	52	365	136	258	214	388	339	31	e144	20	179	53
29	48	341	147	245	199	397	319	30	e135	20	189	37
30	45	324	202	238	---	378	298	33	e128	16	176	27
31	169	---	189	215	---	388	---	36	---	20	170	---
TOTAL	4663	10166	8905	6902	5331	8944	8920	4840	5774	1682	4151	1796
MEAN	150	339	287	223	184	289	297	156	192	54.3	134	59.9
MAX	403	502	407	408	290	430	376	412	370	128	443	148
MIN	45	219	136	128	69	170	230	30	110	16	13	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1992, BY WATER YEAR (WY)

	MEAN	110	187	218	191	244	308	363	216	198	76.5	99.7	68.5
MAX	346	385	465	471	480	757	920	920	340	739	146	192	147
(WY)	1990	1990	1987	1982	1990	1983	1987	1990	1982	1984	1989	1989	1989
MIN	41.5	72.2	93.1	59.5	67.6	121	98.7	75.2	43.2	32.7	27.8	23.6	23.6
(WY)	1987	1985	1983	1981	1980	1985	1985	1986	1981	1983	1983	1983	1983

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1980 - 1992

ANNUAL TOTAL	74057		72074										
ANNUAL MEAN	203		197										
HIGHEST ANNUAL MEAN											192		
LOWEST ANNUAL MEAN											253		1984
HIGHEST DAILY MEAN	977	Aug 20									96.6		1985
LOWEST DAILY MEAN	17	Sep 14									2250	Jun 7	1982
ANNUAL SEVEN-DAY MINIMUM	20	Sep 12									9.5	Aug 25	1983
INSTANTANEOUS PEAK FLOW											12	Sep 24	1984
INSTANTANEOUS PEAK STAGE											2420	Jun 7	1982
INSTANTANEOUS LOW FLOW											13.47	Apr 8	1987
10 PERCENT EXCEEDS	399										406		
50 PERCENT EXCEEDS	187										130		
90 PERCENT EXCEEDS	33										38		

e Estimated

MERRIMACK RIVER BASIN

45

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 downstream from Rogers Street Bridge at Lowell, 0.3 mi downstream from River Meadow Brook, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--Total above gage, 400 mi²; net above gage, 307 mi² - diversion as needed from 92.6 mi² 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.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 67.41 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Low flow regulated by mills upstream. Daily discharge includes undiverted water from 92.6 mi² in basins of Sudbury River and Lake Cochituate. Prior to December 1961, diversion upstream for use of city of Lowell. Maximum gage height of 9.60 ft also occurred Apr. 10, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1270	430	1160	784	738	850	1230	942	454	328	163	311
2	1190	566	1110	764	714	797	1210	915	625	275	146	275
3	1090	643	1090	745	686	763	1180	1100	724	271	197	276
4	1010	712	1110	732	646	739	1140	1050	794	253	200	333
5	942	725	1110	871	625	727	1080	1060	765	243	226	320
6	905	e720	1090	913	583	710	1030	1060	913	254	181	325
7	915	e690	1070	935	561	732	995	1030	963	267	137	336
8	879	e660	1050	949	549	795	950	967	1010	277	175	306
9	867	637	1050	935	e500	831	909	934	1050	301	177	280
10	838	625	1100	913	e450	866	867	895	1020	300	227	269
11	778	668	1100	858	473	987	828	855	965	287	293	272
12	741	732	1120	804	457	1120	836	823	899	281	314	245
13	699	797	1120	777	445	1140	842	787	824	279	323	243
14	643	851	1160	790	414	1170	847	744	752	236	332	243
15	600	892	1260	831	389	1140	838	699	667	226	331	228
16	552	899	e1300	812	565	1090	827	669	593	244	317	206
17	524	878	e1350	763	731	1040	904	633	535	266	338	184
18	508	858	e1250	e710	808	999	945	608	499	271	526	161
19	535	824	e1100	e690	841	949	993	564	437	262	603	175
20	523	797	e1050	636	834	929	1030	525	406	250	662	129
21	499	771	e1050	568	821	886	1050	488	371	236	701	164
22	460	851	e1050	536	793	857	1030	432	347	169	698	121
23	454	1060	e1000	552	760	850	999	412	330	164	663	197
24	408	1160	949	797	731	830	966	367	325	177	614	101
25	410	1290	920	846	706	809	987	366	340	164	553	182
26	379	1340	871	899	796	795	1000	331	340	153	494	152
27	342	1360	830	906	865	892	1020	299	371	124	449	203
28	320	1340	804	856	890	976	1020	299	438	118	383	256
29	310	1290	777	814	882	1110	1010	275	367	138	367	266
30	293	1210	804	775	---	1170	984	256	369	132	344	255
31	322	---	804	764	---	1220	---	255	---	117	324	---
TOTAL	20206	26276	32609	24525	19253	28769	29547	20640	18493	7063	11458	7014
MEAN	652	876	1052	791	664	928	985	666	616	228	370	234
MAX	1270	1360	1350	949	890	1220	1230	1100	1050	328	701	336
MIN	293	430	777	536	389	710	827	255	325	117	137	101

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1992, BY WATER YEAR (WY)

	MEAN	315	528	690	709	847	1251	1272	801	524	266	243	238
MAX	1257	1866	1587	1996	1856	2510	3149	1599	2502	1512	1403	1694	
(WY)	1956	1956	1984	1979	1970	1983	1987	1954	1982	1938	1955	1954	
MIN	38.3	86.9	133	150	230	479	377	283	116	50.0	33.1	25.4	
(WY)	1942	1966	1966	1981	1980	1989	1966	1941	1964	1949	1966	1957	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1937 - 1992

ANNUAL TOTAL	250487	245853	
ANNUAL MEAN	686	672	639
HIGHEST ANNUAL MEAN			1112
LOWEST ANNUAL MEAN			242
HIGHEST DAILY MEAN	1480	Aug 23	5340
LOWEST DAILY MEAN	49	Aug 9	4.0
ANNUAL SEVEN-DAY MINIMUM	71	Jul 19	16
INSTANTANEOUS PEAK FLOW			5410
INSTANTANEOUS PEAK STAGE			6.34
INSTANTANEOUS LOW FLOW			25
10 PERCENT EXCEEDS	1190	1090	1380
50 PERCENT EXCEEDS	741	731	480
90 PERCENT EXCEEDS	123	241	101

e Estimated

MERRIMACK RIVER BASIN

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 downstream from Concord River.

DRAINAGE AREA.--Total above gage, 4,635 mi²; net above gage, 4,425 mi² - diversions as needed from 210 mi² 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.

GAGE.--Water-stage recorder. Datum of gage is 5.18 ft above sea level. Prior to Mar. 7, 1934, at Boott Mills, 1,800 ft upstream and 700 ft above mouth of Concord River, in same gage pool and at same datum; gage-height record (provided 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 mi² in basins of Sudbury and Nashua Rivers and Lake Cochituate. Flow regulated by powerplants, by Franklin Falls Reservoir since 1942, and by Squam, Newfound, Winnepesaukee, Winnisquam, and other lakes and reservoirs upstream. Maximum discharge since 1735, that of Mar. 20, 1936.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10100	6460	11900	13800	7360	4900	14800	11800	6450	3000	3110	2780
2	8670	6760	10900	12500	6350	6210	13200	11000	10300	2660	2920	3660
3	8720	7500	10600	10800	5650	5620	11700	12200	13800	2710	3030	2560
4	9330	6930	10700	10500	6380	5710	11700	17300	11700	2400	3740	2640
5	8690	6360	11000	10500	5830	4930	10300	17400	8980	3060	3600	3910
6	7380	6130	10300	13000	5640	5180	9450	14700	9420	3330	3510	4940
7	10700	5970	8850	13800	5440	5560	7610	13800	13000	4790	4130	4440
8	18500	6040	9400	13300	4960	7420	8810	13800	15300	4750	3610	3980
9	17400	4520	9460	12200	5130	8880	8130	11600	14500	4070	3530	3510
10	13300	5530	10200	11100	5340	9200	8750	10900	12600	4260	3720	3310
11	11100	6820	11000	10100	4820	9940	8900	10400	10400	4640	4520	3430
12	9550	10600	10600	7640	5040	16400	9540	9980	8350	4910	4330	3170
13	10200	14200	10100	9230	4040	23200	9760	9640	7160	3520	4150	3300
14	11000	13300	12000	8360	4370	21200	9370	8900	6030	3510	3730	3280
15	10200	12200	15300	10500	4420	15400	8070	8520	5360	4290	3170	3050
16	10100	10900	17900	11500	6190	12200	7940	8650	4320	5180	2990	2280
17	9890	9930	16700	11300	7710	10500	9160	8130	3500	5680	2900	2100
18	12700	9870	13300	11800	8270	8830	10400	7580	4310	5230	4570	2160
19	11800	9230	11100	10400	7620	7730	10600	6630	3370	4730	5570	2130
20	9770	8530	10200	9770	7150	7150	10600	6180	3250	4910	5450	2060
21	8760	8210	10500	9430	7500	7150	11500	6400	3750	5180	4960	2160
22	9700	8990	10900	6370	7170	6640	15500	5610	4270	5120	4320	1760
23	9780	15800	10200	7040	6550	6430	19500	4820	4160	4780	3540	2700
24	7730	22600	9570	9720	6480	5070	21400	5320	3410	3650	3520	3190
25	6030	23500	8840	12200	5780	5390	21400	5570	4070	3850	2900	2880
26	5930	21000	7950	11700	6920	5500	21100	5460	3880	2900	2700	3830
27	5520	18200	7670	10900	8080	8370	19100	4800	4150	3010	2770	2560
28	5490	15700	7730	9450	6880	15100	15800	4260	4250	2200	2490	4470
29	5790	13800	7880	8350	6970	22600	13600	3910	3810	2550	3000	3550
30	5780	12500	9710	6800	---	20700	12900	3550	3520	2080	2580	3350
31	5740	---	12300	7310	---	16700	---	3170	---	2400	3050	---
TOTAL	295350	328080	334760	321370	180040	315810	370590	271980	211370	119350	112110	93140
MEAN	9527	10940	10800	10370	6208	10190	12350	8774	7046	3850	3616	3105
MAX	18500	23500	17900	13800	8270	23200	21400	17400	15300	5680	5570	4940
MIN	5490	4520	7670	6370	4040	4900	7610	3170	3250	2080	2490	1760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1992, BY WATER YEAR (WY)

	MEAN	4064	6474	7464	6890	7416	12890	19220	11690	6330	3354	2865	3022
MAX	12730	17690	19530	18530	18400	45780	37440	24770	23660	14520	11110	19650	
(WY)	1978	1928	1984	1978	1970	1936	1987	1954	1984	1973	1990	1938	
MIN	1036	1843	2127	1621	2105	4132	8150	4093	1825	1161	901	895	
(WY)	1965	1965	1930	1925	1931	1940	1985	1941	1964	1965	1965	1957	

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1923 - 1992

ANNUAL TOTAL	3016783	2953950	
ANNUAL MEAN	8265	8071	7638
HIGHEST ANNUAL MEAN			12490
LOWEST ANNUAL MEAN			3068
HIGHEST DAILY MEAN	26800	Apr 24	161000
LOWEST DAILY MEAN	826	Aug 4	199
ANNUAL SEVEN-DAY MINIMUM	1100	Jul 31	686
INSTANTANEOUS PEAK FLOW			173000
INSTANTANEOUS PEAK STAGE		47.74	68.40
INSTANTANEOUS LOW FLOW		851	
10 PERCENT EXCEEDS	15300	13800	17000
50 PERCENT EXCEEDS	7980	7370	5120
90 PERCENT EXCEEDS	1620	3090	1640

MERRIMACK RIVER BASIN

47

01100600 SHAWSHEN RIVER NEAR WILMINGTON, MA

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

DRAINAGE AREA.--36.5 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 80.44 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversion upstream at times each year since 1973 for municipal supply of Burlington; see table below for figures of diversion. Gage height for the peak discharge for period of record on Jan. 26, 1979, was 9.85 ft, mean of recorded surge; 10.000 ft, maximum recorded surge; and about 10.4 ft in river, based on outside gage readings at slightly lower stages.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	54	56	e59	44	e50	87	e48	51	11	30	6.6
2	33	72	52	e49	e43	e38	88	e54	104	7.9	39	4.7
3	25	81	e50	40	e39	e36	74	e80	115	5.8	40	4.7
4	22	66	e55	46	e33	36	64	e120	79	6.1	28	14
5	20	47	e58	88	e30	39	56	e90	44	9.0	23	23
6	23	33	e60	153	e28	45	50	e64	64	14	20	27
7	44	28	e56	127	e26	49	47	e54	120	23	16	20
8	48	26	49	91	e25	64	44	e49	122	25	13	15
9	40	23	54	71	e23	76	42	e56	85	25	19	11
10	27	22	75	62	e21	75	45	e62	58	26	40	9.5
11	22	33	96	58	20	75	50	e53	43	24	70	13
12	28	60	87	e52	e20	119	62	e44	40	23	59	14
13	34	75	75	47	e19	e149	69	e41	30	21	42	15
14	26	71	76	50	e18	e108	e64	e40	19	19	32	12
15	20	61	97	e65	e21	e78	54	e36	15	18	28	8.1
16	29	48	102	e65	e50	e64	e48	e38	13	23	27	6.0
17	38	40	82	e50	e130	e55	65	e40	11	25	32	4.4
18	44	36	e64	e35	114	51	91	e38	10	22	59	3.5
19	49	34	e58	e29	75	50	108	e33	9.2	18	127	6.1
20	46	33	e54	e27	60	e49	92	e29	11	16	126	9.4
21	33	33	51	e26	53	52	76	e26	14	15	82	8.7
22	24	58	55	e25	44	e51	64	e23	10	14	46	6.4
23	21	130	58	e30	38	50	59	e21	8.8	12	32	10
24	19	228	55	e85	36	e51	57	e19	8.8	14	25	14
25	18	196	e50	e150	35	e49	71	e19	21	17	18	17
26	17	142	e44	e130	53	48	85	e20	26	17	15	15
27	17	101	40	e83	83	62	89	e20	25	14	17	21
28	16	77	e38	55	94	96	78	19	31	12	9.9	28
29	15	66	39	44	e75	120	e64	17	28	11	11	29
30	15	60	57	42	---	108	e52	16	18	15	12	21
31	27	---	e64	42	---	91	---	16	---	18	11	---
TOTAL	888	2034	1907	1976	1350	2084	1995	1285	1233.8	520.8	1148.9	397.1
MEAN	28.6	67.8	61.5	63.7	46.6	67.2	66.5	41.5	41.1	16.8	37.1	13.2
MAX	49	228	102	153	130	149	108	120	122	26	127	29
MIN	15	22	38	25	18	36	42	16	8.8	5.8	9.9	3.5
(†)	10.6	5.12	5.36	0	6.15	3.87	2.28	1.96	6.13	2.31	.93	6.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

	MEAN	31.0	55.6	66.1	71.6	83.7	117	101	63.3	49.1	25.4	23.8	20.8
MAX	95.3	128	153	289	208	279	269	130	251	72.4	56.9	56.4	
(WY)	1976	1976	1987	1979	1984	1983	1987	1967	1982	1973	1976	1991	
MIN	6.22	7.82	13.6	9.70	12.4	41.8	38.3	29.5	13.0	3.81	1.74	4.46	
(WY)	1969	1966	1966	1981	1980	1989	1966	1985	1964	1965	1966	1965	

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1964 - 1992

	ANNUAL TOTAL	18481.8	16819.6	
ANNUAL MEAN	50.6	46.0	59.0	
HIGHEST ANNUAL MEAN			107	1984
LOWEST ANNUAL MEAN			28.2	1966
HIGHEST DAILY MEAN	405	Aug 21	228	Nov 24
LOWEST DAILY MEAN	2.2	Jun 11	3.5	Sep 18
ANNUAL SEVEN-DAY MINIMUM	4.6	Aug 3	6.4	Sep 16
INSTANTANEOUS PEAK FLOW			237	Nov 24
INSTANTANEOUS PEAK STAGE			4.82	Nov 24
INSTANTANEOUS LOW FLOW			2.9	Sep 19
10 PERCENT EXCEEDS	90		88	
50 PERCENT EXCEEDS	42		40	
90 PERCENT EXCEEDS	9.8		13	

e Estimated

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

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 downstream from dam, 0.5 mi south of Byfield, 0.7 mi upstream from Wheeler Brook, and 5.5 mi southwest of Newburyport.

DRAINAGE AREA.--21.3 mi².

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

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 23.46 ft above sea level (levels by Massachusetts Department of Public Works).

REMARKS.--Records excellent except those for estimated daily discharges, which are fair. Occasional regulation by mill and ponds upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	20	46	37	e35	e45	83	48	24	7.2	4.6	3.6
2	43	22	42	34	e32	e42	80	47	37	5.6	3.7	2.7
3	36	23	44	33	e30	39	75	53	41	5.2	3.0	3.1
4	30	24	47	40	e28	36	69	55	41	6.3	3.2	6.3
5	25	23	44	66	e26	35	63	54	36	6.0	6.3	6.6
6	22	21	40	78	e25	34	57	52	53	6.6	7.1	6.4
7	20	20	38	80	e24	37	52	48	69	7.1	6.6	5.7
8	17	18	36	75	e23	45	48	45	78	6.9	5.3	5.3
9	15	17	39	67	e22	49	45	44	78	7.3	6.0	4.4
10	13	16	43	62	e21	51	42	43	71	6.4	6.7	3.5
11	12	19	45	e56	e20	60	40	41	63	7.6	6.6	4.4
12	12	23	47	e47	e19	68	42	38	55	8.1	5.9	4.4
13	12	23	48	43	e18	68	41	36	46	8.2	5.1	3.9
14	11	23	55	46	e17	64	40	35	39	6.9	5.5	3.8
15	11	22	64	51	e17	57	38	32	33	9.2	5.9	4.5
16	13	22	66	e46	e35	50	36	32	28	11	6.9	6.0
17	12	21	e62	e38	e41	46	47	31	23	11	9.5	4.5
18	16	20	56	34	e47	42	58	30	19	12	21	e3.4
19	17	19	53	30	e50	40	65	28	16	9.9	27	e3.1
20	16	18	47	26	e49	37	66	26	14	9.7	29	e3.6
21	14	18	46	23	e47	36	62	24	13	8.6	28	e3.2
22	12	30	44	21	e44	35	58	22	11	7.9	25	e3.0
23	11	51	43	26	e42	34	54	20	11	9.1	20	e3.2
24	10	64	41	e46	e40	33	51	19	10	11	16	2.2
25	9.9	72	e38	e42	e38	32	60	19	11	9.4	13	2.1
26	10	72	34	e44	e45	33	65	18	11	7.5	9.8	2.2
27	10	67	32	e45	e49	49	67	16	9.8	6.4	8.2	3.9
28	11	60	31	e44	e49	67	64	15	8.9	5.4	8.3	3.6
29	10	55	31	e42	e48	80	59	13	8.6	4.4	6.7	3.5
30	9.3	50	40	e38	---	83	53	12	8.7	3.8	5.3	2.9
31	15	---	39	e37	---	84	---	11	---	3.3	5.6	---
TOTAL	526.2	953	1381	1397	981	1511	1680	1007	967.0	235.0	320.8	119.0
MEAN	17.0	31.8	44.5	45.1	33.8	48.7	56.0	32.5	32.2	7.58	10.3	3.97
MAX	51	72	66	80	50	84	83	55	78	12	29	6.6
MIN	9.3	16	31	21	17	32	36	11	8.6	3.3	3.0	2.1
CFSM	.80	1.49	2.09	2.12	1.59	2.29	2.63	1.53	1.51	.36	.49	.19
IN.	.92	1.66	2.41	2.44	1.71	2.64	2.93	1.76	1.69	.41	.56	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	13.9	30.1	40.9	42.0	50.9	85.5	81.9	49.4	27.9	8.89	6.00	6.20
MEAN	13.9	30.1	40.9	42.0	50.9	85.5	81.9	49.4	27.9	8.89	6.00	6.20
MAX	123	87.3	117	116	122	226	249	151	138	39.6	18.0	65.8
(WY)	1963	1973	1984	1958	1976	1983	1987	1983	1982	1972	1982	1954
MIN	.18	.92	1.74	2.98	5.25	33.6	25.2	19.1	4.25	.85	.37	.12
(WY)	1958	1966	1966	1966	1980	1989	1985	1985	1964	1991	1957	1957

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1946 - 1992

	12007.54	11078.0	
ANNUAL TOTAL	12007.54	11078.0	
ANNUAL MEAN	32.9	30.3	36.7
HIGHEST ANNUAL MEAN			64.8
LOWEST ANNUAL MEAN			13.2
HIGHEST DAILY MEAN	148	84	779
LOWEST DAILY MEAN	.13	2.1	.09
ANNUAL SEVEN-DAY MINIMUM	.22	2.8	.10
INSTANTANEOUS PEAK FLOW		85	790
INSTANTANEOUS PEAK STAGE		2.68	7.35
INSTANTANEOUS LOW FLOW		1.9	
ANNUAL RUNOFF (CFSM)	1.54	1.42	1.72
ANNUAL RUNOFF (INCHES)	20.97	19.35	23.44
10 PERCENT EXCEEDS	67	61	88
50 PERCENT EXCEEDS	30	28	23
90 PERCENT EXCEEDS	.92	5.4	1.8

e Estimated

IPSWICH RIVER BASIN

49

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 downstream from Boston Street Bridge at South Middleton, 1.3 mi downstream from Wills Brook, and 2 mi south of Middleton.

DRAINAGE AREA.--44.5 mi².

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). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 44.97 ft above sea level (Massachusetts Geodetic Survey benchmark.)

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversions upstream for municipal supply of Reading, Lynn, and Peabody. Occasional regulation by mill upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e62	105	109	69	59	e89	143	76	63	19	26	8.7
2	e56	95	100	63	53	e83	133	75	92	15	25	7.9
3	e52	84	109	61	e45	76	123	117	79	13	16	9.8
4	e48	77	e127	78	e41	66	113	115	75	13	14	17
5	e45	72	124	159	e39	62	104	105	72	14	14	16
6	e48	66	112	147	e36	60	96	103	131	19	12	15
7	e47	60	103	138	e34	65	89	98	166	22	9.5	15
8	e43	53	97	133	e33	87	83	91	143	15	7.3	14
9	e40	47	102	122	e31	87	78	89	131	19	14	15
10	38	45	117	120	e30	87	73	85	114	21	26	17
11	35	71	118	102	e29	110	70	79	96	16	19	18
12	34	89	118	e90	e28	142	75	74	81	17	16	18
13	32	80	118	83	e28	130	74	71	70	16	15	13
14	29	74	133	85	28	120	70	68	59	14	14	12
15	28	72	157	99	26	111	68	64	49	15	15	10
16	33	69	145	82	70	101	64	61	40	19	18	8.8
17	35	65	129	e75	78	92	82	60	33	16	33	8.3
18	40	59	e120	e62	73	84	97	56	27	14	82	7.6
19	41	55	e110	e51	90	80	95	52	22	12	91	7.9
20	38	51	e100	e45	101	74	95	48	21	10	80	9.1
21	37	57	e97	e41	92	72	95	45	30	9.0	74	7.7
22	35	111	94	e38	85	69	91	41	23	7.3	65	6.9
23	34	163	89	e44	82	68	90	36	17	6.5	55	12
24	33	167	86	132	76	66	93	31	16	7.2	45	11
25	32	171	77	113	70	65	112	30	22	6.1	35	9.0
26	33	172	72	e90	91	67	113	29	22	5.1	26	9.9
27	38	163	64	e80	107	98	104	26	22	4.8	20	26
28	39	148	59	e73	100	115	96	24	35	4.1	17	22
29	40	134	58	e67	102	127	87	26	32	3.9	15	16
30	52	120	84	e64	---	131	81	25	24	5.1	12	13
31	85	---	77	61	---	138	---	23	---	8.8	11	---
TOTAL	1282	2795	3205	2667	1757	2822	2787	1923	1807	386.9	921.8	381.6
MEAN	41.4	93.2	103	86.0	60.6	91.0	92.9	62.0	60.2	12.5	29.7	12.7
MAX	85	172	157	159	107	142	143	117	166	22	91	26
MIN	28	45	58	38	26	60	64	23	16	3.9	7.3	6.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

MEAN	27.7	50.6	66.6	67.9	83.7	150	138	80.8	46.4	19.3	13.4	15.0
MAX	240	199	217	215	212	351	389	298	262	195	95.5	164
(WY)	1963	1956	1987	1979	1984	1983	1987	1954	1982	1938	1938	1954
MIN	.55	1.28	1.05	1.07	9.66	36.3	29.6	18.5	7.36	.74	.64	.26
(WY)	1958	1966	1966	1966	1980	1989	1985	1965	1966	1966	1957	1957

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1938 - 1992

ANNUAL TOTAL	21461.65	22735.3	62.6
ANNUAL MEAN	58.8	62.1	121
HIGHEST ANNUAL MEAN			1884
LOWEST ANNUAL MEAN			18.6
HIGHEST DAILY MEAN	233	Nov 26	995
LOWEST DAILY MEAN	.38	Aug 4	.10
ANNUAL SEVEN-DAY MINIMUM	.53	Aug 3	.15
INSTANTANEOUS PEAK FLOW		176	1010
INSTANTANEOUS PEAK STAGE		3.19	7.51
INSTANTANEOUS LOW FLOW		2.7	.10
10 PERCENT EXCEEDS	124	118	153
50 PERCENT EXCEEDS	52	62	36
90 PERCENT EXCEEDS	1.8	13	2.3

e Estimated

IPSWICH RIVER BASIN

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 downstream from Willowdale Dam, 1.5 mi downstream from Howlett Brook, and 4 mi upstream from Ipswich.

DRAINAGE AREA.--125 mi².

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

Water-quality records: Water years 1954, 1976-79.

REVISED RECORDS.--WSP 1621: 1930-58 (monthly runoff). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 20.63 ft above sea level.

REMARKS.--Records good. Diversions upstream for municipal supply of Reading, Lynn, Peabody, Danvers, Salem, and Beverly. Some regulation by reservoirs upstream. Maximum discharge since 1886, that of Apr. 8, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	306	116	276	204	203	268	373	248	84	63	21	47
2	272	147	257	204	194	250	367	233	126	57	26	38
3	241	174	250	201	185	232	353	253	157	50	31	32
4	213	197	253	216	172	219	338	263	185	45	36	38
5	185	203	248	304	163	209	316	279	192	44	38	47
6	162	200	243	355	153	200	291	292	220	48	37	52
7	148	187	243	390	144	193	271	285	254	54	34	54
8	131	173	235	410	138	198	256	268	291	56	32	52
9	116	161	232	385	131	207	239	254	321	60	33	48
10	106	152	234	358	124	218	222	244	331	63	40	46
11	102	151	239	349	117	239	219	234	306	65	47	48
12	99	157	242	296	113	262	213	226	270	69	52	51
13	103	163	245	275	108	281	204	215	232	70	55	51
14	90	164	257	280	101	299	197	204	200	64	55	50
15	81	162	274	292	97	298	193	194	171	59	52	45
16	81	161	286	267	137	281	186	186	148	58	51	39
17	82	154	300	236	187	261	193	179	133	57	61	34
18	98	146	290	223	243	243	210	170	122	56	95	30
19	111	138	280	214	279	230	235	163	109	53	123	28
20	120	129	266	188	274	218	259	155	96	47	156	25
21	121	121	259	169	263	208	269	147	84	40	180	23
22	113	131	246	155	259	198	272	137	75	34	188	21
23	103	165	233	153	246	191	265	124	69	30	179	24
24	92	209	226	211	231	185	252	113	63	29	163	26
25	82	264	215	241	215	181	264	107	62	26	145	28
26	74	307	209	257	223	178	276	100	63	24	129	31
27	69	327	200	267	241	198	285	94	65	22	114	44
28	65	324	196	256	256	236	293	87	71	21	101	59
29	65	311	187	230	269	290	286	81	70	18	88	68
30	64	294	202	213	---	336	269	70	67	17	74	69
31	83	---	207	206	---	365	---	54	---	16	60	---
TOTAL	3778	5688	7530	8005	5466	7372	7866	5659	4637	1415	2496	1248
MEAN	122	190	243	258	188	238	262	183	155	45.6	80.5	41.6
MAX	306	327	300	410	279	365	373	292	331	70	188	69
MIN	64	116	187	153	97	178	186	54	62	16	21	21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1992, BY WATER YEAR (WY)

	MEAN	71.0	134	187	205	238	452	429	240	146	58.1	37.8	42.4
MAX	687	525	590	566	627	1158	1233	833	821	518	356	390	
(WY)	1963	1933	1984	1958	1984	1983	1987	1954	1982	1938	1938	1954	
MIN	4.80	6.87	11.5	14.4	16.4	75.0	97.1	86.9	25.6	5.75	2.13	1.76	
(WY)	1966	1966	1966	1966	1980	1989	1985	1985	1976	1957	1965	1965	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1930 - 1992

ANNUAL TOTAL	59686.9	61160	186
ANNUAL MEAN	164	167	351
HIGHEST ANNUAL MEAN			1984
LOWEST ANNUAL MEAN			57.7
HIGHEST DAILY MEAN	674	410	3520
LOWEST DAILY MEAN	3.5	16	.59
ANNUAL SEVEN-DAY MINIMUM	4.3	20	.94
INSTANTANEOUS PEAK FLOW		505	3550
INSTANTANEOUS PEAK STAGE		4.53	9.43
INSTANTANEOUS LOW FLOW		15	.34
10 PERCENT EXCEEDS	321	285	443
50 PERCENT EXCEEDS	161	176	113
90 PERCENT EXCEEDS	11	44	12

51

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

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

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

REVISED RECORDS.--WDR MA-RI-79-1: 1955. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 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 upstream. Maximum discharge since 1886, that of Jan. 25, 1979.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	75	30	27	23	24	47	25	110	7.3	29	6.0
2	28	45	28	24	20	24	42	31	62	6.3	12	5.6
3	33	32	43	23	27	22	38	92	32	5.7	8.0	22
4	16	28	60	55	14	22	34	56	21	7.6	6.5	42
5	18	31	48	95	17	21	32	40	18	8.4	6.0	16
6	26	27	41	65	16	21	30	33	126	45	5.2	10
7	29	24	38	49	16	36	28	30	86	22	4.6	8.4
8	21	21	39	40	16	41	27	28	50	12	4.4	9.4
9	17	19	47	38	15	32	23	34	43	33	40	9.2
10	16	18	50	38	13	29	18	29	29	18	36	8.4
11	15	45	45	33	14	69	23	26	23	25	17	20
12	24	50	41	29	13	67	34	24	21	12	18	11
13	17	34	39	27	12	48	28	24	18	9.2	9.6	8.3
14	14	27	50	43	13	37	24	23	15	13	17	7.1
15	12	24	54	46	15	33	22	21	13	25	11	6.0
16	41	22	44	34	96	30	22	22	12	24	29	5.6
17	27	20	37	28	53	28	57	20	11	13	50	5.5
18	34	18	34	26	34	27	50	19	10	11	154	5.3
19	27	17	31	23	35	29	40	18	9.3	9.0	81	14
20	20	17	29	21	31	29	34	16	19	13	42	7.7
21	17	17	33	20	27	28	31	13	22	8.5	28	6.0
22	15	69	32	19	24	27	30	12	12	6.7	21	5.7
23	14	112	30	63	22	27	31	12	9.7	11	18	34
24	13	82	28	124	21	26	27	10	15	18	15	12
25	12	66	26	66	21	25	53	14	27	8.1	13	7.7
26	12	52	24	46	54	25	48	11	16	6.3	12	17
27	11	45	23	34	46	61	37	10	15	5.9	11	36
28	10	40	22	30	34	56	32	9.9	15	5.4	9.9	18
29	10	36	30	28	30	57	29	9.6	11	13	8.9	12
30	7.9	33	46	26	---	45	27	9.0	8.1	23	7.6	9.2
31	45	---	33	25	---	52	---	9.1	---	9.8	6.9	---
TOTAL	630.9	1146	1155	1245	772	1098	998	730.6	879.1	435.2	731.6	385.1
MEAN	20.4	38.2	37.3	40.2	26.6	35.4	33.3	23.6	29.3	14.0	23.6	12.8
MAX	45	112	60	124	96	69	57	92	126	45	154	42
MIN	7.9	17	22	19	12	21	18	9.0	8.1	5.4	4.4	5.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1992, BY WATER YEAR (WY)

MEAN	12.6	23.3	30.5	36.1	41.2	64.2	53.1	33.3	22.0	9.81	10.0	9.35
MAX	104	102	95.7	169	104	167	175	134	159	40.4	79.4	78.2
(WY)	1963	1956	1970	1979	1984	1983	1987	1954	1982	1959	1955	1954
MIN	.48	.59	.63	2.34	4.39	19.2	12.4	11.3	3.02	.69	.62	.49
(WY)	1942	1942	1942	1966	1980	1989	1966	1965	1957	1950	1957	1957

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1939 - 1992

ANNUAL TOTAL	10743.6		10206.5				
ANNUAL MEAN	29.4		27.9		28.8		
HIGHEST ANNUAL MEAN					58.3		1984
LOWEST ANNUAL MEAN					8.23		1966
HIGHEST DAILY MEAN	222	Sep 26	154	Aug 18	951		Jan 26 1979
LOWEST DAILY MEAN	2.4	Jul 22	4.4	Aug 8	.25		Oct 10 1950
ANNUAL SEVEN-DAY MINIMUM	2.9	Aug 3	6.7	Aug 2	.31		Dec 6 1941
INSTANTANEOUS PEAK FLOW			228	Aug 18	1330		Jan 25 1979
INSTANTANEOUS PEAK STAGE			12.15	Aug 18	15.46		Jan 25 1979
INSTANTANEOUS LOW FLOW			.94	Feb 4	.00		Oct 10 1950
10 PERCENT EXCEEDS	55		50		68		
50 PERCENT EXCEEDS	25		24		16		
90 PERCENT EXCEEDS	5.0		9.0		1.2		

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

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

DRAINAGE AREA.--183 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 89.76 ft above sea level.

REMARKS.--Records good. Flow affected by diversions to and from basin for municipal supplies.

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 ft³/s, by computation of flow over dam at site 0.2 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	479	428	484	267	389	393	588	442	191	112	58	55
2	424	525	446	253	355	360	565	414	261	100	54	52
3	359	557	444	235	325	335	535	441	297	91	55	51
4	292	552	464	258	297	308	501	417	306	89	55	71
5	232	508	468	363	269	295	464	413	289	87	54	70
6	201	474	481	419	244	288	424	400	347	92	51	74
7	214	426	483	452	233	299	393	373	363	87	46	72
8	224	373	477	455	222	333	360	339	395	84	44	75
9	226	328	475	434	211	361	331	322	408	90	52	77
10	214	290	468	406	180	370	305	311	384	87	55	74
11	196	313	457	368	195	434	294	302	343	82	57	80
12	194	387	443	330	180	498	314	288	284	76	71	74
13	181	437	432	302	176	540	331	273	219	70	64	72
14	169	479	425	297	173	573	347	257	169	69	71	68
15	156	504	417	326	175	569	342	241	135	76	71	63
16	185	506	405	348	314	535	322	238	116	79	83	57
17	207	467	387	349	403	495	357	232	101	78	117	53
18	241	428	367	288	446	448	394	216	94	79	239	49
19	251	389	332	258	458	424	443	201	89	75	273	48
20	246	354	310	236	442	396	472	190	88	71	297	44
21	233	323	304	209	412	374	486	172	85	65	301	41
22	208	346	298	193	375	361	469	159	84	59	283	40
23	185	454	296	218	340	355	452	148	81	57	239	59
24	168	506	294	418	312	346	426	136	84	62	188	57
25	165	571	284	458	293	337	444	130	102	59	138	62
26	164	598	262	525	330	335	468	126	107	56	107	68
27	156	601	250	543	374	424	491	123	121	55	89	102
28	142	585	233	511	403	470	504	119	133	53	78	126
29	132	555	228	477	413	530	499	115	131	50	75	136
30	119	521	253	444	---	560	476	110	121	47	66	128
31	208	---	272	417	---	587	---	107	---	45	62	---
TOTAL	6771	13785	11639	11057	8939	12933	12797	7755	5928	2282	3493	2098
MEAN	218	459	375	357	308	417	427	250	198	73.6	113	69.9
MAX	479	601	484	543	458	587	588	442	408	112	301	136
MIN	119	290	228	193	173	288	294	107	81	45	44	40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

MEAN	140	254	335	360	427	617	578	360	238	127	121	102
MAX	600	892	838	1180	998	1171	1474	746	1129	1060	956	640
(WY)	1956	1956	1973	1979	1970	1983	1987	1954	1982	1938	1955	1954
MIN	13.4	33.1	54.6	45.3	86.7	227	169	138	67.2	19.5	9.01	7.78
(WY)	1958	1966	1966	1981	1980	1985	1966	1986	1957	1957	1957	1957

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1938 - 1992

ANNUAL TOTAL	107396		99477						
ANNUAL MEAN	294		272			304			
HIGHEST ANNUAL MEAN						496		1984	
LOWEST ANNUAL MEAN						117		1966	
HIGHEST DAILY MEAN	761	Apr 25	601	Nov 27		3190		Mar 22	1968
LOWEST DAILY MEAN	18	Jul 25	40	Sep 22		.90		Oct 24	1952
ANNUAL SEVEN-DAY MINIMUM	21	Jul 20	47	Sep 16		4.5		Oct 1	1957
INSTANTANEOUS PEAK FLOW			602	Nov 26		3220		Aug 23	1955
INSTANTANEOUS PEAK STAGE			2.68	Nov 26		9.24		Aug 23	1955
INSTANTANEOUS LOW FLOW			39	Sep 21		.50		Oct 24	1952
10 PERCENT EXCEEDS	556		480			687			
50 PERCENT EXCEEDS	294		284			210			
90 PERCENT EXCEEDS	41		64			44			

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to September 1981.

WATER TEMPERATURES: November 1974 to September 1981.

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (000061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (000095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (000400)	TEMPER- ATURE AIR (DEG C) (000020)	TEMPER- ATURE WATER (DEG C) (000010)	TUR- BID- ITY (NTU) (C00076)	BARO- METRIC PRES- SURE (MM OF HG) (000025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (000300)	OXYGEN, DIS- SOLVED (MG/L) (000301)
OCT 31...	0830	192	209	--	10.0	9.0	3.4	725	10.6	96
FEB 06...	1314	223	--	--	--	0.5	--	--	--	--
MAR 18...	1431	437	--	--	--	3.0	--	--	--	--
APR 07...	1000	420	184	--	9.0	9.5	1.1	720	14.4	134
27...	1420	489	--	--	--	9.0	--	--	--	--
JUN 15...	1026	141	--	--	--	28.0	--	--	--	--
17...	1240	98	193	7.3	24.0	23.5	1.4	770	7.6	89
JUL 22...	0925	54	--	--	--	26.5	--	--	--	--
AUG 19...	1230	295	217	7.1	24.0	20.0	3.0	762	8.3	91
SEP 02...	1610	51	--	--	--	23.0	--	--	--	--

[illegible]

01103500 CHARLES RIVER AT DOVER, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible][illegible][illegible]

CHARLES RIVER BASIN

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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 upstream from Washington Street Bridge at Dedham and 0.4 mi 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 below sea level. Dec. 9, 1931, to June 9, 1960, nonrecording gage at site 200 ft upstream at same datum.

REMARKS.--Records good. Mother Brook is a diversion from Charles River to Neponset River through Dedham and Hyde Park.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	168	125	57	140	88	139	123	56	.58	.60	.34
2	66	189	106	52	123	77	134	140	65	.83	.23	.32
3	42	182	107	47	75	67	127	153	61	.48	.20	1.1
4	40	171	126	61	93	59	112	127	58	.73	.30	.38
5	42	149	115	107	82	61	101	112	50	.34	.22	.30
6	32	127	107	116	69	57	103	111	95	.76	.19	.24
7	30	101	105	126	65	64	127	101	91	.39	.21	.23
8	31	76	103	129	59	76	121	97	82	2.4	.19	.87
9	36	55	102	116	52	82	104	116	83	9.4	1.8	.23
10	30	39	100	116	35	101	89	103	71	8.8	.24	.22
11	23	49	91	123	35	128	79	89	53	4.9	.45	.57
12	20	71	94	99	30	153	86	75	43	2.3	.36	.20
13	13	75	119	90	26	153	87	64	45	1.6	.20	.19
14	8.3	87	119	83	25	157	79	56	28	3.1	.50	.19
15	5.3	92	117	98	23	156	73	39	15	4.7	.36	.19
16	8.1	99	103	90	81	148	65	30	12	4.0	2.1	.18
17	15	92	94	54	98	134	87	25	14	1.4	1.2	.19
18	49	69	86	67	107	125	95	30	9.6	.80	32	.19
19	50	54	75	60	116	113	102	47	6.5	.46	24	.22
20	46	40	53	56	115	102	108	40	4.6	.29	23	.23
21	30	31	60	49	99	93	112	35	3.1	.28	38	.23
22	24	52	55	50	81	85	107	36	2.0	.26	30	.35
23	17	143	57	68	72	82	114	29	1.2	.76	19	1.2
24	11	157	73	154	54	73	133	20	1.1	.37	12	.18
25	7.1	171	70	151	41	68	147	15	1.8	.25	11	.25
26	5.6	178	59	155	62	65	149	11	3.4	.23	4.5	1.7
27	3.9	176	56	160	74	102	141	8.0	4.0	.24	1.6	.28
28	3.2	168	50	153	89	119	138	7.3	3.8	.30	.49	.22
29	3.6	158	47	142	102	138	134	13	1.8	.38	.37	.43
30	9.3	141	57	139	---	132	125	11	.88	.39	.30	.29
31	42	---	58	145	---	139	---	8.8	---	.74	.26	---
TOTAL	835.4	3360	2689	3113	2123	3197	3318	1872.1	965.78	52.46	205.87	11.71
MEAN	26.9	112	86.7	100	73.2	103	111	60.4	32.2	1.69	6.64	.39
MAX	92	189	126	160	140	157	149	153	95	9.4	38	1.7
MIN	3.2	31	47	47	23	57	65	7.3	.88	.23	.19	.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1992, BY WATER YEAR (WY)

MEAN	26.8	58.7	84.7	97.6	115	179	160	90.3	56.0	22.6	23.0	20.8
MAX	182	308	285	287	360	490	437	253	328	339	306	189
(WY)	1956	1956	1973	1976	1970	1936	1987	1954	1982	1938	1955	1954
MIN	.000	.61	.43	.14	.14	.54	26.5	.000	.000	.061	.000	.097
(WY)	1942	1959	1959	1959	1959	1959	1966	1960	1955	1957	1949	1943

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1932 - 1992

ANNUAL TOTAL	23989.70	21743.32	
ANNUAL MEAN	65.7	59.4	77.6
HIGHEST ANNUAL MEAN			149
LOWEST ANNUAL MEAN			20.6
HIGHEST DAILY MEAN	222	189	1010
LOWEST DAILY MEAN	.31	.18	.00
ANNUAL SEVEN-DAY MINIMUM	.74	.19	.00
INSTANTANEOUS PEAK FLOW		193	1040
INSTANTANEOUS PEAK STAGE		81.97	92.90
INSTANTANEOUS LOW FLOW		.02	.00
10 PERCENT EXCEEDS	154	135	204
50 PERCENT EXCEEDS	56	55	40
90 PERCENT EXCEEDS	2.7	.30	1.7

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 upstream from a horseshoe-shaped dam and 50 ft upstream from bridge on State Highway 9.

DRAINAGE AREA.--211 mi².

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 above sea level.

REMARKS.--Records good. 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 upstream and by other ponds upstream. No flow Sept. 15, Oct. 6, 1959 caused by closing of gates at dam at gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	477	449	459	228	298	376	598	379	257	118	73	79
2	442	517	432	226	274	350	578	366	291	114	64	73
3	393	521	451	208	269	336	545	441	288	113	38	78
4	267	514	479	231	250	293	527	434	301	107	43	88
5	227	488	465	329	229	275	488	424	245	108	48	91
6	218	458	459	355	206	278	352	413	357	107	40	102
7	216	428	459	378	202	305	337	389	392	105	41	106
8	185	383	459	386	193	339	325	300	394	72	44	85
9	195	347	459	384	181	309	313	293	412	93	58	90
10	200	313	459	329	161	326	295	298	405	105	70	93
11	193	343	455	296	170	421	293	292	380	98	51	107
12	194	399	384	272	168	479	311	294	268	90	71	95
13	182	417	380	259	160	475	315	283	228	65	72	91
14	174	443	388	263	159	500	332	268	203	74	78	65
15	170	465	384	267	165	510	341	261	169	102	82	66
16	193	474	370	270	309	488	341	256	114	108	99	70
17	150	455	364	237	354	463	402	256	107	97	115	67
18	191	439	343	229	392	428	425	183	108	88	264	62
19	214	409	320	214	411	404	450	172	106	87	301	58
20	217	377	289	208	402	388	473	179	109	81	271	58
21	217	353	285	177	382	364	486	150	107	75	285	52
22	200	320	281	162	366	346	486	141	103	54	300	50
23	190	431	241	215	334	346	400	144	100	54	284	54
24	175	467	239	400	309	332	387	140	112	75	206	65
25	167	496	237	377	301	337	428	139	106	72	174	71
26	166	515	225	396	348	343	449	141	119	79	149	82
27	166	528	218	414	351	452	462	140	141	53	128	126
28	151	527	206	409	368	474	477	95	164	51	111	114
29	103	507	207	391	368	501	484	104	162	54	98	139
30	118	490	229	341	---	536	481	117	153	51	95	150
31	219	---	229	323	---	587	---	113	---	52	92	---
TOTAL	6570	13273	10855	9174	8080	12361	12581	7605	6401	2602	3845	2527
MEAN	212	442	350	296	279	399	419	245	213	83.9	124	84.2
MAX	477	528	479	414	411	587	598	441	412	118	301	150
MIN	103	313	206	162	159	275	293	95	100	51	38	50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1992, BY WATER YEAR (WY)

MEAN	149	246	315	324	391	543	535	335	238	112	108	92.8
MAX	468	561	687	1018	766	1048	1223	575	951	280	430	253
(WY)	1991	1990	1987	1979	1970	1983	1987	1972	1982	1972	1990	1961
MIN	23.2	34.0	52.6	43.8	95.7	211	154	124	67.3	29.2	13.0	14.9
(WY)	1966	1966	1966	1981	1980	1985	1985	1986	1964	1965	1965	1965

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1959 - 1992

	1991	1992	1959-1992
ANNUAL TOTAL	99708	95874	
ANNUAL MEAN	273	262	282
HIGHEST ANNUAL MEAN			458
LOWEST ANNUAL MEAN			108
HIGHEST DAILY MEAN	616	598	2330
LOWEST DAILY MEAN	28	38	1.0
ANNUAL SEVEN-DAY MINIMUM	31	45	4.1
INSTANTANEOUS PEAK FLOW		604	2410
INSTANTANEOUS PEAK STAGE		4.07	6.20
INSTANTANEOUS LOW FLOW		14	.00
10 PERCENT EXCEEDS	498	464	610
50 PERCENT EXCEEDS	266	262	206
90 PERCENT EXCEEDS	48	74	45

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SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1931 - 1992		
ANNUAL TOTAL	115942			108747					
ANNUAL MEAN	318			297			305		
HIGHEST ANNUAL MEAN							558 1984		
LOWEST ANNUAL MEAN							129 1966		
HIGHEST DAILY MEAN	672	May	1	612	Apr	1	2940	Jan	26 1979
LOWEST DAILY MEAN	36	Jul	25	52	Aug	8	.20	Oct	4 1943
ANNUAL SEVEN-DAY MINIMUM	39	Jul	20	60	Aug	3	1.6	Sep	30 1943
INSTANTANEOUS PEAK FLOW				637	Nov	15	4150	Feb	3 1976
INSTANTANEOUS PEAK STAGE				2.57	Mar	31	6.54	Feb	3 1976
INSTANTANEOUS LOW FLOW				43	Sep	15	.10	Oct	1 1943
10 PERCENT EXCEEDS	556			512			667		
50 PERCENT EXCEEDS	332			302			217		
90 PERCENT EXCEEDS	62			90			44		

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 upstream from Pleasant Street Bridge, 200 ft downstream from railroad bridge, 0.45 mi downstream from Hawes Brook, and 0.5 mi south of Norwood.

DRAINAGE AREA.--34.7 mi².

PERIOD OF RECORD.--Discharge: October 1939 to current year. October 1939 monthly discharge only, published in WSP 1301. Water-quality records: Water years 1958-59, 1966-68.

REVISED RECORDS.--WDR MA-RI-78-1: 1976(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 44.04 ft above sea level. Since Oct. 1, 1960, recording orifice at upstream side of railroad bridge, at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by mills and reservoirs upstream. Flow affected by several diversions upstream for municipal and industrial use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1886, that of Aug. 19, 1955. Flood of July 24, 1938, reached a stage of 11.05 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	217	65	48	59	56	103	66	72	14	7.0	7.6
2	43	173	58	44	53	50	92	67	87	11	6.4	6.6
3	37	130	84	43	48	49	85	87	65	9.3	14	11
4	34	103	116	67	44	47	76	73	44	11	6.9	22
5	32	82	106	121	43	46	71	66	34	11	8.8	20
6	38	71	88	107	39	46	63	58	99	14	7.9	16
7	43	64	81	85	37	62	58	54	100	14	5.3	14
8	39	59	80	72	37	81	56	51	75	14	4.1	17
9	33	54	83	63	37	75	52	63	e55	18	12	18
10	29	47	83	63	39	68	50	62	e42	14	9.8	17
11	27	83	77	58	32	126	53	52	e34	10	14	18
12	29	115	72	49	33	154	78	44	e27	9.6	15	17
13	27	104	68	46	30	132	75	47	24	8.9	18	14
14	24	85	79	60	29	108	63	46	21	7.1	26	13
15	22	72	86	76	33	91	56	44	19	6.9	23	11
16	38	64	77	65	126	80	52	40	17	11	28	10
17	40	58	65	50	121	74	92	35	16	12	56	9.4
18	46	53	63	44	89	69	108	34	15	12	98	8.6
19	42	50	57	38	81	70	105	32	16	9.8	76	7.7
20	35	48	52	34	76	71	90	30	17	9.0	54	7.0
21	30	49	56	32	68	68	78	27	17	7.6	36	6.8
22	28	80	61	31	60	65	71	25	17	e6.6	28	7.0
23	26	155	60	73	55	65	69	23	15	e7.6	20	16
24	25	132	58	183	52	64	67	20	16	8.5	18	13
25	24	119	52	140	50	60	116	20	19	7.8	17	12
26	24	100	48	109	82	62	120	19	19	7.1	15	20
27	23	92	45	81	93	121	104	19	19	6.8	12	38
28	22	75	44	69	76	125	86	19	25	6.5	12	35
29	19	70	47	63	67	114	72	18	19	12	11	25
30	19	68	64	63	---	97	68	16	15	6.3	9.7	23
31	100	---	59	61	---	103	---	14	---	4.7	9.4	---
TOTAL	1047	2672	2134	2138	1689	2499	2329	1271	1060	308.1	678.3	460.7
MEAN	33.8	89.1	68.8	69.0	58.2	80.6	77.6	41.0	35.3	9.94	21.9	15.4
MAX	100	217	116	183	126	154	120	87	100	18	98	38
MIN	19	47	44	31	29	46	50	14	15	4.7	4.1	6.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	MEAN	27.5	47.5	60.8	67.9	77.0	110	99.5	62.7	40.7	21.0	24.6	21.7
MAX	126	187	187	224	188	236	284	146	213	79.3	226	87.7	
(WY)	1956	1956	1987	1979	1970	1983	1987	1954	1982	1959	1955	1954	
MIN	6.01	5.88	7.78	5.35	13.4	45.3	31.8	21.2	8.71	6.73	4.30	5.94	
(WY)	1958	1966	1966	1981	1980	1985	1966	1986	1981	1949	1981	1980	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1940 - 1992

ANNUAL TOTAL	18883.0	18286.1	
ANNUAL MEAN	51.7	50.0	54.9
HIGHEST ANNUAL MEAN			106
LOWEST ANNUAL MEAN			21.7
HIGHEST DAILY MEAN	217	Nov 1	1260
LOWEST DAILY MEAN	4.0	Jul 25	1.4
ANNUAL SEVEN-DAY MINIMUM	4.5	Jul 19	3.2
INSTANTANEOUS PEAK FLOW			1490
INSTANTANEOUS PEAK STAGE			14.65
INSTANTANEOUS LOW FLOW			
10 PERCENT EXCEEDS	98	98	122
50 PERCENT EXCEEDS	48	46	37
90 PERCENT EXCEEDS	9.1	10	9.2

e Estimated

NEPONSET RIVER BASIN

59

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 downstream from Washington Street Bridge at Canton, 200 ft downstream from Forge Pond Dam, and 900 ft downstream from Massapoag Brook.

DRAINAGE AREA.--27.2 mi².

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 above sea level (Massachusetts Department of Public Works benchmark).

REMARKS.--Records fair. Flow regulated by Forge, Bolivar, Massapoag, and Reservoir Ponds, and other ponds upstream. Flow affected by diversions for municipal supply of Canton and Stoughton.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	218	64	41	54	45	82	48	91	13	10	9.4
2	26	165	61	39	49	41	70	48	115	12	9.7	8.8
3	24	107	81	39	45	42	62	68	60	11	8.2	8.7
4	26	94	111	56	42	41	58	60	38	10	7.3	31
5	23	86	95	109	41	41	54	55	33	11	6.7	25
6	23	81	79	90	37	40	52	48	91	12	6.5	17
7	48	73	73	70	35	50	45	45	98	13	6.2	15
8	34	67	73	63	36	71	44	42	64	12	5.9	15
9	24	66	73	59	35	59	44	54	54	12	8.3	18
10	21	70	71	60	31	53	42	50	45	12	25	16
11	19	100	66	55	31	102	44	44	37	11	23	16
12	19	129	62	49	30	132	67	39	32	9.8	44	16
13	17	103	61	47	26	95	63	38	28	8.5	27	13
14	15	86	77	63	28	76	48	36	24	8.2	25	12
15	13	76	90	77	30	69	42	34	21	8.3	21	11
16	29	68	76	58	101	64	42	32	19	11	28	10
17	28	62	65	45	83	60	73	30	18	14	76	9.9
18	33	54	61	44	56	56	90	28	16	12	118	8.7
19	38	52	58	40	54	56	77	26	15	11	99	7.7
20	34	49	54	37	53	57	66	24	13	11	53	7.3
21	34	48	56	36	50	55	57	22	14	11	30	6.6
22	28	77	58	35	47	50	47	20	13	7.1	23	6.6
23	31	144	55	64	44	50	46	17	13	6.6	20	17
24	39	121	53	183	43	48	43	16	12	6.2	18	16
25	39	105	48	117	42	46	89	17	20	6.7	16	11
26	33	89	43	80	72	47	89	16	18	6.9	15	13
27	21	79	41	69	75	102	71	14	17	6.9	14	47
28	16	74	37	64	58	101	62	15	36	7.1	14	31
29	15	72	38	60	52	81	57	14	21	7.8	13	18
30	25	66	57	57	---	70	55	13	15	8.5	12	14
31	123	---	50	55	---	80	---	12	---	8.4	11	---
TOTAL	925	2681	1987	1961	1380	1980	1781	1025	1091	306.0	793.8	455.7
MEAN	29.8	89.4	64.1	63.3	47.6	63.9	59.4	33.1	36.4	9.87	25.6	15.2
MAX	123	218	111	183	101	132	90	68	115	14	118	47
MIN	13	48	37	35	26	40	42	12	12	6.2	5.9	6.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1992, BY WATER YEAR (WY)

	MEAN	30.1	49.6	62.0	67.2	71.3	91.7	85.2	53.7	35.5	17.9	23.1	21.7
MAX	100	161	131	177	132	177	210	142	154	55.8	203	76.2	
(WY)	1963	1956	1987	1979	1970	1968	1987	1954	1982	1973	1955	1954	
MIN	6.42	8.35	9.78	10.6	20.1	40.8	20.7	20.2	8.62	4.46	3.64	4.42	
(WY)	1966	1966	1966	1966	1966	1980	1985	1966	1965	1964	1965	1957	1957

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1953 - 1992

ANNUAL TOTAL	16187.0	16366.5	
ANNUAL MEAN	44.3	44.7	50.6
HIGHEST ANNUAL MEAN			78.9
LOWEST ANNUAL MEAN			18.6
HIGHEST DAILY MEAN	218	Nov 1	1360
LOWEST DAILY MEAN	3.3	Sep 13	1790
ANNUAL SEVEN-DAY MINIMUM	3.7	Sep 12	1790
INSTANTANEOUS PEAK FLOW			1790
INSTANTANEOUS PEAK STAGE			8.18
INSTANTANEOUS LOW FLOW			8.3
10 PERCENT EXCEEDS	86	84	108
50 PERCENT EXCEEDS	40	42	37
90 PERCENT EXCEEDS	5.7	11	8.3

WEYMOUTH BACK RIVER BASIN

01105600 OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MA

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

DRAINAGE AREA.--4.50 mi², revised.

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

GAGE.--Water-stage recorder. Elevation of gage is 70 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	144	8.0	6.7	5.9	7.9	11	6.4	31	1.9	1.4	1.1
2	3.8	80	7.7	5.5	5.6	5.5	8.9	7.9	27	1.6	.89	1.1
3	3.3	41	28	5.5	5.3	5.6	7.6	12	8.9	1.3	.70	2.8
4	3.1	23	48	24	4.6	5.6	7.1	8.8	5.7	2.2	.60	13
5	2.5	14	26	54	4.7	5.9	6.4	7.4	4.2	2.5	.58	5.1
6	4.4	11	15	28	e4.2	6.5	6.1	6.8	27	3.2	.52	3.0
7	9.0	10	13	14	4.3	12	5.7	6.3	13	2.3	.51	2.5
8	5.2	9.0	14	11	4.2	13	5.7	6.6	7.4	1.6	.46	2.3
9	3.3	8.0	14	9.2	e4.2	9.9	5.3	9.3	5.7	5.0	5.4	2.1
10	2.9	8.4	15	9.8	e4.2	8.4	5.2	7.7	4.6	4.2	3.7	1.9
11	2.8	31	12	7.3	4.1	20	6.6	6.9	3.9	2.1	4.8	2.3
12	2.8	48	10	5.3	e3.9	18	12	6.5	3.4	1.6	7.7	1.9
13	2.5	26	9.7	4.9	e3.7	11	8.4	6.2	3.0	1.3	9.1	1.5
14	2.2	14	16	9.8	3.4	8.8	6.5	6.0	2.6	2.7	17	1.4
15	2.1	11	16	10	4.4	7.7	5.6	5.4	2.5	4.4	8.5	1.3
16	4.0	10	10	7.5	16	7.2	5.3	5.0	2.3	5.3	11	1.2
17	3.5	8.6	8.1	7.8	10	6.3	17	4.7	2.1	2.7	15	1.2
18	9.4	7.7	7.5	4.3	7.7	6.2	16	4.4	1.9	1.9	46	1.0
19	6.4	7.1	6.9	4.0	8.3	6.5	12	4.2	1.8	1.5	28	.97
20	4.0	7.1	5.7	4.2	8.0	6.6	9.3	3.9	1.8	1.2	9.4	.84
21	3.3	7.4	6.6	4.2	7.1	6.6	7.9	3.5	1.8	1.0	5.7	.77
22	3.0	26	7.1	3.9	6.3	6.2	7.2	3.2	1.6	.88	4.3	.78
23	2.8	52	6.8	19	5.9	6.2	7.2	3.0	1.6	1.4	3.6	5.1
24	2.7	44	7.0	48	5.8	5.8	7.0	2.7	2.4	1.9	3.1	2.4
25	2.7	34	5.6	17	5.5	5.4	21	3.0	3.5	1.2	3.0	1.7
26	2.8	16	4.6	e8.7	14	7.3	14	3.0	2.3	.89	2.8	5.6
27	2.9	12	4.4	7.1	11	32	9.8	2.9	9.8	.88	2.3	12
28	2.9	11	4.3	6.1	8.1	21	8.0	2.6	9.3	.85	2.0	5.6
29	2.6	10	6.5	5.9	7.3	13	7.1	2.5	4.1	.76	1.9	3.2
30	3.2	9.0	15	5.9	---	9.8	6.5	2.3	2.6	.76	1.6	2.1
31	66	---	9.4	5.9	---	13	---	2.2	---	.68	1.4	---
TOTAL	176.4	740.3	367.9	364.5	187.7	304.9	263.4	163.3	198.8	61.70	202.96	87.76
MEAN	5.69	24.7	11.9	11.8	6.47	9.84	8.78	5.27	6.63	1.99	6.55	2.93
MAX	66	144	48	54	16	32	21	12	31	5.3	46	13
MIN	2.1	7.1	4.3	3.9	3.4	5.4	5.2	2.2	1.6	.68	.46	.77
CFSM	1.26	5.48	2.64	2.61	1.44	2.19	1.95	1.17	1.47	.44	1.45	.65
IN.	1.46	6.12	3.04	3.01	1.55	2.52	2.18	1.35	1.64	.51	1.68	.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	MEAN	4.64	10.4	12.4	11.7	13.1	17.2	13.7	9.79	7.55	2.74	3.27	3.18
MAX	10.9	24.7	30.9	30.8	26.0	51.5	38.6	21.6	46.2	7.78	8.99	8.48	
(WY)	1990	1992	1970	1979	1984	1983	1987	1967	1982	1988	1990	1987	
MIN	1.20	2.80	2.77	2.16	2.86	6.25	4.95	4.11	1.17	.54	.50	.18	
(WY)	1969	1985	1981	1981	1980	1981	1985	1986	1976	1991	1971	1980	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	3293.91	3119.62	
ANNUAL MEAN	9.02	8.52	9.13
HIGHEST ANNUAL MEAN			14.4
LOWEST ANNUAL MEAN			3.91
HIGHEST DAILY MEAN	144	Nov 1	361
LOWEST DAILY MEAN	.19	Jul 22	.11
ANNUAL SEVEN-DAY MINIMUM	.23	Jul 16	.13
INSTANTANEOUS PEAK FLOW			590
INSTANTANEOUS PEAK STAGE			5.35
INSTANTANEOUS LOW FLOW			.11
ANNUAL RUNOFF (CFSM)	2.01	1.89	2.03
ANNUAL RUNOFF (INCHES)	27.23	25.79	27.55
10 PERCENT EXCEEDS	19	16	19
50 PERCENT EXCEEDS	5.3	5.7	5.5
90 PERCENT EXCEEDS	.52	1.6	.87

e Estimated

NORTH RIVER BASIN

61

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 upstream from Iron Mine Brook, and 1 mi southwest of Hanover.

DRAINAGE AREA.--30.3 mi².

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

Water-quality records: Water years 1970-71.

GAGE.--Water-stage recorder. Datum of gage is 3.16 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by mills and by Wampatuck, Indian Head, Maquan, and other ponds upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	455	e74	e46	55	49	112	46	102	19	10	7.6
2	33	460	e70	e42	52	45	89	49	178	16	9.2	8.4
3	30	281	e120	e40	47	44	76	73	96	15	7.0	12
4	27	177	e200	e70	45	43	66	61	56	13	5.8	40
5	25	127	e160	e140	43	46	59	49	41	14	5.3	32
6	26	98	e125	e110	39	49	53	44	92	18	4.7	22
7	41	82	e110	e91	36	67	50	41	106	18	6.5	17
8	38	72	e105	e76	37	114	47	40	65	16	8.0	17
9	30	64	e96	e67	38	85	44	60	48	15	12	15
10	27	63	e89	e62	34	70	42	55	39	17	22	13
11	25	128	e80	e60	33	87	47	45	32	16	17	13
12	24	191	71	e55	32	122	75	41	28	14	21	13
13	22	e160	68	e50	29	87	69	40	26	12	23	11
14	21	e120	77	e65	30	68	53	38	24	10	19	9.0
15	19	e100	96	e85	33	58	47	35	20	11	22	9.2
16	25	e88	78	e66	107	51	43	33	18	14	26	9.7
17	28	e76	64	e52	96	46	93	32	16	17	53	8.6
18	47	e70	57	e46	71	45	126	31	16	16	180	8.4
19	48	e64	50	e42	73	46	101	30	15	14	168	7.7
20	35	e58	45	e39	70	46	81	26	15	12	96	7.7
21	29	e70	48	e37	62	46	69	24	15	9.7	52	7.8
22	27	e110	54	e35	55	44	62	24	14	8.8	35	5.9
23	25	e230	51	e100	51	46	62	23	13	7.1	27	17
24	23	e170	e49	e250	49	46	54	20	12	8.9	22	16
25	22	e130	e45	e150	47	45	90	21	21	9.6	19	12
26	22	e110	e42	e100	79	54	97	22	21	9.2	18	16
27	21	e100	e40	e75	90	161	77	20	21	7.5	16	61
28	20	e92	e38	e62	68	166	63	19	54	5.2	13	45
29	18	e86	e45	e58	61	126	55	18	35	2.4	5.6	27
30	31	e80	e68	58	---	97	50	17	23	4.1	7.5	19
31	130	---	e56	55	---	104	---	16	---	5.4	9.0	---
TOTAL	976	4112	2371	2284	1562	2203	2052	1093	1262	374.9	939.6	508.0
MEAN	31.5	137	76.5	73.7	53.9	71.1	68.4	35.3	42.1	12.1	30.3	16.9
MAX	130	460	200	250	107	166	126	73	178	19	180	61
MIN	18	58	38	35	29	43	42	16	12	2.4	4.7	5.9
CFSM	1.04	4.52	2.52	2.43	1.78	2.35	2.26	1.16	1.39	.40	1.00	.56
IN.	1.20	5.05	2.91	2.80	1.92	2.70	2.52	1.34	1.55	.46	1.15	.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

MEAN	31.6	66.0	79.9	80.8	89.7	115	95.6	65.6	46.4	21.7	23.3	20.9
MAX	88.5	143	180	218	172	276	230	155	203	70.4	93.0	65.0
(WY)	1990	1973	1970	1979	1984	1983	1987	1967	1982	1973	1990	1972
MIN	7.36	18.0	16.4	11.4	19.4	54.9	34.1	26.1	11.4	5.68	2.02	1.13
(WY)	1972	1981	1981	1981	1980	1985	1985	1981	1976	1971	1966	1980

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1966 - 1992

ANNUAL TOTAL	20429.6	19737.5	
ANNUAL MEAN	56.0	53.9	61.3
HIGHEST ANNUAL MEAN			88.9
LOWEST ANNUAL MEAN			27.6
HIGHEST DAILY MEAN	460	Nov 2	1260
LOWEST DAILY MEAN	2.0	Jul 25	.18
ANNUAL SEVEN-DAY MINIMUM	2.8	Jul 19	.38
INSTANTANEOUS PEAK FLOW			1390
INSTANTANEOUS PEAK STAGE		4.91	7.13
INSTANTANEOUS LOW FLOW		1.2	.14
ANNUAL RUNOFF (CFSM)	1.85	1.78	2.02
ANNUAL RUNOFF (INCHES)	25.08	24.23	27.48
10 PERCENT EXCEEDS	119	105	136
50 PERCENT EXCEEDS	44	44	41
90 PERCENT EXCEEDS	7.9	12	7.3

e Estimated

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 downstream from Elm Street Bridge at Kingston and 2.8 mi upstream from mouth.

DRAINAGE AREA.--15.7 mi², excludes 4.09 mi² 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.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 4.76 ft above sea level (levels by Massachusetts Department of Public Works).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by pond upstream. Flow affected at times by wastage from Silver Lake. Surface flow may be affected by ground water that enters from or moves into adjacent basins.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	83	e47	23	40	31	48	24	39	17	13	8.5
2	21	118	e44	21	33	26	43	23	84	16	11	8.0
3	20	102	e49	20	30	25	38	24	71	15	11	9.6
4	17	60	e70	37	29	29	34	26	45	15	11	18
5	16	38	e80	63	29	32	30	26	36	15	10	22
6	15	34	e70	57	32	31	28	24	47	17	9.1	18
7	19	30	e64	46	34	38	26	22	52	16	8.5	15
8	20	24	e60	38	31	53	24	24	44	18	9.5	13
9	18	22	e56	35	29	49	22	35	37	17	12	12
10	15	21	e49	33	e22	46	21	39	30	15	19	11
11	16	31	e41	27	22	44	22	35	24	14	18	11
12	18	63	39	23	22	48	28	30	22	13	12	11
13	18	65	36	29	19	44	31	28	20	12	10	11
14	15	56	38	44	21	39	27	27	19	11	10	10
15	17	47	39	46	22	34	24	26	18	12	11	9.9
16	26	45	35	34	48	28	22	27	16	13	13	9.5
17	29	40	30	29	49	26	28	27	17	14	17	9.7
18	31	39	22	29	41	21	41	23	17	13	40	9.3
19	34	38	17	27	42	24	41	23	16	11	43	7.9
20	31	36	13	27	42	28	36	20	16	11	36	7.1
21	25	36	22	26	42	27	31	20	15	11	26	7.2
22	30	e43	24	25	35	27	29	21	15	11	19	8.1
23	24	e84	26	33	34	28	27	19	14	12	15	9.5
24	23	e99	27	89	35	34	26	19	14	12	12	9.5
25	21	e92	24	81	32	30	31	20	17	13	10	9.7
26	20	e80	22	64	47	30	36	19	17	12	9.5	15
27	20	e68	21	49	46	59	35	18	19	11	8.8	32
28	19	e60	21	39	40	70	30	17	25	11	8.4	27
29	18	e54	22	38	39	62	27	18	25	11	11	21
30	e18	e50	30	46	---	52	25	17	20	11	8.9	22
31	30	---	28	50	---	50	---	16	---	10	8.5	---
TOTAL	670	1658	1166	1228	987	1165	911	737	851	410	461.2	392.5
MEAN	21.6	55.3	37.6	39.6	34.0	37.6	30.4	23.8	28.4	13.2	14.9	13.1
MAX	34	118	80	89	49	70	48	39	84	18	43	32
MIN	15	21	13	20	19	21	21	16	14	10	8.4	7.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	17.8	30.2	33.3	35.7	43.7	54.7	47.0	37.3	26.7	17.6	17.0	16.7															
MAX	43.2	66.0	76.8	78.2	83.3	135	114	67.7	69.4	38.6	42.9	45.5															
(WY)	1978	1973	1973	1979	1984	1983	1984	1967	1984	1984	1979	1972															
MIN	7.94	5.71	10.8	9.00	20.1	25.8	17.3	14.9	9.56	6.34	4.79	5.49															
(WY)	1967	1975	1981	1981	1980	1985	1985	1981	1981	1981	1981	1976															

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	11343.7	10636.7	
ANNUAL MEAN	31.1	29.1	31.5
HIGHEST ANNUAL MEAN			54.6
LOWEST ANNUAL MEAN			14.9
HIGHEST DAILY MEAN	180	Apr 22	527
LOWEST DAILY MEAN	9.4	Sep 13	.59
ANNUAL SEVEN-DAY MINIMUM	9.9	Jul 17	1.1
INSTANTANEOUS PEAK FLOW			575
INSTANTANEOUS PEAK STAGE			5.88
INSTANTANEOUS LOW FLOW			
10 PERCENT EXCEEDS	60	49	60
50 PERCENT EXCEEDS	25	25	24
90 PERCENT EXCEEDS	13	11	9.1

e Estimated

QUASHNET RIVER BASIN

63

011058837 QUASHNET RIVER AT WAQUOIT VILLAGE, MA

LOCATION.--Lat 41°35'32", long 70°30'30", Barnstable County, Hydrologic Unit 01090002, on right bank 15 ft upstream from bridge on Martins Road, 0.5 mi northeast of Waquoit Village, and 1.4 mi upstream from mouth.

DRAINAGE AREA.--Surface drainage, from topography, about 2.58 mi², excludes area drained by Johns Pond. This stream drains from a ground-water basin which is larger than, and not coincident with, the surface-water basin.

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 0.86 ft above sea level.

REMARKS.--Records good. Flow at times includes overflow and leakage from Johns Pond. Occasional regulation by cranberry bog upstream. Frequent backwater from tidal surge.

REVISIONS.--The maximum discharges reported for water years 1990 and 1991 have been revised to 36 ft³/s Nov. 1, 1989, gage height 2.82 ft, and 33 ft³/s Apr. 21, 1991, gage height 2.65 ft, superseding those published in the reports for 1990 and 1991. The maximum gage heights published for those years, 2.85 ft Nov. 16, 1989, and 4.55 ft Aug. 19, 1991, were affected by backwater from tide. Revised daily discharges, in cubic feet per second, in water year 1991 are given below, superseding those published in the report for 1991.

Nov. 10.....12	Dec. 4.....16	Apr. 21.....26	Aug. 14.....14	
Month	Total	Mean	Max	Min
November 1990	368.6	12.3	17	9.6
December 1990	400	12.9	18	11
April 1991	483	16.1	26	14
August 1991	384	12.4	18	10
Cal Yr 1990	5404.8	14.8	29	7.8
Wat Yr 1991	4759.7	13.0	26	8.1

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	20	11	10	13	12	13	13	19	12	12	12
2	12	18	12	10	12	12	13	13	25	12	12	12
3	12	16	e13	10	12	11	12	13	17	12	11	13
4	12	15	13	12	11	8.9	12	13	14	13	13	14
5	12	14	12	13	11	8.7	13	12	14	13	13	14
6	12	14	12	18	11	8.7	12	12	18	14	12	13
7	12	14	12	16	11	9.4	13	12	16	13	11	13
8	11	13	12	13	e11	12	13	12	14	13	11	14
9	11	13	12	12	11	22	12	14	14	13	18	13
10	11	14	13	12	9.8	17	12	13	14	13	28	13
11	9.1	17	12	11	8.5	e12	13	12	13	12	22	13
12	8.2	17	12	11	8.4	13	13	12	13	12	19	13
13	8.0	15	12	11	8.2	13	13	12	13	12	16	13
14	8.1	14	12	9.7	8.8	12	12	12	13	12	15	13
15	8.0	14	12	8.8	9.5	12	12	12	13	12	15	13
16	13	13	9.9	8.0	14	12	12	12	12	17	17	13
17	13	13	10	8.1	11	12	15	11	13	14	15	13
18	12	13	11	8.8	11	12	14	11	13	13	16	13
19	11	13	11	9.2	11	12	14	12	13	12	15	13
20	10	12	11	9.6	13	12	13	11	14	12	14	13
21	11	12	11	9.9	21	12	13	11	13	12	14	13
22	11	12	11	10	16	12	13	11	13	12	13	14
23	11	14	e11	e11	13	13	13	11	12	12	13	14
24	17	e14	9.4	15	12	12	13	11	13	12	13	14
25	16	13	8.4	11	12	12	14	11	13	12	13	14
26	19	12	8.2	11	14	12	13	11	13	12	12	14
27	21	12	8.5	10	12	14	13	11	12	12	12	21
28	19	12	9.1	10	12	13	13	11	13	12	13	18
29	e17	11	10	11	12	13	13	11	12	12	13	16
30	e16	11	12	18	---	12	13	11	12	12	12	15
31	e16	---	11	16	---	14	---	11	---	11	12	---
TOTAL	391.4	415	344.5	354.1	340.2	382.7	387	365	421	387	445	414
MEAN	12.6	13.8	11.1	11.4	11.7	12.3	12.9	11.8	14.0	12.5	14.4	13.8
MAX	21	20	13	18	21	22	15	14	25	17	28	21
MIN	8.0	11	8.2	8.0	8.2	8.7	12	11	12	11	11	12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	MEAN	12.0	13.6	11.8	12.5	12.2	13.6	15.3	15.9	15.5	13.4	13.5	12.7
MAX	12.6	14.9	12.9	14.5	13.6	15.7	18.2	20.2	18.1	15.5	14.4	13.8	
(WY)	1992	1990	1991	1989	1990	1990	1990	1990	1990	1990	1992	1992	
MIN	11.2	12.3	11.1	11.1	11.4	11.4	12.9	11.8	13.6	11.9	12.4	11.9	
(WY)	1989	1991	1992	1991	1989	1989	1992	1992	1991	1991	1991	1991	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1989 - 1992

ANNUAL TOTAL	4773.8	4646.9	
ANNUAL MEAN	13.1	12.7	13.5
HIGHEST ANNUAL MEAN			14.9
LOWEST ANNUAL MEAN			12.7
HIGHEST DAILY MEAN	26	Apr 21	38
LOWEST DAILY MEAN	8.0	Oct 13	7.0
ANNUAL SEVEN-DAY MINIMUM	8.3	Jan 23	7.4
INSTANTANEOUS PEAK FLOW			41
INSTANTANEOUS PEAK STAGE			3.90
INSTANTANEOUS LOW FLOW			7.8
10 PERCENT EXCEEDS	16		18
50 PERCENT EXCEEDS	12		13
90 PERCENT EXCEEDS	10		10

e Estimated

TAUNTON RIVER BASIN

01109000 WADING RIVER NEAR NORTON, MA

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

DRAINAGE AREA.--43.3 mi².

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). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 55.14 ft above sea level. Prior to Oct. 1, 1930, nonrecording gage at same site at datum 0.62 ft higher and Oct. 1, 1930, to May 5, 1933, at same site at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	99	104	68	e88	82	133	76	56	12	6.2	10
2	41	134	97	64	e76	76	122	75	107	10	5.7	8.7
3	35	115	107	63	e71	73	109	79	82	9.2	5.3	11
4	31	98	157	70	e67	72	100	78	62	9.4	4.8	24
5	27	86	160	114	65	72	91	72	52	11	4.6	26
6	26	76	142	122	61	70	84	66	106	12	4.1	21
7	33	67	138	107	59	76	78	62	154	14	3.9	17
8	38	61	132	94	58	105	74	59	115	12	3.9	17
9	32	56	127	e80	56	104	71	69	93	11	6.3	19
10	27	46	e121	e72	e55	94	69	76	80	9.4	10	18
11	25	66	e113	e67	e53	123	67	71	69	7.9	11	18
12	24	123	e103	e67	e53	197	74	64	58	6.7	8.9	19
13	23	119	101	65	e52	180	78	59	50	5.9	7.6	16
14	22	96	100	71	e50	147	73	56	43	5.1	7.7	14
15	20	80	102	92	47	126	68	54	36	6.7	8.2	12
16	27	73	103	83	95	113	65	50	30	9.6	10	11
17	37	69	e92	e62	132	104	85	47	26	11	25	9.7
18	43	69	82	e72	119	97	124	44	22	9.9	74	9.1
19	53	64	83	e60	112	96	122	42	20	8.6	95	8.8
20	47	65	77	e54	109	96	112	39	19	9.1	66	8.4
21	40	60	75	e50	100	95	101	33	18	9.3	47	7.4
22	35	85	75	e50	90	91	95	32	17	7.0	35	7.3
23	32	178	75	e70	83	90	93	31	16	5.8	27	12
24	29	210	75	e200	79	88	87	27	16	6.2	22	13
25	27	193	71	e225	76	86	95	25	18	6.0	19	12
26	26	162	67	e180	94	85	120	23	16	5.5	16	15
27	25	141	64	e145	118	127	110	23	17	5.3	14	49
28	24	127	62	e130	107	157	97	22	18	5.2	13	54
29	21	122	60	e112	98	140	87	22	17	5.0	13	35
30	20	112	73	e104	---	124	81	22	14	4.9	12	26
31	35	---	75	e93	---	126	---	21	---	5.2	11	---
TOTAL	973	3052	3013	2906	2323	3312	2765	1519	1447	255.9	597.2	528.4
MEAN	31.4	102	97.2	93.7	80.1	107	92.2	49.0	48.2	8.25	19.3	17.6
MAX	53	210	160	225	132	197	133	79	154	14	95	54
MIN	20	46	60	50	47	70	65	21	14	4.9	3.9	7.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1992, BY WATER YEAR (WY)

	MEAN	30.7	61.7	89.7	98.7	106	154	134	83.1	52.2	24.4	22.7	21.5
MAX	143	210	257	353	232	354	323	227	222	225	175	106	
(WY)	1956	1956	1946	1979	1970	1936	1987	1954	1984	1938	1955	1954	
MIN	3.11	5.21	10.4	13.7	26.1	65.6	35.0	28.6	9.79	3.57	2.55	1.76	
(WY)	1958	1958	1966	1981	1980	1985	1985	1965	1957	1957	1965	1930	

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1925 - 1992

ANNUAL TOTAL	23853.0	22691.5	73.1	
ANNUAL MEAN	65.4	62.0	123	1984
HIGHEST ANNUAL MEAN			28.8	1966
LOWEST ANNUAL MEAN			1280	Mar 19 1968
HIGHEST DAILY MEAN	242	225	Jan 7	Sep 10 1926
LOWEST DAILY MEAN	1.7	3.9	Aug 2	Sep 27 1930
ANNUAL SEVEN-DAY MINIMUM	2.1	4.6	Aug 2	Mar 19 1968
INSTANTANEOUS PEAK FLOW		257	Jan 24	Mar 19 1968
INSTANTANEOUS PEAK STAGE		7.63	Jan 24	Mar 19 1968
INSTANTANEOUS LOW FLOW		3.7	Aug 8	Sep 10 1926
10 PERCENT EXCEEDS	137	122		
50 PERCENT EXCEEDS	64	62		
90 PERCENT EXCEEDS	4.4	9.2		

e Estimated

TAUNTON RIVER BASIN

65

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 downstream from Warner Boulevard at North Dighton and 1.4 mi upstream from mouth.

DRAINAGE AREA.--84.3 mi².

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

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 above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Lake Mirimichi and other lakes and reservoirs upstream. Diversions to and from basin upstream for municipal supplies may be compensating.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	233	239	166	e212	e220	258	151	92	35	26	19
2	106	269	225	150	e200	e189	257	145	171	30	20	21
3	93	296	247	143	e186	e158	235	145	188	28	17	27
4	83	273	311	167	e172	e148	209	147	152	31	17	59
5	75	236	351	243	e162	e145	187	141	119	32	16	51
6	70	206	351	278	e154	e148	167	127	187	33	15	44
7	72	178	316	274	e148	e164	153	116	251	33	13	38
8	76	158	304	244	e140	e182	142	111	275	32	14	35
9	76	142	289	219	e134	e220	132	130	223	33	28	34
10	71	134	283	208	e128	e210	126	139	173	30	38	34
11	66	175	270	200	e124	e230	124	138	141	27	30	35
12	63	260	249	176	e118	e238	135	126	113	24	28	34
13	61	301	235	160	e115	e408	144	116	93	23	24	32
14	57	295	236	179	e111	e380	142	108	79	25	e22	29
15	55	252	238	215	e108	e320	132	102	68	39	e23	27
16	66	217	240	209	e170	e280	122	96	58	35	e31	25
17	75	191	220	142	e230	e240	164	88	52	32	e54	24
18	98	172	196	179	e260	e220	217	83	46	29	e110	22
19	105	162	176	155	e250	e200	248	79	43	27	e160	22
20	104	151	173	142	e230	e189	244	73	41	25	e181	20
21	93	148	171	120	e215	e179	223	67	39	24	e118	19
22	84	190	172	115	e200	e172	203	61	37	23	e72	19
23	77	318	172	173	e188	e170	194	57	36	23	e57	30
24	72	438	171	385	e178	e170	180	47	40	24	e46	31
25	66	499	163	466	e168	166	186	49	52	22	e39	27
26	56	443	147	476	e185	163	211	49	44	20	e35	35
27	54	376	137	374	e220	230	228	46	49	20	e33	70
28	53	322	130	329	e240	273	213	44	46	19	e31	75
29	50	284	129	276	e230	298	185	43	42	18	e30	70
30	50	259	161	249	---	271	164	43	39	18	e28	54
31	99	---	178	231	---	258	---	43	---	18	27	---
TOTAL	2352	7578	6880	7043	5176	6839	5525	2910	2989	832	1383	1062
MEAN	75.9	253	222	227	178	221	184	93.9	99.6	26.8	44.6	35.4
MAX	126	499	351	476	260	408	258	151	275	39	181	75
MIN	50	134	129	115	108	145	122	43	36	18	13	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	MEAN	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	81.4	150	215	226	244	317	295	193	138	53.6	60.5	51.0																
MAX	298	407	534	683	466	580	701	408	466	137	170	128																
(WY)	1990	1990	1973	1979	1970	1983	1987	1967	1984	1973	1986	1989																
MIN	18.7	35.9	40.1	29.8	55.7	136	84.5	83.4	25.6	12.1	10.2	13.5																
(WY)	1972	1972	1981	1981	1980	1985	1985	1981	1991	1991	1966	1980																

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1966 - 1992
ANNUAL TOTAL	55045.3	50569	
ANNUAL MEAN	151	138	169
HIGHEST ANNUAL MEAN			255
LOWEST ANNUAL MEAN			64.4
HIGHEST DAILY MEAN	557	499	2310
LOWEST DAILY MEAN	7.5	13	5.6
ANNUAL SEVEN-DAY MINIMUM	9.3	16	7.1
INSTANTANEOUS PEAK FLOW		556	2490
INSTANTANEOUS PEAK STAGE		4.61	8.30
INSTANTANEOUS LOW FLOW		13	5.1
10 PERCENT EXCEEDS	317	263	380
50 PERCENT EXCEEDS	140	134	115
90 PERCENT EXCEEDS	12	27	24

e Estimated

TAUNTON RIVER BASIN

01109070 SEGREGANSET RIVER NEAR DIGHTON, MA

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

DRAINAGE AREA.--10.6 mi².

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

Water-quality records: Water years 1967-68.

GAGE.--Water-stage recorder. Elevation of gage is 30 ft above sea level, from topographic map.

REMARKS.--Records good. Occasional regulation by ponds upstream. Diversion upstream for Dighton Water District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	111	24	22	23	---	---	---	---	---	.49	.47
2	11	102	24	16	20	---	---	---	---	---	.77	.31
3	8.8	53	34	15	17	---	---	---	---	---	.63	.56
4	8.2	36	75	27	15	---	---	---	---	---	.51	3.5
5	6.5	27	e72	62	15	---	---	---	---	---	.32	5.6
6	7.5	22	e47	59	13	---	---	---	---	---	.17	4.6
7	9.7	18	e35	39	12	---	---	---	---	---	.11	3.4
8	8.9	16	33	29	12	---	---	---	---	---	.06	2.6
9	7.5	14	35	24	12	---	---	---	---	---	1.1	2.6
10	6.6	14	37	24	11	---	---	---	---	---	7.0	2.6
11	6.0	38	37	23	10	---	---	---	---	---	5.3	2.4
12	6.4	94	31	18	11	---	---	---	---	---	3.2	2.4
13	5.9	88	31	16	8.7	---	---	---	---	---	2.1	2.2
14	5.7	50	35	23	8.7	---	---	---	---	---	2.5	1.8
15	5.4	35	37	39	10	---	---	---	---	---	3.3	1.3
16	9.6	28	32	34	---	---	---	---	---	---	3.9	1.1
17	13	24	24	25	---	---	---	---	---	---	6.1	.74
18	17	20	20	18	---	---	---	---	---	---	33	.57
19	17	18	18	14	---	---	---	---	---	---	37	.51
20	13	16	15	11	---	---	---	---	---	---	21	.35
21	11	16	16	9.3	---	---	---	---	---	---	9.4	.25
22	8.5	29	19	8.8	---	---	---	---	---	---	6.8	.24
23	7.4	100	19	30	---	---	---	---	---	e1.1	4.0	1.1
24	7.0	111	19	155	---	---	---	---	---	1.1	3.3	1.3
25	6.2	105	18	e120	---	---	---	---	---	.96	2.9	.97
26	5.9	67	16	e61	---	---	---	---	---	.72	2.3	1.9
27	5.7	e44	13	e30	---	---	---	---	---	.60	1.3	18
28	5.6	e29	12	26	---	---	---	---	---	.42	.75	14
29	5.4	29	14	22	---	---	---	---	---	.34	.69	8.8
30	5.3	25	27	23	---	---	---	---	---	.26	.75	5.4
31	25	---	29	24	---	---	---	---	---	.21	.60	---
TOTAL	280.7	1379	898	1047.1	---	---	---	---	---	---	161.35	91.57
MEAN	9.05	46.0	29.0	33.8	---	---	---	---	---	---	5.20	3.05
MAX	25	111	75	155	---	---	---	---	---	---	37	18
MIN	5.3	14	12	8.8	---	---	---	---	---	---	.06	.24
CFSM	.85	4.34	2.73	3.19	---	---	---	---	---	---	.49	.29
IN.	.99	4.84	3.15	3.67	---	---	---	---	---	---	.57	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

MEAN	9.48	23.0	31.2	33.3	35.2	43.9	37.2	24.5	15.3	5.37	5.68	5.77
MAX	42.7	58.4	74.7	110	63.2	83.7	106	61.7	64.3	24.9	35.3	21.5
(WY)	1978	1973	1987	1979	1970	1968	1987	1967	1984	1973	1976	1972
MIN	.38	4.69	3.70	3.34	7.23	20.2	9.55	7.87	1.51	.25	.075	.018
(WY)	1989	1981	1981	1981	1980	1981	1985	1981	1981	1966	1966	1980

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	7979.65											
ANNUAL MEAN	21.9											
HIGHEST ANNUAL MEAN										22.4		
LOWEST ANNUAL MEAN										33.0		1984
HIGHEST DAILY MEAN	200	Apr 22								7.68		1981
LOWEST DAILY MEAN	.00	Jul 21								.00		Aug 13 1966
ANNUAL SEVEN-DAY MINIMUM	.01	Jul 19								.00		Aug 13 1966
INSTANTANEOUS PEAK FLOW										867		Mar 18 1968
INSTANTANEOUS PEAK STAGE										7.51		Mar 18 1968
INSTANTANEOUS LOW FLOW										.00		Aug 13 1966
ANNUAL RUNOFF (CFSM)	2.06									2.11		
ANNUAL RUNOFF (INCHES)	28.00									28.73		
10 PERCENT EXCEEDS	48									50		
50 PERCENT EXCEEDS	15									13		
90 PERCENT EXCEEDS	.40									.64		

e Estimated

TEN MILE RIVER BASIN

67

01109403 TEN MILE RIVER AT PAWTUCKET AVENUE AT EAST PROVIDENCE, RI

LOCATION.--Lat 41°49'51", long 71°21'06", Providence County, Hydrologic Unit 01090004, on right bank on upstream side of bridge on State Highways 1A and 114, 0.3 mi south of junction with State Highway 114A, and 0.7 mi upstream from mouth.

DRAINAGE AREA.--53.1 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5 ft above sea level, from topographic map.

REMARKS.--Records good. Flow affected by regulation and diversions from reservoirs upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	149	103	74	115	104	168	97	152	38	31	29
2	60	156	97	67	105	95	161	96	165	32	27	28
3	58	118	135	67	97	91	135	97	110	31	23	43
4	54	95	200	91	90	88	117	86	75	41	24	89
5	50	82	179	156	87	85	110	78	66	42	26	56
6	59	73	150	142	81	87	97	68	164	42	25	42
7	78	67	128	127	77	112	91	63	191	42	25	38
8	68	63	122	113	74	152	92	64	134	36	22	40
9	57	59	118	107	72	139	88	94	97	37	52	46
10	53	56	123	111	68	123	88	97	79	35	72	42
11	52	116	114	104	65	178	92	83	66	32	48	52
12	50	193	104	93	64	294	99	71	58	28	43	45
13	47	165	102	86	60	243	102	67	52	35	33	37
14	48	131	110	105	60	178	96	64	48	29	37	33
15	79	106	111	132	63	150	88	59	47	52	36	31
16	139	94	100	109	161	132	84	56	41	62	43	30
17	114	84	91	94	197	120	140	50	40	47	93	30
18	104	77	87	86	149	115	219	50	38	40	219	30
19	90	75	80	76	124	121	240	55	39	33	200	29
20	76	70	75	69	120	117	197	47	42	29	115	26
21	66	68	75	65	114	115	162	44	41	30	75	23
22	60	116	80	62	99	109	136	42	39	29	58	25
23	54	254	77	112	86	118	127	39	37	28	49	49
24	50	301	77	370	86	111	110	41	49	33	44	38
25	49	249	74	381	89	105	127	37	68	27	43	29
26	48	190	67	234	128	106	165	37	52	24	41	50
27	45	153	64	165	152	189	163	40	48	25	39	121
28	51	131	62	140	137	227	139	38	47	26	37	80
29	40	120	69	127	129	187	118	39	40	23	37	56
30	59	107	97	122	---	156	104	37	38	27	33	42
31	57	---	84	119	---	164	---	37	---	25	30	---
TOTAL	1977	3718	3155	3906	2949	4311	3855	1873	2163	1060	1680	1309
MEAN	63.8	124	102	126	102	139	128	60.4	72.1	34.2	54.2	43.6
MAX	139	301	200	381	197	294	240	97	191	62	219	121
MIN	40	56	62	62	60	85	84	37	37	23	22	23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992
MEAN	76.9	118	128	124	137	185
MAX	171	223	303	201	261	407
(WY)	1990	1990	1987	1987	1988	1989
MIN	24.8	73.8	51.8	41.4	60.5	90.2
(WY)	1989	1991	1989	1989	1989	1988

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1987 - 1992
ANNUAL TOTAL	33840.2	31956	104
ANNUAL MEAN	92.7	87.3	140
HIGHEST ANNUAL MEAN			86.8
LOWEST ANNUAL MEAN			1040
HIGHEST DAILY MEAN	415	Jan 18	Apr 6 1987
LOWEST DAILY MEAN	6.6	Apr 19	Apr 19 1991
ANNUAL SEVEN-DAY MINIMUM	16	Jul 16	Jul 16 1991
INSTANTANEOUS PEAK FLOW		431	Jan 25
INSTANTANEOUS PEAK STAGE		5.31	Jan 25
INSTANTANEOUS LOW FLOW		19	Aug 8
10 PERCENT EXCEEDS	187	156	204
50 PERCENT EXCEEDS	80	75	84
90 PERCENT EXCEEDS	21	33	28

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 downstream from dam at outlet of Hovey Pond at North Grafton and 0.3 mi upstream from Bummett Brook.

DRAINAGE AREA.--25.6 mi².

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

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 335 ft above sea level, from topographic map. Prior to Dec. 7, 1939, staff gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by Lake Quinsigamond 2.3 mi upstream and by ponds upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	35	53	12	37	e45	69	44	61	19	24	14
2	56	35	51	14	35	e40	65	43	85	17	20	11
3	48	34	56	17	31	e37	62	71	74	15	17	13
4	42	32	68	23	28	e35	54	67	60	16	15	29
5	37	30	110	38	29	e34	51	59	50	18	14	27
6	48	28	135	40	26	e33	46	53	85	21	12	24
7	53	26	114	40	25	e35	41	48	95	23	11	21
8	45	25	100	39	24	e50	41	44	82	21	9.0	19
9	39	23	92	36	25	e47	38	48	70	22	18	19
10	34	22	87	37	23	e45	38	47	58	23	33	18
11	32	32	81	37	22	e65	38	43	49	21	30	21
12	33	55	75	33	22	e90	50	40	42	17	34	19
13	31	56	73	31	20	e80	48	38	36	16	27	16
14	28	54	72	41	21	e70	43	39	31	14	25	14
15	26	50	74	51	21	e55	40	36	28	17	22	13
16	27	48	69	26	55	e50	37	35	25	27	23	12
17	26	45	58	46	56	e47	56	34	22	25	29	11
18	31	39	64	43	50	e45	64	32	20	25	49	10
19	30	37	59	37	46	e43	65	31	18	22	50	11
20	28	35	44	33	42	e41	61	28	19	20	46	e10
21	25	34	38	31	e39	e40	57	27	24	17	38	e9.0
22	24	52	41	28	e36	e39	53	25	23	15	32	e8.0
23	23	84	25	35	e34	e38	54	24	20	14	27	e11
24	22	89	3.4	87	e32	e37	48	22	20	16	23	e10
25	21	93	2.4	81	e31	e36	63	22	37	14	20	e9.0
26	21	84	2.0	67	e45	e35	66	20	36	13	18	e9.0
27	20	74	1.9	56	e60	e60	62	19	31	11	17	e10
28	20	67	1.8	49	e50	e95	56	18	28	11	20	e12
29	18	62	2.5	44	e47	e90	51	18	24	9.1	20	e11
30	17	57	6.8	40	---	e80	46	16	21	9.5	17	e10
31	23	---	8.8	39	---	e75	---	18	---	11	15	---
TOTAL	993	1437	1668.6	1231	1012	1612	1563	1109	1274	539.6	755.0	431.0
MEAN	32.0	47.9	53.8	39.7	34.9	52.0	52.1	35.8	42.5	17.4	24.4	14.4
MAX	65	93	135	87	60	95	69	71	95	27	50	29
MIN	17	22	1.8	12	20	33	37	16	18	9.1	9.0	8.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

MEAN	20.5	33.2	43.1	46.5	53.7	76.9	76.3	53.0	39.0	20.3	18.0	15.8
MAX	94.3	149	108	159	141	154	202	92.3	143	64.2	169	130
(WY)	1956	1956	1984	1979	1970	1972	1987	1954	1982	1959	1955	1954
MIN	1.22	1.80	3.07	7.85	11.0	29.4	22.5	19.2	12.0	2.67	1.05	1.84
(WY)	1943	1942	1942	1981	1977	1989	1966	1965	1976	1965	1965	1980

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1940 - 1992

ANNUAL TOTAL	15599.2	13625.2	
ANNUAL MEAN	42.7	37.2	41.3
HIGHEST ANNUAL MEAN			68.4
LOWEST ANNUAL MEAN			16.5
HIGHEST DAILY MEAN	204	135	790
LOWEST DAILY MEAN	1.8	1.8	.00
ANNUAL SEVEN-DAY MINIMUM	3.0	3.0	.01
INSTANTANEOUS PEAK FLOW		152	820
INSTANTANEOUS PEAK STAGE		2.44	5.15
INSTANTANEOUS LOW FLOW		1.8	.00
10 PERCENT EXCEEDS	78	67	87
50 PERCENT EXCEEDS	38	34	31
90 PERCENT EXCEEDS	8.8	14	5.9

e Estimated

BLACKSTONE RIVER BASIN

69

01111230 BLACKSTONE RIVER AT MILLVILLE, MA
(National stream-quality accounting network station)

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

DRAINAGE AREA.--277 mi².

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1969 to December 1980.

pH: July to December 1980.

WATER TEMPERATURES: July 1969 to December 1980.

DISSOLVED OXYGEN: July 1969 to December 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300) (00301)	
OCT 09...	0945	446	232	6.5	17.0	11.5	--	--	768	9.0	82
NOV 06...	0830	384	222	7.0	5.5	6.0	--	--	760	10.4	83
DEC 11...	1000	891	233	7.6	11.0	3.5	--	2.1	765	13.4	101
JAN 08...	1000	649	214	7.6	4.0	1.0	--	--	760	13.2	93
FEB 05...	0935	355	199	7.5	0.0	0.5	--	--	750	13.3	94
MAR 02...	1118	459	301	6.9	1.5	2.5	20	1.4	767	13.3	97
APR 15...	0910	498	256	7.5	7.0	8.0	--	--	768	10.3	86
MAY 13...	0845	448	262	7.1	14.5	14.5	--	--	757	8.2	81
JUN 09...	1030	808	294	6.2	20.0	20.0	--	3.6	756	7.2	80
JUL 08...	0930	218	253	6.9	25.5	20.5	--	--	762	6.6	73
AUG 05...	1020	183	262	6.2	22.5	22.0	--	--	760	7.9	91
SEP 02...	1135	163	270	6.8	25.0	18.5	8	1.5	765	8.6	91

DATE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)
OCT											
09...	--	--	1800	180	92	--	--	--	--	--	--
NOV											
06...	--	1.0	>8200	280	73	--	--	--	--	--	--
DEC											
11...	11	--	27500	1100	550	32	10	1.7	27	63	2
JAN											
08...	--	2.0	18000	970	340	--	--	--	--	--	--
FEB											
05...	--	--	22000	>3300	550	--	--	--	--	--	--
MAR											
02...	13	2.0	K12500	970	440	35	11	1.9	30	63	2
APR											
15...	--	--	800	K64	K18	--	--	--	--	--	--
MAY											
13...	--	3.0	1700	49	K14	--	--	--	--	--	--
JUN											
09...	19	--	800	K64	K18	31	9.9	1.6	23	60	2
JUL											
08...	--	1.0	540	52	91	--	--	--	--	--	--
AUG											
05...	--	--	1300	220	89	--	--	--	--	--	--
SEP											
02...	16	2.0	--	--	--	42	13	2.2	31	60	2

BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER WH IT LAB MG/L AS HCO3 (00449)	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3 (00450)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER WH IT LAB MG/L AS CO3 (00446)	CAR- BONATE WATER WH IT FIELD MG/L AS CO3 (00447)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT WH TOT IT LAB MG/L AS CACO3 (00416)	ALKA- LITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	HY- DROXIDE WATER WH IT LAB MG/L AS OH (71831)
OCT 09...	--	24	--	--	0	--	--	20	--	--	0
NOV 06...	--	20	--	--	0	--	--	16	--	--	0
DEC 11...	2.3	--	--	22	--	--	0	--	--	18	--
JAN 08...	--	--	24	--	--	0	--	--	19	--	--
FEB 05...	--	--	30	--	--	0	--	--	25	--	--
MAR 02...	2.7	--	--	34	--	--	0	--	--	28	--
APR 15...	--	--	28	--	--	0	--	--	23	--	--
MAY 13...	--	--	--	26	--	--	0	--	--	22	--
JUN 09...	2.1	--	--	28	--	--	0	--	--	23	--
JUL 08...	--	--	--	26	--	--	0	--	--	22	--
AUG 05...	--	--	--	26	--	--	0	--	--	21	--
SEP 02...	3.2	--	--	46	--	--	0	--	--	38	--

DATE	HY- DROXIDE WATER WH IT FIELD MG/L AS OH (71832)	HY- DROXIDE WATER DIS IT FIELD MG/L AS OH (71834)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
OCT 09...	--	--	--	--	--	--	--	--	--	--	0.840
NOV 06...	--	--	--	--	--	--	--	--	--	--	1.06
DEC 11...	--	0	14	44	0.10	6.7	136	120	3	150	0.540
JAN 08...	0	--	--	--	--	--	--	--	--	--	0.620
FEB 05...	0	--	--	--	--	--	--	--	--	--	0.690
MAR 02...	--	0	16	50	0.20	5.9	137	139	1	153	0.690
APR 15...	0	--	--	--	--	--	--	--	--	--	0.800
MAY 13...	--	0	--	--	--	--	--	--	--	--	1.10
JUN 09...	--	0	5.9	10	0.20	5.4	80	77	98	--	0.740
JUL 08...	--	0	--	--	--	--	--	--	--	--	1.17
AUG 05...	--	0	--	--	--	--	--	--	--	--	1.29
SEP 02...	--	0	19	51	0.20	4.3	134	155	<1	159	1.79

BLACKSTONE RIVER BASIN

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01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)
OCT											
09...	0.020	--	0.860	--	0.070	--	--	0.43	0.50	1.4	6.0
NOV											
06...	0.040	--	1.10	--	0.170	--	--	0.43	0.60	1.7	7.5
DEC											
11...	0.040	0.030	0.580	0.590	0.370	0.390	0.50	0.23	0.60	1.2	5.2
JAN											
08...	0.010	--	0.630	--	0.540	--	--	0.46	1.0	1.6	7.2
FEB											
05...	0.010	--	0.700	--	1.30	--	--	0.50	1.8	2.5	11
MAR											
02...	0.010	<0.010	0.700	0.700	0.820	0.850	1.1	0.48	1.3	2.0	8.9
APR											
15...	0.040	--	0.840	--	0.700	--	--	0.40	1.1	1.9	8.6
MAY											
13...	0.100	--	1.20	--	0.640	--	--	0.26	0.90	2.1	9.3
JUN											
09...	0.070	0.070	0.810	0.800	0.260	0.240	0.31	0.64	0.90	1.7	7.6
JUL											
08...	0.030	--	1.20	--	0.070	--	--	0.33	0.40	1.6	7.1
AUG											
05...	0.010	--	1.30	--	0.030	--	--	0.47	0.50	1.8	8.0
SEP											
02...	0.010	<0.010	1.80	1.80	0.020	0.020	0.03	0.28	0.30	2.1	9.3

DATE	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
OCT											
09...	0.240	--	0.160	--	--	--	--	--	--	--	--
NOV											
06...	0.240	--	0.180	--	--	--	--	--	--	--	--
DEC											
11...	0.090	0.050	0.060	0.040	--	70	--	11	--	--	--
JAN											
08...	0.120	--	0.100	--	--	--	--	--	--	--	--
FEB											
05...	0.100	--	0.070	--	--	--	--	--	--	--	--
MAR											
02...	0.120	0.100	0.090	0.070	70	20	2	10	30	<1	2
APR											
15...	0.120	--	0.090	--	--	--	--	--	--	--	--
MAY											
13...	0.180	--	0.170	--	--	--	--	--	--	--	--
JUN											
09...	0.240	0.090	0.120	0.090	--	40	--	11	--	--	--
JUL											
08...	0.280	--	0.210	--	--	--	--	--	--	--	--
AUG											
05...	0.310	--	0.200	--	--	--	--	--	--	--	--
SEP											
02...	0.160	0.180	0.170	0.140	40	20	2	13	100	<1	2

BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--
NOV 06...	--	--	--	--	--	--	--	--	--	--	--
DEC 11...	<3	--	--	150	--	<4	--	39	--	--	<10
JAN 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--	--
MAR 02...	<3	3	400	110	3	<4	90	77	<0.10	<1	<10
APR 15...	--	--	--	--	--	--	--	--	--	--	--
MAY 13...	--	--	--	--	--	--	--	--	--	--	--
JUN 09...	<3	--	--	380	--	<4	--	90	--	--	<10
JUL 08...	--	--	--	--	--	--	--	--	--	--	--
AUG 05...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	<3	5	530	110	5	<4	60	27	<0.10	2	<10

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHENOLS TOTAL (UG/L) (32730)
OCT 09...	--	--	--	--	--	--	--	--	--	--
NOV 06...	--	--	--	--	--	--	--	--	--	--
DEC 11...	--	4	--	<1	--	<1.0	59	<6	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--
MAR 02...	6	5	<1	<1	<1	<1.0	62	<6	30	2
APR 15...	--	--	--	--	--	--	--	--	--	--
MAY 13...	--	--	--	--	--	--	--	--	--	--
JUN 09...	--	4	--	<1	--	<1.0	61	<6	--	--
JUL 08...	--	--	--	--	--	--	--	--	--	--
AUG 05...	--	--	--	--	--	--	--	--	--	--
SEP 02...	<10	6	<1	<1	<1	<1.0	78	<6	30	1

BLACKSTONE RIVER BASIN

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0111500 BRANCH RIVER AT FORESTDALE, RI

LOCATION.--Lat 41°59'47", long 71°33'47", Providence County, Hydrologic Unit 01090003, on left bank 20 ft upstream from abandoned bridge site, 400 ft downstream from milldam at Forestdale, 1 mi east of Slatersville, and 1.6 mi upstream from mouth.

DRAINAGE AREA.--91.2 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 2101: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 180 ft above sea level, from topographic map. Prior to July 28, 1913, nonrecording gage at site 1 mi downstream at different datum.

REMARKS.--Records excellent. Occasional regulation by pond upstream. Prior to 1957, greater regulation by mills and reservoirs upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1886, about 5,800 ft³/s, Mar. 19, 1936, by computation of flow over dam 1 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	175	189	164	209	183	325	182	222	57	53	31
2	110	193	181	154	194	168	272	181	339	50	49	28
3	98	211	235	153	179	162	237	213	233	45	39	35
4	95	219	400	208	173	156	211	203	177	49	34	49
5	99	210	366	481	170	151	193	181	143	52	31	52
6	128	200	305	385	160	147	165	171	455	57	28	51
7	173	142	265	294	157	162	152	162	537	55	27	52
8	161	102	256	247	158	230	147	158	328	50	25	55
9	141	95	296	222	158	217	147	192	307	46	38	54
10	127	97	316	221	145	187	144	193	248	42	50	48
11	120	295	310	211	146	290	150	172	167	39	47	48
12	135	815	278	186	144	526	209	156	127	37	40	45
13	135	538	267	180	133	371	236	147	103	35	38	41
14	123	363	296	226	137	306	198	141	86	36	39	37
15	124	289	351	330	143	242	176	130	75	47	39	34
16	156	260	275	259	320	190	168	122	71	74	49	32
17	157	236	224	205	323	167	264	118	70	83	78	32
18	171	221	207	198	245	162	446	109	62	68	301	31
19	168	209	192	176	226	169	412	105	54	56	323	31
20	193	203	182	163	219	169	342	100	65	48	206	28
21	207	202	189	158	204	170	281	90	72	41	151	27
22	201	366	198	157	186	169	229	80	69	37	99	29
23	190	732	190	214	176	173	225	75	60	36	69	45
24	156	646	190	801	173	165	207	66	63	38	54	38
25	111	501	179	554	171	159	279	66	78	36	47	33
26	108	408	165	352	254	170	434	66	88	34	42	44
27	105	358	153	267	323	733	352	64	88	32	39	99
28	95	326	147	240	257	793	288	63	85	31	38	99
29	86	263	152	226	225	479	256	60	79	32	44	80
30	81	200	201	219	---	339	209	57	69	40	40	68
31	104	---	192	213	---	316	---	57	---	37	35	---
TOTAL	4191	9075	7347	8064	5708	8021	7354	3880	4620	1420	2192	1376
MEAN	135	302	237	260	197	259	245	125	154	45.8	70.7	45.9
MAX	207	815	400	801	323	793	446	213	537	83	323	99
MIN	81	95	147	153	133	147	144	57	54	31	25	27
CFSM	1.48	3.32	2.60	2.85	2.16	2.84	2.69	1.37	1.69	.50	.78	.50
IN.	1.71	3.70	3.00	3.29	2.33	3.27	3.00	1.58	1.88	.58	.89	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	MEAN	197.6	160	209	221	240	337	315	204	133	58.5	62.8	64.2
MAX	479	472	565	810	581	723	877	399	710	156	372	397	
(WY)	1956	1956	1973	1979	1970	1972	1987	1967	1982	1959	1955	1954	
MIN	15.5	30.4	37.9	40.2	60.5	163	89.4	77.3	37.7	18.1	17.7	19.4	
(WY)	1958	1966	1966	1981	1980	1989	1966	1965	1964	1965	1970	1957	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1940 - 1992
ANNUAL TOTAL	67454	63248	
ANNUAL MEAN	185	173	175
HIGHEST ANNUAL MEAN			261
LOWEST ANNUAL MEAN			76.5
HIGHEST DAILY MEAN	1150	Aug 20	4020
LOWEST DAILY MEAN	17	Jul 21	5.2
ANNUAL SEVEN-DAY MINIMUM	18	Jul 19	7.7
INSTANTANEOUS PEAK FLOW			5470
INSTANTANEOUS PEAK STAGE			11.90
INSTANTANEOUS LOW FLOW			24
ANNUAL RUNOFF (CFSM)	2.03	1.89	1.91
ANNUAL RUNOFF (INCHES)	27.51	25.80	26.01
10 PERCENT EXCEEDS	351	323	376
50 PERCENT EXCEEDS	171	160	122
90 PERCENT EXCEEDS	29	39	27

BLACKSTONE RIVER BASIN

01111500 BRANCH RIVER AT FORESTDALE, RI--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- IDITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT											
09...	0845	142	81	6.7	17.0	13.0	--	--	768	10.1	95
NOV											
06...	0730	203	85	7.2	5.5	7.5	--	--	765	11.5	96
DEC											
11...	0825	321	75	7.6	7.0	3.0	--	1.0	765	14.0	103
JAN											
08...	0900	250	75	7.9	0.5	1.0	--	--	760	14.3	100
FEB											
05...	0840	171	83	7.8	2.0	1.5	--	--	750	13.7	99
MAR											
04...	1200	13	75	7.3	13.0	2.5	20	1.0	770	13.0	95
APR											
15...	1015	43	88	6.9	6.5	8.5	--	--	768	11.2	95
MAY											
13...	1020	146	82	7.4	17.0	14.0	--	--	757	9.8	97
JUN											
09...	1330	321	63	7.1	26.5	20.5	--	1.5	770	8.7	96
JUL											
08...	0745	52	94	6.5	20.0	21.5	--	--	760	8.3	95
AUG											
05...	0830	28	105	5.8	20.5	22.0	--	--	759	8.4	97
SEP											
02...	0830	25	88	6.1	23.0	19.5	25	1.5	766	8.5	92

DATE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCOCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)
OCT											
09...	--	--	240	35	1300	--	--	--	--	--	--
NOV											
06...	--	1.0	630	71	57	--	--	--	--	--	--
DEC											
11...	<10	--	1000	92	36	--	--	--	--	--	--
JAN											
08...	--	1.0	1500	65	210	--	--	--	--	--	--
FEB											
05...	--	--	240	36	K13	--	--	--	--	--	--
MAR											
04...	13	1.0	K63	K3	K2	11	3.3	0.71	8.2	59	1
APR											
15...	--	--	780	K3	70	--	--	--	--	--	--
MAY											
13...	--	1.0	1000	40	K54	--	--	--	--	--	--
JUN											
09...	19	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	<1.0	430	80	3000	--	--	--	--	--	--
AUG											
05...	--	--	1200	290	800	--	--	--	--	--	--
SEP											
02...	16	1.0	350	--	--	14	4.1	0.85	9.7	58	1

BLACKSTONE RIVER BASIN

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01111500 BRANCH RIVER AT FORESTDALE, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER WH IT LAB MG/L AS HCO3 (00449)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER WH IT LAB MG/L AS CO3 (00446)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINTY WAT WH TOT IT LAB MG/L AS CACO3 (00416)	ALKA- LINTY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	HY- DROXIDE WATER WH IT LAB MG/L AS OH (71831)	HY- DROXIDE WATER DIS IT FIELD MG/L AS OH (71834)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 09...	--	4	--	0	--	4	--	0	--	--
NOV 06...	--	6	--	0	--	5	--	0	--	--
DEC 11...	--	8	--	0	--	6	--	0	--	--
JAN 08...	--	5	--	0	--	4	--	0	--	--
FEB 05...	--	9	--	0	--	7	--	0	--	--
MAR 04...	0.80	5	--	0	--	4	--	0	--	7.7
APR 15...	--	9	--	0	--	7	--	0	--	--
MAY 13...	--	--	8	--	0	--	6	--	0	--
JUN 09...	--	--	--	--	--	--	--	--	--	--
JUL 08...	--	--	12	--	0	--	10	--	0	--
AUG 05...	--	--	16	--	0	--	13	--	0	--
SEP 02...	1.3	--	15	--	0	--	15	--	0	7.0

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, RESIDUE TOTAL AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 09...	--	--	--	--	--	<0.010	0.260	0.070	0.33	0.40
NOV 06...	--	--	--	--	--	<0.010	0.260	0.080	0.22	0.30
DEC 11...	--	--	1	60	0.220	0.010	0.230	0.110	0.19	0.30
JAN 08...	--	--	--	--	--	<0.010	0.280	0.080	0.22	0.30
FEB 05...	--	--	--	--	--	<0.010	0.280	0.060	0.14	0.20
MAR 04...	12	36	11	60	0.620	0.010	0.630	0.690	0.51	1.2
APR 15...	--	--	--	--	0.270	0.010	0.280	0.090	--	<0.20
MAY 13...	--	--	--	--	--	<0.010	0.210	0.130	--	<0.20
JUN 09...	--	--	<1	62	--	<0.010	0.150	0.060	0.34	0.40
JUN 08...	--	--	--	--	--	<0.010	0.280	0.080	0.22	0.30
AUG 05...	--	--	--	--	--	<0.010	0.150	0.100	0.10	0.20
SEP 02...	15	45	4	68	--	<0.010	0.200	0.130	0.27	0.40

BLACKSTONE RIVER BASIN

01111500 BRANCH RIVER AT FORESTDALE, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT 09...	0.66	2.9	0.020	0.020	--	--	--	--	--	--
NOV 06...	0.56	2.5	0.020	0.010	--	--	--	--	--	--
DEC 11...	0.53	2.3	<0.010	0.020	--	--	--	--	--	--
JAN 08...	0.58	2.6	<0.010	<0.010	--	--	--	--	--	--
FEB 05...	0.48	2.1	0.020	0.010	--	--	--	--	--	--
MAR 04...	1.8	8.1	0.170	0.120	120	<1	<10	<1	<1	2
APR 15...	--	--	<0.010	<0.010	--	--	--	--	--	--
MAY 13...	--	--	<0.010	0.010	--	--	--	--	--	--
JUN 09...	0.55	2.4	0.040	<0.010	--	--	--	--	--	--
JUL 08...	0.58	2.6	0.010	<0.010	--	--	--	--	--	--
AUG 05...	0.35	1.5	0.010	<0.010	--	--	--	--	--	--
SEP 02...	0.60	2.7	0.020	<0.010	--	--	--	--	--	--

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHENOLS TOTAL (UG/L) (32730)
OCT 09...	--	--	--	--	--	--	--	--	--	--
NOV 06...	--	--	--	--	--	--	--	--	--	--
DEC 11...	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--
MAR 04...	230	2	60	<0.10	<1	2	<1	<1	20	1
APR 15...	--	--	--	--	--	--	--	--	--	--
MAY 13...	--	--	--	--	--	--	--	--	--	--
JUN 09...	--	--	--	--	--	--	--	--	--	--
JUL 08...	--	--	--	--	--	--	--	--	--	--
AUG 05...	--	--	--	--	--	--	--	--	--	--
SEP 02...	--	--	--	--	--	--	--	--	--	--

BLACKSTONE RIVER BASIN

77

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 upstream from Peters River pressure conduit at Woonsocket. Records include flow of Peters River.

DRAINAGE AREA.--416 mi².

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

Water-quality records: Water years 1952-53, 1957-58, 1962-67.

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 above sea level.

REMARKS.--Records 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. Maximum discharge since at least 1645, that of Aug. 19, 1955.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	775	875	1090	739	770	801	1420	856	967	280	329	224
2	676	1000	1030	634	731	701	1250	856	1500	260	315	201
3	595	890	1140	623	645	677	1100	1110	1150	228	251	243
4	560	799	1580	832	642	642	974	1230	904	250	236	457
5	506	721	1570	1590	623	609	910	1090	727	319	206	405
6	563	651	1410	1490	567	620	825	943	1720	301	207	311
7	837	597	1280	1260	569	668	762	825	2100	347	200	297
8	741	533	1210	1070	533	978	762	779	1560	289	136	292
9	647	509	1280	935	544	956	716	838	1300	259	181	221
10	564	443	1380	902	507	879	695	890	1030	301	456	154
11	535	897	1380	857	513	1230	700	806	775	234	296	385
12	552	2300	1280	778	511	2040	970	682	641	204	376	309
13	549	1990	1180	719	422	1630	1070	695	548	195	315	254
14	524	1520	1260	844	458	1320	897	665	441	182	283	232
15	526	1240	1460	1300	462	1080	790	621	422	288	305	217
16	533	1080	1270	1100	1140	890	710	539	386	384	329	193
17	596	964	1110	856	1280	789	1070	570	345	366	617	191
18	694	901	1010	775	988	759	1680	538	280	303	1300	190
19	779	841	925	676	868	767	1600	517	254	276	1360	177
20	724	797	871	624	846	775	1390	470	339	255	1030	165
21	691	784	868	594	765	770	1210	457	429	223	738	167
22	654	1220	905	572	720	761	1110	407	376	215	601	157
23	637	2340	867	770	657	760	1080	356	326	190	464	224
24	561	2320	852	2440	643	739	988	351	344	188	392	228
25	514	2050	794	2020	643	698	1320	370	559	191	334	188
26	491	1780	657	1400	952	709	1720	382	544	188	357	259
27	478	1410	657	1070	1360	2080	1530	301	455	176	325	400
28	473	1260	622	916	1120	2720	1310	310	446	159	312	404
29	446	1160	622	847	970	1940	1140	284	381	161	310	254
30	452	1130	791	803	---	1510	985	275	325	188	297	272
31	566	---	849	791	---	1390	---	285	---	200	252	---
TOTAL	18439	35002	33200	30827	21449	32888	32684	19298	21574	7600	13110	7671
MEAN	595	1167	1071	994	740	1061	1089	623	719	245	423	256
MAX	837	2340	1580	2440	1360	2720	1720	1230	2100	384	1360	457
MIN	446	443	622	572	422	609	695	275	254	159	136	154

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1992, BY WATER YEAR (WY)

	MEAN	425	667	847	935	993	1497	1421	889	621	338	322	335
MAX	2007	2233	2265	3167	2493	4063	3643	1779	2826	2453	2704	1980	
(WY)	1956	1956	1973	1979	1970	1936	1987	1972	1982	1938	1955	1954	
MIN	128	127	186	183	262	653	479	303	181	125	111	113	
(WY)	1932	1932	1966	1981	1980	1989	1966	1930	1930	1957	1966	1957	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1929 - 1992
ANNUAL TOTAL	295080	273742	
ANNUAL MEAN	808	748	773
HIGHEST ANNUAL MEAN			1162
LOWEST ANNUAL MEAN			345
HIGHEST DAILY MEAN	3490	Apr 22	25900
LOWEST DAILY MEAN	102	Jul 25	21
ANNUAL SEVEN-DAY MINIMUM	113	Jul 17	84
INSTANTANEOUS PEAK FLOW			32900
INSTANTANEOUS PEAK STAGE		6.17	21.80
INSTANTANEOUS LOW FLOW		44	
10 PERCENT EXCEEDS	1490	1370	1660
50 PERCENT EXCEEDS	754	676	534
90 PERCENT EXCEEDS	160	233	166

BLACKSTONE RIVER BASIN

01112900 BLACKSTONE RIVER AT MANVILLE, RI

LOCATION.--Lat 41°58'18", long 71°28'14", Providence County, Hydrologic Unit 01090003, at Manville Road Bridge, 400 ft downstream from milldam at Manville, and 2.5 mi downstream from Woonsocket Sewage Treatment Plant.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT											
09...	1050	675	196	7.4	22.0	12.5	--	--	770	9.4	88
NOV											
06...	0945	699	184	7.3	11.0	7.5	--	--	770	11.0	91
DEC											
11...	1215	2320	217	7.7	17.0	4.0	--	1.8	766	14.1	106
JAN											
08...	1130	1110	187	7.4	4.0	1.5	--	--	763	14.0	99
FEB											
05...	1140	652	204	7.2	-1.0	0.5	--	--	752	14.0	99
MAR											
04...	0815	668	228	7.1	12.0	2.5	20	2.2	770	12.8	92
APR											
15...	1200	775	199	7.1	15.0	9.5	--	--	778	10.2	87
MAY											
13...	1230	710	220	6.8	25.0	15.0	--	--	757	8.8	87
JUN											
09...	1740	1300	166	7.0	27.0	20.0	--	2.5	760	8.7	96
JUL											
08...	1200	271	300	7.0	--	22.5	--	--	762	8.4	97
AUG											
05...	1305	202	297	6.3	24.5	23.5	--	--	764	7.7	91
SEP											
02...	1535	192	303	6.9	24.5	21.5	13	1.6	765	8.6	97

DATE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)
OCT											
09...	--	--	1500	200	57	--	--	--	--	--	--
NOV											
06...	--	1.0	630	71	K57	--	--	--	--	--	--
DEC											
11...	11	--	K8200	330	170	--	--	--	--	--	--
JAN											
08...	--	2.0	7600	400	90	--	--	--	--	--	--
FEB											
05...	--	--	6500	>1500	140	--	--	--	--	--	--
MAR											
04...	17	2.0	1800	K70	K25	30	9.1	1.7	26	63	2
APR											
15...	--	--	970	K23	K11	--	--	--	--	--	--
MAY											
13...	--	1.0	1300	K27	K5	--	--	--	--	--	--
JUN											
09...	23	--	1800	150	87	--	--	--	--	--	--
JUL											
08...	--	2.0	500	120	90	--	--	--	--	--	--
AUG											
05...	--	--	9600	750	54	--	--	--	--	--	--
SEP											
02...	21	3.0	K55	140	K60	39	12	2.1	38	65	3

BLACKSTONE RIVER BASIN

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01112900 BLACKSTONE RIVER AT MANVILLE, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER WH IT LAB MG/L AS HCO3 (00449)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER WH IT LAB MG/L AS CO3 (00446)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT WH TOT IT LAB MG/L AS CACO3 (00416)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	HY- DROXIDE WATER WH IT LAB MG/L AS OH (71831)	HY- DROXIDE WATER DIS IT FIELD MG/L AS OH (71834)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT										
09...	--	20	--	0	--	16	--	0	--	--
NOV										
06...	--	18	--	0	--	15	--	0	--	--
DEC										
11...	--	16	--	0	--	13	--	0	--	--
JAN										
08...	--	16	--	0	--	13	--	0	--	--
FEB										
05...	--	23	--	0	--	19	--	0	--	--
MAR										
04...	2.3	21	--	0	--	17	--	0	--	14
APR										
15...	--	21	--	0	--	17	--	0	--	--
MAY										
13...	--	--	21	--	0	--	17	--	0	--
JUN										
09...	--	--	29	--	0	--	24	--	0	--
JUL										
08...	--	--	29	--	0	--	23	--	0	--
AUG										
05...	--	--	31	--	0	--	26	--	0	--
SEP										
02...	4.2	--	56	--	0	--	46	--	0	26

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE TOTAL AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT										
09...	--	--	--	--	0.620	0.010	0.630	0.070	0.43	0.50
NOV										
06...	--	--	--	--	0.670	0.020	0.690	0.110	0.39	0.50
DEC										
11...	--	--	1	143	0.520	0.030	0.550	0.460	0.34	0.80
JAN										
08...	--	--	--	--	0.540	0.020	0.560	0.540	0.46	1.0
FEB										
05...	--	--	--	--	0.610	0.010	0.620	0.810	0.39	1.2
MAR										
04...	39	103	9	128	--	<0.010	0.260	0.050	0.15	0.20
APR										
15...	--	--	--	--	0.650	0.030	0.680	0.520	0.28	0.80
MAY										
13...	--	--	--	--	0.840	0.050	0.890	0.440	0.16	0.60
JUN										
09...	--	--	6	102	0.600	0.050	0.650	0.340	0.46	0.80
JUL										
08...	--	--	--	--	0.830	0.050	0.880	0.720	0.78	1.5
AUG										
05...	--	--	--	--	1.05	0.050	1.10	1.10	0.80	1.9
SEP										
02...	56	166	4	182	1.17	0.030	1.20	0.680	0.52	1.2

BLACKSTONE RIVER BASIN

01112900 BLACKSTONE RIVER AT MANVILLE, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT 09...	1.1	5.0	0.220	0.160	--	--	--	--	--	--
NOV 06...	1.2	5.3	0.190	0.130	--	--	--	--	--	--
DEC 11...	1.3	6.0	0.100	0.060	--	--	--	--	--	--
JAN 08...	1.6	6.9	0.120	0.080	--	--	--	--	--	--
FEB 05...	1.8	8.1	0.090	0.080	--	--	--	--	--	--
MAR 04...	0.46	2.0	<0.010	<0.010	130	2	30	<1	<1	1
APR 15...	1.5	6.6	0.140	0.110	--	--	--	--	--	--
MAY 13...	1.5	6.6	0.090	0.090	70	1	40	<1	1	6
JUN 09...	1.4	6.4	0.130	0.130	--	--	--	--	--	--
JUL 08...	2.4	11	0.320	0.240	--	--	--	--	--	--
AUG 05...	3.0	13	0.440	0.320	--	--	--	--	--	--
SEP 02...	2.4	11	0.290	0.200	60	2	80	<1	2	6

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHENOLS TOTAL (UG/L) (32730)
OCT 09...	--	--	--	--	--	--	--	--	--	--
NOV 06...	--	--	--	--	--	--	--	--	--	--
DEC 11...	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--
MAR 04...	370	3	100	<0.10	<1	4	<1	<1	30	2
APR 15...	--	--	--	--	--	--	--	--	--	--
MAY 13...	570	3	130	<0.10	<1	4	<1	<1	20	--
JUN 09...	--	--	--	--	--	--	--	--	--	--
JUL 08...	--	--	--	--	--	--	--	--	--	--
AUG 05...	--	--	--	--	--	--	--	--	--	--
SEP 02...	590	17	150	<0.10	2	<1	<1	<1	30	2

MOSHASSUCK RIVER BASIN

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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 upstream from bridge on U.S. Highway 44 at Providence and 0.5 mi above mouth.

DRAINAGE AREA.--23.1 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 8.19 ft above sea level. Prior to Nov. 7, 1973, at datum 0.88 ft lower. Mar. 10, 1972, to Nov. 7, 1973, stage record obtained at site 200 ft upstream. Gage heights of published extremes are for site and datum then in use.

REMARKS.--Records good. Occasional regulation at low flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	66	35	25	37	28	57	33	196	10	26	7.7
2	17	38	33	24	33	28	48	39	54	8.6	9.9	7.1
3	15	28	76	24	30	28	43	45	31	8.5	11	57
4	14	25	95	98	29	28	38	35	25	18	12	34
5	14	22	54	97	29	28	37	32	27	11	7.4	12
6	54	19	46	56	27	27	35	30	197	19	6.8	11
7	39	17	42	42	27	81	32	29	83	13	6.7	12
8	24	18	41	36	27	54	32	33	45	9.4	6.4	34
9	17	15	40	36	26	40	31	51	36	11	82	14
10	15	23	49	36	24	35	31	38	29	9.1	22	14
11	15	187	39	32	24	182	38	33	26	8.6	21	33
12	13	120	34	27	23	120	42	32	22	8.2	15	17
13	13	57	38	27	21	63	34	27	19	13	9.6	11
14	13	43	41	86	22	48	29	28	14	20	21	13
15	26	36	41	70	46	42	28	30	16	31	12	11
16	54	32	34	42	151	37	34	25	13	40	73	7.9
17	31	28	29	35	60	36	86	21	13	20	81	7.9
18	35	26	29	32	42	35	73	24	12	14	163	7.9
19	23	25	28	29	39	40	59	21	10	8.8	48	8.1
20	19	19	27	26	36	40	47	19	16	9.8	28	9.1
21	17	39	33	26	32	36	42	20	11	7.5	21	12
22	16	82	33	25	30	35	41	18	13	9.7	13	13
23	14	179	29	183	30	38	40	20	10	13	13	35
24	15	93	29	249	29	35	36	13	35	12	16	11
25	12	64	26	92	29	35	55	16	23	7.3	13	9.1
26	11	49	25	59	80	37	62	17	15	6.8	9.6	84
27	13	43	24	48	51	160	47	16	20	10	9.1	40
28	15	40	24	44	39	83	41	13	13	7.2	11	23
29	13	39	44	42	37	61	37	15	10	13	14	16
30	12	36	34	40	---	49	34	10	10	11	8.3	13
31	50	---	28	39	---	68	---	13	---	8.0	11	---
TOTAL	655	1508	1180	1727	1110	1657	1289	796	1044	396.5	800.8	584.8
MEAN	21.1	50.3	38.1	55.7	38.3	53.5	43.0	25.7	34.8	12.8	25.8	19.5
MAX	54	187	95	249	151	182	86	51	197	40	163	84
MIN	11	15	24	24	21	27	28	10	10	6.8	6.4	7.1
CFSM	.91	2.18	1.65	2.41	1.66	2.31	1.86	1.11	1.51	.55	1.12	.84
IN.	1.05	2.43	1.90	2.78	1.79	2.67	2.08	1.28	1.68	.64	1.29	.94

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1992, BY WATER YEAR (WY)

	MEAN	23.3	38.6	49.8	51.8	53.1	66.3	65.2	46.0	33.4	19.4	21.2	19.7
MAX	69.0	118	143	174	93.8	141	160	104	125	35.5	53.8	50.1	
(WY)	1978	1973	1973	1979	1984	1968	1983	1967	1982	1967	1986	1972	
MIN	8.72	10.6	10.6	12.9	26.4	29.0	22.9	24.2	13.1	8.71	7.27	5.09	
(WY)	1966	1966	1966	1981	1969	1985	1966	1965	1991	1965	1970	1970	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1963 - 1992
ANNUAL TOTAL	13223.5	12748.1	
ANNUAL MEAN	36.2	34.8	40.6
HIGHEST ANNUAL MEAN			62.5
LOWEST ANNUAL MEAN			20.2
HIGHEST DAILY MEAN	291	249	1750
LOWEST DAILY MEAN	3.9	6.4	1.7
ANNUAL SEVEN-DAY MINIMUM	4.9	8.6	2.6
INSTANTANEOUS PEAK FLOW		729	2390
INSTANTANEOUS PEAK STAGE		4.36	5.81
INSTANTANEOUS LOW FLOW		6.1	1.3
ANNUAL RUNOFF (CFSM)	1.57	1.51	1.76
ANNUAL RUNOFF (INCHES)	21.29	20.53	23.88
10 PERCENT EXCEEDS	67	61	80
50 PERCENT EXCEEDS	29	28	28
90 PERCENT EXCEEDS	7.4	10	8.7

WOONASQUATUCKET RIVER BASIN

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 downstream from bridge on U.S. Highway 44 at Centerdale and 6.5 mi upstream from mouth.

DRAINAGE AREA.--38.3 mi².

PERIOD OF RECORD.--Discharge: July 1941 to current year.

Water-quality records: Water years 1955-56.

GAGE.--Water-stage recorder. Elevation of gage is 95 ft above sea level, from topographic map.

REMARKS.--Records fair. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge during March 1936, 1,000 ft³/s, by computation of flow over dam 0.7 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	118	104	80	108	51	133	109	94	30	24	24
2	62	99	86	76	102	48	121	107	66	30	21	21
3	51	93	100	76	96	47	111	105	59	30	19	24
4	43	87	133	104	92	46	99	94	56	35	19	25
5	37	100	118	137	89	39	90	84	56	28	18	20
6	70	78	115	109	85	33	83	74	251	19	15	18
7	79	81	99	104	82	45	78	58	234	14	13	18
8	56	85	74	98	79	50	76	54	191	14	11	27
9	47	74	83	98	77	49	72	67	144	17	21	25
10	42	60	97	99	73	49	70	70	98	19	16	21
11	39	84	122	97	71	99	72	68	74	20	14	23
12	42	113	119	91	70	127	75	64	63	21	15	21
13	38	108	117	88	68	101	73	57	55	22	12	19
14	35	99	123	111	68	86	70	52	49	24	12	18
15	35	91	127	130	73	76	67	52	44	32	12	18
16	71	82	110	113	140	68	74	36	40	37	34	19
17	67	66	98	105	120	64	101	35	37	29	53	19
18	74	61	93	101	105	62	124	39	35	26	76	20
19	68	56	88	96	99	67	127	39	34	23	84	20
20	e62	52	85	94	91	76	124	38	35	23	77	20
21	e58	49	88	93	80	76	114	37	35	22	61	20
22	56	71	89	91	75	75	107	36	35	22	50	21
23	54	128	89	146	73	78	103	35	32	23	42	31
24	52	118	87	282	72	79	98	34	38	23	35	31
25	52	115	85	189	71	78	106	34	39	22	28	31
26	53	112	82	152	90	80	120	34	34	21	25	49
27	55	107	79	133	86	216	124	34	36	21	23	65
28	62	93	79	123	76	196	123	34	35	20	24	43
29	67	98	82	117	60	168	117	33	32	21	27	38
30	76	92	87	113	---	143	113	33	31	21	25	41
31	90	---	83	111	---	142	---	34	---	20	25	---
TOTAL	1770	2670	3021	3557	2471	2614	2965	1680	2062	729	931	790
MEAN	57.1	89.0	97.5	115	85.2	84.3	98.8	54.2	68.7	23.5	30.0	26.3
MAX	90	128	133	282	140	216	133	109	251	37	84	65
MIN	35	49	74	76	60	33	67	33	31	14	11	18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1992, BY WATER YEAR (WY)

	MEAN	38.9	59.5	81.9	91.4	103	139	130	87.2	56.7	31.7	30.0	30.4
MAX	200	208	239	281	254	357	364	191	214	72.2	83.6	116	
(WY)	1956	1956	1973	1979	1970	1983	1983	1967	1982	1959	1955	1954	
MIN	10.3	9.90	17.9	20.6	31.2	54.1	44.9	34.1	23.2	15.0	9.21	6.99	
(WY)	1958	1958	1966	1966	1944	1944	1966	1986	1965	1979	1963	1980	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1941 - 1992

ANNUAL TOTAL	25371.9	25260	73.1	
ANNUAL MEAN	69.5	69.0	119	1984
HIGHEST ANNUAL MEAN			31.5	1966
LOWEST ANNUAL MEAN			1250	Mar 18 1968
HIGHEST DAILY MEAN	243	Apr 21	282	Jan 24
LOWEST DAILY MEAN	6.6	Jul 16	11	Aug 8
ANNUAL SEVEN-DAY MINIMUM	7.3	Jul 16	14	Aug 8
INSTANTANEOUS PEAK FLOW			372	Jan 24
INSTANTANEOUS PEAK STAGE			4.00	Jan 24
INSTANTANEOUS LOW FLOW			9.7	Aug 9
10 PERCENT EXCEEDS	119	118	151	
50 PERCENT EXCEEDS	73	68	51	
90 PERCENT EXCEEDS	17	21	18	

e Estimated

PAWTUXET RIVER BASIN

83

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 downstream from highway bridge at Washington and 0.9 mi upstream from outlet of Tiogue Lake.

DRAINAGE AREA.--63.8 mi².

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 above sea level.

REMARKS.--Records good except those for July to September, which are fair. Flow regulated by Flat River Reservoir 2 mi upstream (see table below), usable capacity, 250,000,000 ft³, and smaller reservoirs. Prior to May 1972, diversion from Carr Pond for municipal supply of Coventry, Warwick, and West Warwick.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a discharge of 1,810 ft³/s, by computation of flow over dam just upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	105	264	78	273	77	238	48	93	81	53	48
2	48	100	259	77	267	118	234	46	73	70	50	47
3	40	98	273	78	261	121	231	47	66	62	48	57
4	39	96	280	101	258	120	227	45	77	64	48	84
5	39	96	267	110	254	119	223	45	87	64	48	91
6	54	96	241	93	249	118	209	45	183	64	47	89
7	59	96	127	88	245	125	145	45	242	63	46	80
8	84	96	118	85	242	133	142	47	214	60	45	81
9	96	96	118	98	237	187	141	54	167	60	71	128
10	93	96	124	114	231	187	141	49	136	56	84	123
11	125	132	121	112	215	213	143	48	114	53	92	119
12	119	207	122	120	117	210	144	47	98	51	113	115
13	107	299	178	231	111	199	142	47	87	56	103	112
14	100	269	185	250	112	194	141	47	79	55	97	111
15	96	227	183	250	115	200	140	47	72	66	90	111
16	116	202	207	240	145	252	141	71	68	111	93	168
17	117	180	237	243	131	253	157	75	64	133	118	188
18	133	164	237	231	124	253	157	76	61	130	191	187
19	134	181	232	227	77	251	158	75	59	113	251	186
20	125	227	228	224	73	247	153	74	60	94	213	181
21	114	217	231	220	72	242	151	74	64	79	158	121
22	106	252	229	218	71	238	150	73	64	69	127	106
23	100	277	227	248	71	236	149	73	61	65	107	111
24	97	278	224	293	71	231	175	70	64	69	92	106
25	96	280	221	259	71	228	208	51	77	64	81	104
26	96	261	217	251	84	227	206	50	80	59	73	73
27	96	250	215	285	78	266	203	50	82	56	65	68
28	94	251	212	284	76	252	157	51	101	53	60	49
29	93	266	187	281	75	244	96	51	112	51	59	43
30	93	265	87	280	---	238	84	51	98	50	54	40
31	97	---	79	277	---	242	---	51	---	51	50	---
TOTAL	2924	5660	6130	5946	4406	6221	4986	1723	2903	2172	2827	3127
MEAN	94.3	189	198	192	152	201	166	55.6	96.8	70.1	91.2	104
MAX	134	299	280	293	273	266	238	76	242	133	251	188
MIN	39	96	79	77	71	77	84	45	59	50	45	40
(†)	246.5	223	149	188	203.5	149	126.5	233	257.5	246.5	250	182

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1992, BY WATER YEAR (WY)

	MEAN	73.7	102	157	167	177	224	212	151	111	65.0	64.5	66.1
	MAX	216	354	422	489	327	434	595	294	444	130	168	240
	(WY)	1956	1956	1987	1979	1970	1983	1983	1948	1982	1959	1979	1954
	MIN	28.5	28.7	34.5	35.9	45.7	106	68.2	55.6	39.2	34.1	23.6	29.1
	(WY)	1942	1966	1966	1966	1966	1944	1966	1992	1957	1957	1974	1957

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1941 - 1992
ANNUAL TOTAL	49054	49025	
ANNUAL MEAN	134	134	131
HIGHEST ANNUAL MEAN			202
LOWEST ANNUAL MEAN			56.9
HIGHEST DAILY MEAN	323	299	1680
LOWEST DAILY MEAN	24	39	2.8
ANNUAL SEVEN-DAY MINIMUM	25	46	9.3
INSTANTANEOUS PEAK FLOW		317	1980
INSTANTANEOUS PEAK STAGE		2.42	5.30
INSTANTANEOUS LOW FLOW		39	
10 PERCENT EXCEEDS	229	250	261
50 PERCENT EXCEEDS	134	111	100
90 PERCENT EXCEEDS	39	51	27

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

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, and 0.7 mi upstream from Pocasset River.

DRAINAGE AREA.--200 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 8.00 ft above sea level.

REMARKS.--Records good. Flow regulated by powerplants and by Scituate Reservoir 13 mi upstream, Flat River Reservoir, and other reservoirs, combined usable capacity, about 6,000,000,000 ft³. Diversion from Scituate Reservoir for municipal supply of Providence, East Providence, North Providence, Cranston, Greenville, Johnston, East Smithfield, Smithfield, Warwick, West Warwick, Coventry, East Greenwich, and West Greenwich. See table below for figures of diversion and monthend contents in Scituate Reservoir and five smaller reservoirs, and see table with station 01116000 for monthend contents in Flat River Reservoir.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234	357	475	178	657	312	926	288	669	173	146	111
2	178	265	466	176	623	314	840	265	318	155	121	104
3	124	219	639	175	588	320	775	272	217	142	114	256
4	117	199	780	421	563	316	693	254	197	174	124	448
5	112	189	604	657	549	299	640	239	217	155	124	227
6	209	183	514	349	513	350	598	226	784	155	115	203
7	219	183	368	265	499	626	463	215	649	143	110	179
8	175	180	275	224	488	606	409	222	539	134	105	196
9	193	174	263	221	479	590	391	274	435	144	470	244
10	190	178	310	247	444	576	375	239	340	135	499	260
11	206	646	263	229	434	887	385	228	283	126	229	272
12	232	968	249	219	324	1040	381	212	236	122	251	236
13	199	751	336	313	270	901	368	204	204	191	220	213
14	182	656	398	558	277	808	347	196	180	168	243	207
15	178	542	374	619	285	726	334	194	169	319	205	208
16	416	453	345	475	707	708	332	243	158	458	249	249
17	282	381	407	426	448	673	514	219	151	317	363	318
18	442	310	421	416	388	628	555	198	145	292	861	315
19	391	313	400	393	338	616	576	195	142	254	733	304
20	312	392	387	379	299	614	562	188	144	223	617	293
21	244	397	408	371	289	587	538	185	148	199	449	234
22	219	562	396	362	278	551	514	182	145	177	324	194
23	203	899	386	631	272	555	505	178	140	194	252	303
24	192	760	386	1360	270	525	481	173	179	215	215	291
25	188	668	362	825	261	496	596	161	212	169	189	280
26	184	573	351	655	387	488	587	147	183	153	202	383
27	181	504	345	722	388	982	555	146	174	150	169	558
28	180	478	334	736	373	1170	489	142	187	142	148	270
29	173	488	383	715	361	1200	386	140	196	128	154	208
30	172	485	288	701	---	1040	332	138	191	124	131	175
31	218	---	196	679	---	987	---	137	---	122	121	---
TOTAL	6745	13353	12109	14697	12052	20491	15447	6300	7932	5753	8253	7739
MEAN	218	445	391	474	416	661	515	203	264	186	266	258
MAX	442	968	780	1360	707	1200	926	288	784	458	861	558
MIN	112	174	196	175	261	299	332	137	140	122	105	104
(+)	4582	5044	5326	5730	5749	5756	5680	5523	5457	5170	5120	4940
(+)	100	100	93.7	97.2	97.8	87.7	89.5	107	124	121	114	100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

MEAN	194	282	394	449	481	580	583	393	277	172	181	182
MAX	667	1024	1344	1238	1085	1291	1788	803	1237	360	438	698
(WY)	1956	1956	1973	1979	1970	1983	1983	1948	1982	1972	1955	1954
MIN	70.5	82.6	94.0	100	158	239	140	160	93.0	74.9	82.4	83.2
(WY)	1958	1966	1966	1966	1966	1981	1966	1965	1957	1957	1966	1981

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1940 - 1992

ANNUAL TOTAL	137897		130871					
ANNUAL MEAN	378		358			346		
HIGHEST ANNUAL MEAN						595		1973
LOWEST ANNUAL MEAN						126		1966
HIGHEST DAILY MEAN	1320	Apr 22	1360	Jan 24		5170	Jun 7	1982
LOWEST DAILY MEAN	97	Aug 18	104	Sep 2		22	Sep 4	1944
ANNUAL SEVEN-DAY MINIMUM	101	Jul 16	116	Aug 2		48	Aug 12	1985
INSTANTANEOUS PEAK FLOW			1510	Jan 24		5440	Jun 7	1982
INSTANTANEOUS PEAK STAGE			8.03	Jan 24		14.50	Jun 7	1982
INSTANTANEOUS LOW FLOW			95	Sep 3				
10 PERCENT EXCEEDS	732		656			730		
50 PERCENT EXCEEDS	351		288			244		
90 PERCENT EXCEEDS	120		147			101		

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

† Diversions, in cubic feet per second, for municipal supplies. Figures of diversion and monthend contents provided by Providence Water Supply Board.

PAWTUXET RIVER BASIN

85

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1969 to September 1981.

WATER TEMPERATURES: November 1961 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT											
08...	0753	269	368	6.9	9.0	14.0	--	--	770	2.1	21
NOV											
05...	0810	296	302	6.4	6.5	9.5	--	--	772	6.0	52
DEC											
10...	0955	458	272	7.4	8.0	6.5	--	1.3	765	--	--
JAN											
07...	0830	338	250	7.3	3.0	3.5	--	--	758	11.3	86
FEB											
04...	0940	611	186	7.4	5.0	1.0	--	--	760	13.6	96
MAR											
03...	0900	345	307	7.3	-0.5	3.0	30	1.9	770	11.4	84
APR											
14...	0900	345	228	7.0	6.5	8.0	--	--	772	9.8	81
MAY											
12...	0900	226	294	7.0	13.0	13.0	--	--	768	6.6	63
JUN											
10...	0930	404	203	7.3	22.0	21.0	--	3.2	760	5.4	61
JUL											
07...	0923	255	373	6.7	25.0	19.0	--	--	763	2.4	26
AUG											
04...	0900	299	369	5.4	26.0	22.0	--	--	762	1.3	15
SEP											
01...	1020	313	298	6.4	23.0	20.5	23	1.5	766	2.5	27

DATE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)
OCT											
08...	--	--	K8200	270	K47	--	--	--	--	--	--
NOV											
05...	--	3.0	130	K6	K18	--	--	--	--	--	--
DEC											
10...	20	--	820	52	58	--	--	--	--	--	--
JAN											
07...	--	4.0	1100	85	130	--	--	--	--	--	--
FEB											
04...	--	--	300	K12	K8	--	--	--	--	--	--
MAR											
03...	24	2.0	310	K42	31	29	9.4	1.4	38	71	3
APR											
14...	--	--	1700	44	K24	--	--	--	--	--	--
MAY											
12...	--	7.0	5500	140	48	--	--	--	--	--	--
JUN											
10...	25	--	30500	780	2300	--	--	--	--	--	--
JUL											
07...	--	4.0	190	K46	49	--	--	--	--	--	--
AUG											
04...	--	--	1400	70	K22	--	--	--	--	--	--
SEP											
01...	18	3.0	--	110	46	39	13	1.7	36	65	2

PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER WH IT LAB (MG/L AS HCO3 (00449)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER WH IT LAB (MG/L AS CO3 (00446)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT WH TOT IT LAB (MG/L AS CACO3 (00416)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	HY- DROXIDE WATER WH IT LAB (MG/L AS OH (71831)	HY- DROXIDE WATER DIS IT FIELD (MG/L AS OH (71834)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 08...	--	32	--	0	--	27	--	0	--	--
NOV 05...	--	24	--	0	--	20	--	0	--	--
DEC 10...	--	22	--	0	--	18	--	0	--	--
JAN 07...	--	20	--	0	--	16	--	0	--	--
FEB 04...	--	15	--	0	--	13	--	0	--	--
MAR 03...	3.0	21	--	0	--	17	--	0	--	31
APR 14...	--	21	--	0	--	17	--	0	--	--
MAY 12...	--	--	25	--	0	--	21	--	0	--
JUN 10...	--	--	35	--	0	--	29	--	0	--
JUL 07...	--	--	31	--	0	--	25	--	0	--
AUG 04...	--	--	44	--	0	--	36	--	0	--
SEP 01...	2.6	--	51	--	0	--	42	--	0	31

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 08...	--	--	--	--	0.770	0.070	0.840	1.00	0.70	1.7
NOV 05...	--	--	--	--	0.740	0.060	0.800	0.720	0.68	1.4
DEC 10...	--	--	5	169	0.670	0.030	0.700	0.680	0.62	1.3
JAN 07...	--	--	--	--	0.770	0.070	0.840	0.650	0.55	1.2
FEB 04...	--	--	--	--	--	<0.010	0.370	0.350	0.45	0.80
MAR 03...	51	145	10	154	0.650	0.010	0.660	0.880	0.72	1.6
APR 14...	--	--	--	--	0.480	0.020	0.500	0.640	0.36	1.0
MAY 12...	--	--	--	--	0.530	0.030	0.560	0.980	0.42	1.4
JUN 10...	--	--	6	128	0.310	0.020	0.330	0.700	0.60	1.3
JUL 07...	--	--	--	--	0.710	0.290	1.00	0.930	0.47	1.4
AUG 04...	--	--	--	--	0.860	0.080	0.940	1.70	0.90	2.6
SEP 01...	51	161	<1	174	1.30	0.100	1.40	1.10	0.50	1.6

87

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

PAWTUXET RIVER BASIN

01116617 PAWTUXET RIVER AT PAWTUXET, RI

WATER-QUALITY RECORDS

LOCATION.--Lat 41°46'03", long 71°24'21", Providence County, Hydrologic Unit 01090004, at Warwick Ave. Road Bridge at Pawtuxet, and 3.2 mi downstream from Cranston Sewage Treatment Plant.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT											
08...	0845	245	351	6.8	13.0	14.0	--	--	770	2.6	25
NOV											
05...	0845	270	328	6.3	6.0	9.5	--	--	770	3.6	31
DEC											
10...	0923	413	277	7.4	10.0	6.5	--	2.0	766	--	--
JAN											
07...	0900	383	266	7.1	5.0	3.0	--	--	759	12.2	92
FEB											
04...	1040	533	200	7.5	2.0	1.0	--	--	760	12.5	89
MAR											
03...	1100	384	298	7.1	6.0	3.0	40	1.7	771	10.8	80
APR											
14...	0950	400	230	7.1	8.0	8.0	--	--	772	9.1	76
MAY											
12...	1115	266	306	7.0	15.5	13.5	--	--	768	5.7	54
JUN											
10...	1100	429	230	7.1	24.0	21.0	--	3.9	764	4.3	48
JUL											
07...	1200	165	358	6.8	27.0	20.5	--	--	770	2.5	28
AUG											
04...	1100	143	395	6.4	22.5	22.0	--	--	761	2.1	24
SEP											
01...	1415	173	325	6.4	25.0	21.0	28	2.5	766	2.8	31

DATE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)
OCT											
08...	--	--	950	110	94	--	--	--	--	--	--
NOV											
05...	--	3.0	140	K21	K35	--	--	--	--	--	--
DEC											
10...	16	--	730	K34	150	--	--	--	--	--	--
JAN											
07...	--	3.0	290	K15	70	--	--	--	--	--	--
FEB											
04...	--	--	120	K12	K12	--	--	--	--	--	--
MAR											
03...	20	3.0	55	K4	K10	31	9.9	1.6	36	69	3
APR											
14...	--	--	1100	35	K12	--	--	--	--	--	--
MAY											
12...	--	7.0	3400	100	44	--	--	--	--	--	--
JUN											
10...	27	--	32000	3400	100	--	--	--	--	--	--
JUL											
07...	--	3.0	470	K88	45	--	--	--	--	--	--
AUG											
04...	--	--	430	75	96	--	--	--	--	--	--
SEP											
01...	21	3.0	130	56	K27	41	13	2.0	38	64	3

PAWTUXET RIVER BASIN

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01116617 PAWTUXET RIVER AT PAWTUXET, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER WH IT LAB MG/L AS HCO3 (00449)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER WH IT LAB MG/L AS CO3 (00446)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT WH TOT IT LAB MG/L AS CACO3 (00416)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	HY- DROXIDE WATER WH IT LAB MG/L AS OH (71831)	HY- DROXIDE WATER DIS IT FIELD MG/L AS OH (71834)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 08...	--	37	--	0	--	30	--	0	--	--
NOV 05...	--	28	--	0	--	23	--	0	--	--
DEC 10...	--	25	--	0	--	20	--	0	--	--
JAN 07...	--	24	--	0	--	20	--	0	--	--
FEB 04...	--	20	--	0	--	16	--	0	--	--
MAR 03...	3.1	24	--	0	--	20	--	0	--	26
APR 14...	--	25	--	0	--	20	--	--	--	--
MAY 12...	--	--	32	--	0	--	26	--	0	--
JUN 10...	--	--	49	--	0	--	40	--	0	--
JUL 07...	--	--	42	--	0	--	34	--	0	--
AUG 04...	--	--	50	--	0	--	41	--	0	--
SEP 01...	3.9	--	77	--	0	--	63	--	0	29

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, RESIDUE TOTAL AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 08...	--	--	--	--	1.27	0.130	1.40	1.30	0.60	1.9
NOV 05...	--	--	--	--	1.19	0.110	1.30	1.30	0.70	2.0
DEC 10...	--	--	5	150	0.900	0.050	0.950	1.10	0.80	1.9
JAN 07...	--	--	--	--	0.940	0.050	0.990	1.20	0.60	1.8
FEB 04...	--	--	--	--	0.470	0.010	0.480	0.670	0.53	1.2
MAR 03...	50	139	1	164	--	<0.010	0.530	0.540	0.66	1.2
APR 14...	--	--	--	--	0.620	0.030	0.650	0.950	0.55	1.5
MAY 12...	--	--	--	--	0.710	0.060	0.770	1.40	0.50	1.9
JUN 10...	--	--	<1	141	0.470	0.050	0.520	1.10	0.60	1.7
JUL 07...	--	--	--	--	0.920	0.280	1.20	1.90	1.2	3.1
AUG 04...	--	--	--	--	1.63	0.170	1.80	3.60	1.3	4.9
SEP 01...	52	176	4	185	1.53	0.170	1.70	1.10	2.0	3.1

PAWTUXET RIVER BASIN

01116617 PAWTUXET RIVER AT PAWTUXET, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT 08...	3.3	15	0.510	0.420	--	--	--	--	--	--
NOV 05...	3.3	15	0.550	0.440	--	--	--	--	--	--
DEC 10...	2.9	13	0.340	0.230	--	--	--	--	--	--
JAN 07...	2.8	12	0.260	0.200	--	--	--	--	--	--
FEB 04...	1.7	7.4	0.180	0.130	--	--	--	--	--	--
MAR 03...	1.7	7.7	0.160	0.100	80	<1	10	<1	<1	3
APR 14...	2.2	9.5	0.270	0.200	--	--	--	--	--	--
MAY 12...	2.7	12	0.290	0.290	110	<1	50	<1	<1	5
JUN 10...	2.2	9.8	0.230	0.210	--	--	--	--	--	--
JUL 07...	4.3	19	0.580	0.040	--	--	--	--	--	--
AUG 04...	6.7	30	1.40	1.20	--	--	--	--	--	--
SEP 01...	4.8	21	0.610	0.530	30	<1	60	<1	<1	7

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHENOLS TOTAL (UG/L) (32730)
OCT 08...	--	--	--	--	--	--	--	--	--	--
NOV 05...	--	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--
FEB 04...	--	--	--	--	--	--	--	--	--	--
MAR 03...	420	2	140	<0.10	<1	6	<1	<1	20	4
APR 14...	--	--	--	--	--	--	--	--	--	--
MAY 12...	710	3	190	<0.10	<1	5	<1	<1	30	--
JUN 10...	--	--	--	--	--	--	--	--	--	--
JUL 07...	--	--	--	--	--	--	--	--	--	--
AUG 04...	--	--	--	--	--	--	--	--	--	--
SEP 01...	570	2	150	<0.10	1	9	<1	<1	40	3

POTOWOMUT RIVER BASIN

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01117000 HUNT RIVER NEAR EAST GREENWICH, RI

LOCATION.--Lat 41°38'28", long 71°26'45", Washington County, Hydrologic Unit 01090004, on right bank 45 ft upstream from Old Forge Dam in North Kingstown, 1.5 mi south of East Greenwich, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--23.0 mi².

PERIOD OF RECORD.--Discharge: August 1940 to current year. Prior to October 1977, published as "Potowomut River." Water-quality records: Water years 1977-81.

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

GAGE.--Water-stage recorder. Datum of gage is 5.42 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow affected by diversions for supply of East Greenwich, North Kingstown, Warwick, and Quonset Point (formerly U.S. Naval establishments).

SUPPLEMENTAL EXTREMES FOR PERIOD OF RECORD.--Maximum gage height of 6.78 ft on Aug. 31, 1954 caused by backwater from hurricane tidal wave; no flow at times in water years 1948, 1960, 1971, 1975-77, 1983, 1986-87, caused by closing of gate at Old Forge Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1915, about 8.5 ft Sept. 21, 1938 (backwater from hurricane tidal wave).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	38	42	42	60	46	72	40	e90	13	8.1	11
2	13	34	42	38	56	44	62	e41	e90	10	7.4	10
3	12	27	66	38	51	43	56	e39	53	9.3	5.7	18
4	12	21	99	69	49	42	52	e37	35	12	4.5	62
5	12	17	76	150	48	41	49	e35	27	15	4.6	39
6	15	15	60	103	45	40	46	e33	74	e13	4.0	28
7	23	15	55	73	44	53	44	e32	72	e11	3.0	22
8	17	15	54	59	45	75	43	e35	45	e9.8	2.5	19
9	13	14	52	54	44	60	42	e40	33	e9.0	64	17
10	12	15	64	59	40	51	41	e32	25	e8.2	154	15
11	12	85	61	54	40	101	44	e29	19	e7.8	71	14
12	14	167	53	47	40	133	49	e26	17	e8.0	52	16
13	13	102	53	46	36	89	44	e24	15	e7.5	31	15
14	12	65	66	70	40	67	40	e22	14	e10	27	14
15	11	47	62	98	43	58	38	e20	12	e40	26	13
16	32	41	53	70	127	53	37	e21	12	e50	34	13
17	31	36	47	54	105	50	74	e20	11	e30	44	12
18	43	32	47	50	75	49	95	e19	11	e20	126	11
19	34	30	43	44	66	50	91	e18	10	e15	118	12
20	25	28	40	43	60	52	74	e17	11	e11	70	11
21	19	28	43	43	53	52	60	e16	13	e9.0	46	11
22	16	50	45	42	49	51	55	e15	12	e7.5	35	11
23	15	120	43	86	47	52	57	e15	10	e9.6	28	23
24	14	109	45	258	45	50	51	e16	15	21	22	18
25	14	90	41	163	45	49	55	e16	38	15	18	14
26	14	65	37	e100	67	51	55	e15	24	11	16	15
27	14	52	36	e76	69	105	51	e14	19	10	15	139
28	12	47	35	e68	56	101	46	e13	31	9.3	14	81
29	12	43	41	66	52	75	43	e13	22	6.0	15	50
30	11	43	65	64	---	62	40	e12	14	4.9	14	33
31	18	---	52	62	---	70	---	e13	---	4.7	13	---
TOTAL	528	1491	1618	2289	1597	1915	1606	738	874	417.6	1092.8	767
MEAN	17.0	49.7	52.2	73.8	55.1	61.8	53.5	23.8	29.1	13.5	35.3	25.6
MAX	43	167	99	258	127	133	95	41	90	50	154	139
MIN	11	14	35	38	36	40	37	12	10	4.7	2.5	10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	MEAN	18.9	37.6	53.1	62.3	69.9	86.5	12.4	61.3	38.2	18.4	16.1	14.1
MAX	70.1	108	151	186	122	169	230	114	182	56.3	65.1	73.6	
(WY)	1956	1956	1987	1979	1970	1983	1983	1989	1982	1984	1946	1954	
MIN	1.76	8.05	5.53	7.19	17.5	30.0	25.2	23.8	10.8	5.65	3.06	1.59	
(WY)	1969	1950	1966	1966	1944	1981	1966	1992	1957	1965	1965	1968	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1940 - 1992

ANNUAL TOTAL	16228.1	14933.4	
ANNUAL MEAN	44.5	40.8	46.4
HIGHEST ANNUAL MEAN			81.5
LOWEST ANNUAL MEAN			17.7
HIGHEST DAILY MEAN	319	258	861
LOWEST DAILY MEAN	3.7	2.5	.00
ANNUAL SEVEN-DAY MINIMUM	4.6	4.5	.10
INSTANTANEOUS PEAK FLOW		295	1020
INSTANTANEOUS PEAK STAGE		2.31	6.78
INSTANTANEOUS LOW FLOW		2.5	
10 PERCENT EXCEEDS	88	74	100
50 PERCENT EXCEEDS	42	40	34
90 PERCENT EXCEEDS	7.4	11	6.2

e Estimated

PAWCATUCK RIVER BASIN

01117350 CHIPUXET RIVER AT WEST KINGSTON, RI

LOCATION.--Lat 41°28'56", long 71°33'06", Washington County, Hydrologic Unit 01090005, on right bank at West Kingston, at downstream side of bridge on State Highway 138, 1.5 mi west of Kingston, and 3.1 mi upstream from Worden Pond.

DRAINAGE AREA.--9.99 mi².

PERIOD OF RECORD.--Discharge: February 1958 to July 1960 in Rhode Island Water Resources Board Geologic Bulletin 13. September 1973 to current year. Water-quality records: Water years 1974-83.

GAGE.--Water-stage recorder. Datum of gage is 89.80 ft above sea level (Rhode Island State Board of Public Roads benchmark).

REMARKS.--Records good. Diversion upstream for supply of University of Rhode Island. Instantaneous maximum and minimum discharges not available prior to Sept. 14, 1973.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	7.8	15	18	22	19	24	16	16	11	3.1	8.7
2	5.9	8.2	14	16	21	19	23	16	20	9.1	2.7	8.3
3	5.4	8.3	16	16	20	18	22	16	20	7.3	2.4	9.6
4	5.1	7.9	20	19	19	17	21	15	19	7.5	2.9	13
5	4.7	7.4	21	32	19	17	20	15	18	7.5	3.1	15
6	4.6	7.3	20	38	18	17	19	15	18	7.5	2.8	15
7	4.7	7.2	19	32	18	17	18	15	18	7.4	2.7	14
8	4.8	7.0	18	26	18	19	18	15	19	7.2	2.6	13
9	4.6	6.9	17	23	18	20	17	16	17	6.0	13	11
10	4.6	7.3	18	22	17	20	17	17	15	4.0	65	10
11	4.5	9.5	18	21	17	23	17	18	14	2.8	71	8.2
12	4.5	19	18	19	17	30	17	18	12	4.1	54	6.5
13	4.3	22	18	19	16	32	17	17	11	3.3	40	6.3
14	4.2	18	19	20	16	28	17	16	13	3.0	32	5.6
15	4.4	14	19	23	17	24	16	16	15	3.5	27	5.2
16	5.3	13	19	24	26	21	16	15	11	5.9	26	4.4
17	5.9	12	18	21	36	20	19	15	9.4	6.6	27	3.5
18	6.4	11	18	19	32	19	23	15	8.5	6.4	35	3.4
19	7.1	11	17	18	29	20	27	15	6.9	5.0	42	3.2
20	7.4	10	16	18	26	20	26	14	6.6	3.4	41	3.5
21	6.9	10	16	17	23	19	25	14	5.7	3.2	35	3.4
22	6.5	10	16	17	21	19	23	14	5.6	3.0	29	3.2
23	5.8	15	16	20	20	19	22	13	5.2	2.8	25	4.7
24	5.8	23	16	44	19	19	21	13	5.3	3.0	22	4.6
25	5.6	25	16	55	19	19	21	13	5.9	2.9	20	4.4
26	5.4	22	16	45	20	19	20	12	6.4	2.7	17	8.1
27	5.3	18	16	34	21	23	19	12	6.7	2.5	15	40
28	5.6	16	16	28	21	28	18	11	12	2.5	12	48
29	5.6	15	16	25	21	28	18	11	19	2.3	11	37
30	5.7	15	18	23	---	25	17	13	14	2.0	9.9	26
31	6.2	---	18	22	---	24	---	14	---	2.0	9.2	---
TOTAL	169.4	383.8	538	774	607	662	598	455	373.2	148.2	700.4	346.8
MEAN	5.46	12.8	17.4	25.0	20.9	21.4	19.9	14.7	12.4	4.78	22.6	11.6
MAX	7.4	25	21	55	36	32	27	18	20	11	71	48
MIN	4.2	6.9	14	16	16	17	16	11	5.2	2.0	2.4	3.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1992, BY WATER YEAR (WY)

	MEAN	10.1	15.9	22.3	28.4	29.1	34.0	33.9	27.3	21.8	14.1	11.7	9.97
MAX	29.1	43.4	59.4	64.2	43.6	64.0	85.4	44.7	70.4	35.3	24.5	32.4	
(WY)	1990	1990	1987	1979	1984	1983	1983	1983	1982	1982	1982	1985	
MIN	3.57	4.99	5.11	3.54	10.4	9.14	12.7	11.5	7.89	3.94	2.78	3.28	
(WY)	1981	1977	1981	1981	1981	1981	1985	1981	1976	1976	1981	1981	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1958 - 1992

ANNUAL TOTAL	5678.3	5755.8	
ANNUAL MEAN	15.6	15.7	21.3
HIGHEST ANNUAL MEAN			32.8
LOWEST ANNUAL MEAN			6.89
HIGHEST DAILY MEAN	66	Apr 23	235
LOWEST DAILY MEAN	4.2	Oct 14	2.0
ANNUAL SEVEN-DAY MINIMUM	4.4	Oct 9	2.4
INSTANTANEOUS PEAK FLOW			79
INSTANTANEOUS PEAK STAGE			6.41
INSTANTANEOUS LOW FLOW			1.8
10 PERCENT EXCEEDS	29		26
50 PERCENT EXCEEDS	15		16
90 PERCENT EXCEEDS	5.4		4.4

PAWCATUCK RIVER BASIN

93

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 upstream from Chickasheen Brook, 1.8 mi south of Usquepaug, and 2.6 mi west of West Kingston.

DRAINAGE AREA.--36.1 mi².

PERIOD OF RECORD.--Discharge: February 1958 to July 1960 in Rhode Island Water Resources Board Geologic Bulletin 13. December 1974 to current year.

Water-quality records: Water years 1975-83.

GAGE.--Water-stage recorder. Datum of gage is 81.28 ft above sea level (State of Rhode Island benchmark).

REMARKS.--Records good. Flow affected at times by irrigation upstream. Instantaneous maximum and minimum discharges not available prior to Dec. 5, 1974.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	61	82	74	103	78	110	66	77	30	22	30
2	37	65	81	65	96	74	105	66	109	26	20	28
3	33	58	92	62	90	72	95	66	87	23	18	32
4	33	52	122	76	84	72	88	63	58	29	17	69
5	31	47	132	125	83	69	84	61	49	32	18	68
6	39	45	117	145	78	67	82	59	73	32	16	52
7	59	43	103	123	75	71	78	58	86	31	14	43
8	53	41	98	101	75	93	74	57	67	27	16	39
9	46	40	95	87	75	89	72	74	53	26	41	38
10	43	39	98	87	68	77	71	77	45	25	137	36
11	39	67	105	85	68	94	71	66	40	23	150	34
12	39	122	100	78	68	140	75	59	36	20	104	31
13	36	145	91	72	60	141	73	57	34	21	59	29
14	34	125	98	81	66	116	68	55	32	20	48	28
15	34	98	104	111	68	99	66	54	30	21	46	26
16	61	83	99	114	120	90	64	52	26	57	51	25
17	72	74	87	e94	154	84	88	53	25	64	67	25
18	71	68	82	e85	138	82	117	51	26	43	103	24
19	66	64	77	e76	115	83	125	50	25	34	144	23
20	58	63	71	e67	102	84	119	46	28	30	132	22
21	53	61	71	e64	93	84	104	42	37	26	85	21
22	48	73	75	e64	85	83	92	41	33	22	59	21
23	44	117	73	86	80	84	93	40	28	22	51	29
24	41	154	73	183	77	80	88	38	30	31	45	32
25	40	153	70	223	75	78	84	35	55	31	41	27
26	38	132	64	190	89	80	85	36	47	25	38	32
27	40	110	61	147	100	115	80	37	35	24	35	94
28	40	95	59	126	92	145	76	36	42	23	34	96
29	37	89	61	117	85	136	72	35	46	20	37	60
30	37	85	86	111	---	113	68	34	35	19	37	40
31	41	---	88	106	---	106	---	32	---	19	33	---
TOTAL	1383	2469	2715	3225	2562	2879	2567	1596	1394	876	1718	1154
MEAN	44.6	82.3	87.6	104	88.3	92.9	85.6	51.5	46.5	28.3	55.4	38.5
MAX	72	154	132	223	154	145	125	77	109	64	150	96
MIN	31	39	59	62	60	67	64	32	25	19	14	21
CFSM	1.24	2.28	2.43	2.88	2.45	2.57	2.37	1.43	1.29	.78	1.54	1.07
IN.	1.43	2.54	2.80	3.32	2.64	2.97	2.65	1.64	1.44	.90	1.77	1.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1992, BY WATER YEAR (WY)

	38.1	66.3	87.0	105	106	125	131	96.4	74.7	37.6	33.2	28.0
MAX	85.7	150	212	266	180	240	335	179	276	71.9	56.1	75.7
(WY)	1990	1990	1987	1979	1982	1983	1978	1982	1984	1979	1985	1985
MIN	14.3	20.8	21.1	16.9	39.1	56.2	46.3	45.5	31.9	17.4	11.6	7.40
(WY)	1981	1981	1981	1981	1980	1981	1985	1981	1991	1976	1981	1980

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1958 - 1992

ANNUAL TOTAL	24538		
ANNUAL MEAN	67.0	77.1	
HIGHEST ANNUAL MEAN		110	1984
LOWEST ANNUAL MEAN		30.6	1981
HIGHEST DAILY MEAN	223	1020	Jun 7 1982
LOWEST DAILY MEAN	14	4.2	Sep 9 1977
ANNUAL SEVEN-DAY MINIMUM	17	5.7	Sep 27 1980
INSTANTANEOUS PEAK FLOW	228	1060	Jun 6 1982
INSTANTANEOUS PEAK STAGE	5.68	9.23	Jun 6 1982
INSTANTANEOUS LOW FLOW	13	3.9	Sep 10 1977
ANNUAL RUNOFF (CFSM)	1.86	2.14	
ANNUAL RUNOFF (INCHES)	25.29	29.02	
10 PERCENT EXCEEDS	114	157	
50 PERCENT EXCEEDS	66	60	
90 PERCENT EXCEEDS	26	19	

e Estimated

PAWCATUCK RIVER BASIN

01117468 BEAVER RIVER NEAR USQUEPAUG, RI

LOCATION.--Lat 41°29'33", long 71°37'43", Washington County, Hydrologic Unit 01090005, on right bank 10 ft downstream from Beaver River Bridge on State Highway 138 in Richmond, 1.2 mi southwest of Usquepaug, 3.3 mi north of Kenyon, and 3.6 mi upstream from mouth.

DRAINAGE AREA.--8.87 mi².

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

Water-quality records: Water years 1979-83.

REVISED RECORDS.--WDR MA-RI-79-1: 1978. WDR MA-RI-81-1: 1978-80 (P).

GAGE.--Water-stage recorder. Datum of gage is 107.68 ft above sea level.

REMARKS.--Records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	16	22	20	27	19	28	17	37	8.5	4.7	5.5
2	10	15	22	19	25	19	25	18	32	7.6	3.9	5.1
3	9.7	13	32	19	23	18	24	18	19	7.2	3.7	8.4
4	9.7	12	40	27	23	18	22	17	15	8.8	4.0	20
5	9.5	11	32	38	22	17	22	17	14	9.3	4.1	12
6	13	11	27	30	21	17	21	16	27	9.1	3.5	8.8
7	17	11	26	25	20	19	20	16	23	8.7	3.2	7.7
8	14	11	26	22	20	23	20	16	17	7.5	3.0	7.4
9	12	10	26	22	20	20	20	21	15	7.1	21	7.4
10	11	11	30	22	19	19	19	19	13	6.7	53	6.8
11	10	29	29	22	19	33	19	17	12	6.0	22	6.4
12	11	42	25	20	18	41	20	16	12	5.6	16	6.1
13	11	32	25	19	e18	30	19	16	11	5.8	10	5.6
14	9.9	24	30	27	18	25	18	15	10	5.3	9.8	5.1
15	9.8	21	29	33	19	23	17	15	9.9	5.7	9.5	5.0
16	21	19	25	e26	44	22	17	15	9.5	20	11	4.8
17	18	18	23	e24	36	21	27	15	9.1	13	15	4.6
18	18	18	23	22	27	21	32	14	8.8	8.8	40	4.6
19	15	17	22	e20	24	21	30	13	8.8	7.1	28	4.5
20	14	16	21	e20	23	21	26	13	12	6.1	16	4.3
21	12	16	21	e19	21	22	23	13	13	5.6	12	4.1
22	11	25	21	18	20	22	22	12	11	5.1	10	4.3
23	11	45	21	29	19	21	23	12	9.6	5.5	9.2	7.0
24	11	41	21	62	19	21	21	11	12	8.5	8.4	6.2
25	11	35	20	49	19	20	21	11	18	6.1	7.8	4.9
26	11	28	19	35	25	21	21	11	12	5.1	7.4	11
27	11	25	18	31	24	43	20	11	10	4.8	7.0	30
28	e10	24	18	29	21	38	19	11	12	4.7	7.0	16
29	e10	23	19	29	20	29	18	11	10	4.3	7.4	10
30	e10	22	30	28	---	25	18	11	9.1	4.1	6.5	8.0
31	12	---	24	28	---	28	---	10	---	4.2	6.0	---
TOTAL	374.6	641	767	834	654	737	652	448	431.8	221.9	370.1	241.6
MEAN	12.1	21.4	24.7	26.9	22.6	23.8	21.7	14.5	14.4	7.16	11.9	8.05
MAX	21	45	40	62	44	43	32	21	37	20	53	30
MIN	9.5	10	18	18	18	17	17	10	8.8	4.1	3.0	4.1
CFSM	1.36	2.41	2.79	3.03	2.54	2.68	2.45	1.63	1.62	.81	1.35	.91
IN.	1.57	2.69	3.22	3.50	2.74	3.09	2.73	1.88	1.81	.93	1.55	1.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1992, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	9.73	18.8	25.1	29.3	28.1	34.6	37.2	28.4	22.6	10.7	9.04	7.40						
MAX	25.5	43.5	60.8	74.0	46.2	62.9	102	48.3	82.1	22.7	16.4	25.2						
(WY)	1990	1990	1987	1979	1982	1983	1983	1979	1982	1982	1989	1985						
MIN	3.40	4.59	4.43	3.17	11.5	18.9	13.9	13.7	9.56	4.72	2.73	1.90						
(WY)	1981	1981	1981	1981	1985	1981	1985	1981	1976	1976	1987	1980						

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1975 - 1992

ANNUAL TOTAL	7181.9	6373.0	
ANNUAL MEAN	19.7	17.4	21.8
HIGHEST ANNUAL MEAN			30.4
LOWEST ANNUAL MEAN			8.67
HIGHEST DAILY MEAN	74	62	324
LOWEST DAILY MEAN	3.1	3.0	1.4
ANNUAL SEVEN-DAY MINIMUM	3.6	3.6	1.7
INSTANTANEOUS PEAK FLOW		72	370
INSTANTANEOUS PEAK STAGE		2.30	3.83
INSTANTANEOUS LOW FLOW		2.9	1.3
ANNUAL RUNOFF (CFSM)	2.22	1.96	2.45
ANNUAL RUNOFF (INCHES)	30.12	26.73	33.35
10 PERCENT EXCEEDS	33	29	43
50 PERCENT EXCEEDS	20	18	17
90 PERCENT EXCEEDS	6.0	6.1	4.5

e Estimated

PAWCATUCK RIVER BASIN

95

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 10 ft downstream from bridge on Alton-Carolina road, 0.8 mi northeast of Wood River Junction, 1.5 mi southwest of Carolina, and 2.9 mi upstream from Wood River.

DRAINAGE AREA.--100 mi².

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 above sea level. Prior to June 19, 1984, at site 10 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional regulation by fish hatchery on White Brook. Prior to 1972, occasional regulation at low flow by powerplant and mills upstream; regulation greater prior to 1969. Annual mean discharge for period of record shown in summary statistics does not include the 1941 water year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	e98	182	184	244	192	249	168	149	78	56	89
2	101	e104	180	172	231	185	243	167	183	71	53	84
3	93	e113	200	166	213	181	231	164	190	66	48	94
4	89	e104	239	184	205	177	216	160	164	71	53	144
5	86	e98	258	239	198	174	203	156	135	77	56	154
6	97	e94	263	269	189	170	194	150	147	77	51	142
7	104	e90	249	277	186	172	188	145	162	75	46	123
8	109	e86	231	251	182	187	185	144	161	70	46	112
9	102	e83	221	227	181	196	180	162	141	67	106	106
10	96	e82	228	221	171	192	177	170	120	64	356	103
11	93	e100	240	212	171	212	176	167	107	60	359	99
12	88	e130	231	197	168	262	176	155	99	57	313	93
13	85	e240	224	190	158	282	175	148	92	58	215	88
14	85	e220	227	203	160	273	170	144	88	55	159	84
15	109	e200	232	229	166	245	164	140	84	54	138	82
16	121	e180	226	230	233	222	161	138	81	102	144	78
17	138	e157	212	203	281	208	183	136	79	118	162	77
18	134	e147	203	207	292	200	222	131	75	108	233	75
19	118	e138	189	185	271	196	257	129	75	84	291	74
20	106	133	179	169	246	198	258	124	81	70	287	71
21	100	130	178	165	228	200	243	118	94	65	246	70
22	94	135	181	164	213	196	227	114	90	60	195	71
23	92	201	181	191	202	197	222	109	e86	58	163	84
24	90	250	181	363	193	195	215	105	e88	63	144	86
25	89	300	175	414	188	189	208	99	e117	65	131	80
26	86	287	167	437	200	188	200	98	e109	61	122	98
27	e83	248	161	380	216	236	194	99	e103	59	114	182
28	e82	217	157	315	216	275	188	97	e98	57	108	202
29	e84	197	160	273	208	282	181	93	e94	53	107	185
30	e88	187	183	260	---	261	174	91	86	51	102	150
31	e92	---	191	250	---	250	---	88	---	50	96	---
TOTAL	3043	4749	6329	7427	6010	6593	6060	4109	3378	2124	4700	3180
MEAN	98.2	158	204	240	207	213	202	133	113	68.5	152	106
MAX	138	300	263	437	292	282	258	170	190	118	359	202
MIN	82	82	157	164	158	170	161	88	75	50	46	70
CFSM	.98	1.58	2.04	2.40	2.07	2.13	2.02	1.33	1.13	.69	1.52	1.06
IN.	1.13	1.77	2.35	2.76	2.24	2.45	2.25	1.53	1.26	.79	1.75	1.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1992, BY WATER YEAR (WY)

	MEAN	89.9	149	209	246	271	340	330	254	185	102	88.4	81.1
MAX	332	471	543	655	453	598	908	464	718	249	275	374	
(WY)	1956	1956	1987	1979	1970	1953	1983	1983	1982	1984	1946	1954	
MIN	31.1	42.2	49.8	51.8	104	145	124	130	82.3	38.2	31.7	29.5	
(WY)	1950	1966	1966	1981	1944	1981	1985	1981	1957	1957	1949	1980	

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1941 - 1992

ANNUAL TOTAL	60921	57702	196
ANNUAL MEAN	167	158	311
HIGHEST ANNUAL MEAN			1984
LOWEST ANNUAL MEAN			84.4
HIGHEST DAILY MEAN	533	Apr 23	437
LOWEST DAILY MEAN	34	Jul 22	46
ANNUAL SEVEN-DAY MINIMUM	37	Jul 16	50
INSTANTANEOUS PEAK FLOW			450
INSTANTANEOUS PEAK STAGE			3.90
INSTANTANEOUS LOW FLOW			44
ANNUAL RUNOFF (CFSM)	1.67	1.58	1.96
ANNUAL RUNOFF (INCHES)	22.66	21.47	26.61
10 PERCENT EXCEEDS	289	247	393
50 PERCENT EXCEEDS	167	161	157
90 PERCENT EXCEEDS	57	75	51

e Estimated

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 northwest of Arcadia, and 4.5 mi north of Hope Valley.

DRAINAGE AREA.--35.2 mi².

PERIOD OF RECORD.--Discharge: January 1964 to September 1981, October 1982 to current year.
Water-quality records: Water years 1967-74.

GAGE.--Water-stage recorder. Datum of gage is 118.20 ft above sea level (Rhode Island State Board of Public Roads bench-mark). Prior to Oct. 1, 1985, datum erroneously published as 137.97 ft above sea level.

REMARKS.--Records good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 6, 1982, reached a discharge of 1,010 ft³/s, gage height, 8.97 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	51	81	83	106	88	125	68	126	31	20	22
2	47	49	79	78	100	84	114	67	110	26	21	20
3	38	49	100	75	93	82	105	69	92	25	19	33
4	35	48	136	92	90	78	100	66	76	27	17	78
5	34	44	131	124	88	75	92	63	66	29	17	57
6	56	43	121	115	83	74	87	60	108	29	16	50
7	78	41	109	108	82	84	83	57	111	27	14	44
8	62	40	105	97	81	98	81	56	99	24	13	48
9	55	38	101	88	81	91	79	69	81	24	46	58
10	50	40	113	89	75	88	79	65	66	25	70	55
11	46	93	111	84	75	127	80	62	55	22	47	61
12	54	161	104	77	73	158	80	59	47	19	51	56
13	52	148	104	75	68	140	77	58	41	21	40	47
14	49	125	119	100	72	119	74	56	37	21	39	41
15	48	106	118	132	74	103	72	53	34	33	36	36
16	76	93	109	116	167	93	73	61	32	72	37	32
17	67	83	98	103	155	87	101	56	30	56	61	29
18	65	76	94	95	135	83	117	53	28	49	116	27
19	61	71	88	83	120	83	127	49	26	42	145	24
20	55	66	83	77	108	84	118	46	29	35	125	23
21	53	63	81	75	99	84	107	45	33	29	93	21
22	49	84	81	73	91	82	98	43	28	24	71	22
23	45	150	80	115	86	82	96	40	26	24	57	33
24	43	153	80	298	83	81	92	37	38	32	47	30
25	43	143	78	255	81	79	91	37	51	27	38	26
26	41	119	73	189	102	81	89	36	46	23	33	38
27	44	104	72	149	108	179	83	37	45	22	29	76
28	48	96	70	133	103	199	79	35	54	20	27	56
29	45	89	74	122	98	170	74	34	43	18	27	49
30	41	83	96	114	---	138	71	31	35	16	26	42
31	42	---	91	110	---	134	---	31	---	16	25	---
TOTAL	1574	2549	2980	3524	2777	3228	2744	1599	1693	888	1423	1234
MEAN	50.8	85.0	96.1	114	95.8	104	91.5	51.6	56.4	28.6	45.9	41.1
MAX	78	161	136	298	167	199	127	69	126	72	145	78
MIN	34	38	70	73	68	74	71	31	26	16	13	20
CFSM	1.44	2.41	2.73	3.23	2.72	2.96	2.60	1.47	1.60	.81	1.30	1.17
IN.	1.66	2.69	3.15	3.72	2.93	3.41	2.90	1.69	1.79	.94	1.50	1.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

	MEAN	37.9	69.0	97.7	101	108	134	132	93.8	61.3	33.9	32.2	24.4
MAX	112	163	229	310	187	256	320	153	165	81.4	90.0	55.1	
(WY)	1990	1973	1973	1979	1970	1972	1983	1979	1984	1972	1979	1979	
MIN	12.6	11.2	15.5	19.0	43.6	76.3	44.2	48.7	26.9	12.7	9.40	7.05	
(WY)	1966	1966	1966	1966	1980	1985	1966	1986	1964	1991	1965	1980	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1964 - 1992

ANNUAL TOTAL	27155.8	26213	
ANNUAL MEAN	74.4	71.6	77.2
HIGHEST ANNUAL MEAN			114
LOWEST ANNUAL MEAN			33.3
HIGHEST DAILY MEAN	255	298	826
LOWEST DAILY MEAN	7.3	13	4.9
ANNUAL SEVEN-DAY MINIMUM	8.5	17	5.4
INSTANTANEOUS PEAK FLOW		310	896
INSTANTANEOUS PEAK STAGE		5.36	8.64
INSTANTANEOUS LOW FLOW		13	4.9
ANNUAL RUNOFF (CFSM)	2.11	2.03	2.19
ANNUAL RUNOFF (INCHES)	28.70	27.70	29.82
10 PERCENT EXCEEDS	131	119	157
50 PERCENT EXCEEDS	75	71	59
90 PERCENT EXCEEDS	15	27	16

PAWCATUCK RIVER BASIN

97

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 downstream from highway bridge at Hope Valley and 6.6 mi upstream from mouth.

DRAINAGE AREA.--72.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: August to December 1909 (gage heights only), March 1941 to current year. Records of daily discharge for August to December 1909, published in WSP 261, have been found to be unreliable and should not be used.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 61.11 ft above sea level. August to December 1909, nonrecording gage at site 1,000 ft upstream at different datum.

REMARKS.--Records excellent. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1711, at least 12.4 ft in February 1886. Flood in November 1927 reached a stage of 11.7 ft, and flood in March 1936 reached a discharge of 1,540 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	100	160	156	207	167	248	126	259	61	38	44
2	93	101	157	144	192	157	222	126	303	53	38	40
3	81	96	202	139	177	151	199	127	199	52	37	51
4	76	91	299	174	169	146	185	120	154	58	37	129
5	72	86	271	267	165	140	173	115	131	60	36	114
6	104	81	240	235	154	137	160	111	215	61	33	90
7	177	78	216	205	150	153	153	105	238	58	31	78
8	137	76	208	183	149	201	148	105	197	51	29	76
9	112	73	200	168	147	182	143	135	160	50	87	99
10	100	76	225	175	136	166	141	132	129	50	222	94
11	94	161	229	163	135	240	142	119	108	45	129	90
12	105	348	205	146	133	356	145	109	93	41	112	89
13	107	286	200	140	120	279	138	105	85	41	92	81
14	100	233	249	180	131	235	131	102	76	40	80	69
15	93	195	242	280	135	205	126	97	71	48	76	62
16	155	174	213	234	342	184	127	101	65	122	79	56
17	152	153	189	189	343	171	184	100	61	115	111	52
18	143	139	181	182	270	163	241	99	57	87	213	49
19	133	130	165	157	239	167	248	93	55	73	259	46
20	116	124	154	143	216	166	228	85	57	62	212	42
21	105	120	155	140	196	163	203	82	65	54	159	40
22	99	169	157	135	180	161	186	78	62	46	123	43
23	94	331	152	204	170	165	183	74	55	53	101	57
24	89	342	153	664	162	156	171	69	65	65	87	56
25	86	299	146	559	155	149	170	67	95	58	75	49
26	84	247	137	395	198	155	167	67	85	46	65	70
27	85	209	131	299	222	327	155	67	75	44	59	181
28	89	189	127	266	197	382	146	65	89	42	55	137
29	84	178	135	243	187	310	139	64	82	38	54	101
30	78	165	196	228	---	257	130	61	68	36	50	82
31	81	---	179	216	---	253	---	61	---	35	46	---
TOTAL	3224	5050	5873	7009	5377	6244	5132	2967	3454	1745	2825	2267
MEAN	104	168	189	226	185	201	171	95.7	115	56.3	91.1	75.6
MAX	177	348	299	664	343	382	248	135	303	122	259	181
MIN	72	73	127	135	120	137	126	61	55	35	29	40
CFSM	1.44	2.33	2.62	3.12	2.56	2.78	2.36	1.32	1.59	.78	1.26	1.04
IN.	1.66	2.59	3.02	3.60	2.76	3.21	2.64	1.52	1.77	.90	1.45	1.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1992, BY WATER YEAR (WY)

	MEAN	77.8	134	184	199	216	274	261	193	132	71.5	65.2	61.3
MAX	341	386	477	666	398	465	664	365	540	168	168	183	311
(WY)	1956	1956	1987	1979	1970	1972	1983	1979	1982	1972	1979	1954	
MIN	22.6	24.9	35.1	36.8	87.6	147	89.4	91.9	48.3	27.7	20.5	17.4	
(WY)	1958	1966	1966	1981	1980	1981	1966	1986	1957	1957	1957	1957	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1941 - 1992
ANNUAL TOTAL	55691	51167	
ANNUAL MEAN	153	140	156
HIGHEST ANNUAL MEAN			235
LOWEST ANNUAL MEAN			71.2
HIGHEST DAILY MEAN	596	664	2200
LOWEST DAILY MEAN	23	29	10
ANNUAL SEVEN-DAY MINIMUM	25	34	14
INSTANTANEOUS PEAK FLOW		737	2390
INSTANTANEOUS PEAK STAGE		5.15	10.26
INSTANTANEOUS LOW FLOW		29	4.0
ANNUAL RUNOFF (CFSM)	2.11	1.93	2.15
ANNUAL RUNOFF (INCHES)	28.61	26.29	29.24
10 PERCENT EXCEEDS	275	239	313
50 PERCENT EXCEEDS	149	132	120
90 PERCENT EXCEEDS	38	53	36

PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1977 to current year.

WATER TEMPERATURES: October 1977 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 298 microsiemens, Feb. 12, 1988; minimum recorded, 21 microsiemens, Jan. 23, 1979.

WATER TEMPERATURES: Maximum recorded, 29.5°C, July 24, 1987, July 26, 27, 28, 1989; minimum recorded, 0.0°C, on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 104 microsiemens, Jan. 23; minimum recorded, 57 microsiemens, Jan. 26, Aug 20, 21.

WATER TEMPERATURES: Maximum recorded, 25.5°C, July 20, 21; minimum recorded, 2.0°C, Mar. 16-18, 20.

SPECIFIC CONDUCTANCE, mS/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	72	69	71	77	75	76	71	69	70	74	73	74
2	75	71	73	78	75	76	72	70	71	75	74	74
3	78	74	75	79	77	78	72	70	71	75	73	74
4	78	76	77	79	77	78	70	67	68	78	73	74
5	80	78	79	78	76	77	67	66	67	74	69	71
6	83	78	80	77	76	77	72	65	68	70	69	70
7	79	73	76	78	76	77	68	66	67	71	69	69
8	74	73	74	78	77	77	69	68	68	70	68	69
9	76	74	75	80	78	79	70	68	69	72	68	70
10	76	75	76	81	79	80	73	69	70	72	69	70
11	76	75	75	82	74	78	70	68	69	72	70	71
12	77	74	75	73	69	71	70	68	69	74	71	72
13	75	73	74	69	67	68	72	68	70	74	73	74
14	75	73	74	67	65	66	69	67	68	76	71	74
15	74	70	73	67	65	66	68	67	68	70	65	67
16	76	71	73	69	67	67	68	67	68	68	65	66
17	73	71	72	70	68	69	72	67	68	69	67	68
18	74	72	73	71	69	70	73	69	71	69	67	68
19	74	73	74	72	70	71	72	70	71	72	69	70
20	75	73	74	72	71	71	73	72	73	75	72	73
21	75	74	74	73	71	72	83	73	76	75	74	74
22	75	74	75	73	69	71	75	73	74	76	74	75
23	76	74	75	75	66	68	75	73	74	104	75	85
24	77	75	76	67	64	66	75	73	74	79	62	68
25	78	76	77	65	64	64	75	73	74	62	58	59
26	79	77	78	66	64	65	76	74	75	61	57	59
27	79	77	78	67	63	65	77	75	76	64	61	62
28	78	76	77	68	66	67	76	75	76	64	62	63
29	77	76	76	68	67	68	79	76	77	66	64	65
30	77	75	76	70	68	69	77	71	74	68	66	67
31	78	75	77	---	---	---	74	71	72	68	66	67
MONTH	83	69	75	82	63	72	83	65	71	104	57	70

PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

WATER-QUALITY RECORDS

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
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	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

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

PAWCATUCK RIVER BASIN

01118500 PAWCATUCK RIVER AT WESTERLY, RI
(National Stream Quality Accounting network station)

LOCATION.--Lat 41°23'01", long 71°50'01", Washington County, Hydrologic Unit 01090005, on left bank at Westerly, 2.1 mi downstream from Shunock River.

DRAINAGE AREA.--295 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1940 to current year.

REVISED RECORDS.--WSP 1051: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.76 ft below sea level.

REMARKS.--Records good. Diurnal fluctuation at low flow prior to 1962 by mills upstream; regulation much greater prior to 1958. Diversion upstream for municipal supply of Westerly.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a discharge of 3,150 ft³/s, by computation of flow over dam 1.5 mi 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 Sept. 21, 1938, due to hurricane tidal wave.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	358	332	566	589	779	651	884	470	553	269	179	227
2	326	348	549	538	730	597	848	464	875	244	173	208
3	304	353	647	506	661	560	767	458	797	233	161	220
4	282	332	866	573	626	540	710	460	609	240	170	399
5	264	317	931	804	605	520	653	429	487	256	189	453
6	284	303	878	866	573	508	614	414	573	257	167	410
7	373	294	823	808	553	524	585	397	697	244	152	347
8	385	280	769	736	546	617	557	387	640	238	143	316
9	353	276	726	675	533	657	537	449	552	232	219	312
10	323	274	757	655	503	624	522	482	452	229	765	318
11	303	364	803	630	490	691	514	466	390	220	866	299
12	312	661	769	582	485	974	519	428	342	210	766	283
13	311	781	721	544	455	1030	515	401	313	208	643	267
14	294	739	758	579	462	937	493	385	293	206	509	249
15	282	664	803	757	486	831	475	369	275	198	410	232
16	373	590	767	798	848	732	460	367	261	333	388	221
17	436	522	691	661	1110	663	533	370	252	385	462	213
18	446	465	647	633	1050	619	753	352	244	351	756	206
19	443	432	600	579	950	613	887	341	236	292	1010	199
20	405	412	553	520	857	613	886	325	244	253	937	194
21	365	399	553	488	779	599	801	311	330	227	779	185
22	337	418	560	476	701	599	731	299	290	215	620	182
23	317	706	560	566	651	619	704	286	262	208	491	215
24	310	978	562	1420	615	597	674	273	268	224	407	226
25	298	1020	534	1610	592	570	647	263	363	223	359	212
26	294	933	497	1440	658	567	627	257	353	212	322	240
27	289	816	469	1240	761	762	597	262	312	205	284	566
28	289	715	459	1100	747	1050	565	254	295	198	276	629
29	289	645	470	972	702	1080	533	248	280	189	264	550
30	276	596	593	875	---	972	501	241	276	179	244	423
31	294	---	640	822	---	904	---	240	---	167	237	---
TOTAL	10215	15965	20521	24042	19508	21820	19092	11148	12114	7345	13348	9001
MEAN	330	532	662	776	673	704	636	360	404	237	431	300
MAX	446	1020	931	1610	1110	1080	887	482	875	385	1010	629
MIN	264	274	459	476	455	508	460	240	236	167	143	182
CFSM	1.12	1.80	2.24	2.63	2.28	2.39	2.16	1.22	1.37	.80	1.46	1.02
IN.	1.29	2.01	2.59	3.03	2.46	2.75	2.41	1.41	1.53	.93	1.68	1.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1992, BY WATER YEAR (WY)

	MEAN	264	465	653	749	811	1025	973	719	507	271	244	226
MAX	1186	1450	1789	2151	1377	1766	2603	1274	2246	642	763	1233	
(WY)	1956	1956	1987	1979	1982	1953	1983	1948	1982	1959	1946	1954	
MIN	87.2	93.2	115	131	325	495	371	325	210	98.5	81.7	65.7	
(WY)	1950	1966	1966	1981	1980	1981	1966	1986	1942	1957	1964	1964	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1941 - 1992

ANNUAL TOTAL	195624	184119	
ANNUAL MEAN	536	503	578
HIGHEST ANNUAL MEAN			871
LOWEST ANNUAL MEAN			251
HIGHEST DAILY MEAN	1570	1610	6220
LOWEST DAILY MEAN	94	143	25
ANNUAL SEVEN-DAY MINIMUM	99	165	52
INSTANTANEOUS PEAK FLOW		1640	7070
INSTANTANEOUS PEAK STAGE		6.26	12.86
INSTANTANEOUS LOW FLOW		139	
ANNUAL RUNOFF (CFSM)	1.82	1.71	1.96
ANNUAL RUNOFF (INCHES)	24.67	23.22	26.60
10 PERCENT EXCEEDS	989	822	1190
50 PERCENT EXCEEDS	523	475	452
90 PERCENT EXCEEDS	153	227	131

PAWCATUCK RIVER BASIN

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01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953, 1963, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1978 to current year.

WATER TEMPERATURES: June 1978 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1978.

REMARKS.--Interruptions in the record were due to instrument malfunction. Instantaneous records are representative of the cross section while continuous records are based on point samples. The instantaneous record values will not necessarily fall within the corresponding daily range of the continuous records.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 354 microsiemens, June 25, 1985; minimum, 27 microsiemens June 7, 1982.

WATER TEMPERATURES: Maximum, 30.0°C, Aug. 9, 1980, Aug. 17, 18, 1987; minimum, 0.0°C, on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 154 microsiemens, Aug. 10; minimum, 64 microsiemens, Aug. 21, 22.

WATER TEMPERATURES: Maximum, 25.5°C, July 13, 20; minimum 0.5°C Feb. 3-7, 9, 13, 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	COLOR (PLAT- INUM- COBALT UNITS) (00080)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)
NOV 21...	1100	401	104	6.7	8.0	5.0	--	0.80	12.4	96	--	1.0
JAN 09...	1045	683	90	6.5	6.0	2.5	--	0.90	13.4	98	--	1.0
MAR 16...	1050	730	88	6.5	0.0	2.0	50	0.90	13.7	98	19	1.0
MAY 14...	1040	390	101	7.1	23.0	16.0	--	1.0	9.1	92	--	1.0
JUL 09...	0950	229	104	7.1	26.0	18.5	--	1.2	8.0	86	--	<1.0
SEP 08...	1020	317	92	6.9	25.0	18.5	--	1.6	8.7	92	29	2.0

DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	ENTERO- COCCI ME,MF WATER TOTAL (COL / 100 ML) (31649)	STREP- TOCOC FECAL, KF AGAR PER (COLS. 100 ML) (31673)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CAR- BONATE WATER DIS IT FIELD CO3 (00452)
NOV 21...	190	31	K8	K18	28	15	4.0	1.2	12	1.3	0
JAN 09...	80	K7	K9	50	K15	14	3.6	1.1	11	0.90	0
MAR 16...	42	K13	K2	K2	--	13	3.5	1.1	11	0.80	0
MAY 14...	160	40	K15	K15	54	18	4.7	1.4	12	1.1	0
JUL 09...	480	96	73	880	80	18	4.9	1.5	12	1.0	0
SEP 08...	130	140	45	120	96	16	4.3	1.3	11	1.0	0

DATE	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV 21...	10	8	15	13	0.20	8.7	77	--	87	<0.010	0.330
JAN 09...	7	6	14	12	0.20	7.8	61	--	53	<0.010	0.320
MAR 16...	6	5	13	10	0.20	--	--	<1	61	<0.010	0.310
MAY 14...	11	9	13	13	<0.10	4.3	82	--	73	<0.010	0.360
JUL 09...	13	11	12	14	0.10	6.5	66	--	54	<0.010	0.520
SEP 08...	10	8	10	12	0.10	--	72	13	74	<0.010	0.300

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)
NOV 21...	0.350	0.030	0.040	0.27	0.30	0.63	0.030	0.010	<0.010	0.010	--
JAN 09...	0.310	0.040	0.040	0.56	0.60	0.92	0.040	0.020	<0.010	<0.010	--
MAR 16...	--	0.040	--	0.36	0.40	0.71	<0.010	<0.010	0.020	--	110
MAY 14...	0.390	0.060	0.050	0.14	0.20	0.56	0.060	0.010	0.020	0.030	--
JUL 09...	0.550	0.020	0.060	0.28	0.30	0.82	0.020	0.030	0.010	0.020	--
SEP 08...	--	0.030	--	0.37	0.40	0.70	0.040	0.020	0.010	--	--

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
NOV 21...	100	--	10	--	--	<1.0	--	<1	<3	--	1
JAN 09...	100	--	7	--	--	<1.0	--	1	<3	--	2
MAR 16...	--	<1	--	<10	<1	--	1	--	--	<1	--
MAY 14...	60	--	12	--	--	<1.0	--	<1	<3	--	1
JUL 09...	20	--	10	--	--	<1.0	--	<1	<3	--	<1
SEP 08...	--	--	--	--	--	<1.0	--	<1	--	--	1

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO) (01062)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)
NOV 21...	--	260	--	2	<4	--	31	--	--	<10	--
JAN 09...	--	170	--	<1	<4	--	27	--	--	<10	--
MAR 16...	190	--	3	--	--	50	--	0.10	2	--	<1
MAY 14...	--	270	--	<1	<4	--	37	--	--	<10	--
JUL 09...	--	320	--	<1	<4	--	27	--	--	<10	--
SEP 08...	--	--	--	<1	--	--	--	--	--	--	--

DATE	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	PHENOLS TOTAL (UG/L) (32730)
NOV 21...	<1	--	<1	--	<1.0	30	<6	--	<10	7.7	--
JAN 09...	<1	--	<1	--	<1.0	26	<6	--	20	6.7	--
MAR 16...	--	<1	--	<1	--	--	--	10	--	6.3	3
MAY 14...	<1	--	<1	--	<1.0	34	<6	--	10	4.7	--
JUL 09...	<1	--	<1	--	<1.0	37	<6	--	10	5.8	--
SEP 08...	<1	--	--	--	--	--	--	--	10	12	2

PAWCATUCK RIVER BASIN

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01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 1991					
21...	1100	401	3	3.2	82
JAN 1992					
09...	1045	683	2	3.7	70
MAY					
14...	1040	390	3	3.2	88
JUL					
09...	0950	229	2	1.2	89

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	-	-	-	142	131	134	86	82	83	-	-	-
2	-	-	-	153	135	147	86	83	85	-	-	-
3	-	-	-	135	128	132	88	82	84	-	-	-
4	-	-	-	128	114	121	88	85	87	-	-	-
5	-	-	-	114	101	108	85	76	81	120	111	117
6	-	-	-	117	110	113	95	76	85	119	114	116
7	-	-	-	128	117	122	98	91	93	114	97	108
8	-	-	-	137	128	133	97	93	95	121	101	108
9	-	-	-	136	129	132	97	92	94	107	98	102
10	-	-	-	143	135	141	97	92	94	-	-	-
11	-	-	-	143	118	130	98	95	97	-	-	-
12	-	-	-	119	107	114	103	97	99	-	-	-
13	-	-	-	109	102	106	-	-	-	-	-	-
14	-	-	-	102	99	101	-	-	-	-	-	-
15	-	-	-	100	96	98	-	-	-	-	-	-
16	-	-	-	103	93	97	-	-	-	-	-	-
17	-	-	-	105	103	103	-	-	-	-	-	-
18	-	-	-	103	100	101	-	-	-	-	-	-
19	-	-	-	101	99	100	-	-	-	-	-	-
20	-	-	-	110	100	104	-	-	-	-	-	-
21	-	-	-	113	109	111	-	-	-	-	-	-
22	-	-	-	118	111	116	-	-	-	-	-	-
23	-	-	-	121	111	114	-	-	-	-	-	-
24	-	-	-	115	97	105	-	-	-	-	-	-
25	-	-	-	101	85	91	-	-	-	-	-	-
26	-	-	-	88	80	83	-	-	-	-	-	-
27	-	-	-	87	85	86	-	-	-	-	-	-
28	-	-	-	85	84	84	-	-	-	-	-	-
29	-	-	-	85	82	83	-	-	-	-	-	-
30	-	-	-	85	82	84	-	-	-	-	-	-
31	-	-	-	---	---	---	-	-	-	-	-	-
MONTH	-	-	-	153	80	110	103	76	90	121	97	110

PAWCATUCK RIVER BASIN

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01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

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

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DRAINAGE AREA.--155 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1931 to current year.

REVISED RECORDS.--WSP 851: 1936(M). WSP 1201: 1939-43, 1949. WSP 1381: 1938(M). WDR MA-RI-83-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 341.52 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by East Brimfield and Westville Lakes and by smaller reservoirs upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	330	244	529	237	e190	317	585	392	293	142	67	57
2	247	207	496	e210	e180	293	528	321	229	114	109	54
3	207	209	e450	e180	e170	255	469	501	225	100	75	51
4	191	241	692	134	e160	260	445	488	158	76	94	148
5	180	171	624	270	116	150	396	451	151	115	85	135
6	449	244	573	231	179	208	342	425	387	126	79	131
7	505	209	542	e210	182	255	216	382	361	103	60	82
8	505	59	520	188	165	386	268	316	341	115	56	88
9	446	142	531	245	144	376	242	332	314	117	140	97
10	384	61	566	295	e140	359	313	312	243	96	123	84
11	312	346	542	242	e135	534	271	280	196	76	135	95
12	446	629	508	e240	e132	597	376	267	173	75	194	87
13	323	579	497	e220	e130	650	371	264	173	73	116	51
14	371	553	527	e210	127	596	341	319	120	67	151	104
15	326	534	560	386	136	437	283	258	105	85	84	67
16	317	549	512	276	387	385	262	267	89	192	109	41
17	295	516	447	e270	327	335	448	247	82	152	162	62
18	390	423	e400	e250	304	303	579	218	73	173	418	39
19	331	474	e310	e240	288	293	544	151	68	155	308	63
20	376	313	e270	e230	271	e270	505	188	84	132	181	41
21	285	365	e260	e225	297	e250	501	171	138	87	213	23
22	246	634	e250	e220	255	e240	476	141	77	91	202	40
23	267	897	e245	275	241	e230	460	143	126	71	207	98
24	245	874	e240	715	223	221	387	139	151	82	172	52
25	213	982	e235	558	205	270	575	122	193	71	178	58
26	182	865	e230	524	353	256	672	130	190	66	183	65
27	228	702	190	439	406	888	708	131	183	40	176	76
28	189	632	90	374	378	937	686	116	186	62	148	82
29	248	583	308	359	374	818	573	78	160	45	100	21
30	156	559	290	319	---	701	458	99	146	27	93	51
31	232	---	407	200	---	651	---	92	---	148	67	---
TOTAL	9422	13796	12841	8972	6595	12721	13280	7741	5415	3074	4485	2143
MEAN	304	460	414	289	227	410	443	250	180	99.2	145	71.4
MAX	505	982	692	715	406	937	708	501	387	192	418	148
MIN	156	59	90	134	116	150	216	78	68	27	56	21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1992, BY WATER YEAR (WY)

MEAN	151	228	302	323	336	535	539	313	218	104	117	118
MAX	701	711	794	1028	845	1669	1239	658	1057	700	1971	1296
(WY)	1956	1956	1984	1979	1970	1936	1940	1989	1982	1938	1955	1938
MIN	16.3	34.4	81.4	57.4	83.0	235	169	131	45.9	17.8	12.9	12.2
(WY)	1958	1950	1966	1981	1980	1989	1985	1957	1957	1957	1957	1957

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1932 - 1992
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ANNUAL TOTAL	104454		100485			
ANNUAL MEAN	286		275		273	
HIGHEST ANNUAL MEAN					466	1955
LOWEST ANNUAL MEAN					124	1965
HIGHEST DAILY MEAN	1040	Aug 22	982	Nov 25	26500	Aug 19 1955
LOWEST DAILY MEAN	13	Aug 9	21	Sep 29	1.0	Sep 4 1956
ANNUAL SEVEN-DAY MINIMUM	22	Jul 16	44	Sep 16	8.7	Sep 30 1957
INSTANTANEOUS PEAK FLOW			1140	Nov 25	49300	Aug 19 1955
INSTANTANEOUS PEAK STAGE			4.45	Nov 25	18.96	Aug 19 1955
INSTANTANEOUS LOW FLOW			8.3	Sep 28		
10 PERCENT EXCEEDS	574		543		605	
50 PERCENT EXCEEDS	248		238		185	
90 PERCENT EXCEEDS	33		76		38	

e Estimated

THAMES RIVER BASIN

01124000 QUINEBAUG RIVER AT QUINEBAUG, CT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses available for water years 1953 (WSP 1290), 1960 (WSP 1741), 1963 (WSP 1941), 1969 (WSP 2143). Water temperatures available for water year 1960 (WSP 1741), 1980 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1959 to September 1960, October 1968 to September 1969.

pH: October 1959 to September 1960, October 1968 to September 1969.

WATER TEMPERATURES: October 1959 to September 1960, October 1968 September 1969.

DISSOLVED OXYGEN: October 1959 to September 1960, October 1968 to September 1969.

INSTRUMENTATION.--Multiple parameter water-quality monitor located on right bank 50 ft upstream from bridge on Massachusetts State Highway 131, 0.2 mi upstream from State line, 0.4 mi upstream from gaging station, 2.0 mi southwest of Dudley, Massachusetts.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 308 microsiemens, Jan. 31, 1969; minimum, 49 microsiemens, Apr. 2, 1960.

pH: Maximum, 7.7 units, June 14, 1969; minimum, 5.8 units, July 18, 1969.

WATER TEMPERATURES: Maximum, 30.5° C, July 16, 1969; minimum, 0.0° C, on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.1 mg/L, Dec. 28, 1968; minimum, 1.4 mg/L, Sept. 7, 1969.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	ENTERO-COCCI ME, MF WATER TOTAL (COL / 100 ML) (31649)	
OCT 22...	1130	247	107	7.2	19.5	10.0	1.6	11.7	104	80	38	
NOV 08...	1230	28	114	7.6	7.0	3.5	1.3	13.7	103	480	49	
DEC 06...	1230	540	103	7.0	4.0	0.5	1.1	13.9	98	200	100	
JAN 08...	1250	312	114	7.1	3.5	2.0	1.6	13.7	99	K10	104	
MAR 09...	1330	326	113	7.0	10.0	5.0	1.4	13.7	108	100	23	
APR 13...	1330	370	108	7.1	7.5	7.0	1.1	13.2	108	40	K12	
MAY 22...	1145	142	123	7.6	33.0	20.5	0.90	9.8	109	100	K7	
JUN 11...	1145	239	104	7.3	19.0	20.0	2.7	9.0	99	220	K19	
JUL 13...	1020	74	137	7.7	28.5	22.5	2.2	8.8	104	270	80	
AUG 07...	1230	76	142	8.0	27.0	22.5	2.1	8.0	93	150	K15	
SEP 14...	1215	148	144	7.8	21.5	19.5	2.7	9.1	99	540	30	
DATE		HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
OCT 22...	21	5.5	1.8	11	1.5	0	12	10	6.7	19	0.10	
NOV 08...	23	6.2	1.8	11	2.0	0	15	12	9.9	19	0.20	
DEC 06...	30	9.6	1.5	7.0	1.1	0	9	7	8.9	17	<0.10	
JAN 08...	22	6.0	1.6	--	--	0	12	10	11	21	0.20	
MAR 09...	20	5.3	1.6	12	1.2	0	10	8	9.4	20	0.20	
APR 13...	19	5.1	1.5	11	1.3	0	11	9	9.2	19	<0.10	
MAY 22...	23	6.1	1.8	13	1.4	0	17	14	8.6	21	<0.10	
JUN 11...	20	5.3	1.6	12	1.1	0	14	11	7.5	18	0.20	
JUL 13...	26	7.2	2.0	16	1.6	0	15	12	7.6	25	<0.10	
AUG 07...	26	7.1	2.0	16	1.5	0	20	16	8.5	26	<0.10	
SEP 14...	27	7.5	2.0	15	1.8	0	21	17	8.2	25	0.10	

THAMES RIVER BASIN

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01124000 QUINEBAUG RIVER AT QUINEBAUG, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 22...	6.9	66	71	--	<0.010	0.180	<0.010	--	0.30	0.48	0.050
NOV 08...	5.6	55	68	--	<0.010	0.330	0.040	0.26	0.30	0.63	0.060
DEC 06...	6.8	74	61	--	<0.010	0.240	0.020	--	<0.20	--	0.030
JAN 08...	8.8	59	67	0.300	0.020	0.320	0.090	0.21	0.30	0.62	0.050
MAR 09...	6.7	70	73	0.260	0.010	0.270	0.060	0.14	0.20	0.47	0.040
APR 13...	4.7	62	74	--	<0.010	0.230	0.020	--	<0.20	--	0.030
MAY 22...	3.4	72	77	--	<0.010	0.250	0.050	0.55	0.60	0.85	0.130
JUN 11...	4.8	65	65	--	<0.010	0.200	0.040	0.26	0.30	0.50	0.050
JUL 13...	3.4	80	82	0.920	0.020	0.940	0.030	0.37	0.40	1.3	0.070
AUG 07...	3.7	84	91	--	<0.010	0.290	0.030	0.27	0.30	0.59	0.140
SEP 14...	5.2	81	94	--	<0.010	0.290	0.010	0.39	0.40	0.69	0.070

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 22...	0.020	0.020	<1.0	<1	2	310	<1	26	2	14	6.5
NOV 08...	0.040	0.050	<1.0	<1	2	220	<1	20	<1	4	4.8
DEC 06...	0.020	0.020	<1.0	<1	2	110	<1	24	<1	6	4.1
JAN 08...	0.060	0.020	<1.0	1	2	280	<1	47	<1	16	4.2
MAR 09...	0.030	0.020	<1.0	<1	1	100	<1	30	<1	8	3.2
APR 13...	<0.010	0.020	<1.0	<1	1	89	<1	23	1	12	3.7
MAY 22...	0.090	0.080	<1.0	<1	1	280	<1	47	<1	6	4.7
JUN 11...	0.030	0.040	<1.0	4	2	460	<1	51	2	6	6.7
JUL 13...	0.040	0.060	<1.0	<1	2	530	1	34	<1	13	5.2
AUG 07...	0.050	0.060	<1.0	<1	2	510	1	28	<1	6	5.8
SEP 14...	0.030	0.030	<1.0	<1	2	440	<1	24	1	3	5.8

CONNECTICUT RIVER BASIN

01162000 MILLERS RIVER NEAR WINCHENDON, MA

LOCATION.--Lat 42°41'03", long 72°05'02", Worcester County, Hydrologic Unit 01080202, on right bank 10 ft downstream from Nolan Bridge, 0.3 mi downstream from Tarbell Brook, 2 mi west of Winchendon, and at mile 32.8.

DRAINAGE AREA.--81.8 mi².

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 1051: 1919, 1920-21(M), 1922-24, 1928(M), 1933-34.
WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Oct. 6, 1933. Datum of gage is 826.66 ft above sea level. Prior to July 27, 1916, nonrecording gage at bridge at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by powerplant and by Lake Monomonic and other reservoirs upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	307	141	294	212	80	84	258	200	144	43	47	33
2	264	137	271	182	79	74	232	211	250	36	51	35
3	230	133	245	169	72	70	206	352	231	31	49	49
4	205	126	249	173	69	66	182	331	197	36	44	61
5	184	119	216	211	66	65	165	306	158	39	46	e59
6	235	109	199	224	62	65	154	272	197	48	43	e56
7	294	105	188	217	58	95	146	238	227	45	39	e51
8	261	99	180	193	56	185	144	209	221	41	34	e45
9	229	96	193	173	53	176	139	192	274	53	61	e35
10	200	93	218	165	47	176	139	177	222	55	103	24
11	182	161	201	151	49	367	144	159	165	55	101	33
12	266	241	187	139	42	390	149	144	127	51	82	32
13	258	225	224	131	40	315	148	133	107	45	64	31
14	280	212	327	162	42	243	139	125	88	40	58	29
15	232	205	413	187	39	194	131	90	75	49	53	28
16	218	200	391	e160	67	163	124	88	64	66	48	30
17	196	212	334	e140	75	143	186	80	55	63	55	33
18	194	196	311	e120	75	130	236	74	47	58	107	36
19	217	181	e280	e100	81	124	243	68	36	50	130	33
20	216	169	264	85	87	116	252	62	51	49	114	26
21	191	166	232	74	78	109	253	53	112	47	92	28
22	172	330	213	69	74	103	263	45	97	43	77	33
23	157	569	199	84	72	100	266	40	80	45	65	31
24	164	591	185	208	70	94	263	37	85	39	55	31
25	151	525	186	152	70	90	332	41	143	34	47	33
26	147	459	170	127	98	90	349	43	141	30	42	36
27	160	404	151	106	113	327	322	44	121	29	39	41
28	163	364	145	94	102	345	285	44	107	29	35	40
29	144	339	153	87	92	312	252	43	89	27	40	64
30	131	319	244	83	---	276	222	41	57	26	34	103
31	133	---	234	81	---	261	---	47	---	34	32	---
TOTAL	6381	7226	7297	4459	2008	5348	6324	3989	3968	1336	1887	1199
MEAN	206	241	235	144	69.2	173	211	129	132	43.1	60.9	40.0
MAX	307	591	413	224	113	390	349	352	274	66	130	103
MIN	131	93	145	69	39	65	124	37	36	26	32	24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1992, BY WATER YEAR (WY)

	MEAN	91.3	116	136	135	135	262	372	184	115	62.7	53.9	67.8
MAX	520	416	406	371	400	931	788	412	515	261	249	752	
(WY)	1956	1956	1974	1956	1976	1936	1960	1967	1984	1938	1928	1938	
MIN	11.6	15.7	30.7	13.3	24.4	39.0	93.7	55.0	14.1	8.17	8.24	5.75	
(WY)	1948	1979	1979	1981	1980	1965	1985	1965	1964	1965	1965	1964	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1916 - 1992

ANNUAL TOTAL	64373.0	51422	
ANNUAL MEAN	176	140	
HIGHEST ANNUAL MEAN			144
LOWEST ANNUAL MEAN			231
HIGHEST DAILY MEAN	1260	Aug 21	591
LOWEST DAILY MEAN	8.0	Aug 7	24
ANNUAL SEVEN-DAY MINIMUM	9.0	Aug 3	30
INSTANTANEOUS PEAK FLOW			607
INSTANTANEOUS PEAK STAGE			7.32
INSTANTANEOUS LOW FLOW			20
10 PERCENT EXCEEDS	343		267
50 PERCENT EXCEEDS	145		120
90 PERCENT EXCEEDS	13		38

e Estimated

CONNECTICUT RIVER BASIN

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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 downstream from highway bridge, 3 mi upstream from mouth, and 3.5 mi west of Winchendon.

DRAINAGE AREA.--19.4 mi².

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 above sea level. Prior to Sept. 11, 1936, nonrecording gage on left bank at same datum.

REMARKS.--Records good except those for estimated daily discharges, 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	19	55	53	18	e16	59	48	44	6.4	7.8	6.0
2	42	19	50	43	15	14	55	48	82	5.8	8.0	5.3
3	34	19	48	38	14	13	48	96	69	4.4	6.4	5.4
4	30	16	52	37	13	13	41	121	48	6.1	5.7	9.3
5	27	14	e50	43	12	13	36	100	33	8.7	7.4	11
6	37	13	42	50	11	15	32	80	35	9.9	9.1	9.8
7	55	12	38	48	10	22	31	64	40	9.2	7.7	8.2
8	55	12	36	e43	e9.2	73	31	55	38	7.1	6.3	7.1
9	46	12	39	e35	e8.5	71	31	48	52	10	11	6.4
10	55	12	50	33	e7.8	65	31	42	44	10	32	6.9
11	50	22	45	e29	e7.6	145	34	36	30	9.1	31	10
12	57	60	40	e24	e7.2	193	37	35	22	8.6	18	8.1
13	64	65	45	25	e6.6	141	41	31	17	7.3	12	6.6
14	54	56	76	31	e6.5	e96	39	29	13	5.6	9.8	5.8
15	42	50	125	e53	e6.4	e64	35	26	11	6.9	9.0	5.5
16	36	45	116	e40	e12	e44	31	28	9.5	17	8.5	5.2
17	51	40	e93	e29	19	e33	45	29	7.9	14	8.7	4.7
18	52	35	e77	27	20	29	70	27	6.9	14	20	4.9
19	48	32	e60	21	21	23	73	25	6.0	12	33	6.9
20	41	29	51	18	24	e22	71	22	6.1	13	26	7.2
21	35	27	46	16	e22	e20	70	20	7.3	15	18	6.1
22	30	53	44	15	e18	19	71	18	7.7	11	13	5.3
23	27	197	40	16	17	18	72	16	6.3	8.5	10	8.1
24	24	203	37	43	17	e16	68	14	7.3	7.9	8.1	9.2
25	22	164	32	45	15	17	87	14	12	7.1	6.8	7.2
26	20	131	29	33	23	18	97	14	12	6.1	6.0	5.9
27	20	103	28	24	e29	75	88	12	9.0	5.5	5.2	7.1
28	21	85	26	21	e25	97	76	11	7.4	5.1	4.5	8.8
29	21	72	27	19	e20	72	64	11	6.5	5.4	7.2	7.7
30	19	61	49	20	---	61	54	10	5.5	7.4	9.2	6.8
31	19	---	62	18	---	57	---	11	---	5.8	7.7	---
TOTAL	1189	1678	1608	990	434.8	1575	1618	1143	695.4	269.9	373.1	212.5
MEAN	38.4	55.9	51.9	31.9	15.0	50.8	53.9	36.9	23.2	8.71	12.0	7.08
MAX	64	203	125	53	29	193	97	121	82	17	33	11
MIN	19	12	26	15	6.4	13	31	10	5.5	4.4	4.5	4.7
CFSM	1.98	2.88	2.67	1.65	.77	2.62	2.78	1.90	1.19	.45	.62	.37
IN.	2.28	3.22	3.08	1.90	.83	3.02	3.10	2.19	1.33	.52	.72	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1992, BY WATER YEAR (WY)

	MEAN	15.9	28.5	33.4	29.1	27.6	63.6	92.5	43.4	25.2	12.4	10.4	12.6
MAX	69.2	124	111	79.0	102	162	225	93.9	125	62.5	68.8	178	
(WY)	1976	1928	1974	1952	1984	1979	1940	1989	1922	1922	1928	1938	
MIN	.55	1.38	4.67	1.23	5.28	13.6	21.8	12.8	2.53	1.04	.47	.29	
(WY)	1965	1965	1930	1925	1980	1940	1985	1965	1964	1965	1964	1964	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1916 - 1992

ANNUAL TOTAL	14156.9	11786.7	
ANNUAL MEAN	38.8	32.2	32.8
HIGHEST ANNUAL MEAN			55.0
LOWEST ANNUAL MEAN			8.19
HIGHEST DAILY MEAN	331	Aug 20	2280
LOWEST DAILY MEAN	1.8	Aug 2	4.4
ANNUAL SEVEN-DAY MINIMUM	1.9	Jul 31	5.7
INSTANTANEOUS PEAK FLOW			238
INSTANTANEOUS PEAK STAGE			4.32
INSTANTANEOUS LOW FLOW			4.2
ANNUAL RUNOFF (CFSM)	2.00		1.66
ANNUAL RUNOFF (INCHES)	27.15		22.60
10 PERCENT EXCEEDS	79		69
50 PERCENT EXCEEDS	28		22
90 PERCENT EXCEEDS	3.4		6.6

e Estimated

CONNECTICUT RIVER BASIN

01163200 OTTER RIVER AT OTTER RIVER, MA

LOCATION.--Lat 42°35'18", long 72°02'29", Worcester County, Hydrologic Unit 01080202, on right bank at upstream side of Turner Street Bridge, 0.2 mi upstream from Bailey Brook, 0.8 mi southeast of Otter River, and 2 mi northwest of Gardner.

DRAINAGE AREA.--34.1 mi².

PERIOD OF RECORD.--Discharge: December 1964 to current year.
Water-quality records: Water years 1965-66.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 900 ft above sea level from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	51	82	e73	42	e47	116	62	87	19	63	15
2	72	56	75	e64	e39	40	102	64	117	17	55	14
3	62	53	80	60	e34	37	85	156	92	16	35	14
4	55	47	102	66	32	35	75	171	65	18	28	20
5	48	43	100	99	32	35	68	127	50	20	35	22
6	79	40	80	105	30	37	63	94	79	22	30	20
7	120	36	72	92	27	56	61	77	106	25	24	18
8	119	35	69	75	27	140	63	67	86	22	21	16
9	88	35	87	64	27	113	63	64	68	28	40	15
10	68	33	119	62	e27	91	60	62	55	32	74	15
11	61	58	111	58	25	154	62	58	42	29	63	26
12	106	118	94	e53	24	184	73	52	34	26	43	26
13	122	126	92	48	e24	130	76	49	29	21	31	21
14	99	107	133	70	23	84	68	46	26	20	28	17
15	78	100	196	107	24	64	58	43	22	26	27	16
16	78	93	176	e84	60	53	51	50	20	41	26	15
17	73	84	133	e58	71	48	74	55	18	37	30	14
18	75	71	102	e51	58	44	101	50	17	32	80	13
19	71	64	e88	e42	55	43	105	47	16	26	114	17
20	62	59	e81	37	57	44	100	42	23	28	90	17
21	54	59	73	35	50	44	93	38	49	28	58	16
22	51	126	72	33	43	41	88	34	35	27	40	15
23	48	268	69	41	41	42	82	31	26	23	32	34
24	46	289	67	153	40	40	79	28	28	22	26	31
25	44	240	e62	e110	38	39	111	35	50	19	23	24
26	43	189	e59	e68	69	41	120	34	42	17	21	21
27	43	137	54	e54	88	194	118	32	33	16	19	21
28	42	108	53	46	67	265	98	31	30	14	17	19
29	39	94	56	43	55	185	78	28	24	14	19	18
30	37	87	98	41	---	135	67	26	21	21	19	16
31	40	---	e84	41	---	119	---	30	---	25	16	---
TOTAL	2109	2906	2819	2033	1229	2624	2458	1783	1390	731	1227	566
MEAN	68.0	96.9	90.9	65.6	42.4	84.6	81.9	57.5	46.3	23.6	39.6	18.9
MAX	122	289	196	153	88	265	120	171	117	41	114	34
MIN	37	33	53	33	23	35	51	26	16	14	16	13
CFSM	2.00	2.84	2.67	1.92	1.24	2.48	2.40	1.69	1.36	.69	1.16	.55
IN.	2.30	3.17	3.08	2.22	1.34	2.86	2.68	1.95	1.52	.80	1.34	.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	MEAN	40.8	58.3	65.6	57.8	66.7	109	124	75.9	54.0	27.7	27.4	25.9
MAX	117	118	155	149	153	223	279	139	148	58.2	87.5	85.5	
(WY)	1980	1976	1974	1979	1976	1979	1987	1984	1982	1967	1991	1991	
MIN	8.27	14.7	18.1	9.64	17.3	38.4	45.0	27.6	18.2	8.20	4.44	6.06	
(WY)	1969	1979	1965	1981	1977	1965	1985	1965	1965	1966	1966	1965	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1965 - 1992

ANNUAL TOTAL	29028	21875	
ANNUAL MEAN	79.5	59.8	62.2
HIGHEST ANNUAL MEAN			90.0
LOWEST ANNUAL MEAN			30.2
HIGHEST DAILY MEAN	520	Aug 21	883
LOWEST DAILY MEAN	11	Aug 3	3.3
ANNUAL SEVEN-DAY MINIMUM	12	Aug 3	3.7
INSTANTANEOUS PEAK FLOW			948
INSTANTANEOUS PEAK STAGE		2.95	5.02
INSTANTANEOUS LOW FLOW		12	2.2
ANNUAL RUNOFF (CFSM)	2.33	1.75	1.82
ANNUAL RUNOFF (INCHES)	31.67	23.86	24.79
10 PERCENT EXCEEDS	142	111	134
50 PERCENT EXCEEDS	64	50	41
90 PERCENT EXCEEDS	19	20	12

e Estimated

CONNECTICUT RIVER BASIN

115

01166500 MILLERS RIVER AT ERVING, MA

LOCATION.--Lat 42°35'51", long 72°26'19", Franklin County, Hydrologic Unit 01080202, on right bank 75 ft downstream from bridge at Farley, 0.6 mi upstream from Mormon Hollow Brook, 2.4 mi downstream from Erving, and 5.5 mi upstream from mouth.

DRAINAGE AREA.--372 mi².

PERIOD OF RECORD.--Discharge: August 1914 to June 1915 (twice-daily gage heights and corresponding discharge), July 1915 to current year.

Water-quality records: Water years 1953, 1965-66.

REVISED RECORDS.--WSP 641: 1920(M). WSP 781: 1928(M), 1933(M). WSP 1301: 1915(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 380 ft above sea level, 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 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 downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by powerplants and by Lake Monomonic and other reservoirs; high flow regulated by Birch Hill Reservoir 22 mi upstream since 1941 and Tully Lake since 1948. Greater regulation by powerplants prior to 1966.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1410	504	1070	932	e420	423	824	728	657	167	242	139
2	1050	516	989	883	e400	408	767	808	1030	151	256	128
3	827	508	1010	776	e380	370	700	1370	1030	112	216	109
4	684	487	1020	707	e350	346	1320	1500	800	141	187	116
5	608	456	963	810	e330	324	1630	1510	625	208	219	122
6	803	434	836	912	e310	328	1400	1260	670	191	209	145
7	1270	411	809	909	e290	391	1130	984	760	202	175	137
8	1160	376	766	831	e270	763	793	837	784	183	153	143
9	1040	372	803	743	e250	866	693	791	801	206	229	152
10	842	363	927	681	e250	819	649	735	764	262	432	123
11	827	472	954	597	e240	2090	649	655	620	223	455	161
12	1060	953	902	514	e240	2210	670	599	466	193	419	199
13	1090	957	961	575	e230	1890	686	565	376	185	348	179
14	1100	1020	1400	703	e220	1540	675	566	323	175	281	171
15	925	949	1730	974	e250	1000	639	527	290	207	227	155
16	1060	887	1640	707	e330	862	609	518	248	280	213	90
17	1260	757	1670	620	e440	626	734	558	196	271	214	92
18	1140	694	1390	e540	469	514	1010	516	183	282	386	118
19	997	667	1070	e470	489	529	1100	480	170	262	568	131
20	918	633	827	e450	506	509	1070	437	151	235	585	141
21	817	612	932	e420	493	471	1100	377	196	239	425	135
22	711	1130	890	e400	455	459	1060	353	296	226	342	80
23	624	2670	831	e430	409	462	1010	275	258	197	282	143
24	560	2350	756	e980	398	436	955	286	216	167	229	179
25	597	2240	662	e1000	372	407	1140	276	302	167	191	168
26	559	2560	626	e1000	475	382	1310	288	403	161	150	159
27	538	2220	641	e840	617	900	1360	282	345	147	150	181
28	556	1720	594	e640	598	986	1220	243	226	124	137	189
29	516	1480	611	e560	535	830	1020	281	238	107	176	183
30	497	1150	823	e470	---	722	897	256	219	125	197	178
31	489	---	951	e440	---	815	---	258	---	172	146	---
TOTAL	26535	30548	30054	21514	11016	23678	28820	19119	13643	5968	8439	4346
MEAN	856	1018	969	694	380	764	961	617	455	193	272	145
MAX	1410	2670	1730	1000	617	2210	1630	1510	1030	282	585	199
MIN	489	363	594	400	220	324	609	243	151	107	137	80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1992, BY WATER YEAR (WY)

	MEAN	343	518	634	601	602	1173	1583	844	531	290	236	273
MAX	1622	1617	1683	1444	1894	3989	3584	1652	1932	1118	1052	3030	
(WY)	1976	1928	1974	1978	1984	1936	1940	1945	1984	1938	1928	1938	
MIN	74.0	79.7	143	69.5	132	362	443	288	92.5	61.7	52.6	43.2	
(WY)	1940	1965	1931	1981	1931	1989	1985	1965	1964	1966	1964	1964	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1916 - 1992
ANNUAL TOTAL	278842	223680	
ANNUAL MEAN	764	611	635
HIGHEST ANNUAL MEAN			1044
LOWEST ANNUAL MEAN			196
HIGHEST DAILY MEAN	3500	2670	22000
LOWEST DAILY MEAN	59	80	8.0
ANNUAL SEVEN-DAY MINIMUM	67	112	35
INSTANTANEOUS PEAK FLOW		2910	29000
INSTANTANEOUS PEAK STAGE		5.46	13.37
INSTANTANEOUS LOW FLOW		60	
10 PERCENT EXCEEDS	1470	1100	1480
50 PERCENT EXCEEDS	624	515	400
90 PERCENT EXCEEDS	110	167	106

e Estimated

CONNECTICUT RIVER BASIN

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 down-stream from Fife Brook, 600 ft downstream from Fife Brook Dam, 1.2 mi northeast of Hoosac Tunnel, and 4 mi west of Rowe.

DRAINAGE AREA.--254 mi².

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

REVISED RECORDS.--WDR MA-RI-78: 1977.

GAGE.--Water-stage recorder. Datum of gage is 745.00 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Somerset and Hariman Reservoirs and by several powerplants upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	236	743	479	1050	873	398	1060	169	778	e250	467	279
2	153	645	736	1020	718	342	1070	298	562	340	190	323
3	522	479	919	1100	894	474	1060	1910	99	264	363	259
4	382	579	741	1050	618	436	1060	1460	98	302	364	383
5	155	593	774	1030	570	621	1030	1330	251	240	441	270
6	1130	244	774	1040	395	774	1040	1380	1280	257	399	271
7	1220	356	785	1060	653	862	926	1310	1670	95	347	272
8	1060	313	792	1040	593	858	1080	1400	1440	230	222	306
9	1000	130	851	1050	602	1020	796	1820	1370	506	250	569
10	1050	438	588	1070	730	1050	676	1160	1110	393	232	659
11	1080	510	882	1030	526	1920	636	478	972	331	253	337
12	1350	684	783	1020	427	1330	662	378	989	350	179	237
13	1300	616	1120	1060	347	1050	703	595	877	537	214	201
14	1350	481	1190	641	393	1040	611	561	903	571	216	130
15	1370	323	1270	906	373	1020	572	101	223	771	187	183
16	1310	286	1270	825	363	1000	448	224	93	775	210	163
17	1270	249	1180	828	349	998	440	184	e93	894	212	217
18	1080	583	1030	770	405	1030	173	102	e93	799	308	206
19	1040	606	1090	651	301	898	444	97	e250	721	291	186
20	1020	604	1070	849	394	937	503	98	e100	739	303	205
21	1010	582	1030	1070	433	959	1150	98	e50	533	298	203
22	1060	978	1060	1060	359	1020	992	100	e250	384	247	134
23	903	1390	1070	994	391	1000	554	98	e260	436	210	240
24	611	1110	1090	1050	409	1140	548	101	e250	333	429	458
25	726	1050	1010	1100	323	1010	506	98	e290	267	400	220
26	569	1090	1060	1030	458	930	270	96	e300	207	439	292
27	263	1030	1050	1010	437	1600	317	97	e260	223	487	413
28	670	985	1050	1040	435	1090	210	96	e250	264	501	493
29	654	786	1060	1040	579	1070	174	97	e310	247	211	461
30	542	687	1030	864	---	1030	262	95	e180	270	194	503
31	697	---	1110	1010	---	1060	---	188	---	454	223	---
TOTAL	26783	19150	29944	30358	14348	29967	19973	16219	15651	12983	9287	9073
MEAN	864	638	966	979	495	967	666	523	522	419	300	302
MAX	1370	1390	1270	1100	894	1920	1150	1910	1670	894	501	659
MIN	153	130	479	641	301	342	173	95	50	95	179	130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1992, BY WATER YEAR (WY)

	669	738	832	879	890	1040	1066	857	537	402	494	469
MEAN	669	738	832	879	890	1040	1066	857	537	402	494	469
MAX	1238	1233	1252	1502	1694	1993	2045	1934	1290	696	1630	957
(WY)	1978	1976	1976	1978	1981	1990	1987	1984	1989	1989	1976	1974
MIN	127	215	466	472	495	659	354	212	186	152	215	229
(WY)	1983	1981	1977	1977	1992	1980	1985	1987	1991	1991	1991	1982

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1974 - 1992

ANNUAL TOTAL	244853	233736	
ANNUAL MEAN	671	639	737
HIGHEST ANNUAL MEAN			1001
LOWEST ANNUAL MEAN			471
HIGHEST DAILY MEAN	1660	Mar 4	12000
LOWEST DAILY MEAN	76	Jun 19	28
ANNUAL SEVEN-DAY MINIMUM	91	May 26	86
INSTANTANEOUS PEAK FLOW			20900
INSTANTANEOUS PEAK STAGE		6.84	14.79
10 PERCENT EXCEEDS	1280	1090	1290
50 PERCENT EXCEEDS	645	570	649
90 PERCENT EXCEEDS	113	187	143

e Estimated

CONNECTICUT RIVER BASIN

117

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 east of Charlemont, 2.5 mi downstream from Chickley River, and at mile 24.5.

DRAINAGE AREA.--361 mi².

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). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 517.36 ft above sea level.

REMARKS.--Records good except those below 1,000 ft³/s, which are fair, and those for estimated daily discharges, which are poor. Flow regulated by Somerset Reservoir, since 1924 by Harriman Reservoir, and by several powerplants upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305	785	722	1170	937	501	1290	445	1340	e300	519	279
2	208	702	826	1110	802	441	1250	688	1110	e230	247	285
3	540	573	1080	1200	906	534	1220	3220	352	e330	348	323
4	472	632	923	1200	730	515	1190	2010	267	e310	423	399
5	231	595	916	1300	642	683	1140	1670	384	e350	490	326
6	1590	399	890	1270	500	806	1170	1600	2170	e250	402	279
7	1700	442	897	1240	734	941	1050	1550	1970	e210	354	276
8	1230	390	904	1170	656	1020	1240	1510	1630	e200	253	305
9	1080	252	1110	1150	671	1220	1030	1920	1450	e470	323	463
10	1100	480	904	1180	783	1250	834	1430	1170	e470	305	533
11	1140	596	1090	1090	628	3740	1040	719	1020	e340	289	533
12	1960	862	976	1080	513	1940	1010	589	999	e360	216	274
13	1490	818	1430	1140	427	1290	948	717	897	e400	231	189
14	1450	588	2060	1060	435	1190	850	694	903	560	233	188
15	1390	483	2030	1220	465	1110	785	329	399	752	210	193
16	1400	557	1470	1050	454	1060	667	412	161	914	223	172
17	1340	424	1410	974	498	1050	719	276	e115	834	272	217
18	1230	673	1300	942	450	1060	607	334	e115	775	408	204
19	1120	698	1260	833	472	955	924	231	e130	661	377	197
20	1060	690	1270	1030	442	965	1160	215	e240	721	348	208
21	1050	685	1240	1120	525	974	1870	201	e300	649	318	200
22	1080	1550	1220	1110	475	1010	1650	200	e300	410	277	154
23	1020	2900	1190	1070	471	1000	1120	176	e340	406	230	330
24	677	1660	1200	1300	508	1100	1030	180	e340	381	348	384
25	744	1410	1100	1210	482	1000	1220	212	e400	288	392	280
26	680	1330	1140	1120	469	937	972	180	e350	228	452	277
27	393	1200	1130	1120	553	3420	834	174	e310	230	438	365
28	687	1130	1130	1090	503	1690	623	177	e240	266	482	488
29	721	1080	1180	1080	652	1370	520	166	e230	258	364	444
30	618	742	1300	938	---	1250	547	158	e330	306	234	544
31	719	---	1250	1070	---	1300	---	306	---	444	237	---
TOTAL	30425	25326	36548	34637	16783	37322	30510	22689	19962	13303	10243	9309
MEAN	981	844	1179	1117	579	1204	1017	732	665	429	330	310
MAX	1960	2900	2060	1300	937	3740	1870	3220	2170	914	519	544
MIN	208	252	722	833	427	441	520	158	115	200	210	154

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1992, BY WATER YEAR (WY)

	MEAN	607	835	981	969	980	1381	1849	1137	657	448	460	494
MAX	2766	2123	2026	2092	2450	3642	4106	2889	1686	1611	1886	2404	
(WY)	1956	1956	1928	1978	1981	1921	1914	1943	1972	1915	1976	1938	
MIN	90.8	177	133	363	268	429	561	314	188	78.1	131	74.0	
(WY)	1915	1915	1915	1914	1919	1931	1985	1985	1941	1962	1964	1953	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1913 - 1992

ANNUAL TOTAL	297918		287057										
ANNUAL MEAN	816		784							900			
HIGHEST ANNUAL MEAN										1364		1928	
LOWEST ANNUAL MEAN										455		1965	
HIGHEST DAILY MEAN	2920	Apr 22		3740	Mar 11					31100	Dec 31	1948	
LOWEST DAILY MEAN	94	Aug 6		115	Jun 17					5.0	Jun 17	1921	
ANNUAL SEVEN-DAY MINIMUM	137	Jul 28		178	May 24					34	Sep 19	1953	
INSTANTANEOUS PEAK FLOW				5350	Mar 27					56300	Sep 21	1938	
INSTANTANEOUS PEAK STAGE				6.25	Mar 27					20.17	Sep 21	1938	
10 PERCENT EXCEEDS	1490			1340						1680			
50 PERCENT EXCEEDS	803			687						680			
90 PERCENT EXCEEDS	153			231						183			

e Estimated

CONNECTICUT RIVER BASIN

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 south of Griswoldville, and 1.3 mi upstream from mouth.

DRAINAGE AREA.--89.0 mi².

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). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 458.36 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	92	209	216	100	58	300	232	679	55	90	39
2	94	88	183	195	e80	e75	260	417	555	53	63	34
3	93	83	e180	176	e72	69	224	1580	244	52	50	44
4	73	76	220	200	e73	e70	204	563	165	78	66	114
5	63	72	164	366	e67	e75	188	398	138	101	79	65
6	955	70	155	297	e64	97	180	324	1450	118	54	51
7	594	69	149	231	e66	159	197	269	578	98	e43	46
8	261	68	153	189	70	236	234	242	352	66	e40	44
9	188	75	234	163	e64	282	230	246	267	138	82	41
10	146	69	272	172	e57	275	218	222	198	93	89	39
11	170	349	207	138	e62	2320	248	196	157	72	59	80
12	721	364	183	121	e62	619	308	179	142	61	48	56
13	321	219	311	147	e62	291	300	180	127	63	e41	43
14	221	196	703	443	59	212	228	164	112	74	e39	38
15	182	194	647	368	e57	175	211	147	100	245	e38	36
16	230	174	331	249	91	135	187	183	90	247	e37	33
17	191	149	223	208	e125	142	348	165	82	117	68	32
18	240	131	233	256	95	134	370	148	77	99	122	30
19	183	124	225	225	95	119	458	135	75	79	106	33
20	153	120	207	e180	126	116	546	121	83	95	70	32
21	137	118	207	e150	107	107	700	110	94	70	55	29
22	128	632	190	e125	e83	99	566	99	76	58	e45	35
23	118	1400	180	e125	87	96	474	90	69	55	e40	131
24	110	536	162	e450	84	98	402	86	77	69	e36	57
25	105	392	145	244	77	90	509	111	184	56	e34	43
26	100	295	e135	181	119	123	459	94	102	e50	e33	43
27	96	243	e135	141	100	2730	383	87	80	e48	e38	67
28	107	222	e130	e125	85	624	311	103	88	e46	61	68
29	94	214	172	e105	75	338	271	86	68	e43	106	51
30	87	210	402	104	---	279	246	75	60	e44	73	42
31	88	---	263	105	---	312	---	197	---	e52	49	---
TOTAL	6317	7044	7310	6395	2364	10555	9760	7249	6569	2595	1854	1496
MEAN	204	235	236	206	81.5	340	325	234	219	83.7	59.8	49.9
MAX	955	1400	703	450	126	2730	700	1580	1450	247	122	131
MIN	63	68	130	104	57	58	180	75	60	43	33	29
CFSM	2.29	2.64	2.65	2.32	.92	3.83	3.66	2.63	2.46	.94	.67	.56
IN.	2.64	2.94	3.06	2.67	.99	4.41	4.08	3.03	2.75	1.08	.77	.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	MEAN	99.9	170	176	140	160	337	565	279	140	67.4	50.8	55.8
MAX	832	468	522	398	801	866	1076	772	417	214	228	306	
(WY)	1956	1956	1974	1978	1981	1953	1969	1984	1973	1972	1955	1960	
MIN	11.8	25.4	49.5	24.2	23.7	46.2	169	85.3	28.4	17.5	12.5	9.00	
(WY)	1965	1965	1962	1981	1940	1940	1981	1986	1965	1962	1956	1953	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1940 - 1992
ANNUAL TOTAL	67390	69508	
ANNUAL MEAN	185	190	186
HIGHEST ANNUAL MEAN			299
LOWEST ANNUAL MEAN			79.9
HIGHEST DAILY MEAN	1690	Apr 22	8740
LOWEST DAILY MEAN	10	Aug 9	5.1
ANNUAL SEVEN-DAY MINIMUM	14	Aug 3	6.3
INSTANTANEOUS PEAK FLOW			14200
INSTANTANEOUS PEAK STAGE			11.19
INSTANTANEOUS LOW FLOW			
ANNUAL RUNOFF (CFSM)	2.07	2.13	2.09
ANNUAL RUNOFF (INCHES)	28.17	29.05	28.45
10 PERCENT EXCEEDS	370	365	427
50 PERCENT EXCEEDS	143	121	91
90 PERCENT EXCEEDS	27	48	21

e Estimated

CONNECTICUT RIVER BASIN

119

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 north of Conway, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--24.1 mi².

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

Water-quality records: Water years 1967-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: 1968-70(P), 1971(M), 1972(P). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 460 ft above sea level, from topographic map. Prior to Oct. 7, 1970, at downstream side of bridge at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation by small power-plant upstream since April 1982.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	29	56	e47	e24	e25	78	61	191	18	22	8.3
2	22	28	52	e43	e23	e28	70	98	108	15	14	7.9
3	21	27	e54	e39	e22	e25	61	268	52	14	11	14
4	20	25	e67	e49	e21	e26	56	100	38	23	18	19
5	19	24	53	e83	e20	e32	52	82	35	22	25	12
6	157	24	50	e71	e19	29	50	73	367	32	14	10
7	90	24	46	e56	e18	74	50	67	108	21	11	10
8	49	23	50	e45	e17	72	53	61	74	16	10	9.6
9	40	22	91	e41	e17	66	50	67	62	35	41	9.4
10	35	22	83	e40	e17	56	50	59	50	22	37	9.2
11	48	62	64	e36	e17	472	54	53	43	17	19	17
12	161	75	58	e32	e16	107	79	48	38	15	15	11
13	66	50	113	e34	e16	71	61	47	34	15	13	9.2
14	51	48	153	e74	e16	58	52	44	29	15	13	8.3
15	46	45	113	e66	e16	e54	48	41	27	26	14	8.1
16	72	44	73	e45	e35	e49	47	51	24	32	13	7.9
17	55	39	e57	e37	e39	e46	98	44	22	19	29	7.5
18	69	33	e58	e33	e32	e43	106	39	21	19	58	7.0
19	51	32	e57	e29	e34	e38	116	36	21	16	30	7.4
20	43	30	e55	e29	e36	e37	105	32	36	22	21	7.4
21	39	30	e51	e33	e31	e35	96	29	38	16	16	6.0
22	37	226	e48	e34	e29	e33	88	26	25	13	13	6.6
23	35	324	e45	e33	e28	e32	83	24	22	15	12	29
24	34	126	e42	e110	e27	e34	85	22	28	20	10	20
25	33	97	e39	e81	e40	34	171	26	34	14	9.7	20
26	32	77	e35	e50	e59	49	128	23	24	12	11	23
27	32	68	e34	e33	e45	537	97	22	22	12	9.9	29
28	32	66	e35	e32	e34	105	79	22	22	11	9.0	23
29	29	62	e38	e29	e28	73	71	21	18	10	17	20
30	28	59	e80	e27	---	64	65	19	17	12	11	18
31	27	---	e53	e26	---	89	---	53	---	16	9.1	---
TOTAL	1496	1841	1903	1417	776	2493	2299	1658	1630	565	555.7	394.8
MEAN	48.3	61.4	61.4	45.7	26.8	80.4	76.6	53.5	54.3	18.2	17.9	13.2
MAX	161	324	153	110	59	537	171	268	367	35	58	29
MIN	19	22	34	26	16	25	47	19	17	10	9.0	6.0
CFSM	2.00	2.55	2.55	1.90	1.11	3.34	3.18	2.22	2.25	.76	.74	.55
IN.	2.31	2.84	2.94	2.19	1.20	3.85	3.55	2.56	2.52	.87	.86	.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	MEAN	28.4	48.3	52.6	43.8	53.8	95.1	127	74.3	47.7	21.6	18.5	16.7
MAX	85.5	109	142	116	163	179	236	171	144	60.0	57.0	65.1	
(WY)	1976	1978	1974	1978	1981	1979	1987	1984	1982	1972	1975	1975	
MIN	6.22	11.0	13.9	7.27	14.1	32.3	32.6	26.0	12.6	5.92	4.86	4.27	
(WY)	1983	1983	1983	1981	1980	1967	1985	1985	1985	1991	1981	1980	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	18425.4		17028.5										
ANNUAL MEAN	50.5		46.5							52.4			
HIGHEST ANNUAL MEAN										76.9		1973	
LOWEST ANNUAL MEAN										21.5		1985	
HIGHEST DAILY MEAN	453	Apr 21		537	Mar 27				1570	Jun 6	1982		
LOWEST DAILY MEAN	3.4	Aug 2		6.0	Sep 21				2.5	Sep 13	1980		
ANNUAL SEVEN-DAY MINIMUM	4.0	Jul 29		7.1	Sep 16				2.8	Sep 8	1980		
INSTANTANEOUS PEAK FLOW				1550	Mar 27				5750	Apr 4	1987		
INSTANTANEOUS PEAK STAGE				6.56	Mar 27				10.16	Apr 4	1987		
INSTANTANEOUS LOW FLOW				5.1	Sep 21				2.5	Sep 12	1980		
ANNUAL RUNOFF (CFSM)	2.09			1.93					2.17				
ANNUAL RUNOFF (INCHES)	28.44			26.28					29.52				
10 PERCENT EXCEEDS	96			83					110				
50 PERCENT EXCEEDS	42			34					30				
90 PERCENT EXCEEDS	6.5			13					7.5				

e Estimated

CONNECTICUT RIVER BASIN

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 downstream from South River, 1.2 mi west of West Deerfield, 2.5 mi west of Deerfield, and 9.2 mi upstream from mouth.

DRAINAGE AREA.--557 mi².

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, 1967-70.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 155 ft above sea level, from topographic map. Prior to Dec. 16, 1905, nonrecording gage at site 1.5 mi downstream at different datum.

REMARKS.--Records good. Flow regulated since 1913 by Somerset Reservoir, since 1924 by Harriman Reservoir, and by several powerplants upstream.

REVISIONS.--Revised figures of discharge, in cubic feet per second, for the water year 1991, superseding those published in the report for 1991, are given below. (In the 1991 report the figures of discharge for another station were inadvertently substituted).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	550	1520	988	2150	1700	1990	1880	3430	266	367	192	363
2	626	1510	866	2000	1560	2200	1540	2780	347	224	185	233
3	724	1430	956	1930	1590	2970	1460	2450	609	221	196	238
4	532	1480	3000	1680	1650	5810	1410	2290	356	321	239	400
5	781	1430	2850	1520	2080	3960	1280	2110	364	286	216	282
6	835	1650	1950	1670	2640	2820	1610	2620	474	247	194	238
7	336	1570	1450	1640	3070	3170	1920	3810	441	304	194	218
8	468	871	1350	1420	3000	2660	2000	2660	248	248	199	296
9	451	1090	1350	1570	2430	2050	2090	2310	221	207	335	278
10	519	2970	1290	1440	2160	1410	2190	2320	424	209	540	239
11	586	5120	1490	1440	1920	1270	2040	2090	373	196	302	523
12	1230	2800	1430	1580	1650	1120	1780	1820	547	199	289	388
13	1720	2310	1580	1490	1670	1090	1640	1700	286	200	197	223
14	2520	2000	1490	1450	1730	1110	1570	1250	406	299	198	486
15	1580	1800	1240	1550	1870	1320	1640	1140	251	286	219	477
16	1080	1790	1220	1750	1590	975	1560	1110	1240	226	223	389
17	1050	1800	1260	2040	1580	874	1670	1150	1120	217	242	306
18	1020	1820	1690	1840	1660	1430	1760	983	427	210	623	304
19	2240	1750	2310	1660	1680	2480	1730	640	375	212	3440	1010
20	1230	1360	1610	1580	1770	1610	1560	803	353	215	2180	779
21	740	1320	1900	1510	2060	1520	3720	578	306	296	1060	421
22	854	1290	2460	1320	1810	1600	6970	503	206	224	789	287
23	1760	1270	2360	1490	1740	1710	3600	387	210	184	381	401
24	8510	1740	4090	1490	1550	1120	2840	431	326	261	391	671
25	3580	1570	3020	1500	1700	1570	2400	337	259	239	268	3370
26	2450	1540	2400	1330	1690	1550	2250	321	210	284	348	2120
27	2190	1170	1560	1400	1800	1670	2140	393	208	367	254	1040
28	1960	1010	1650	1510	2040	2020	2090	354	207	250	442	611
29	1930	1070	1870	1340	---	2860	2000	274	253	334	468	499
30	1690	1000	2220	1500	---	2220	2860	468	283	196	389	539
31	1620	---	3030	1940	---	1990	---	757	---	184	391	---
TOTAL	47362	51051	57930	49730	53390	62149	65200	44269	11596	7713	15584	17629
MEAN	1528	1702	1869	1604	1907	2005	2173	1428	387	249	503	588
MAX	8510	5120	4090	2150	3070	5810	6970	3810	1240	367	3440	3370
MIN	336	871	866	1320	1550	874	1280	274	206	184	185	218

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1991, BY WATER YEAR (WY)

	MEAN	827	1191	1407	1345	1434	2126	2920	1735	960	566	569	629
MAX	4632	3302	2967	2801	3890	4771	4937	4094	2600	1658	2142	2112	
(WY)	1956	1956	1974	1978	1981	1953	1960	1984	1989	1973	1976	1905	
MIN	228	244	385	622	693	1083	968	516	307	119	167	94.5	
(WY)	1983	1965	1965	1965	1944	1962	1985	1941	1964	1962	1964	1953	

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR	FOR 1991 WATER YEAR	WATER YEARS 1904 - 1991
ANNUAL TOTAL	634820	483603	
ANNUAL MEAN	1739	1325	1305
HIGHEST ANNUAL MEAN			1795
LOWEST ANNUAL MEAN			629
HIGHEST DAILY MEAN	13800	8510	38300
LOWEST DAILY MEAN	185	184	28
ANNUAL SEVEN-DAY MINIMUM	206	201	39
INSTANTANEOUS PEAK FLOW		11800	61700
INSTANTANEOUS PEAK STAGE		7.37	17.71
INSTANTANEOUS LOW FLOW		63	
10 PERCENT EXCEEDS	3210	2450	2650
50 PERCENT EXCEEDS	1410	1350	955
90 PERCENT EXCEEDS	443	236	263

CONNECTICUT RIVER BASIN

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01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	551	1140	1440	1760	1260	631	2110	1080	2610	537	746	340
2	491	1020	1400	1550	1180	798	1920	1420	2460	433	527	353
3	645	802	1730	1770	1390	805	1760	6250	988	470	471	530
4	735	960	1560	1830	1250	628	1760	3460	686	576	549	675
5	515	819	1350	2320	948	1030	1680	2660	753	644	807	530
6	3140	791	1350	2020	874	1080	1650	2480	4780	560	563	384
7	3220	610	1360	1880	921	1520	1630	2390	3240	470	528	382
8	1900	644	1360	1870	972	1770	1700	2200	2690	346	366	431
9	1650	430	1740	1600	982	1770	1840	2560	2220	770	596	584
10	1440	606	1890	1720	964	2060	1300	2450	1860	795	606	695
11	1700	1400	1590	1600	1000	8320	1720	1150	1610	531	470	761
12	3730	1800	1530	1490	768	3640	1730	1170	1290	531	357	368
13	2320	1270	2280	1510	714	2110	1620	1240	1380	511	348	355
14	2070	1160	3530	2190	681	1880	1430	1150	1210	767	317	288
15	1990	1030	3740	2030	825	1710	1270	899	870	1290	332	255
16	2050	1020	2440	1560	968	1510	1360	947	302	1560	328	251
17	1950	761	1880	1360	930	1430	1680	730	441	1230	537	288
18	1970	1090	1910	1680	806	1440	1560	714	290	989	781	288
19	1730	1030	1770	1240	730	1450	1900	571	274	946	664	311
20	1590	1050	1860	1570	779	1250	2090	533	432	1030	540	254
21	1410	997	1800	1860	840	1430	3320	458	580	885	431	340
22	1520	2970	1800	1880	775	1410	2920	464	440	589	517	336
23	1450	6440	1730	1840	810	1450	2090	421	547	535	390	505
24	1050	2990	1750	2270	801	1440	1930	388	552	601	475	511
25	1130	2450	1520	1840	773	1350	2630	498	821	456	580	466
26	1040	2060	1540	1900	849	1560	2290	453	615	363	538	367
27	702	1660	1540	1790	879	8520	1770	417	572	382	505	559
28	945	1760	1650	1790	777	3120	1350	399	518	363	743	745
29	1050	1830	1610	1610	973	2210	1290	346	443	379	440	637
30	872	1180	2170	1370	---	1960	1210	326	566	493	374	647
31	1070	---	1890	1520	---	2080	---	913	---	571	363	---
TOTAL	47626	43770	56710	54220	26419	63362	54510	41137	36040	20603	15789	13436
MEAN	1536	1459	1829	1749	911	2044	1817	1327	1201	665	509	448
MAX	3730	6440	3740	2320	1390	8520	3320	6250	4780	1560	807	761
MIN	491	430	1350	1240	681	628	1210	326	274	346	317	251

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1992, BY WATER YEAR (WY)

	MEAN	840	1196	1415	1352	1424	2124	2900	1727	964	568	568	626
MAX	4632	3302	2967	2801	3890	4771	4937	4094	2600	1658	2142	2112	
(WY)	1956	1956	1974	1978	1981	1953	1960	1984	1989	1973	1976	1905	
MIN	228	244	385	622	693	1083	968	516	307	119	167	94.5	
(WY)	1983	1965	1965	1965	1944	1962	1985	1941	1964	1962	1964	1953	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1904 - 1992
ANNUAL TOTAL	475366	473622	
ANNUAL MEAN	1302	1294	1305
HIGHEST ANNUAL MEAN			1795
LOWEST ANNUAL MEAN			629
HIGHEST DAILY MEAN	6970	Apr 22	8520 Mar 27
LOWEST DAILY MEAN	184	Jul 23	251 Sep 16
ANNUAL SEVEN-DAY MINIMUM	201	Jul 31	276 Sep 14
INSTANTANEOUS PEAK FLOW			15600 Mar 27
INSTANTANEOUS PEAK STAGE			8.37 Mar 27
INSTANTANEOUS LOW FLOW			96 Aug 24
10 PERCENT EXCEEDS	2350		2200
50 PERCENT EXCEEDS	1350		1080
90 PERCENT EXCEEDS	236		396
			2640
			958
			266

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA

LOCATION.--Lat 42°42'12", long 72°40'16", Franklin County, Hydrologic Unit 01080203, on right bank 0.5 mi upstream from bridge on West Leyden Road and 2.5 mi northeast of Colrain.

DRAINAGE AREA.--41.4 mi².

PERIOD OF RECORD.--Discharge: October 1967 to current year.

Water-quality records: Water years 1968-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-71-1: 1968(M), 1969.

GAGE.--Water-stage recorder. Elevation of gage is 435 ft above sea level, from topographic map.

REMARKS.---Records good except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	49	104	e105	e44	e34	133	116	324	33	38	13
2	69	52	94	e96	e40	e36	120	152	262	29	28	11
3	56	48	90	e90	e37	e35	106	490	129	27	22	16
4	45	45	95	96	e35	e35	94	231	92	46	27	33
5	41	44	71	152	e34	e38	87	178	76	50	29	23
6	378	42	77	151	e33	40	85	152	620	66	22	18
7	270	42	76	124	e32	65	91	137	271	46	18	16
8	138	42	75	105	e32	96	105	122	174	35	17	16
9	98	40	92	92	e31	122	109	119	136	65	36	15
10	79	38	118	e80	e30	123	102	116	108	48	33	13
11	89	89	98	e70	e30	e700	114	103	91	36	24	25
12	318	134	88	e60	e29	e240	139	92	82	30	20	19
13	167	89	118	e70	e29	159	141	87	71	29	17	14
14	122	76	248	208	e29	e120	110	84	66	32	17	13
15	102	74	254	189	e28	e90	98	76	59	123	17	12
16	123	70	149	106	e43	e70	88	92	52	108	17	11
17	109	63	109	68	e66	e70	152	85	50	57	28	12
18	130	58	114	95	e49	e64	159	77	45	48	43	10
19	106	55	110	e100	e46	e58	189	71	44	41	39	11
20	89	52	e100	e80	e58	e58	227	63	44	40	27	11
21	77	51	e98	e68	e49	e52	281	59	48	32	22	9.1
22	72	197	e93	e60	e45	e48	229	54	42	28	19	14
23	66	480	e87	e60	e42	e46	205	50	38	27	17	48
24	63	230	e80	e200	e40	e50	173	44	46	31	15	21
25	61	175	e73	120	e38	e46	187	53	83	27	14	16
26	59	136	e67	e80	e54	e59	193	50	51	23	13	16
27	57	118	e64	e64	e48	790	177	45	54	23	13	27
28	58	112	e62	e57	e41	229	145	46	65	21	18	27
29	52	108	e80	e50	e37	146	130	46	44	19	27	21
30	49	107	e180	e48	---	127	124	39	35	19	23	15
31	48	---	e130	e47	---	132	---	103	---	24	15	---
TOTAL	3227	2916	3294	2991	1149	3978	4293	3232	3302	1263	715	526.1
MEAN	104	97.2	106	96.5	39.6	128	143	104	110	40.7	23.1	17.5
MAX	378	480	254	208	66	790	281	490	620	123	43	48
MIN	36	38	62	47	28	34	85	39	35	19	13	9.1
CFSM	2.51	2.35	2.57	2.33	.96	3.10	3.46	2.52	2.66	.98	.56	.42
IN.	2.90	2.62	2.96	2.69	1.03	3.57	3.86	2.90	2.97	1.13	.64	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	MEAN	51.0	83.8	86.9	68.8	84.9	167	250	135	75.5	38.4	28.0	24.9
MAX	190	203	198	178	277	355	442	287	188	105	80.4	92.2	
(WY)	1976	1970	1974	1978	1981	1979	1969	1984	1973	1973	1969	1975	
MIN	11.4	17.8	27.9	11.6	18.1	53.2	80.1	42.1	24.9	13.2	9.62	6.55	
(WY)	1983	1979	1983	1981	1980	1971	1981	1986	1985	1971	1968	1983	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1968 - 1992

ANNUAL TOTAL	30946.5	30886.1	
ANNUAL MEAN	84.8	84.4	91.1
HIGHEST ANNUAL MEAN			136
LOWEST ANNUAL MEAN			44.4
HIGHEST DAILY MEAN	699	Apr 21	790
LOWEST DAILY MEAN	7.0	Aug 8	9.1
ANNUAL SEVEN-DAY MINIMUM	8.8	Sep 9	11
INSTANTANEOUS PEAK FLOW			1920
INSTANTANEOUS PEAK STAGE			7.61
INSTANTANEOUS LOW FLOW			8.6
ANNUAL RUNOFF (CFSM)	2.05		2.04
ANNUAL RUNOFF (INCHES)	27.81		27.75
10 PERCENT EXCEEDS	170		159
50 PERCENT EXCEEDS	68		60
90 PERCENT EXCEEDS	13		19
			12

e Estimated

CONNECTICUT RIVER BASIN

123

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 downstream from railroad bridge at Montague City, 1,000 ft downstream from Deerfield River, and at mile 119.0.

DRAINAGE AREA.--7,860 mi².

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 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). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 99.87 ft above 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 downstream at datum 1.00 ft lower. Since Oct. 1, 1929, water-stage recorder at present site and datum.7457390

REMARKS.--Records good. Flow regulated by powerplants and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, and other reservoirs, combined usable capacity, about 43,400,000,000 ft³.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9620	9560	13100	18000	8900	3670	24000	25200	16000	6650	5470	5320
2	10300	8380	14400	17300	6440	7050	24600	24700	31600	4170	7230	4190
3	14100	6340	15900	14000	10300	7440	18200	46000	21700	3470	6150	5440
4	15000	8440	16500	13400	8840	7450	18500	47300	18200	3670	8140	6450
5	11300	9040	15000	14800	8560	7410	17800	36600	13100	3750	7820	6080
6	11700	8930	12700	16100	8550	8450	18700	30600	17900	4690	8270	4600
7	37300	7320	11900	15600	7800	8970	18500	28300	21300	6690	5590	4820
8	44700	9090	10500	16100	5900	12300	15800	21600	20100	5020	5520	5670
9	36600	8740	9730	15800	3300	14100	17400	21600	15900	7530	4120	6250
10	28400	8490	15400	14600	8730	16800	21600	18700	14300	9200	6490	7130
11	24000	9160	19400	14000	7640	40000	21200	18700	12800	5890	9230	8000
12	24500	11200	16800	8330	7750	61600	19900	18200	10300	5170	6490	6030
13	24600	12500	16600	10500	6220	50600	22100	16400	5690	8030	5260	5130
14	25300	12500	21300	12200	5430	32600	22700	12600	7520	6140	5620	4900
15	23500	13100	25300	17600	6290	22400	18300	14600	6650	7310	3570	4020
16	21100	11300	29200	18200	6590	19800	18200	15500	6580	13600	2550	5840
17	22100	9780	24400	17000	7080	17200	18100	13800	5980	13100	4070	3680
18	18700	10800	18700	12200	8560	17900	19300	14100	4520	5060	6040	5820
19	22800	9890	18300	8460	11200	15900	19200	12700	5340	4370	6310	3790
20	17800	10400	13500	14400	8520	15700	20200	12200	4530	9840	5250	2910
21	16700	11800	15800	12100	11000	11300	37700	12000	4400	9240	5470	4320
22	17000	17700	14600	12100	8340	12800	48200	9810	6340	10400	4690	5700
23	14300	31400	12000	12900	6820	16000	53000	8080	5370	7830	3890	7680
24	12300	33100	13600	16500	6510	12400	56800	5900	7000	6870	5080	7950
25	11700	25300	13700	16400	7810	12500	60900	5950	7520	5230	6390	11700
26	11400	28500	12400	14000	10300	13100	62800	8960	6580	3490	4920	7900
27	9690	23000	8920	12600	9520	25900	56300	8430	5230	3510	5950	4720
28	8640	18600	10300	11800	7460	45500	46800	7160	3970	3800	4570	9240
29	12300	17500	10800	11900	6200	35900	36400	8560	5730	4270	4180	7580
30	10600	16000	11700	11800	---	22900	30200	6540	5240	3390	3490	7290
31	9480	---	15700	9820	---	20800	---	7510	---	4370	4080	---
TOTAL	577530	417860	478150	430510	226560	616440	883400	538300	317390	195750	171900	180150
MEAN	18630	13930	15420	13890	7812	19890	29450	17360	10580	6315	5545	6005
MAX	44700	33100	29200	18200	11200	61600	62800	47300	31600	13600	9230	11700
MIN	8640	6340	8920	8330	3300	3670	15800	5900	3970	3390	2550	2910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1992, BY WATER YEAR (WY)

	MEAN	8517	12270	12380	10680	10370	20800	33720	23540	11420	6551	5543	5958
MAX	25750	42270	31710	23890	33650	71920	66290	47000	30730	25680	18550	32660	
(WY)	1978	1928	1984	1978	1981	1936	1960	1940	1984	1973	1990	1938	
MIN	1829	2053	2810	2732	2086	4316	18620	8080	4270	2250	2412	1834	
(WY)	1909	1909	1911	1905	1905	1940	1946	1941	1964	1911	1965	1908	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1904 - 1992
ANNUAL TOTAL	5224630	5033940	
ANNUAL MEAN	14310	13750	13890
HIGHEST ANNUAL MEAN			20680
LOWEST ANNUAL MEAN			6768
HIGHEST DAILY MEAN	53800	Apr 23	233000
LOWEST DAILY MEAN	2200	Jul 29	215
ANNUAL SEVEN-DAY MINIMUM	2740	Aug 2	1300
INSTANTANEOUS PEAK FLOW			236000
INSTANTANEOUS PEAK STAGE			49.20
INSTANTANEOUS LOW FLOW			1790
10 PERCENT EXCEEDS	26700	24600	31700
50 PERCENT EXCEEDS	12500	11100	8900
90 PERCENT EXCEEDS	3540	4790	3020

CONNECTICUT RIVER BASIN

01171300 FORT RIVER NEAR AMHERST, MA

LOCATION.--Lat 42°21'30", long 72°30'23", Hampshire County, Hydrologic Unit 01080201, on left bank 400 ft downstream from Southeast Street Bridge, 600 ft downstream from Hop Brook, and 1.3 mi southeast of Amherst.

DRAINAGE AREA.--36.3 mi², excludes 5.16 mi², drained by Nurse and Dean Brooks, flow of which is diverted from basin.

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

Water-quality records: Water years 1971, 1973.

REVISED RECORDS.--WDR MA-RI-84-1: 1968-69(M), 1970(P), 1974-77(M), 1979(M), 1980(P), 1983(M), drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 147 ft above sea level, from topographic map. Prior to May 10, 1974, at site 400 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair, and those for July to September, which are poor. Diversions upstream for municipal supply of Amherst.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in March 1936 and September 1938 reached discharges of 2,360 ft³/s and 1,640 ft³/s, respectively, by computation of flow over dam 1.2 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	33	64	e60	e39	57	98	56	87	48	82	e27
2	55	33	60	e52	e37	51	89	72	88	26	67	e25
3	50	32	63	e47	e35	47	75	282	60	17	53	e25
4	46	31	99	e50	e33	43	66	173	41	22	74	e29
5	38	30	85	e60	e32	43	61	111	29	28	88	e30
6	84	29	68	e78	e30	43	57	87	49	31	59	e26
7	115	28	60	e70	e29	67	54	73	49	31	46	e23
8	79	28	60	59	e28	124	54	64	37	29	40	e21
9	61	27	96	47	e27	94	50	63	34	53	102	e20
10	51	27	117	e43	e26	81	49	60	28	52	152	e19
11	55	80	94	e39	e25	349	48	53	22	46	99	e28
12	188	169	79	e37	e24	303	75	49	19	42	67	e26
13	122	127	103	e37	e23	155	71	47	16	40	50	e24
14	82	95	165	e64	22	108	56	45	15	40	53	e22
15	63	82	170	e96	e22	89	52	42	14	53	52	e20
16	129	73	111	e70	e100	79	52	49	13	77	49	e18
17	109	61	71	e58	e80	71	122	49	13	65	63	e16
18	93	51	e66	e50	e66	67	163	43	12	56	e200	e14
19	74	47	e62	e42	60	63	139	42	12	47	e180	e13
20	61	45	e58	e38	61	56	107	35	13	48	e155	e12
21	54	44	e56	e35	54	56	88	31	15	45	e86	e11
22	50	181	e54	e34	49	51	79	28	13	43	e70	e10
23	46	459	e52	e39	48	51	74	26	12	45	e50	e20
24	44	243	e49	e120	49	49	67	24	20	52	e39	e21
25	43	164	e47	e110	44	49	145	26	25	46	e35	15
26	40	117	e45	e80	96	46	152	27	20	41	e31	15
27	38	91	e43	e60	102	197	114	25	16	42	e29	22
28	40	80	e41	e52	74	186	86	24	17	40	e27	19
29	37	74	e44	e47	62	122	71	24	15	39	e35	16
30	33	69	e74	e44	---	93	61	23	14	40	e32	13
31	32	---	e70	e40	---	102	---	28	---	53	e30	---
TOTAL	2074	2650	2326	1758	1377	2992	2475	1781	818	1337	2195	600
MEAN	66.9	88.3	75.0	56.7	47.5	96.5	82.5	57.5	27.3	43.1	70.8	20.0
MAX	188	459	170	120	102	349	163	282	88	77	200	30
MIN	32	27	41	34	22	43	48	23	12	17	27	10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	41.8	54.1	68.3	66.4	78.0	123	116	81.0	50.0	26.4	28.8	25.0															
MAX	136	124	132	149	184	212	220	192	152	74.3	86.7	106															
(WY)	1990	1976	1974	1976	1976	1979	1983	1989	1972	1972	1969	1975															
MIN	6.94	9.68	13.3	5.80	21.2	43.6	34.6	27.4	14.3	10.5	4.40	5.75															
(WY)	1981	1979	1981	1981	1980	1989	1985	1986	1988	1971	1966	1978															

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1966 - 1992

ANNUAL TOTAL	25894.4	22383	
ANNUAL MEAN	70.9	61.2	
HIGHEST ANNUAL MEAN			63.3
LOWEST ANNUAL MEAN			89.0
HIGHEST DAILY MEAN	645	Sep 25	1580
LOWEST DAILY MEAN	7.2	Jul 22	2.1
ANNUAL SEVEN-DAY MINIMUM	8.5	Jul 19	3.1
INSTANTANEOUS PEAK FLOW			2100
INSTANTANEOUS PEAK STAGE			9.94
INSTANTANEOUS LOW FLOW			1.9
10 PERCENT EXCEEDS	129	110	133
50 PERCENT EXCEEDS	54	49	38
90 PERCENT EXCEEDS	14	21	11

e Estimated

CONNECTICUT RIVER BASIN

125

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 upstream from mouth.

DRAINAGE AREA.--54.0 mi².

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. Elevation of gage is 140 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Prior to 1956, flow regulated by mill upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	45	102	92	e60	55	177	120	353	97	95	30
2	36	45	96	95	e56	65	155	153	178	46	50	28
3	33	43	109	81	e52	56	137	502	94	33	35	37
4	32	43	156	121	e49	53	123	221	66	56	85	57
5	29	57	106	202	e46	56	114	166	57	69	113	40
6	238	39	95	147	e43	65	109	144	631	69	53	36
7	217	37	88	118	e40	112	108	131	254	52	38	33
8	105	36	89	101	e40	170	109	121	152	39	34	32
9	74	35	132	89	e37	134	105	128	120	57	376	31
10	60	34	155	89	e40	124	103	115	90	48	320	31
11	70	148	124	78	e38	892	105	103	76	34	130	41
12	277	232	110	64	e36	358	170	93	66	28	86	32
13	130	123	158	79	e36	197	145	89	58	28	64	28
14	90	99	251	214	e35	157	113	84	52	30	80	25
15	78	90	209	175	e35	144	102	76	47	50	80	24
16	168	82	138	113	e60	119	99	96	42	113	73	23
17	119	71	108	e80	e75	114	217	89	41	58	106	22
18	122	62	114	e90	71	105	264	79	41	64	253	21
19	94	60	123	e60	70	100	268	72	41	47	149	20
20	78	58	158	e65	76	95	226	64	54	49	98	17
21	70	61	122	e70	67	91	201	58	89	40	71	16
22	82	318	100	e64	59	83	179	51	51	33	59	19
23	70	584	93	e75	59	84	169	46	42	39	51	49
24	63	260	88	e280	60	78	155	42	49	70	46	29
25	60	201	77	e150	57	77	303	44	71	43	41	23
26	57	155	82	e100	143	83	256	43	49	34	38	24
27	54	131	77	e82	119	738	196	42	48	35	37	38
28	54	121	73	e74	86	285	159	41	60	32	36	35
29	49	115	81	e69	71	179	140	40	41	28	52	28
30	59	107	162	e66	---	150	128	36	42	28	43	23
31	43	---	109	e65	---	181	---	80	---	56	34	---
TOTAL	2749	3492	3685	3248	1716	5200	4835	3169	3055	1505	2826	892
MEAN	88.7	116	119	105	59.2	168	161	102	102	48.5	91.2	29.7
MAX	277	584	251	280	143	892	303	502	631	113	376	57
MIN	29	34	73	60	35	53	99	36	41	28	34	16
CFSM	1.64	2.16	2.20	1.94	1.10	3.11	2.98	1.89	1.89	.90	1.69	.55
IN.	1.89	2.41	2.54	2.24	1.18	3.58	3.33	2.18	2.10	1.04	1.95	.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1992, BY WATER YEAR (WY)

	MEAN	53.6	85.7	96.2	86.4	102	192	232	133	77.8	38.2	36.0	33.3
MAX	456	334	227	287	338	475	471	326	300	125	254	150	
(WY)	1956	1956	1974	1978	1981	1953	1940	1984	1982	1973	1955	1975	
MIN	8.52	13.2	23.9	15.5	24.1	63.9	53.5	45.9	15.9	9.13	4.96	5.48	
(WY)	1965	1965	1947	1981	1940	1989	1985	1985	1964	1957	1957	1957	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1939 - 1992

ANNUAL TOTAL	35348.5	36372	
ANNUAL MEAN	96.8	99.4	97.0
HIGHEST ANNUAL MEAN			152
LOWEST ANNUAL MEAN			39.1
HIGHEST DAILY MEAN	673	892	3870
LOWEST DAILY MEAN	7.1	16	4.2
ANNUAL SEVEN-DAY MINIMUM	8.9	20	4.3
INSTANTANEOUS PEAK FLOW		1680	6300
INSTANTANEOUS PEAK STAGE		5.61	11.78
INSTANTANEOUS LOW FLOW		16	
ANNUAL RUNOFF (CFSM)	1.79	1.84	1.80
ANNUAL RUNOFF (INCHES)	24.35	25.06	24.40
10 PERCENT EXCEEDS	190	179	215
50 PERCENT EXCEEDS	82	75	55
90 PERCENT EXCEEDS	12	34	14

e Estimated

CONNECTICUT RIVER BASIN

01172003 CONNECTICUT RIVER BELOW HOLYOKE DAM AT HOLYOKE, MA

LOCATION.--Lat 42°12'36", long 72°35'44", Hampden County, Hydrologic Unit 01080201, on right bank 2,200 ft downstream from dam of Holyoke Water Power Co. in Holyoke, and at mile 86.

DRAINAGE AREA.--8,309 mi².

PERIOD OF RECORD.--December 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 43.28 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by powerplants, by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs and other reservoirs, combined usable capacity, about 44 billion ft³. Records do not include water diverted around gage by Holyoke Water Power Co. for industrial use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1854, 244,000 ft³/s, Mar. 20, 1936, gage height, 35.0 ft, from floodmarks.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6960	7040	10200	12000	e6200	4750	18200	22300	10000	2980	3830	3200
2	6010	6890	9620	12400	e5600	4270	20500	19900	21500	2880	6050	4450
3	9110	6740	10400	9460	e5300	5630	16000	34000	21100	2940	5880	3790
4	9000	7230	11700	e8700	e5000	6600	13800	45900	14600	2670	4730	2250
5	8230	7140	10900	e8200	e4700	6180	13400	36200	10700	3280	7560	4800
6	6960	7870	10200	10600	e4400	6930	14300	28900	12200	4810	6520	4110
7	21100	6620	9580	10600	e4200	8100	14700	24000	18100	3900	4890	3590
8	36700	6350	9130	9830	e4000	8790	11800	18100	16000	5020	3740	4440
9	33300	8080	5540	10100	e3800	8750	11700	17900	12500	5140	5110	4160
10	24900	7790	8900	9850	e3600	10700	15600	15700	11100	7840	6190	4310
11	19000	7950	12100	9240	e3500	24700	15900	14700	10300	5570	6180	4320
12	19600	8620	13200	e7800	e3400	58800	15700	12800	6710	4530	7520	4440
13	19200	8430	11300	6430	e3300	54900	16700	12700	5990	6180	4070	2610
14	19100	8820	13900	8810	e3200	35500	18500	11100	5710	7150	4560	4190
15	18900	8940	20200	11400	e3100	22200	14600	10100	6890	4420	2450	3510
16	16800	8520	22400	12800	e4500	17900	12900	12300	3290	8900	2300	2430
17	17500	9010	e18000	e9500	7120	13200	13200	12900	3040	10200	3450	2590
18	16000	8200	e14000	e8500	6110	13200	14800	8870	3740	5790	4090	2910
19	15600	8860	e11000	e7600	9060	11500	15400	9260	3370	3500	6800	3890
20	16200	8440	e8500	e7000	7420	11300	14400	8790	3750	6550	3880	2450
21	12400	8690	e7600	e6600	8180	10200	24400	8570	3680	7510	4210	2320
22	11900	10800	e9400	e6400	8820	10700	40400	6790	4990	8610	3950	2890
23	11300	22800	e8700	e6200	6160	11500	49400	5910	4650	7680	3110	4880
24	9360	30300	e8100	11400	6220	11100	52300	5090	3840	5290	3530	4440
25	10100	23700	e7700	13800	5770	10400	57400	5090	5790	4510	3940	5140
26	10900	22900	e7400	e12000	8300	9960	62600	7340	4580	3570	4980	6800
27	10100	19900	e7200	e10000	7810	16400	57800	8170	4550	2750	4030	3710
28	6880	16800	e7100	e9000	8080	36200	49200	7560	4290	3450	3250	4290
29	10300	13200	e7000	e8000	5810	38200	36000	5930	4450	3360	3280	4040
30	8870	11800	8790	e7200	---	22800	28500	7620	4740	4070	2270	4340
31	8100	---	9910	e6700	---	17500	---	6170	---	2380	3670	---
TOTAL	450380	338430	329670	288120	162660	528860	760100	450660	246150	157430	140020	115290
MEAN	14530	11280	10630	9294	5609	17060	25340	14540	8205	5078	4517	3843
MAX	36700	30300	22400	13800	9060	58800	62600	45900	21500	10200	7560	6800
MIN	6010	6350	5540	6200	3100	4270	11700	5090	3040	2380	2270	2250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1992, BY WATER YEAR (WY)

	MEAN	10130	12060	10660	7875	9786	18730	30430	17190	11090	5698	6046	5042
MAX	16340	16810	20720	12880	21890	34660	50380	31900	31100	8595	14780	8601	
(WY)	1991	1991	1991	1991	1984	1990	1987	1989	1984	1984	1990	1987	
MIN	1512	3540	5787	4760	4250	9579	15650	7366	4088	2578	2718	1378	
(WY)	1985	1985	1985	1985	1989	1987	1985	1987	1988	1991	1985	1984	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1984 - 1992
ANNUAL TOTAL	4334760	3967770	
ANNUAL MEAN	11880	10840	11540
HIGHEST ANNUAL MEAN			15310
LOWEST ANNUAL MEAN			6580
HIGHEST DAILY MEAN	54200	Apr 23	145000
LOWEST DAILY MEAN	1850	Jul 30	519
ANNUAL SEVEN-DAY MINIMUM	2270	Aug 3	707
INSTANTANEOUS PEAK FLOW			153000
INSTANTANEOUS PEAK STAGE		14.63	25.62
INSTANTANEOUS LOW FLOW		372	
10 PERCENT EXCEEDS	23000	20300	25700
50 PERCENT EXCEEDS	9600	8130	7970
90 PERCENT EXCEEDS	2730	3560	2970

e Estimated

CONNECTICUT RIVER BASIN

127

01172500 WARE RIVER NEAR BARRE, MA

LOCATION.--Lat 42°25'30", long 72°01'30" Worcester County, Hydrologic Unit 01080204, on left bank 700 ft downstream from Barre Falls Reservoir, 1.6 mi upstream from Burnshirt River, 4 mi east of Barre, and at mile 33.3.

DRAINAGE AREA.--55.1 mi².

PERIOD OF RECORD.--Discharge: July 1946 to current year.
Water-quality records: Water year 1957.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area. WDR MA-RI-89-1: 1984-88.

GAGE.--Water-stage recorder. Elevation of gage is 745 ft above sea level, from topographic map.

REMARKS.--Records good except those for periods of estimated daily discharges, which are fair. Prior to August 1955, slight regulation at low flow at times by Long Pond. Flow regulated by Barre Falls Reservoir (see table below for monthend contents) since 1958. Diversion at times since 1955 from 6.5 mi² upstream of station for municipal supply of Fitchburg. Maximum discharge since construction of Barre Falls Reservoir in 1958, 1,300 ft³/s, Oct. 23, 1989, gage height, 5.30 ft; maximum gage height, 5.62 ft, Mar. 14, 1979.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	351	e63	143	77	e51	82	319	106	107	27	31	20
2	188	e67	143	89	e50	82	311	107	186	22	34	18
3	88	e67	143	93	e37	82	255	201	145	19	25	18
4	77	e67	143	e91	e39	80	229	220	100	21	19	21
5	67	e59	143	e91	e50	80	226	261	78	25	34	22
6	90	e51	113	e128	e50	80	218	265	115	33	35	20
7	163	e49	95	e173	e41	80	150	158	167	33	25	18
8	177	e49	97	e162	e40	78	103	123	144	27	19	17
9	133	e50	97	e138	e42	163	104	116	109	28	55	17
10	105	e50	135	e99	e44	210	101	112	93	28	168	18
11	91	e77	151	e85	e44	121	100	104	72	25	195	22
12	109	e185	151	e82	e45	182	117	95	59	21	107	21
13	117	e227	151	e78	e45	239	126	90	50	19	74	19
14	103	e220	154	e77	e34	233	112	88	42	17	62	16
15	86	e156	160	e99	28	221	101	82	35	28	56	14
16	88	e130	299	e107	28	132	92	85	40	63	52	12
17	86	e116	410	e99	30	94	119	91	35	56	63	11
18	109	e109	402	e82	83	74	182	88	28	41	145	9.4
19	115	e105	e197	e78	121	69	188	87	23	31	200	8.5
20	103	e111	e121	e70	121	63	175	77	22	25	201	7.8
21	89	109	e107	e51	101	62	157	67	24	27	126	7.2
22	80	165	e111	e38	92	62	149	58	25	24	82	7.3
23	74	246	e114	e44	91	64	145	51	21	19	61	25
24	e69	284	e114	e84	89	67	134	44	27	21	48	23
25	e70	396	e114	e107	88	67	170	48	59	18	41	18
26	e67	446	e101	e114	72	67	196	50	59	16	36	18
27	e66	322	e78	e111	67	97	196	51	45	14	30	26
28	e63	176	73	e107	73	145	159	48	37	12	26	22
29	e67	142	74	e101	82	150	133	44	31	11	26	18
30	e63	143	75	e93	---	219	117	39	30	10	28	15
31	e63	---	77	e60	---	303	---	39	---	13	25	---
TOTAL	3217	4437	4486	2908	1778	3748	4884	3095	2008	774	2129	509.2
MEAN	104	148	145	93.8	61.3	121	163	99.8	66.9	25.0	68.7	17.0
MAX	351	446	410	173	121	303	319	265	186	63	201	26
MIN	63	49	73	38	28	62	92	39	21	10	19	7.2
(†)	3.4	30.1	43.6	14.8	45.7	83.2	4.2	3.7	2.9	2.6	2.6	2.4
MEAN†	87.2	158	150	83.1	73.7	135	132	99.6	66.6	24.9	68.7	16.9
CFSM†	1.58	2.87	2.72	1.51	1.34	2.45	2.40	1.81	1.21	.45	1.25	.31
IN.†	1.83	3.20	3.13	1.74	1.44	2.82	2.68	2.09	1.35	.52	1.44	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	MEAN	53.4	84.1	100	98.2	108	178	230	125	77.1	32.1	30.9	27.4
	MAX	275	233	231	285	271	365	559	257	368	91.0	169	205
	(WY)	1956	1956	1984	1979	1976	1983	1987	1989	1984	1959	1955	1954
	MIN	4.17	6.78	13.1	8.14	18.0	69.3	77.4	41.8	14.1	4.49	1.97	2.00
	(WY)	1965	1965	1966	1981	1977	1967	1985	1965	1964	1965	1965	1953

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1946 - 1992

ANNUAL TOTAL	41736.0	33973.2	
ANNUAL MEAN	114	92.8	95.2
ANNUAL MEAN†	114	91.4	95.2
HIGHEST ANNUAL MEAN			157
LOWEST ANNUAL MEAN			29.5
HIGHEST DAILY MEAN	654	Aug 23	1520
LOWEST DAILY MEAN	5.9	Jul 22	.50
ANNUAL SEVEN-DAY MINIMUM	8.0	Jul 18	.67
INSTANTANEOUS PEAK FLOW			498
INSTANTANEOUS PEAK STAGE			4.38
INSTANTANEOUS LOW FLOW			.37
ANNUAL RUNOFF (CFSM)†	2.07		1.66
ANNUAL RUNOFF (INCHES)†	28.12		22.58
10 PERCENT EXCEEDS	229		185
50 PERCENT EXCEEDS	91		79
90 PERCENT EXCEEDS	20		21

e Estimated

† Monthend contents, in millions of cubic feet, in Barre Falls Reservoir; records furnished by U.S. Army Corps of Engineers.

‡ Adjusted for change in contents in Barre Falls Reservoir.

Note.--All statistics are based on unadjusted daily and monthly mean discharges.

CONNECTICUT RIVER BASIN

01173000 WARE RIVER AT INTAKE WORKS NEAR BARRE, MA

LOCATION.--Lat 42°23'26", long 72°03'39", Worcester County, Hydrologic Unit 01080204, on right bank above diversion dam at Ware River intake works, 2.7 mi downstream from Burnshirt River, 3 mi southeast of Barre, and at mile 29.1.

DRAINAGE AREA.--96.3 mi².

PERIOD OF RECORD.--January 1928 to current year. Prior to October 1977, published as Ware River at Coldbrook.

REVISED RECORDS.--WSP 1031: 1944. WDR MA-RI-84-1: Drainage area.

GAGE.--Venturi meters and water-stage recorder. Datum of gage is 5.65 ft below sea level. Prior to Feb. 1, 1936, water-stage recorder at site 0.2 mi downstream at datum 631.91 ft above NGVD.

REMARKS.--Records good. Figures of discharge include diversion as needed for Boston metropolitan district during period Oct. 15 to June 14 of each year and at other times for emergency flood-control purposes as authorized by U. S. Army Corps of Engineers; diversion began in March 1931. Flow regulated by Barre Falls Reservoir 4.3 mi upstream (See table with station 01172500) since 1958. Diversion at times since 1955 from 6.5 mi² upstream for municipal supply of Fitchburg. Maximum daily discharge since construction of Barre Falls Reservoir in 1958, 1,590 ft³/s, Apr. 14, 1987.

COOPERATION.--Computations of daily discharge made in cooperation with Water Division, Metropolitan District Commission, which collected gage-height and venturi-meter records.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	403	121	265	158	138	139	398	185	185	46	27	33
2	220	126	258	166	129	140	380	232	245	53	32	31
3	142	125	276	171	100	139	319	387	197	45	34	33
4	121	119	284	176	91	138	281	351	153	45	43	34
5	104	108	258	191	99	137	278	355	139	49	72	34
6	195	102	208	229	100	136	268	338	172	61	64	34
7	273	96	190	254	87	166	209	240	203	61	58	31
8	250	93	192	251	84	215	177	220	185	49	56	31
9	196	90	236	221	76	280	174	220	157	46	141	29
10	174	89	303	178	76	299	170	198	140	55	227	30
11	168	174	231	149	79	332	171	182	131	48	210	36
12	240	338	244	147	75	365	203	169	93	44	129	37
13	222	404	276	151	75	346	213	159	78	39	93	31
14	188	319	376	188	70	313	188	152	67	37	84	29
15	176	274	361	201	71	281	171	142	58	49	73	25
16	174	247	435	193	111	196	164	152	58	123	70	25
17	159	215	495	194	113	167	229	153	56	86	104	24
18	185	183	453	157	135	148	279	147	30	58	276	20
19	220	149	284	141	185	140	287	140	24	57	263	18
20	162	217	222	139	189	139	266	137	28	50	236	17
21	142	212	210	137	159	137	247	130	31	48	153	20
22	138	421	205	98	148	134	237	108	63	48	102	24
23	137	585	203	107	146	131	230	94	60	41	75	48
24	134	559	199	246	142	129	229	92	36	40	67	40
25	128	597	188	203	141	128	293	92	102	37	59	32
26	130	576	174	181	170	135	310	93	86	34	52	32
27	119	427	155	175	160	352	291	93	78	29	56	50
28	110	289	145	168	152	313	247	87	76	27	30	57
29	101	271	152	166	147	278	218	81	66	22	39	46
30	93	266	178	158	---	321	197	76	45	24	37	39
31	100	---	167	144	---	401	---	88	---	23	38	---
TOTAL	5304	7792	7823	5438	3448	6675	7324	5293	3042	1484	3000	970
MEAN	171	260	252	175	119	215	244	171	101	47.9	96.8	32.3
MAX	403	597	495	254	189	401	398	387	245	123	276	57
MIN	93	89	145	98	70	128	164	76	24	22	27	17
MEAN†	155	270	257	165	131	229	214	171	101	47.8	96.8	32.3
CFSM†	1.61	2.80	2.67	1.71	1.36	2.38	2.22	1.78	1.05	.50	1.01	.34
IN.†	1.85	3.13	3.08	1.97	1.47	2.75	2.48	2.04	1.17	.57	1.16	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1992, BY WATER YEAR (WY)

	MEAN	88.0	136	165	171	176	325	405	221	141	69.0	56.0	67.5
MAX	465	445	413	499	488	1066	963	438	503	337	319	893	
(WY)	1956	1956	1974	1979	1976	1936	1940	1989	1984	1938	1955	1938	
MIN	7.86	13.9	29.1	17.2	37.5	118	129	83.6	31.2	11.0	5.93	6.22	
(WY)	1965	1965	1966	1981	1980	1940	1985	1965	1964	1965	1966	1964	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR			FOR 1992 WATER YEAR			WATER YEARS 1928 - 1992		
ANNUAL TOTAL	72328.1			57593					
ANNUAL MEAN	198			157			168		
ANNUAL MEAN†	198			156					
ANNUAL RUNOFF (CFSM)†	2.06			1.62					
ANNUAL RUNOFF (INCHES)†	27.91			22.05					
HIGHEST ANNUAL MEAN							277		
LOWEST ANNUAL MEAN							56.4		
HIGHEST DAILY MEAN	764			Aug 23			597		
LOWEST DAILY MEAN	9.0			Aug 8			17		
ANNUAL SEVEN-DAY MINIMUM	16			Jul 18			21		
INSTANTANEOUS PEAK FLOW							Sep 16		
INSTANTANEOUS PEAK STAGE							14000		
10 PERCENT EXCEEDS	401			288			664.28		
50 PERCENT EXCEEDS	167			142			382		
90 PERCENT EXCEEDS	36			35			110		
							20		

† Adjusted for change in contents in Barre Falls Reservoir.

Note.--Except as noted, all statistics are based on unadjusted daily and monthly mean data.

CONNECTICUT RIVER BASIN

129

01173500 WARE RIVER AT GIBBS CROSSING, MA

LOCATION.--Lat 42°14'10", long 72°16'23", Hampshire County, Hydrologic Unit 01080204, on right bank 0.5 mi upstream from Gibbs Crossing, 1.8 mi upstream from Beaver Brook, 2.5 mi southwest of Ware, and 8.8 mi upstream from mouth.

DRAINAGE AREA.--197 mi².

PERIOD OF RECORD.--Discharge: August 1912 to current year.

Water-quality records: Water years 1953-54.

WSP 1301: 1914(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.79 ft above sea level. Prior to Mar. 1, 1930, at site 0.5 mi downstream at different datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversion at times: Since March 1931 from 96.3 mi² for supply of Boston metropolitan district and since 1955 from 6.5 mi² for municipal supply of Fitchburg. Flow regulated by mills upstream and by Barre Falls Reservoir (see station 01172500) since 1958. Maximum discharge since construction of Barre Falls Reservoir, 5,050 ft³/s, Mar. 6, 1979.

AVERAGE DISCHARGE.--18 years, (water years 1913-30) prior to diversions in 1931, 313 ft³/s, 21.36 in/yr.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	615	258	277	e360	271	288	801	424	411	75	143	93
2	522	207	264	e310	e250	e280	741	425	608	112	121	99
3	331	233	274	289	e220	275	677	1050	557	105	86	96
4	244	239	414	315	e200	260	569	1030	428	102	100	112
5	202	201	347	371	e190	262	523	816	365	125	107	102
6	270	143	306	386	e180	262	497	755	364	166	164	92
7	488	182	275	399	e210	287	473	670	417	90	127	100
8	466	176	280	394	169	644	420	525	434	113	106	88
9	400	161	361	368	e160	578	371	499	370	97	196	86
10	329	146	473	340	e180	599	362	486	338	126	705	98
11	280	286	392	279	e160	1130	360	449	303	100	555	105
12	474	668	404	e240	e150	1210	381	410	218	106	453	111
13	533	507	488	239	e140	881	440	387	156	60	354	67
14	449	385	793	309	129	693	418	379	166	82	246	111
15	382	349	1110	e430	e120	585	388	360	119	80	183	102
16	336	314	777	e380	304	504	371	362	120	134	189	29
17	323	283	728	e330	343	392	418	388	116	186	239	77
18	328	258	e600	e300	282	353	690	373	112	159	593	72
19	281	246	e500	e280	286	326	715	358	114	143	790	80
20	278	250	e450	e250	355	301	647	351	118	98	584	73
21	261	241	413	e230	340	298	577	267	148	89	474	63
22	238	479	391	e280	298	297	539	289	122	59	358	56
23	244	1140	e380	e260	266	290	521	302	91	103	231	82
24	223	757	367	e350	267	266	484	306	178	113	185	91
25	222	575	e320	e450	256	253	625	185	330	97	161	98
26	219	450	e300	e400	384	261	770	165	201	59	113	96
27	220	400	e290	e350	532	872	707	265	204	81	125	96
28	204	328	e250	331	401	1050	611	235	160	85	132	116
29	222	316	254	317	348	770	524	171	181	76	118	114
30	177	303	e300	e310	---	638	457	187	157	82	110	97
31	128	---	e360	294	---	729	---	195	---	79	115	---
TOTAL	9889	10481	13138	10141	7391	15834	16077	13064	7606	3182	8163	2702
MEAN	319	349	424	327	255	511	536	421	254	103	263	90.1
MAX	615	1140	1110	450	532	1210	801	1050	608	186	790	116
MIN	128	143	250	230	120	253	360	165	91	59	86	29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1992, BY WATER YEAR (WY)

	MEAN	166	247	283	305	314	494	567	253	141	124	142
MAX	750	922	653	728	802	1838	1394	787	746	714	890	1707
(WY)	1956	1956	1939	1952	1976	1936	1956	1984	1984	1938	1955	1938
MIN	29.0	39.0	68.5	29.6	77.7	210	231	167	69.5	36.5	25.8	14.5
(WY)	1965	1965	1966	1981	1980	1989	1966	1965	1964	1965	1964	1953

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1931 - 1992
ANNUAL TOTAL	117215	117668	
ANNUAL MEAN	321	321	284
HIGHEST ANNUAL MEAN			581
LOWEST ANNUAL MEAN			107
HIGHEST DAILY MEAN	1830	Sep 26	16700
LOWEST DAILY MEAN	51	Jul 25	7.0
ANNUAL SEVEN-DAY MINIMUM	59	Jul 20	9.4
INSTANTANEOUS PEAK FLOW			22700
INSTANTANEOUS PEAK STAGE		4.43	18.20
INSTANTANEOUS LOW FLOW			5.0
10 PERCENT EXCEEDS	533	602	582
50 PERCENT EXCEEDS	295	284	212
90 PERCENT EXCEEDS	89	98	48

e Estimated

CONNECTICUT RIVER BASIN

01174500 EAST BRANCH SWIFT RIVER NEAR HARDWICK, MA

LOCATION.--Lat 42°23'36", long 72°14'21", Worcester County, Hydrologic Unit 01080204, on left bank 100 ft above spillway of regulating dam and 4.6 mi northwest of Hardwick.

DRAINAGE AREA.--43.7 mi².

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 above sea level.

REMARKS.--Records fair. No flow at times during several years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	53	116	114	69	75	140	94	88	27	30	18
2	83	54	106	98	63	72	127	101	137	22	32	16
3	72	55	122	94	58	70	111	270	108	18	26	16
4	61	53	152	95	57	64	99	274	76	20	31	18
5	57	50	144	112	56	60	91	189	56	22	50	19
6	85	47	124	126	51	58	85	145	57	28	46	18
7	153	46	108	119	48	74	83	122	63	28	40	17
8	137	46	102	106	50	168	82	109	59	25	32	17
9	109	43	114	93	50	169	79	101	50	27	51	16
10	93	44	158	90	45	145	78	98	40	34	109	15
11	83	86	158	84	43	307	80	91	32	30	91	26
12	153	198	139	71	44	427	97	81	27	25	68	28
13	183	180	145	73	39	266	106	76	25	23	48	24
14	144	150	230	94	39	173	96	77	23	23	41	21
15	116	135	302	137	41	131	89	69	22	31	39	18
16	112	126	235	120	73	108	82	74	18	53	38	16
17	109	114	173	87	97	95	109	80	15	53	45	15
18	108	98	145	76	91	87	146	76	12	43	100	14
19	103	88	121	68	83	84	159	69	11	35	124	13
20	92	81	103	63	82	78	147	61	23	33	96	12
21	78	80	104	58	78	74	132	52	80	29	67	10
22	71	162	105	55	68	69	123	47	66	25	47	10
23	67	432	99	63	63	70	119	44	46	21	36	22
24	64	400	97	170	60	64	110	40	45	22	29	22
25	63	297	85	175	60	63	147	38	66	19	25	20
26	60	223	78	123	86	64	176	36	62	16	21	18
27	58	173	77	92	128	208	159	33	52	15	19	19
28	60	143	75	78	115	277	132	31	41	13	16	20
29	54	131	82	73	98	199	112	28	31	12	24	18
30	53	122	127	70	---	155	100	25	26	13	23	16
31	50	---	136	69	---	143	---	29	---	16	21	---
TOTAL	2825	3910	4062	2946	1935	4097	3396	2660	1457	801	1465	532
MEAN	91.1	130	131	95.0	66.7	132	113	85.8	48.6	25.8	47.3	17.7
MAX	183	432	302	175	128	427	176	274	137	53	124	28
MIN	50	43	75	55	39	58	78	25	11	12	16	10
CFSM	2.09	2.98	3.00	2.17	1.53	3.02	2.59	1.96	1.11	.59	1.08	.41
IN.	2.40	3.33	3.46	2.51	1.65	3.49	2.89	2.26	1.24	.68	1.25	.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1992, BY WATER YEAR (WY)

	MEAN	38.1	62.1	73.2	74.8	78.2	133	159	92.3	59.5	28.9	22.7	26.8
MAX	155	177	161	192	207	266	420	189	175	179	127	390	
(WY)	1980	1956	1939	1979	1984	1979	1940	1984	1984	1938	1955	1938	
MIN	2.55	6.93	19.9	5.30	18.5	48.2	34.8	30.5	9.03	3.23	.80	.25	
(WY)	1965	1965	1981	1981	1940	1965	1985	1985	1964	1949	1953	1964	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1937 - 1992

ANNUAL TOTAL	35100.3		30086		70.4		
ANNUAL MEAN	96.2		82.2		123		1938
HIGHEST ANNUAL MEAN					22.8		1965
LOWEST ANNUAL MEAN					4690		Sep 21 1938
HIGHEST DAILY MEAN	692	Sep 26	432	Nov 23			Sep 21 1938
LOWEST DAILY MEAN	5.0	Jul 22	10	Sep 21	.00		Aug 15 1939
ANNUAL SEVEN-DAY MINIMUM	6.0	Jul 19	13	Sep 16	.00		Aug 31 1953
INSTANTANEOUS PEAK FLOW			496	Mar 12	6780		Sep 21 1938
INSTANTANEOUS PEAK STAGE			20.44	Mar 12	22.49		Jun 25 1944
INSTANTANEOUS LOW FLOW			9.2	Sep 21	.00		Aug 7 1939
ANNUAL RUNOFF (CFSM)	2.20		1.88		1.61		
ANNUAL RUNOFF (INCHES)	29.88		25.61		21.89		
10 PERCENT EXCEEDS	181		151		159		
50 PERCENT EXCEEDS	81		71		44		
90 PERCENT EXCEEDS	14		20		7.0		

CONNECTICUT RIVER BASIN

131

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 east of Knights Corner, 2 mi upstream from mouth, 2.7 mi south of Pelham, and 5 mi north of Belchertown.

DRAINAGE AREA.--0.60 mi².

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

REVISED RECORDS.--WDR MA-RI-84-1: 1962(M), 1964(M), 1968-69(M), 1970(P), 1972-73(P), 1974(M), 1975-77(P), 1979-80(P), 1982-83(P), Drainage area.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir. Elevation of gage is 860 ft above sea level, from topographic map.

REMARKS.--Records good except those for January to April, which are poor. No flow at times in several water years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.71	.63	1.1	1.2	.71	.94	1.6	.95	2.4	.65	.91	.04
2	.64	.61	1.0	1.1	.60	.80	1.5	1.7	1.1	.15	.27	.03
3	.58	.58	1.2	1.2	.52	.74	1.3	6.6	.68	.10	.13	.07
4	.55	.51	2.5	1.7	.48	.73	1.1	2.5	.44	.35	.43	.13
5	.47	.49	1.5	2.3	.49	.79	1.0	1.7	.32	.39	.57	.14
6	3.0	.48	1.2	1.7	.43	.79	.98	1.4	.83	.63	.18	.11
7	2.8	.46	1.1	1.3	.39	1.9	.94	1.1	.66	.29	.10	.07
8	1.5	.44	1.1	1.1	.43	2.9	.88	1.0	.46	.15	.05	.06
9	1.1	.43	3.0	.96	.39	1.9	.82	1.0	.44	.34	1.9	.06
10	.89	.44	3.1	1.0	.31	1.7	.85	.88	.25	.21	1.7	.06
11	1.2	2.4	2.1	.88	.31	11	.94	.77	.21	.11	.57	e.39
12	4.3	3.1	1.8	.71	.28	4.7	1.7	.68	.17	.07	.31	e.22
13	1.9	2.1	3.7	.79	.21	2.5	1.2	.68	.13	.09	.20	.12
14	1.3	1.9	5.5	2.2	.29	1.7	.98	.64	.10	.08	.33	.09
15	1.1	1.7	3.7	2.1	.34	1.5	.86	.55	.08	.14	.29	.06
16	3.9	1.5	2.1	1.2	1.8	1.2	.82	.83	.06	.62	.34	.05
17	2.2	1.2	1.5	1.0	1.1	1.1	2.4	.70	.04	.23	.81	.04
18	1.9	1.1	1.4	.86	.89	1.0	3.2	.61	.03	.15	4.1	.03
19	1.4	.96	1.2	.69	.93	1.0	3.2	.54	.02	.10	1.3	.02
20	1.1	.86	1.1	.62	.87	.99	2.0	.42	.02	.16	.63	.02
21	.98	.92	1.1	.58	.75	.94	1.5	.36	.04	.11	e.40	.02
22	.88	7.2	1.1	.54	.65	.84	1.4	.31	.03	.07	.27	.03
23	.78	10	1.0	1.6	.68	.82	1.2	.25	.02	.08	.17	.44
24	.74	4.7	1.0	5.3	.61	.83	1.2	.22	.04	.13	.12	.15
25	.70	3.2	.88	e2.0	.62	.84	3.9	.36	.20	.09	.09	.10
26	.68	2.1	.80	1.3	2.2	.96	3.0	.31	.11	.06	.08	.15
27	.67	1.6	.81	1.0	1.9	5.3	2.0	.25	.10	.05	.06	.42
28	.61	1.4	.75	.95	1.4	3.3	1.5	.25	.09	.04	.05	.25
29	.55	1.3	1.1	.79	1.3	2.1	1.2	.23	.07	.04	.10	.17
30	.53	1.2	2.5	.73	---	1.6	1.1	.18	.07	.04	.10	.11
31	.52	---	1.6	.77	---	2.0	---	.40	---	.81	.06	---
TOTAL	40.18	55.51	53.54	40.17	21.88	59.41	46.27	28.37	9.21	6.53	16.62	3.65
MEAN	1.30	1.85	1.73	1.30	.75	1.92	1.54	.92	.31	.21	.54	.12
MAX	4.3	10	5.5	5.3	2.2	11	3.9	6.6	2.4	.81	4.1	.44
MIN	.47	.43	.75	.54	.21	.73	.82	.18	.02	.04	.05	.02
CFSM	2.16	3.08	2.88	2.16	1.26	3.19	2.57	1.53	.51	.35	.89	.20
IN.	2.49	3.44	3.32	2.49	1.36	3.68	2.87	1.76	.57	.40	1.03	.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1961	.75	2.94	1976	.010	1965
1962	1.12	2.55	1976	.050	1965
1963	1.32	2.72	1974	.28	1981
1964	1.26	3.41	1979	.086	1981
1965	1.37	3.47	1984	.23	1980
1966	2.47	4.73	1977	.88	1989
1967	2.22	3.97	1983	.75	1985
1968	1.54	4.59	1984	.36	1986
1969	.84	3.43	1972	.050	1964
1970	.31	1.34	1975	.028	1964
1971	.33	1.73	1969	.002	1966
1972	.33	2.11	1975	.000	1964

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1961 - 1992

ANNUAL TOTAL	486.41	381.34	
ANNUAL MEAN	1.33	1.04	1.16
HIGHEST ANNUAL MEAN			1.78
LOWEST ANNUAL MEAN			.39
HIGHEST DAILY MEAN	15	11	37
LOWEST DAILY MEAN	.01 Jul 17	.02 Jun 19	.00 May 30 1984
ANNUAL SEVEN-DAY MINIMUM	.01 Jul 17	.03 Jun 17	.00 Sep 9 1963
INSTANTANEOUS PEAK FLOW		19	65
INSTANTANEOUS PEAK STAGE		4.53 Nov 23	5.29 Oct 20 1989
INSTANTANEOUS LOW FLOW		.01 Jun 23	.00 Aug 26 1962
ANNUAL RUNOFF (CFSM)	2.22	1.74	1.93
ANNUAL RUNOFF (INCHES)	30.16	23.64	26.16
10 PERCENT EXCEEDS	3.0	2.2	2.6
50 PERCENT EXCEEDS	.89	.76	.62
90 PERCENT EXCEEDS	.04	.07	.04

e Estimated

CONNECTICUT RIVER BASIN

01174900 CADWELL CREEK NEAR BELCHERTOWN, MA

LOCATION.--Lat 42°20'08", long 72°22'12", Hampshire County, Hydrologic Unit 01080204, on left bank 200 ft upstream from mouth, 2 mi southeast of Knights Corner, and 4.5 mi north of Belchertown.

DRAINAGE AREA.--2.55 mi².

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

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir. Elevation of gage is 540 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	3.6	7.9	7.7	e4.0	4.8	7.6	5.6	10	2.4	4.0	e.30
2	7.7	3.6	7.2	7.2	e3.7	4.4	6.8	6.3	5.6	.97	1.2	e.22
3	6.3	3.5	6.7	6.8	e3.5	3.9	5.9	e25	3.4	.57	e.69	e.60
4	5.3	3.3	10	6.6	e3.2	3.8	5.3	12	2.2	1.5	e1.1	e.80
5	4.6	3.1	10	7.7	e2.9	4.1	4.9	8.8	1.7	2.1	e3.6	e.90
6	7.0	3.0	9.0	8.0	e2.6	4.0	4.6	7.3	3.4	2.6	e1.7	e.65
7	14	2.8	8.0	7.5	e2.4	8.3	4.3	6.4	3.5	2.0	e.80	e.54
8	12	2.7	7.4	7.0	e2.7	11	4.2	5.6	2.2	1.0	e.40	e.47
9	9.9	2.6	8.7	6.5	e2.5	8.1	3.9	5.5	2.0	1.2	e8.0	e.43
10	8.1	2.6	12	6.1	e2.3	7.5	3.8	5.2	1.4	1.2	e7.0	e.40
11	6.9	8.1	12	5.8	e2.2	38	4.0	4.7	1.0	.69	e4.0	e2.0
12	13	17	11	5.3	e2.2	19	7.0	4.2	.88	.51	e2.5	e1.1
13	13	13	11	5.0	2.2	11	6.0	4.0	.72	.41	e1.5	e.80
14	11	11	16	6.4	2.2	8.5	5.0	3.7	.59	.36	e1.9	e.52
15	9.0	8.7	19	9.5	2.3	7.1	4.3	3.3	.50	.71	e1.7	e.40
16	12	7.7	16	e7.9	10	5.8	3.9	4.3	.41	e2.7	e2.0	e.30
17	13	6.8	13	e6.7	6.5	5.2	9.0	4.3	.37	.96	e5.0	e.25
18	12	6.0	11	e5.6	5.2	4.9	13	3.7	.34	.72	e18	e.22
19	10	5.4	10	e4.6	5.3	4.7	13	3.3	.34	.57	e10	e.19
20	9.1	5.0	9.1	e3.8	5.1	4.6	11	2.7	.41	1.2	e5.0	e.17
21	8.0	4.7	8.3	e3.3	4.4	4.5	9.3	2.3	.75	.56	e2.7	e.15
22	7.1	17	7.7	e3.0	4.0	4.1	8.0	2.0	.64	.41	e1.8	e.20
23	6.4	42	7.2	e3.8	4.1	4.1	7.1	1.6	.50	.53	e1.2	e2.3
24	5.8	30	6.7	e16	3.9	3.9	6.3	1.4	.80	.89	e.90	e1.2
25	5.4	24	6.3	e12	3.8	4.1	12	1.8	1.6	.47	e.67	e.63
26	5.0	18	5.8	e9.6	10	4.7	13	1.7	1.2	.36	e.53	e.90
27	4.6	14	5.5	e7.0	8.1	21	11	1.5	1.2	.40	e.43	e2.5
28	4.3	11	5.2	e5.6	6.2	13	9.6	1.5	1.3	.30	e.37	e1.3
29	4.1	9.6	5.1	e5.0	4.9	9.1	7.8	1.3	.76	.26	e.70	.86
30	3.8	8.7	8.6	e4.7	---	7.2	6.5	1.2	.49	.40	e.60	.62
31	3.5	---	8.6	e4.4	---	8.6	---	1.7	---	2.9	e.40	---
TOTAL	251.4	298.5	290.0	206.1	122.4	253.0	218.1	143.9	50.20	31.85	90.39	21.92
MEAN	8.11	9.95	9.35	6.65	4.22	8.16	7.27	4.64	1.67	1.03	2.92	.73
MAX	14	42	19	16	10	38	13	25	10	2.9	18	2.5
MIN	3.5	2.6	5.1	3.0	2.2	3.8	3.8	1.2	.34	.26	.37	.15
CFSM	3.18	3.90	3.67	2.61	1.66	3.20	2.85	1.82	.66	.40	1.14	.29
IN.	3.67	4.35	4.23	3.01	1.79	3.69	3.18	2.10	.73	.46	1.32	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	3.39	4.65	5.63	5.40	6.02	10.7	9.79	6.56	3.74	1.52	1.59	1.63
MEAN	3.39	4.65	5.63	5.40	6.02	10.7	9.79	6.56	3.74	1.52	1.59	1.63
MAX	15.0	10.3	13.0	13.9	13.9	20.3	18.5	18.1	13.5	5.56	5.27	9.20
(WY)	1990	1976	1991	1979	1976	1977	1967	1984	1982	1975	1969	1975
MIN	.25	.48	1.29	.43	1.28	3.81	3.42	2.14	.50	.29	.17	.11
(WY)	1965	1965	1981	1981	1980	1989	1966	1986	1964	1964	1966	1964

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1961 - 1992

ANNUAL TOTAL	2720.39	1977.76	
ANNUAL MEAN	7.45	5.40	5.05
HIGHEST ANNUAL MEAN			7.58
LOWEST ANNUAL MEAN			1.85
HIGHEST DAILY MEAN	55	Sep 25	181
LOWEST DAILY MEAN	.14	Jul 22	.07
ANNUAL SEVEN-DAY MINIMUM	.15	Jul 19	.08
INSTANTANEOUS PEAK FLOW			283
INSTANTANEOUS PEAK STAGE			7.42
INSTANTANEOUS LOW FLOW			.07
ANNUAL RUNOFF (CFSM)	2.92		1.98
ANNUAL RUNOFF (INCHES)	39.59		26.90
10 PERCENT EXCEEDS	15		11
50 PERCENT EXCEEDS	5.3		2.9
90 PERCENT EXCEEDS	.55		.35

e Estimated

CONNECTICUT RIVER BASIN

133

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 downstream from Quabbin Reservoir, 3.5 mi east of Belchertown, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--189 mi², includes 1.6 mi² drained by Beaver Brook, flow of which is diverted from Ware River basin. Prior to January 1937, 186 mi².

PERIOD OF RECORD.--Discharge: July 1910 to September 1912 (twice-daily gage heights and corresponding discharge), October 1912 to current year.

Water-quality records: Water years 1952-54.

REVISED RECORDS.--WSP 451: 1916. WSP 871: 1919. WSP 1031: 1944 (changes in reservoir contents and adjusted figures only). WSP 1301: 1925(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 365.18 ft above sea level. Prior to Aug. 25, 1912, nonrecording gage at site 400 ft upstream at same datum.

REMARKS.--Records good. Flow regulated since August 1939 by Quabbin Reservoir, usable capacity, 53.8 billion ft³, (See table below for monthend contents). 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 from Quabbin Reservoir to city of Worcester at times since 1966. Maximum discharge prior to construction of Quabbin Reservoir in 1939, 7,590 ft³/s, Mar. 19, 1936, gage height, 15.00 ft.

AVERAGE DISCHARGE.--27 years (water years 1913-39) prior to completion of Quabbin Reservoir, 314 ft³/s, 22.56 in/yr.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	128	130	83	181	167	246	144	74	66	111	107
2	133	128	129	81	181	165	252	148	73	65	110	107
3	130	128	131	81	179	162	255	171	72	65	73	107
4	129	127	141	84	178	159	254	172	72	66	38	107
5	130	127	152	82	178	156	252	171	71	66	51	107
6	133	127	152	80	177	154	240	e168	72	66	53	107
7	132	126	152	80	177	158	238	e166	71	65	41	106
8	132	127	152	86	176	163	238	164	71	65	38	107
9	132	128	153	88	176	164	237	161	71	66	42	107
10	131	128	e152	88	173	166	237	158	71	65	38	107
11	131	133	e152	88	168	190	240	156	71	65	38	68
12	134	131	e152	95	165	198	244	151	71	65	37	29
13	132	130	153	98	159	204	203	147	71	65	37	28
14	131	129	145	99	157	207	171	147	71	65	37	30
15	130	129	120	142	154	209	123	113	71	65	36	33
16	130	128	128	196	163	209	95	80	71	57	36	70
17	130	129	140	194	157	208	104	78	71	46	36	104
18	130	129	162	194	171	210	106	77	71	47	85	104
19	130	128	158	192	184	214	109	77	71	47	108	105
20	130	131	150	193	180	215	110	76	72	48	60	105
21	130	136	147	193	175	216	113	76	71	42	27	105
22	130	135	144	189	173	216	117	75	71	e39	32	105
23	130	135	118	193	172	220	122	74	71	e39	33	105
24	130	132	96	203	172	219	125	74	70	39	69	59
25	130	131	91	203	172	215	139	74	67	39	102	35
26	130	130	85	199	180	212	143	74	66	39	104	48
27	130	130	83	195	176	224	146	73	66	39	105	48
28	130	130	80	192	173	229	149	72	66	83	105	52
29	130	130	83	188	172	236	149	72	66	121	107	63
30	127	130	90	184	---	239	146	72	66	110	107	77
31	129	---	86	180	---	247	---	73	---	112	107	---
TOTAL	4049	3890	4007	4443	4999	6151	5303	3534	2109	1927	2003	2442
MEAN	131	130	129	143	172	198	177	114	70.3	62.2	64.6	81.4
MAX	134	136	162	203	184	247	255	172	74	121	111	107
MIN	127	126	80	80	154	154	95	72	66	39	27	28
(†)	52787	53659	53895	53916	53546	54134	54532	54291	54396	53690	53247	51985

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	MEAN	72.9	81.1	67.7	68.8	77.3	83.1	166	153	124	75.9	80.1	78.4
	MAX	222	858	330	224	387	330	1099	775	1192	301	149	139
	(WY)	1956	1956	1956	1956	1952	1952	1953	1953	1984	1948	1961	1963
	MIN	30.3	31.3	30.6	30.9	29.2	31.3	30.5	29.0	28.6	31.2	30.7	30.3
	(WY)	1945	1945	1990	1945	1989	1946	1946	1945	1945	1944	1944	1990

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1940 - 1992
ANNUAL TOTAL	47368	44857	
ANNUAL MEAN	130	123	94.0
HIGHEST ANNUAL MEAN			347
LOWEST ANNUAL MEAN			30.7
HIGHEST DAILY MEAN	328	May 15	3040
LOWEST DAILY MEAN	36	Aug 26	9.1
ANNUAL SEVEN-DAY MINIMUM	43	Aug 30	27
INSTANTANEOUS PEAK FLOW			3070
INSTANTANEOUS PEAK STAGE		3.34	11.58
INSTANTANEOUS LOW FLOW		18	
10 PERCENT EXCEEDS	152	197	141
50 PERCENT EXCEEDS	132	128	46
90 PERCENT EXCEEDS	65	56	32

e Estimated

† Monthend contents, in millions of cubic feet, in Quabbin Reservoir; records furnished by Water Division of Metropolitan District Commission.

CONNECTICUT RIVER BASIN

01175670 SEVENMILE RIVER NEAR SPENCER, MA

LOCATION.--Lat 42°15'54", long 72°00'19", Worcester County, Hydrologic Unit 01080204, on right bank 40 ft upstream from bridge on Cooney Road and 1.5 mi north of Spencer.

DRAINAGE AREA.--8.68 mi².

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.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 630 ft above sea level, from topographic map. Prior to Sept. 25, 1984, at datum 8.83 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional regulation by ponds upstream since 1971. Maximum gage heights shown in table below are for datums then in use.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	9.7	23	e17	13	e16	28	16	e19	e6.0	e9.0	8.8
2	13	11	21	e16	e12	e14	25	18	e16	e5.5	e6.0	1.8
3	11	11	24	15	e11	13	22	45	e13	4.9	e10	4.1
4	9.7	9.9	34	18	e10	e14	20	35	e12	5.8	e7.0	7.3
5	8.1	8.8	e25	22	e10	13	19	26	e13	5.3	e5.5	4.6
6	26	8.0	22	21	e9.5	12	18	22	e16	7.0	e3.0	4.4
7	41	8.0	20	20	e9.0	15	17	20	e15	5.7	2.3	4.1
8	29	7.6	20	18	8.6	27	16	18	e13	5.0	2.1	3.8
9	22	7.2	27	16	e9.0	23	14	18	e10	7.1	9.3	8.1
10	18	7.1	34	16	e8.3	21	14	17	e8.5	6.0	11	3.6
11	16	33	29	e16	e7.9	36	15	16	e7.5	5.0	8.1	3.8
12	20	56	26	e14	e7.4	36	19	14	e6.5	4.7	9.3	4.1
13	17	41	29	13	e7.1	26	18	14	e6.0	4.2	8.7	3.7
14	15	32	48	21	7.4	e21	17	14	e5.5	4.3	10	3.2
15	14	26	58	e24	7.7	e19	15	13	e5.0	5.1	9.1	2.6
16	15	24	e41	e18	e22	e17	14	14	e4.8	7.5	8.8	2.6
17	14	20	e31	e16	18	16	24	13	e4.5	6.2	11	3.2
18	15	18	e25	e14	16	15	30	12	e4.3	6.1	31	2.9
19	15	17	e22	e13	15	15	29	12	e4.2	5.3	23	2.7
20	13	16	e21	e12	15	e16	24	11	e5.0	4.6	21	2.4
21	12	16	e21	e11	13	15	22	10	e7.0	4.1	16	2.2
22	11	35	e20	e11	12	14	20	9.4	e6.7	3.6	13	5.0
23	10	82	e19	e20	12	14	19	8.8	e6.4	3.5	11	4.2
24	9.8	67	e18	e40	11	14	18	7.9	e10	e4.8	8.8	2.6
25	10	57	e17	e30	11	13	25	8.1	e27	e4.0	7.1	2.7
26	9.8	44	e16	e22	30	14	26	7.4	e16	e3.5	6.4	3.4
27	9.4	35	e15	e19	24	82	23	7.0	e10	e3.3	5.6	3.8
28	8.7	30	e15	16	19	56	20	7.0	e7.0	e3.2	4.7	2.9
29	8.1	27	16	15	e18	43	18	7.5	e8.0	e3.0	5.4	2.7
30	7.3	25	22	14	---	32	17	e7.0	e7.0	e4.0	4.1	2.2
31	7.2	---	e20	13	---	34	---	e10	---	e5.0	3.3	---
TOTAL	450.1	789.3	779	551	373.9	716	606	458.1	293.9	153.3	290.6	113.5
MEAN	14.5	26.3	25.1	17.8	12.9	23.1	20.2	14.8	9.80	4.95	9.37	3.78
MAX	41	82	58	40	30	82	30	45	27	7.5	31	8.8
MIN	7.2	7.1	15	11	7.1	12	14	7.0	4.2	3.0	2.1	1.8
CFSM	1.67	3.03	2.90	2.05	1.49	2.66	2.33	1.70	1.13	.57	1.08	.44
IN.	1.93	3.38	3.34	2.36	1.60	3.07	2.60	1.96	1.26	.66	1.25	.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	MEAN	7.96	12.4	16.7	16.3	18.5	30.3	31.3	18.8	12.7	4.90	4.17	3.93
MAX	29.0	28.0	41.2	56.5	44.8	66.2	69.5	40.5	46.5	15.3	14.4	15.7	15.7
(WY)	1976	1976	1984	1979	1970	1983	1987	1967	1982	1972	1979	1975	1975
MIN	.79	1.41	3.56	2.75	3.87	12.9	11.2	6.00	2.78	.80	.39	.32	.32
(WY)	1964	1965	1966	1981	1977	1967	1985	1982	1964	1965	1966	1964	1964

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1961 - 1992

ANNUAL TOTAL	6324.08	5574.7	
ANNUAL MEAN	17.3	15.2	14.8
HIGHEST ANNUAL MEAN			22.1
LOWEST ANNUAL MEAN			5.40
HIGHEST DAILY MEAN	82	82	284
LOWEST DAILY MEAN	.73	1.8	.13
ANNUAL SEVEN-DAY MINIMUM	1.0	2.7	.19
INSTANTANEOUS PEAK FLOW		119	412
INSTANTANEOUS PEAK STAGE		13.39	13.39
INSTANTANEOUS LOW FLOW		1.4	.04
ANNUAL RUNOFF (CFSM)	2.00	1.75	1.71
ANNUAL RUNOFF (INCHES)	27.10	23.89	23.17
10 PERCENT EXCEEDS	35	28	34
50 PERCENT EXCEEDS	15	13	9.4
90 PERCENT EXCEEDS	2.3	4.1	1.1

e Estimated

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e Estimated

CONNECTICUT RIVER BASIN

01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MA

LOCATION.--Lat 42°09'38", long 72°30'52", Hampden County, Hydrologic Unit 01080204, on left bank 1,000 ft downstream from West Street Bridge at Indian Orchard, 1.1 mi upstream from Fuller Brook, and 7.2 mi upstream from mouth.

DRAINAGE AREA.--689 mi².

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 1231: 1934. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 125 ft above sea level, from topographic map. Prior to Nov. 1, 1938, water-stage recorder at site 1.8 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversion since 1941 from 186 mi² in Swift River basin and at times since 1931 from 97 mi² in Ware River basin for Boston metropolitan district; since 1950, for Chicopee; since 1952, for South Hadley; at times since 1966 for Worcester; at times since 1955 from 6.5 mi² in Ware River basin for Fitchburg. Diversion from Ludlow Reservoir for Springfield and, prior to 1952, for Chicopee. Flow regulated by powerplants upstream, by Quabbin Reservoir 21 mi upstream on Swift River since 1939, by Barre Falls Reservoir on Ware River since 1958, by Conant Brook Reservoir since 1966, and by smaller reservoirs.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1400	624	1250	948	782	895	1970	1220	730	464	655	506
2	1340	629	1130	924	777	942	1880	1250	1150	277	647	497
3	1050	663	1190	943	802	833	1760	1780	980	289	425	493
4	883	599	1380	1030	760	850	1640	2160	854	313	399	662
5	845	657	1720	1130	709	830	1530	1840	766	344	385	599
6	936	625	e1400	1140	654	837	1480	1680	736	402	413	533
7	1070	568	e1200	1090	683	914	1410	1580	852	444	421	534
8	1250	598	e1200	1040	670	1200	1400	1470	1040	363	385	514
9	1150	552	e1350	1080	649	1470	1260	1350	826	453	529	477
10	1040	569	e1500	1010	554	1390	1210	1280	673	385	1110	500
11	995	670	e1550	835	614	2020	1210	1170	758	372	1080	566
12	1130	1720	e1450	734	590	2710	1380	1120	571	373	830	452
13	1360	1560	e1400	943	523	2110	1310	1080	541	322	776	419
14	1220	1400	e1800	971	604	1790	1230	1070	498	281	692	368
15	1160	1210	2150	1300	555	1610	1180	994	438	490	512	388
16	1040	1080	1830	1000	749	1480	1050	934	392	739	508	377
17	991	1040	1750	791	1060	1390	1380	944	428	616	698	425
18	990	971	1710	880	1130	1180	1620	920	375	501	1250	419
19	977	930	1470	782	896	1190	1810	845	343	436	1780	458
20	877	877	1430	823	947	1100	1710	764	391	452	1510	434
21	852	946	1360	780	974	1110	1580	802	435	335	896	421
22	820	1200	1280	832	851	1080	1490	700	352	338	942	423
23	749	2560	1260	769	852	1070	1460	690	316	294	854	563
24	777	2380	1130	1520	780	1030	1340	693	360	427	621	452
25	902	2040	985	1660	840	995	1440	655	868	293	648	378
26	693	1730	997	1390	1120	1010	1780	578	815	234	634	423
27	718	1530	792	1110	1380	1860	1750	609	672	514	643	446
28	594	1450	891	1050	1320	2490	1600	614	468	437	496	434
29	590	1350	971	1030	1030	2090	1480	580	385	419	641	439
30	662	1300	1360	976	---	1860	1420	500	367	244	518	428
31	622	---	1060	939	---	1870	---	562	---	463	488	---
TOTAL	29683	34028	41946	31450	23855	43206	44760	32434	18380	12314	22386	14028
MEAN	958	1134	1353	1015	823	1394	1492	1046	613	397	722	468
MAX	1400	2560	2150	1660	1380	2710	1970	2160	1150	739	1780	662
MIN	590	552	792	734	523	830	1050	500	316	234	385	368

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1992, BY WATER YEAR (WY)

	MEAN	528	724	863	936	988	1568	1793	1182	820	481	455	495
MAX	1953	3022	2278	2447	2374	5993	4117	2680	3519	2458	3719	5474	
(WY)	1956	1956	1939	1937	1976	1936	1933	1953	1984	1938	1955	1938	
MIN	131	154	241	191	332	634	636	471	229	159	176	160	
(WY)	1942	1966	1966	1981	1931	1989	1966	1965	1964	1966	1949	1953	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1928 - 1992

ANNUAL TOTAL	360547		348470										
ANNUAL MEAN	988		952							901			
HIGHEST ANNUAL MEAN										1952		1938	
LOWEST ANNUAL MEAN										376		1966	
HIGHEST DAILY MEAN	3200	Sep 26		2710	Mar 12		37000	Sep 21	1938				
LOWEST DAILY MEAN	231	Jul 5		234	Jul 26		16	Sep 1	1929				
ANNUAL SEVEN-DAY MINIMUM	280	Jul 19		339	Jul 20		96	Oct 31	1965				
INSTANTANEOUS PEAK FLOW				2890	Mar 12		45200	Sep 21	1938				
INSTANTANEOUS PEAK STAGE				7.40	Mar 12								
INSTANTANEOUS LOW FLOW				74	Feb 13								
10 PERCENT EXCEEDS	1580			1600						1830			
50 PERCENT EXCEEDS	978			881						650			
90 PERCENT EXCEEDS	348			419						218			

e Estimated

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e Estimated

CONNECTICUT RIVER BASIN

01183000 LITTLE RIVER AT OUTLET OF COBBLE MOUNTAIN RESERVOIR, NEAR WESTFIELD, MA

LOCATION.--Lat 42°07'34", long 72°53'37", Hampden County, Hydrologic Unit 01080206, at Cobble Mountain Dam, 7.5 mi west of Westfield, and at mile 13.0.

DRAINAGE AREA.--45.8 mi².

PERIOD OF RECORD.--Discharge: July 1905 to current year. Published as Westfield Little River near Blandford 1905-11, as Westfield Little River near Westfield 1912-35, and as Westfield Little River at outlet of Cobble Mountain Reservoir, near Westfield 1936-76.

Water-quality records: Water year 1957.

REVISED RECORDS.--WSP 501: Drainage area. WDR MA-RI-80-1: 1979.

GAGE.--Venturi meters at outlet tunnel at powerhouse 2.4 mi downstream. Prior to Mar. 1, 1910, nonrecording gage at site 0.2 mi upstream, and Mar. 1, 1910, to Sept. 30, 1935, water-stage recorder at diversion dam 2.8 mi 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, combined usable capacity, 3,394,000,000 ft³ (See table below for monthend contents).

COOPERATION.--Records provided by Springfield Board of Water Commissioners.

AVERAGE DISCHARGE.--82 years (water years 1911-92), 89.9 ft³/s, 26.66 in/yr, adjusted for storage.

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

	Meant	Per square mile†	Runoff, in inches†	Monthend Contents‡
October.....	57.9	1.26	1.46	2471.1
November.....	88.4	1.93	2.16	2576.9
December.....	90.4	1.97	2.28	2667.9
Calendar year 1991.....	75.2	1.64	22.29	
January.....	83.0	1.81	2.09	2754.1
February.....	37.9	.83	.89	2708.6
March.....	172	3.76	4.33	3061.1
April.....	159	3.47	3.88	3255.2
May.....	70.2	1.53	1.77	3188.8
June.....	141	3.08	3.44	3302.4
July.....	33.0	.72	.83	3221.0
August.....	69.9	1.53	1.76	3178.5
September.....	13.7	.30	.33	2941.0
Water year 1992.....	84.8	1.85	25.22	

† Adjusted for change in contents in Borden Brook and Cobble Mountain Reservoirs.

‡ Monthend contents, in millions of cubic feet, in Borden Brook and Cobble Mountain Reservoirs.

CONNECTICUT RIVER BASIN

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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 downstream from Great Brook, 3 mi east of Westfield, and 8.1 mi upstream from mouth.

DRAINAGE AREA.--497 mi².

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 above sea level. Prior to Nov. 3, 1933, on right bank at same datum.

REMARKS.--Records good. Flow regulated by Borden Brook Reservoir, Cobble Mountain Reservoir since 1931, Knightville Reservoir since 1941, and Littleville Lake since 1965. High flow slightly affected by retarding reservoirs since 1963. Diversion from Little River for municipal supply of Springfield.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	492	427	895	883	524	427	1840	1170	1620	560	668	456
2	419	432	835	815	461	506	1490	1190	1570	487	536	394
3	389	412	900	796	445	460	1440	3530	1010	356	455	420
4	381	400	1210	857	424	445	1230	2940	680	378	379	639
5	310	377	1040	1250	389	442	1090	2040	594	502	783	499
6	889	370	855	1320	359	526	761	1680	5100	589	559	397
7	2290	359	773	1340	354	609	648	1390	2630	555	401	355
8	1310	353	760	1140	370	1130	640	1300	3170	400	324	336
9	852	368	1020	808	349	1220	638	1370	4230	378	883	475
10	682	329	1560	777	347	1310	629	1090	2150	531	1620	536
11	657	499	1250	737	348	3490	1100	971	1160	390	950	540
12	1940	1370	1090	613	365	3000	1470	870	836	323	777	510
13	1830	949	1080	623	377	2790	1740	826	695	280	518	345
14	1110	816	1700	865	336	2210	2150	789	594	289	501	336
15	867	856	1960	1310	333	1460	990	743	526	468	487	277
16	1150	821	1720	1050	671	1200	968	729	450	1090	456	271
17	1090	755	1440	927	551	955	1370	793	408	723	661	261
18	1100	647	1310	744	491	757	2030	699	397	533	1810	248
19	972	594	1200	800	468	722	2280	691	358	458	1550	242
20	807	565	900	775	506	682	2250	599	367	686	977	218
21	771	553	878	607	579	657	2430	532	575	651	713	207
22	652	1470	847	496	649	621	2130	470	496	466	575	209
23	605	4060	811	653	601	643	1940	426	403	389	465	396
24	562	2820	805	1170	542	548	1630	395	476	558	504	454
25	542	2920	705	1210	496	484	2730	407	786	530	518	322
26	499	2980	662	982	705	511	2690	446	586	386	483	293
27	491	1410	616	714	715	4160	2360	400	536	341	441	344
28	481	1120	601	775	594	3400	1950	367	583	308	402	398
29	469	1010	638	735	542	2670	1430	351	462	293	482	319
30	428	935	1020	671	---	2370	1230	344	362	279	611	269
31	419	---	1000	591	---	2250	---	368	---	365	530	---
TOTAL	25456	30977	32081	27034	13891	42655	47274	29916	33810	14542	21019	10966
MEAN	821	1033	1035	872	479	1376	1576	965	1127	469	678	366
MAX	2290	4060	1960	1340	715	4160	2730	3530	5100	1090	1810	639
MIN	310	329	601	496	333	427	629	344	358	279	324	207

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1992, BY WATER YEAR (WY)

	MEAN	515	817	890	851	887	1678	2294	1230	743	404	397	403
MAX	4587	3344	2446	2635	2663	5064	4612	2630	2792	1738	3237	2938	
(WY)	1956	1928	1974	1949	1984	1936	1987	1989	1982	1972	1955	1938	
MIN	96.7	140	206	155	215	597	586	408	186	118	91.2	92.9	
(WY)	1965	1965	1915	1981	1920	1941	1985	1985	1964	1962	1957	1914	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1914 - 1992

ANNUAL TOTAL	318326		329621									
ANNUAL MEAN	872		901									
HIGHEST ANNUAL MEAN										925		
LOWEST ANNUAL MEAN										1594		1928
HIGHEST DAILY MEAN	4230	Mar 5				5100	Jun 6		37400		Aug 19	1955
LOWEST DAILY MEAN	67	Jul 24				207	Sep 21		40		Dec 28	1914
ANNUAL SEVEN-DAY MINIMUM	89	Jul 19				237	Sep 16		59		Dec 23	1914
INSTANTANEOUS PEAK FLOW						9440	Jun 6		70300		Aug 19	1955
INSTANTANEOUS PEAK STAGE						11.93	Jun 6		34.20		Aug 19	1955
INSTANTANEOUS LOW FLOW						128	Aug 4		9.0		Oct 2	1921
10 PERCENT EXCEEDS	1750					1830			2120			
50 PERCENT EXCEEDS	760					647			537			
90 PERCENT EXCEEDS	138					356			160			

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT
(National Stream Quality Accounting Network and radiochemical station)

LOCATION.--Lat 41°59'14", long 72°36'21", Hartford County, Hydrologic Unit 01080205, on right bank just upstream from Enfield Dam, 1 mi downstream from Thompsonville, 3 mi downstream from Massachusetts-Connecticut State line, and at mile 68.2.

DRAINAGE AREA.--9,660 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1928 to current year.

REVISED RECORDS.--WSP 741: 1932. WDR MA-RI-77-1: 1976. WDR MA-RI-83-1: Drainage area, 1982.

GAGE.--Water-stage recorders on river and on canal of The Dexter Corp. Datum of gage is 38.48 ft above sea level. Nov. 28, 1986, to Aug. 2, 1990, recorder at site 200 ft downstream at datum 0.28 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. U.S. Army Corps of Engineers satellite telemetry at this station used for backup stage this year. Discharge includes water diverted around station by canal of The Dexter Corp. Flow regulated by powerplants, by diversion from Chicopee River basin, and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, Quabbin Reservoir, and other reservoirs, combined usable capacity, about 107 billion cu ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13900	12400	20200	20100	e8600	7760	27900	32100	14300	8640	6290	5760
2	12000	10700	18100	21200	e8000	6650	29800	28800	26100	7330	7760	6640
3	14400	10700	19800	19300	e7500	7500	26900	40900	30900	6540	8010	7240
4	15000	10000	22000	18600	e7000	9300	22500	57200	22200	5410	7330	5360
5	15500	11600	e20500	18400	e6600	8570	21900	48400	17500	5630	10300	6970
6	12700	11200	19700	19800	e6300	9170	20800	40100	21000	6950	9550	6910
7	25900	11000	17500	20800	e5900	10800	22000	33600	27100	7050	8360	6180
8	44300	9740	17000	19900	e5500	12900	19800	28700	27100	8340	5970	6280
9	43300	11500	14100	19700	e5200	16400	19100	27300	25100	7370	7640	6860
10	33900	11200	16600	19300	e4900	17400	22300	23200	19200	10600	10100	7860
11	27900	11800	21900	18400	e4800	28600	24200	21900	16700	9470	10300	8250
12	28900	16300	23800	e15000	e4700	65200	26000	20700	13900	7630	12600	9040
13	29200	17000	21700	10500	e4600	66900	25900	20200	10000	7560	7210	5840
14	28200	17900	23600	15800	e4500	49000	28600	17800	8180	9750	7140	5890
15	27300	17500	30400	19500	e4400	33100	24100	15600	10500	8140	6200	6570
16	26300	15600	32300	22200	8340	26900	21200	17500	8390	12500	4840	e4960
17	26100	15900	33100	e18000	9060	22100	22300	17500	7410	17100	5860	5580
18	25400	12800	26900	e15000	8480	20900	25700	15800	7400	10700	8640	4900
19	23400	14200	e23500	e11000	11300	19800	26700	15900	7200	6940	12200	6360
20	24400	15300	e20500	e10500	10600	19200	25800	14600	7250	7870	9250	5320
21	21200	13700	e17000	e9800	10200	17000	32200	15000	7200	10900	7620	4620
22	20600	19200	19900	e9400	11700	15300	48800	12700	7180	11700	7250	4650
23	20200	33800	18300	e9000	9390	16800	57700	11800	8250	10900	5990	7680
24	16400	42500	16400	17100	8120	17300	60300	8740	7420	8150	5900	9110
25	14800	36600	17400	22300	8040	15200	66400	8070	11500	7790	6710	10100
26	15300	34400	e16000	20900	10500	15400	72700	8900	9730	6280	7410	12500
27	14600	31300	e15000	16100	10900	24900	68800	11300	8640	5210	6400	7500
28	11300	27600	12700	e13500	11500	44700	60100	10100	8090	5060	6220	7070
29	13600	23500	13800	e11000	9320	50600	47000	8360	6460	5030	6130	9990
30	14300	22000	14600	e10000	---	35200	39100	10200	7950	6480	5150	7800
31	13500	---	17300	e9200	---	28600	---	8590	---	5060	5530	---
TOTAL	673800	548940	621600	501300	225950	739150	1036600	651560	409850	254080	235860	209790
MEAN	21740	18300	20050	16170	7791	23840	34550	21020	13660	8196	7608	6993
MAX	44300	42500	33100	22300	11700	66900	72700	57200	30900	17100	12600	12500
MIN	11300	9740	12700	9000	4400	6650	19100	8070	6460	5030	4840	4620

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1992, BY WATER YEAR (WY)

	MEAN	10050	14650	15270	13620	13560	25150	44800	27410	13740	7642	6956	7169
MAX	31730	31690	38350	30180	39100	89210	76050	51520	42600	28810	22530	42700	
(WY)	1978	1956	1984	1978	1981	1936	1960	1972	1984	1973	1955	1938	
MIN	2690	5015	5548	4311	4386	6965	20070	9611	4900	3202	2911	2719	
(WY)	1964	1965	1948	1931	1940	1940	1946	1941	1964	1962	1965	1964	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	WATER YEARS 1928 - 1992
ANNUAL TOTAL	6357620	6108480	
ANNUAL MEAN	17420	16690	16640
HIGHEST ANNUAL MEAN			24830
LOWEST ANNUAL MEAN			7847
HIGHEST DAILY MEAN	64300	Apr 23	728000
LOWEST DAILY MEAN	3360	Aug 7	968
ANNUAL SEVEN-DAY MINIMUM	3700	Aug 3	1870
INSTANTANEOUS PEAK FLOW			282000
INSTANTANEOUS PEAK STAGE			14.44
INSTANTANEOUS LOW FLOW			4400
10 PERCENT EXCEEDS	32000	29400	37100
50 PERCENT EXCEEDS	15500	13500	10900
90 PERCENT EXCEEDS	4590	6260	4030

e Estimated

CONNECTICUT RIVER BASIN

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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.

REMARKS.--Interruptions in the record are due to malfunctions of the instrument. Instantaneous records are representative of the cross section while continuous records are based on point samples. The instantaneous record values will not necessarily fall within the corresponding daily range of the continuous records.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 246 microsiemens, Jan. 26, 1984; minimum, 46 microsiemens, Apr. 2, 1977.

WATER TEMPERATURES: Maximum, 36.5°C, Aug. 30, 1977; minimum, 0.0°C, on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 443 microsiemens, Feb. 15; minimum, 72 microsiemens, Nov. 26.

WATER TEMPERATURES: Maximum, 28.5°C, Aug. 27; minimum, 0.0°C, on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	ENTERO- COCCI ME, MF TOTAL (COL / 100 ML) (31649)
OCT											
21...	0930	21500	89	7.3	10.0	10.5	2.1	10.4	92	52	39
NOV											
07...	1340	9440	108	7.4	9.5	6.0	1.5	12.1	96	700	160
DEC											
09...	1345	13200	103	6.6	11.0	2.5	1.4	13.3	99	150	240
JAN											
07...	1130	19600	104	7.6	7.0	2.0	1.4	13.6	99	27	132
MAR											
24...	1030	18300	109	7.2	2.0	1.0	2.1	14.0	97	100	40
APR											
20...	1415	25600	97	7.4	12.0	5.0	1.9	13.8	107	86	21
MAY											
27...	0930	11900	119	7.6	17.5	15.5	1.3	8.9	89	260	K16
JUN											
19...	1330	7200	122	7.4	21.0	21.0	0.80	8.3	93	420	K11
JUL											
06...	1100	7200	132	7.5	25.0	19.5	0.90	7.8	85	230	K16
AUG											
21...	1000	7200	122	7.5	22.0	20.0	1.4	7.9	86	480	20
SEP											
24...	0910	9000	154	7.8	11.0	17.5	1.9	8.0	83	540	22

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT											
21...	--	--	29	9.4	1.4	5.5	1.2	0	25	20	3.7
NOV											
07...	150	520	34	11	1.6	7.8	1.5	0	33	27	9.7
DEC											
09...	--	--	31	9.8	1.5	7.1	0.80	0	25	20	9.0
JAN											
07...	270	88	31	10	1.4	6.5	1.0	0	28	23	9.7
MAR											
24...	--	--	33	11	1.4	7.1	1.1	0	29	24	8.5
APR											
20...	--	--	29	9.3	1.3	6.2	1.1	0	26	21	7.1
MAY											
27...	22	220	39	13	1.6	7.4	1.3	0	38	31	9.1
JUN											
19...	--	--	37	12	1.7	9.0	1.4	0	33	27	13
JUL											
06...	24	240	40	13	1.9	9.2	1.5	0	36	30	9.4
AUG											
21...	--	--	35	11	1.9	8.5	1.6	0	33	27	9.2
SEP											
24...	--	--	46	15	2.0	9.7	1.7	0	47	39	9.9

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 DIS-SOLVED TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS-SOLVED TOTAL (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS-SOLVED TOTAL (MG/L AS N) (00608)
OCT 21...	6.5	<0.10	6.9	55	67	--	<0.010	0.180	--	0.050	--
NOV 07...	11	0.20	5.6	73	80	--	<0.010	0.310	0.310	0.100	0.130
DEC 09...	9.9	<0.10	8.3	60	70	--	<0.010	0.330	--	0.080	--
JAN 07...	11	0.10	6.4	61	60	--	<0.010	0.340	0.340	0.080	0.090
MAR 24...	12	0.20	5.3	59	68	--	<0.010	0.430	--	0.110	--
APR 20...	10	<0.10	5.1	79	61	--	<0.010	0.320	--	0.070	--
MAY 27...	12	<0.10	3.8	72	81	--	<0.010	0.320	0.310	0.140	0.160
JUN 19...	16	0.10	4.7	78	73	0.350	0.010	0.360	--	0.210	--
JUL 06...	14	<0.10	4.5	77	75	0.390	0.030	0.420	0.420	0.140	0.140
AUG 21...	13	<0.10	5.5	93	85	--	<0.010	0.100	--	0.010	--
SEP 24...	15	0.10	3.1	108	112	0.270	0.010	0.280	--	0.180	--

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS-SOLVED TOTAL (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS-SOLVED TOTAL (MG/L AS P) (00671)	ALUM- INUM, DIS-SOLVED TOTAL (UG/L AS AL) (01106)	BARIUM, DIS-SOLVED TOTAL (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED TOTAL (UG/L AS CD) (01025)
OCT 21...	--	<0.20	--	0.030	0.020	<0.010	--	--	--	<1	1.0
NOV 07...	0.20	0.30	0.61	0.050	0.050	0.040	0.040	20	13	<1	<1.0
DEC 09...	0.12	0.20	0.53	0.020	0.020	0.010	--	--	--	<1	<1.0
JAN 07...	0.22	0.30	0.64	0.030	0.010	0.010	0.020	30	9	<1	<1.0
MAR 24...	0.09	0.20	0.63	0.020	<0.010	0.010	--	--	--	<1	<1.0
APR 20...	--	<0.20	--	<0.010	<0.010	0.010	--	--	--	<1	<1.0
MAY 27...	0.26	0.40	0.72	0.040	0.030	0.020	0.020	<10	13	<1	<1.0
JUN 19...	0.19	0.40	0.76	0.040	0.020	0.030	--	--	--	<1	<1.0
JUL 06...	0.06	0.20	0.62	0.020	0.030	0.010	0.010	<10	15	<1	<1.0
AUG 21...	--	<0.20	--	<0.010	<0.010	0.010	--	--	--	<1	<1.0
SEP 24...	0.32	0.50	0.78	0.040	0.020	0.030	--	--	--	<1	<1.0

DATE	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT 21...	<1	<1	--	8	2	380	120	2	<1	--	18
NOV 07...	<1	<1	<3	--	2	280	140	2	<1	<4	23
DEC 09...	<1	<1	--	--	3	160	110	<1	<1	--	29
JAN 07...	<1	<1	<3	7	4	280	80	10	2	<4	15
MAR 24...	1	<1	--	2	1	310	60	<1	<1	--	17
APR 20...	<1	<1	--	2	1	290	62	<1	<1	--	15
MAY 27...	<1	<1	<3	6	4	280	81	14	3	<4	23
JUN 19...	<1	2	--	2	2	250	95	<1	<1	--	28
JUL 06...	<1	<1	<3	6	4	220	78	10	2	<4	22
AUG 21...	<1	<1	--	3	2	290	130	1	<1	--	26
SEP 24...	<1	<1	--	3	2	420	35	1	<1	--	14

CONNECTICUT RIVER BASIN

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01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 21...	--	2	3	--	--	--	--	<10	7	5.5
NOV 07...	<10	2	<1	<1	<1.0	56	<6	20	<10	4.9
DEC 09...	--	<1	<1	--	--	--	--	20	4	3.7
JAN 07...	<10	2	<1	<1	<1.0	48	<6	20	20	3.5
MAR 24...	--	40	<1	--	--	--	--	<10	9	3.5
APR 20...	--	<1	<1	--	--	--	--	<10	11	3.0
MAY 27...	<10	<1	<1	<1	<1.0	64	<6	20	20	3.3
JUN 19...	--	2	<1	--	--	--	--	<10	9	3.4
JUL 06...	<10	2	<1	<1	<1.0	65	<6	<10	<10	3.3
AUG 21...	--	1	<1	--	--	--	--	40	22	6.1
SEP 24...	--	<1	1	--	--	--	--	<10	3	3.3

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
OCT 21...	0930	<0.6	<0.6	1.4	0.6	1.2	<0.6	<0.02	0.09
APR 20...	1415	<0.6	<0.6	1.1	<0.6	1.0	<0.6	0.04	0.07

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 07...	1340	9440	3	76	84	
JAN 07...	1130	19600	4	212	92	
MAY 27...	0930	11900	5	161	97	
JUL 06...	1100	7200	3	58	94	

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	110	106	106	117	113	115	90	86	88	105	99	102
2	110	106	108	119	115	118	92	88	90	107	99	102
3	112	108	110	123	119	121	106	92	96	111	101	103
4	114	110	112	127	121	125	116	106	114	111	105	107
5	117	114	116	121	117	119	110	96	101	115	107	110
6	123	115	119	119	117	119	100	96	97	111	99	106
7	123	103	114	121	119	120	112	100	108	105	94	99
8	103	97	99	123	119	121	110	106	107	102	92	95
9	100	97	98	123	121	122	108	106	106	114	94	101
10	100	96	98	121	119	120	108	102	107	118	98	107
11	98	94	97	121	119	120	102	98	100	114	104	107
12	100	94	98	123	119	121	98	96	98	106	104	105
13	94	88	90	121	115	117	100	96	99	114	106	108
14	90	88	89	115	111	113	104	98	100	116	110	113
15	93	89	91	115	115	115	98	90	94	122	102	112
16	95	91	94	115	113	115	92	86	89	116	96	104
17	97	95	95	115	113	114	89	86	87	102	86	98
18	97	95	96	113	113	113	91	87	89	100	84	98
19	96	96	96	115	113	113	93	91	92	106	88	99
20	96	94	95	115	113	114	95	91	94	106	104	105
21	99	96	97	117	115	116	105	93	98	106	104	104
22	101	99	100	121	117	119	109	99	106	110	104	107
23	103	101	102	119	89	102	99	99	99	122	110	113
24	107	101	105	89	85	85	103	99	101	148	122	141
25	113	107	110	87	77	83	105	97	99	124	108	113
26	117	113	115	77	72	74	101	99	99	114	88	103
27	117	111	113	80	74	78	101	97	100	122	100	112
28	119	115	117	84	80	83	109	101	105	122	114	116
29	117	113	115	86	84	85	109	103	106	122	114	116
30	113	111	112	86	86	86	123	109	114	120	110	114
31	115	111	113	---	---	---	127	103	113	118	114	116
MONTH	123	88	104	127	72	109	127	86	100	148	84	108

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	128	118	121	-	-	-	-	-	-	-	-	-
2	134	122	126	-	-	-	-	-	-	-	-	-
3	128	84	120	-	-	-	-	-	-	-	-	-
4	124	118	120	-	-	-	-	-	-	-	-	-
5	122	118	119	-	-	-	-	-	-	-	-	-
6	124	118	120	-	-	-	-	-	-	-	-	-
7	126	118	121	-	-	-	-	-	-	-	-	-
8	126	122	124	-	-	-	-	-	-	-	-	-
9	134	126	130	-	-	-	-	-	-	-	-	-
10	134	130	132	-	-	-	-	-	-	-	-	-
11	136	106	123	-	-	-	-	-	-	-	-	-
12	110	106	108	-	-	-	-	-	-	-	-	-
13	345	108	144	-	-	-	-	-	-	102	96	100
14	343	329	336	-	-	-	-	-	-	106	102	103
15	443	335	397	-	-	-	-	-	-	112	106	108
16	431	125	373	-	-	-	-	-	-	112	106	108
17	131	115	124	-	-	-	-	-	-	110	106	108
18	134	119	122	-	-	-	-	-	-	112	108	109
19	150	116	126	-	-	-	-	-	-	114	106	108
20	126	114	118	-	-	-	-	-	-	118	106	113
21	134	114	122	-	-	-	-	-	-	118	114	116
22	128	109	115	-	-	-	-	-	-	120	116	118
23	-	-	-	-	-	-	-	-	-	126	120	123
24	-	-	-	-	-	-	-	-	-	130	126	127
25	-	-	-	-	-	-	-	-	-	132	124	128
26	-	-	-	-	-	-	-	-	-	132	122	126
27	-	-	-	-	-	-	-	-	-	134	126	129
28	-	-	-	-	-	-	-	-	-	130	124	127
29	-	-	-	-	-	-	-	-	-	128	122	125
30	---	---	---	-	-	-	-	-	-	132	122	126
31	---	---	---	-	-	-	---	---	---	126	118	124
MONTH	443	84	156	-	-	-	-	-	-	134	96	117

CONNECTICUT RIVER BASIN

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01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	128	110	121	-	-	-	117	105	112	118	117	118
2	118	104	113	-	-	-	114	106	109	122	118	120
3	106	100	103	-	-	-	109	105	107	122	116	120
4	100	98	100	-	-	-	111	103	107	124	118	123
5	110	100	103	-	-	-	114	104	109	124	122	123
6	110	86	97	-	-	-	108	103	105	128	122	125
7	92	80	88	-	-	-	106	101	105	128	126	126
8	-	-	-	-	-	-	110	104	106	130	126	129
9	-	-	-	-	-	-	111	91	107	132	128	131
10	-	-	-	-	-	-	109	94	102	138	128	134
11	-	-	-	-	-	-	96	88	93	132	130	131
12	-	-	-	-	-	-	99	86	92	130	125	127
13	-	-	-	-	-	-	106	97	102	127	123	126
14	-	-	-	-	-	-	112	104	109	129	123	127
15	-	-	-	-	-	-	114	112	114	129	127	129
16	-	-	-	-	-	-	114	102	113	133	129	132
17	-	-	-	-	-	-	120	114	117	141	131	136
18	-	-	-	-	-	-	116	84	111	-	-	-
19	-	-	-	-	-	-	104	96	99	144	138	140
20	-	-	-	-	-	-	99	96	97	144	140	143
21	-	-	-	-	-	-	101	97	99	142	138	140
22	-	-	-	92	87	90	105	99	103	146	114	143
23	-	-	-	93	85	90	109	105	107	162	114	149
24	-	-	-	88	82	86	111	105	109	156	140	146
25	-	-	-	95	84	89	115	111	113	140	134	137
26	-	-	-	95	91	93	117	113	115	140	130	134
27	-	-	-	102	94	100	115	111	113	132	124	128
28	-	-	-	107	100	104	115	111	114	128	124	126
29	-	-	-	112	101	108	117	113	115	136	128	132
30	-	-	-	112	106	109	121	115	118	132	128	129
31	---	---	---	108	89	104	117	115	117	---	---	---
MONTH	128	80	104	112	82	97	121	84	108	162	114	131
YEAR	443	72	114									

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	-	-	-	11.0	10.5	11.0	6.0	5.5	6.0	.5	.0	.5
2	-	-	-	11.0	11.0	11.0	6.5	6.0	6.5	.5	.0	.5
3	17.0	17.5	15.5	11.5	11.0	11.0	6.5	4.5	5.5	1.5	.5	1.0
4	16.5	15.5	16.0	11.0	10.0	10.5	4.5	3.5	4.0	2.0	1.5	1.5
5	16.5	16.0	16.5	10.0	9.0	9.5	3.5	2.5	3.0	2.5	2.0	2.0
6	16.5	16.0	16.5	9.0	9.0	9.0	3.0	2.0	2.5	2.5	2.0	2.5
7	16.0	14.5	15.5	9.0	8.5	8.5	2.5	2.0	2.0	2.5	2.0	2.0
8	14.5	14.0	14.0	8.5	7.5	8.5	3.0	2.0	2.5	2.0	1.5	1.5
9	14.0	13.5	13.5	8.0	7.5	7.5	4.0	3.0	3.5	1.5	1.0	1.0
10	13.5	13.5	13.5	7.5	6.5	7.0	4.5	4.0	4.5	1.5	1.0	1.0
11	13.5	13.0	13.0	7.0	6.5	6.5	4.0	3.5	3.5	1.5	.5	1.0
12	13.0	12.0	12.5	6.5	6.0	6.5	3.5	3.0	3.5	.5	.0	.5
13	12.5	12.0	12.0	6.0	6.0	6.0	4.0	3.5	3.5	1.5	.5	1.0
14	12.0	11.5	11.5	7.0	6.0	6.5	5.0	4.0	4.5	2.5	1.5	2.0
15	11.5	11.5	11.5	6.5	6.0	6.0	5.0	3.5	4.5	2.5	.5	1.5
16	12.0	11.5	11.5	6.5	6.0	6.0	3.5	2.0	3.0	.5	.0	.5
17	11.5	11.0	11.5	6.0	5.5	5.5	2.0	1.5	1.5	.5	.0	.0
18	12.0	11.5	12.0	5.5	5.0	5.5	1.5	.5	1.0	.5	.0	.5
19	12.5	11.5	12.0	6.0	5.5	5.5	.5	.5	.5	.5	.0	.5
20	12.0	11.0	11.5	7.0	6.0	6.5	.5	.5	.5	.5	.0	.5
21	11.0	10.5	11.0	7.5	7.0	7.0	1.0	.5	.5	.5	.5	.5
22	11.0	10.5	10.5	8.0	7.5	8.0	1.0	.5	.5	.5	.5	.5
23	11.5	10.5	11.0	8.5	8.0	8.5	1.5	.5	1.0	1.0	.5	.5
24	11.5	11.0	11.0	8.0	7.5	8.0	1.5	1.0	1.5	1.0	.5	.5
25	12.0	11.5	11.5	7.5	6.5	7.0	1.0	.5	.5	.5	.5	.5
26	12.5	12.0	12.5	6.5	5.5	6.0	.5	.0	.5	.5	.5	.5
27	13.5	12.5	13.0	5.5	5.0	5.0	1.0	.5	1.0	.5	.5	.5
28	13.5	12.0	13.0	5.0	4.5	5.0	1.0	.5	1.0	1.0	.5	1.0
29	12.0	11.0	11.5	5.5	5.0	5.0	1.0	1.0	1.0	1.0	.5	1.0
30	11.0	10.0	10.5	5.5	5.0	5.5	1.5	1.0	1.5	1.0	.5	1.0
31	10.5	10.0	10.0	---	---	---	1.5	.5	1.0	1.0	1.0	1.0
MONTH	17.0	10.0	12.5	11.5	4.5	7.5	6.5	.0	2.5	2.5	.0	1.0

CONNECTICUT RIVER BASIN

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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 downstream from highway bridge, 0.3 mi downstream from Clam River, 1 mi south of New Boston, and at mile 65.0.

DRAINAGE AREA.--91.7 mi²

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 781: 1928(M). WSP 1231: 1914. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 758.21 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Otis Reservoir 7.0 mi upstream on Fall River (see table below for monthend contents). High flow slightly affected by retarding reservoirs since 1966.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	202	168	e195	e80	98	233	187	251	47	113	46
2	62	202	160	e180	e74	82	222	235	207	39	95	38
3	56	201	168	e180	e68	63	193	707	161	33	78	58
4	52	198	231	e185	e64	61	165	423	140	41	100	108
5	49	195	176	e260	e60	71	146	330	144	46	198	93
6	326	193	162	e260	e56	87	133	259	1070	72	133	83
7	360	192	147	e220	e52	153	126	216	654	59	81	75
8	228	191	149	e190	e50	256	125	197	441	45	60	69
9	130	188	228	e160	e49	223	120	189	321	54	390	57
10	105	187	268	e140	e52	197	131	167	238	68	506	55
11	125	287	235	e130	e49	752	134	160	152	35	248	97
12	285	327	210	e120	e46	451	232	153	97	33	154	79
13	218	296	252	e140	e47	312	196	141	83	33	122	66
14	166	276	371	e210	e46	240	168	130	72	33	117	57
15	140	271	367	e190	e40	179	145	119	62	70	94	51
16	217	269	284	e150	e90	137	134	136	47	277	92	46
17	221	294	e220	e125	e100	120	227	135	45	188	194	42
18	224	272	e190	e115	e110	108	328	124	45	122	476	37
19	253	255	e160	e105	e90	100	413	113	49	102	416	29
20	203	247	e170	e100	e84	96	419	101	70	98	269	27
21	123	188	e180	e100	e78	88	408	84	69	79	160	24
22	114	418	e185	e100	72	85	379	70	48	60	124	26
23	107	807	e160	e105	71	84	343	55	39	54	95	108
24	101	539	e145	e250	71	84	314	52	58	67	64	70
25	133	386	e135	e220	69	80	462	58	169	53	54	55
26	252	299	e130	e150	98	98	416	53	123	44	48	112
27	249	255	e125	e120	91	977	347	50	129	42	42	68
28	246	232	e120	e110	83	479	288	48	86	36	39	65
29	241	201	e130	e100	71	329	250	42	67	33	118	57
30	243	173	e230	e94	---	263	218	38	55	33	73	48
31	228	---	e220	e88	---	254	---	78	---	59	56	---
TOTAL	5527	8241	6076	4792	2011	6607	7415	4850	5192	2055	4809	1846
MEAN	178	275	196	155	69.3	213	247	156	173	66.3	155	61.5
MAX	360	807	371	260	110	977	462	707	1070	277	506	112
MIN	49	173	120	88	40	61	120	38	39	33	39	24
(†)	586.0	389.0	376.7	352.0	382.8	520.8	657.3	703.3	703.3	699.5	703.3	695.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1992, BY WATER YEAR (WY)

	MEAN	138	201	192	172	164	301	405	218	132	78.9	90.9	92.6
MAX	774	817	556	430	608	947	828	627	479	290	1002	644	
(WY)	1956	1928	1974	1978	1981	1936	1958	1984	1982	1945	1955	1938	
MIN	19.9	27.0	31.1	20.1	34.7	88.5	96.1	61.6	23.9	9.26	5.68	11.6	
(WY)	1915	1915	1918	1981	1980	1965	1985	1941	1964	1962	1957	1983	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1913 - 1992

ANNUAL TOTAL	54850.3	59421	
ANNUAL MEAN	150	162	182
HIGHEST ANNUAL MEAN			341
LOWEST ANNUAL MEAN			66.1
HIGHEST DAILY MEAN	807	Nov 23	1070
LOWEST DAILY MEAN	8.6	Aug 18	24
ANNUAL SEVEN-DAY MINIMUM	9.9	Aug 12	33
INSTANTANEOUS PEAK FLOW			1550
INSTANTANEOUS PEAK STAGE			5.95
INSTANTANEOUS LOW FLOW			23
10 PERCENT EXCEEDS	292		303
50 PERCENT EXCEEDS	130		125
90 PERCENT EXCEEDS	14		48
			28

e Estimated

† Monthend contents, in millions of cubic feet, in Otis Reservoir; records furnished by Massachusetts Department of Environmental Management, Division of Forests and Parks.

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 downstream from Hubbard Avenue Bridge at Coltsville, 1.2 mi upstream from Unkamet Brook, and 2 mi northeast of Pittsfield.

DRAINAGE AREA.--57.6 mi².

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). WDR MA-RI-82-1: 1976-77, 1979-80. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 993.49 ft above sea level.

REMARKS.--Records good. Flow regulated by powerplants upstream and, since 1949, by Cleveland Brook Reservoir, usable capacity, 214,000,000 ft³, 5.4 mi upstream; regulation greater prior to 1955. Diversion upstream from Cleveland Brook Reservoir for municipal supply of Pittsfield since May 1950. Maximum discharge since at least 1755, that of Sept. 21, 1938.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	58	103	77	45	39	122	114	202	31	43	25
2	34	56	94	67	40	42	103	151	131	32	36	23
3	32	54	104	71	38	40	94	632	84	24	29	31
4	31	45	137	82	37	43	78	359	66	32	60	57
5	28	38	94	116	38	54	74	235	56	39	59	39
6	133	33	96	111	36	63	70	160	464	49	37	30
7	199	31	86	91	36	95	81	118	365	46	30	26
8	120	30	90	75	36	154	87	102	202	34	26	27
9	84	29	173	64	35	145	92	96	165	54	58	26
10	69	27	213	63	33	127	89	90	121	49	72	29
11	84	62	132	50	35	598	100	82	83	33	47	77
12	200	117	105	41	33	367	131	75	65	26	37	49
13	154	79	187	50	33	224	144	71	58	27	31	33
14	104	73	429	106	34	153	101	67	49	34	28	27
15	85	101	402	164	33	122	85	61	45	68	27	25
16	114	103	201	120	47	105	80	72	38	85	26	25
17	115	77	129	91	51	94	123	73	32	50	36	23
18	118	63	132	60	50	91	172	65	30	37	88	22
19	90	56	129	40	53	89	260	59	29	42	85	23
20	71	52	130	41	60	70	288	53	27	102	53	21
21	64	66	139	43	52	66	301	48	27	56	38	21
22	62	307	131	44	46	62	248	44	26	35	30	40
23	65	860	103	62	47	63	250	39	27	31	27	185
24	56	384	98	185	50	61	225	38	30	53	25	82
25	54	240	84	119	47	61	408	47	40	50	25	44
26	52	176	87	100	56	55	331	43	37	42	24	37
27	50	141	87	75	53	833	249	41	32	35	27	36
28	56	112	84	64	47	349	168	41	31	28	30	37
29	53	108	98	50	43	131	140	38	29	26	60	35
30	58	106	162	49	---	103	124	40	27	27	47	32
31	58	---	109	49	---	104	---	76	---	29	31	---
TOTAL	2545	3684	4348	2420	1244	4603	4818	3230	2618	1306	1272	1187
MEAN	82.1	123	140	78.1	42.9	148	161	104	87.3	42.1	41.0	39.6
MAX	200	860	429	185	60	833	408	632	464	102	88	185
MIN	28	27	84	40	33	39	70	38	26	24	24	21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1992, BY WATER YEAR (WY)

	MEAN	69.2	95.6	99.7	90.8	96.6	174	258	142	83.0	53.6	48.4	55.1
MAX	318	279	321	252	274	417	573	366	326	220	188	326	326
(WY)	1956	1956	1974	1949	1984	1979	1940	1984	1972	1945	1990	1938	1938
MIN	19.9	19.1	31.2	15.5	16.0	50.4	66.3	37.7	25.4	12.9	14.9	14.3	14.3
(WY)	1965	1965	1981	1981	1980	1965	1985	1985	1964	1962	1980	1983	1983

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1936 - 1992

ANNUAL TOTAL	34130	33275	
ANNUAL MEAN	93.5	90.9	106
HIGHEST ANNUAL MEAN			155
LOWEST ANNUAL MEAN			42.6
HIGHEST DAILY MEAN	860	Nov 23	4460
LOWEST DAILY MEAN	16	Sep 13	4.4
ANNUAL SEVEN-DAY MINIMUM	18	Jul 19	9.5
INSTANTANEOUS PEAK FLOW			6400
INSTANTANEOUS PEAK STAGE			10.80
INSTANTANEOUS LOW FLOW			12
10 PERCENT EXCEEDS	188	172	229
50 PERCENT EXCEEDS	77	60	60
90 PERCENT EXCEEDS	20	29	24

HOUSATONIC RIVER BASIN

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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 upstream from Williams River, and 2 mi north of Great Barrington.

DRAINAGE AREA.--282 mi².

PERIOD OF RECORD.--Discharge: May 1913 to current year.

Water-quality records: Water years 1957-59, 1963-64, 1971, 1979-80.

REVISED RECORDS.--WSP 415: 1913-14. WSP 781: 1928(M). WSP 1051: 1928, 1933. WSP 1301: 1914-15(M), 1917-27(M), 1929-31(M). WDR MA-RI-83-1: 1980(P), 1982(P). WDR MA-RI-84-1: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 683.04 ft above sea level. Prior to Oct. 1, 1931, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, and period of doubtful gage-height record, June 1 to Sept. 30, which are fair. Regulation at low flow by powerplants upstream. High flow slightly affected by retarding reservoir since 1973.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346	376	632	e490	344	240	590	630	490	124	e247	e133
2	293	361	592	e450	e300	244	577	629	594	147	e224	e109
3	257	349	619	422	e280	230	535	1350	510	146	e195	e160
4	236	333	770	427	e300	232	484	1680	406	150	e176	e232
5	225	303	713	503	e280	266	454	1380	339	189	e352	e199
6	448	252	630	538	e250	306	424	1010	552	194	e288	e172
7	1010	238	584	489	e260	391	410	794	968	206	e217	e142
8	829	231	563	431	251	688	420	672	842	202	e185	e136
9	600	225	701	390	e240	646	421	613	625	162	e245	e136
10	490	227	870	383	e220	584	416	572	515	204	e474	e139
11	472	326	785	360	e220	1080	417	525	425	201	e399	e220
12	877	569	656	e300	e210	1480	551	479	352	170	e292	e243
13	967	542	630	310	e150	1150	586	446	299	143	e228	e189
14	741	479	908	376	156	796	524	422	268	138	e199	e166
15	603	475	1190	584	160	643	473	387	250	e267	e166	e148
16	650	508	1080	e490	216	537	433	383	220	e375	e195	e125
17	715	477	755	e380	288	498	563	399	204	e323	e217	e122
18	696	419	669	e350	260	472	850	378	186	e247	e327	e117
19	641	387	e570	e310	271	459	948	350	177	e206	e464	e111
20	589	373	561	e280	314	437	1010	318	193	e409	e375	e111
21	542	369	583	e300	303	410	1020	289	175	e341	e283	e109
22	495	786	588	e300	275	382	1010	267	157	e255	e213	e106
23	482	2110	560	328	256	377	969	246	146	e209	e182	e318
24	466	2290	528	846	263	360	906	235	152	e264	e188	e380
25	448	1700	466	e730	259	351	1110	253	189	e228	e142	e275
26	434	1160	e450	e510	300	353	1300	251	197	e206	e122	e213
27	418	878	448	e410	322	1040	1170	235	192	e192	e130	e176
28	427	766	430	400	297	1550	969	234	195	e160	e122	e172
29	406	703	439	e360	280	1050	782	222	175	e125	e160	e172
30	399	662	603	344	---	649	685	209	143	e148	e199	e145
31	389	---	588	349	---	585	---	242	---	e163	e157	---
TOTAL	16591	18874	20161	13140	7525	18486	21007	16100	10136	6494	7363	5176
MEAN	535	629	650	424	259	596	700	519	338	209	238	173
MAX	1010	2290	1190	846	344	1550	1300	1680	968	409	474	380
MIN	225	225	430	280	150	230	410	209	143	124	122	106
CFSM	1.90	2.23	2.31	1.50	.92	2.11	2.48	1.84	1.20	.74	.84	.61
IN.	2.19	2.49	2.66	1.73	.99	2.44	2.77	2.12	1.34	.86	.97	.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1992, BY WATER YEAR (WY)

	MEAN	302	461	516	493	496	909	1229	692	417	275	244	261
MAX	1170	2040	1588	1744	1319	2528	2646	1502	1312	1140	937	1601	
(WY)	1978	1928	1974	1949	1984	1936	1920	1984	1972	1945	1928	1938	
MIN	80.9	85.5	112	83.5	128	291	338	241	134	93.4	86.8	75.1	
(WY)	1915	1965	1915	1931	1931	1941	1985	1985	1921	1962	1913	1913	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR				FOR 1992 WATER YEAR				WATER YEARS 1913 - 1992			
ANNUAL TOTAL	172655				161053							
ANNUAL MEAN	473				440				525			
HIGHEST ANNUAL MEAN									962			
LOWEST ANNUAL MEAN									211			
HIGHEST DAILY MEAN	2290				Nov 24				11100			
LOWEST DAILY MEAN	81				Jul 20				1.0			
ANNUAL SEVEN-DAY MINIMUM	88				Jul 20				40			
INSTANTANEOUS PEAK FLOW									12200			
INSTANTANEOUS PEAK STAGE					5.58				12.08			
INSTANTANEOUS LOW FLOW					51							
ANNUAL RUNOFF (CFSM)	1.68				1.56				1.86			
ANNUAL RUNOFF (INCHES)	22.78				21.25				25.28			
10 PERCENT EXCEEDS	859				833				1150			
50 PERCENT EXCEEDS	448				365				333			
90 PERCENT EXCEEDS	105				160				127			

e Estimated

HUDSON RIVER BASIN

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 downstream from Dry Brook, and 0.4 mi upstream from Pecks Brook.

DRAINAGE AREA.--46.7 mi².

PERIOD OF RECORD.--Discharge: October 1931 to current year.
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: 1971-72. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 828.01 ft above sea level. Prior to Oct. 1, 1964, datum was 9.00 ft higher and Oct. 1, 1964, to May 29, 1974, 8.00 ft higher, at site 500 ft upstream.

REMARKS.--Records good. Diversion upstream for municipal supply of Adams. Some diurnal fluctuation by mill upstream prior to 1961. Flow regulated by Cheshire Reservoir 5.1 mi upstream. Maximum gage heights shown in table below are for site and datum then in use.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	55	91	75	66	38	80	110	182	27	59	23
2	49	32	87	75	62	40	76	156	126	22	46	22
3	44	29	91	77	36	38	73	375	71	20	37	33
4	43	28	114	89	36	48	66	219	58	30	80	46
5	38	26	78	113	34	63	63	168	49	32	65	33
6	187	26	77	82	33	78	80	120	240	45	43	29
7	172	27	73	65	32	117	81	107	145	33	35	29
8	95	28	77	54	33	142	82	100	104	27	32	26
9	76	29	143	50	32	124	88	99	91	61	47	24
10	65	44	136	55	31	127	94	93	80	43	57	34
11	79	93	108	47	31	428	103	86	61	37	43	92
12	236	101	98	38	30	228	132	82	41	33	36	46
13	129	72	157	48	30	132	111	82	41	34	31	36
14	95	73	312	118	32	106	70	79	40	39	36	32
15	96	82	317	122	31	94	61	68	39	63	36	27
16	112	86	197	75	73	82	58	65	36	66	32	27
17	105	56	153	65	77	80	132	61	36	43	50	23
18	96	45	147	69	69	77	165	58	33	42	74	22
19	61	41	98	62	73	76	185	55	33	40	61	25
20	58	41	94	60	80	71	203	51	32	52	48	23
21	53	42	93	59	72	71	218	49	29	42	43	20
22	53	202	91	59	59	68	197	45	26	37	37	23
23	49	453	86	99	56	70	183	42	26	40	30	68
24	46	251	83	186	49	65	168	43	28	49	29	48
25	46	193	71	96	41	61	264	55	40	41	26	42
26	55	157	72	80	53	68	224	47	31	32	29	28
27	74	137	72	71	44	397	182	47	28	32	22	29
28	70	134	65	70	41	157	132	60	27	34	21	44
29	66	120	63	68	44	81	123	42	27	38	49	52
30	63	79	125	68	---	69	116	42	25	51	36	28
31	63	---	84	68	---	74	---	107	---	52	27	---
TOTAL	2526	2782	3553	2363	1380	3370	3810	2813	1825	1237	1297	1034
MEAN	81.5	92.7	115	76.2	47.6	109	127	90.7	60.8	39.9	41.8	34.5
MAX	236	453	317	186	80	428	264	375	240	66	80	92
MIN	38	26	63	38	30	38	58	42	25	20	21	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1992, BY WATER YEAR (WY)

	MEAN	52.5	78.1	85.0	83.9	84.8	151	217	119	70.3	49.6	41.7	46.4
MAX	217	213	190	211	263	474	523	268	203	212	126	286	
(WY)	1956	1956	1974	1979	1981	1936	1940	1940	1972	1938	1975	1938	
MIN	14.1	13.3	35.4	18.7	23.5	50.6	85.8	47.3	22.6	19.8	16.0	10.6	
(WY)	1965	1965	1965	1981	1940	1965	1946	1985	1965	1991	1956	1980	

SUMMARY STATISTICS FOR 1991 CALENDAR YEAR FOR 1992 WATER YEAR WATER YEARS 1932 - 1992

	ANNUAL TOTAL	29699	27990	
ANNUAL MEAN	81.4	76.5	89.9	
HIGHEST ANNUAL MEAN			130	1938
LOWEST ANNUAL MEAN			41.2	1965
HIGHEST DAILY MEAN	453	Nov 23	2410	Mar 18 1936
LOWEST DAILY MEAN	14	Jul 25	8.0	Aug 31 1968
ANNUAL SEVEN-DAY MINIMUM	16	Jul 20	8.8	Sep 7 1980
INSTANTANEOUS PEAK FLOW			5080	Sep 21 1938
INSTANTANEOUS PEAK STAGE			7.41	Sep 21 1938
INSTANTANEOUS LOW FLOW			18	
10 PERCENT EXCEEDS	156		144	190
50 PERCENT EXCEEDS	74		61	56
90 PERCENT EXCEEDS	19		29	22

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e Estimated

HUDSON RIVER BASIN

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 upstream from bridge on State Highway 2 at Williamstown and 0.8 mi upstream from mouth.

DRAINAGE AREA---42.6 mi².

PERIOD OF RECORD---Discharge: September 1949 to current year.

Water-quality records: Water years 1967-69.

REVISED RECORDS---WDR MA-RI-84-1: 1977-78(P), 1979, 1980-83(P).

GAGE---Water-stage recorder. Elevation of gage is 615 ft above sea level, from topographic map.

REMARKS---Records good except those for estimated daily discharges, which are poor. Slight diurnal fluctuation at times caused by mill upstream.

EXTREMES OUTSIDE PERIOD OF RECORD---Flood of Dec. 31, 1948, reached a stage of about 7.5 ft, from floodmarks.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	45	97	66	50	e35	74	95	127	16	33	9.2
2	42	43	88	73	e48	e39	74	136	78	14	24	8.2
3	38	41	97	70	e42	e37	71	342	60	14	21	14
4	36	39	126	74	e38	e38	66	186	51	22	37	19
5	33	38	91	88	e34	e42	62	151	46	20	34	12
6	281	37	87	83	e31	44	60	130	114	31	27	10
7	174	36	81	75	e30	57	61	117	82	20	23	9.6
8	126	35	93	67	e29	72	64	108	67	16	21	9.3
9	97	33	190	64	e28	72	62	102	59	36	22	11
10	81	33	147	67	e28	82	65	92	52	23	23	11
11	99	78	125	58	e28	362	76	83	47	20	20	25
12	275	64	118	51	e27	172	103	75	43	17	17	13
13	155	58	139	62	e27	120	81	69	40	28	16	11
14	126	62	249	113	e27	102	74	64	36	26	16	9.9
15	111	65	262	80	e27	89	69	60	34	56	15	9.1
16	173	74	182	60	e65	76	68	64	31	47	15	8.8
17	132	70	150	e55	47	74	120	58	29	32	16	8.5
18	124	64	137	e50	40	68	122	55	27	31	25	7.8
19	107	61	107	e47	49	62	130	50	27	28	20	9.3
20	93	59	110	e45	46	58	153	46	28	27	17	7.9
21	84	61	107	e47	40	54	154	44	26	22	14	7.3
22	76	282	98	e48	37	49	154	41	25	20	13	18
23	69	546	91	e58	49	48	147	39	24	21	12	44
24	64	295	85	e160	43	47	136	39	25	22	11	18
25	60	210	68	72	40	44	159	42	27	18	11	14
26	57	158	72	75	56	49	151	38	23	16	10	13
27	54	131	67	71	43	173	132	37	21	16	9.9	14
28	56	118	62	75	41	94	120	36	22	14	9.0	14
29	50	111	79	64	57	75	111	33	19	21	23	12
30	47	105	96	58	---	69	102	31	17	28	12	11
31	46	---	68	55	---	77	---	71	---	32	11	---
TOTAL	3010	3052	3569	2131	1147	2480	3021	2534	1307	754	577.9	388.9
MEAN	97.1	102	115	68.7	39.6	80.0	101	81.7	43.6	24.3	18.6	13.0
MAX	281	546	262	160	65	362	159	342	127	56	37	44
MIN	33	33	62	45	27	35	60	31	17	14	9.0	7.3
CFSM	2.28	2.39	2.70	1.61	.93	1.88	2.36	1.92	1.02	.57	.44	.30
IN.	2.63	2.67	3.12	1.86	1.00	2.17	2.64	2.21	1.14	.66	.50	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1992, BY WATER YEAR (WY)

	MEAN	46.5	77.6	92.4	76.7	83.7	144	204	112	63.2	31.2	27.5	29.2
MAX	222	171	259	219	239	376	390	251	256	112	147	158	
(WY)	1978	1956	1974	1979	1984	1979	1969	1984	1972	1975	1975	1960	
MIN	5.33	6.71	24.8	11.0	14.6	33.6	72.2	32.4	18.2	9.13	5.61	4.09	
(WY)	1965	1965	1965	1981	1980	1965	1985	1987	1965	1955	1964	1964	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

WATER YEARS 1949 - 1992

ANNUAL TOTAL	27409.1		23971.8										
ANNUAL MEAN	75.1		65.5										
HIGHEST ANNUAL MEAN										82.3			
LOWEST ANNUAL MEAN										126			1975
HIGHEST DAILY MEAN	546	Nov 23	546	Nov 23						31.7			1965
LOWEST DAILY MEAN	5.7	Aug 8	7.3	Sep 21						3.2			Sep 20 1964
ANNUAL SEVEN-DAY MINIMUM	6.7	Jul 28	8.4	Sep 15						3.4			Sep 19 1964
INSTANTANEOUS PEAK FLOW			945	Nov 23						4060			Dec 21 1973
INSTANTANEOUS PEAK STAGE			3.77	Nov 23						6.35			Mar 13 1977
INSTANTANEOUS LOW FLOW			7.0	Sep 21						3.1			Sep 20 1964
ANNUAL RUNOFF (CFSM)	1.76		1.54							1.93			
ANNUAL RUNOFF (INCHES)	23.93		20.93							26.24			
10 PERCENT EXCEEDS	146		130							183			
50 PERCENT EXCEEDS	67		50							48			
90 PERCENT EXCEEDS	12		14							11			

e Estimated

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Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
BLACKWATER RIVER BASIN						
01073860	Smallpox Brook at Salisbury, MA	Lat 42°51'00", long 70°51'59", Essex County, at culvert on US Highway 1, 0.6 mi north of Salisbury.	1.82	1991-92	7-28-92 8-24-92 9-17-92	0.43 .47 .39
MERRIMACK RIVER BASIN						
01094340	Whitman River near Westminister, MA	Lat 42°33'35", long 71°52'02", Worcester County, at State Highway 2A, 2.5 mi north-east of Westminister.	21.6	1973-74, 1991-92	8-24-92 9-17-92	10.9 .48
01095220	Stillwater River near Sterling, MA	Lat 42°24'39", long 71°47'30", Worcester County, at bridge on Muddy Pond Road, 2.5 mi southwest of Sterling.	31.6	1971-74, 1991-92	7-28-92 8-24-92 9-17-92	7.32 18.4 7.28
01095380	Trout Brook near Holden, MA	Lat 42°23'00", long 71°50'12", Worcester County, at culvert on Manning Street, 2.2 mi north of Holden.	6.79	1971-73, 1991-92	7-28-92 8-24-92 9-17-92	1.51 5.22 .84
01096504	Reedy Meadow Brook at East Pepperell, MA	Lat 42°40'03", long 71°33'55", Middlesex County, at culvert on Lowell Road, at East Pepperell.	1.92	1971-73, 1991-92	7-28-92 8-24-92 9-17-92	.42 .84 .53
01096505	Unkety Brook near Pepperell, MA	Lat 42°41'23", long 71°32'54", Middlesex County, at culvert on River Street, 2.5 mi northeast of Pepperell.	6.85	1971-74, 1991-92	7-28-92 8-24-92 9-17-92	14.5 3.06 1.46
01096805	North Brook near Berlin, MA	Lat 42°21'15", long 71°37'40", Worcester County, at culvert on Whitney Street, 2.0 mi south of Berlin.	15.5	1975-78, 1990-92	7-28-92 8-24-92 9-17-92	7.47 11.2 3.86
01096935	Elizabeth Brook at Wheeler Street at Stow, MA	Lat 42°25'47", long 71°30'56", Middlesex County, at culvert on Wheeler Street, 1.0 mi southwest of Stow.	--	1968, 1990-92	7-28-92 8-24-92 9-17-92	5.30 9.99 0
01097050	Assabet River at Main Street near Concord, MA	Lat 42°27'23", long 71°23'26", Middlesex County, at bridge on State Highway 62, 0.1 mi upstream from railroad bridge, 2.1 mi west of Concord.	--	1968, 1990-92	7-29-92 8-25-92 9-17-92	51.0 91.3 21.2
01097280	Fort Pond Brook at West Concord, MA	Lat 42°28'07", long 71°24'31", Middlesex County, at bridge on State Highway 2, 400 ft upstream from confluence with Nashoba Brook, 1.0 mi northwest of West Concord.	24.9	1975-78, 1990-92	7-29-92 8-24-92 9-17-92	1.27 14.1 5.29
01098860	Sudbury River at Nashawtuc Street at Concord, MA	Lat 42°27'35", long 71°21'35", Middlesex County, at bridge on Nashawtuc Street, 0.5 mi upstream from mouth, at Concord.	--	1984, 1990-92	7-29-92 8-24-92 9-17-92	47.1 300 94.3

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1992--Continued

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
MERRIMACK RIVER BASIN--Continued						
01099400	River Meadow Brook at Lowell, MA	Lat 42°37'29", long 71°19'11", Middlesex County, at bridge on Plain Street, at Lowell.	25.7	1975, 1978, 1990-92	7-28-92 8-24-92 9-17-92	2.90 18.5 12.7
PARKER RIVER BASIN						
01101100	Mill River near Rowley, MA	Lat 42°43'31", long 70°54'54", Essex County at bridge on Wethersfield Street, 2.0 mi west of Rowley.	5.0	1991-92	7-28-92 8-24-92 9-17-92	1.81 4.29 1.84
MYSTIC RIVER BASIN						
01102490	Shaker Glen Brook near Woburn, MA	Lat 42°28'16", long 71°10'34", Middlesex County, at culvert on Lexington Street, 1.3 mi west of Woburn	2.66	1973-74, 1992	8-24-92 9-17-92	1.57 .73
WEYMOUTH FORE RIVER BASIN						
01105568	Cochato River at Holbrook, MA	Lat 42°09'19", long 71°01'37", Norfolk County, at culvert on Union Street, 0.9 mi west of Holbrook	--	1992	7-14-92 7-29-92 8-24-92	.68 .53 1.53
SATUIT RIVER BASIN						
01105670	Satuit River at Scituate, MA	Lat 42°11'35", long 70°43'44", Plymouth County, at bridge on Old Parish Road, at Scituate.	--	1990-92	7-14-92 7-29-92 8-25-92	.48 .38 .60
NORTH RIVER BASIN						
01105810	Third Herring Brook at Hanover, MA	Lat 42°07'01", long 70°48'35", Plymouth County, at culvert on River Street, 0.5 mi northeast of Hanover.	9.78	1969-71, 1987, 1990-92	7-14-92 7-29-92 8-24-92	1.57 1.00 7.14
01105820	Second Herring Brook at Norwell, MA	Lat 42°09'36", long 70°47'20", Plymouth County, at culvert on State Highway 123, at Norwell.	3.15	1969-71, 1990-92	7-14-92 7-29-92 8-25-92	.56 .13 1.32
HERRING RIVER BASIN						
01105883	Herring River at Bournedale, MA	Lat 41°46'21", long 70°33'46", Barnstable County, at mouth, at Bournedale.	7.74	1969-71, 1986, 1992	7-14-92 8-24-92 9-17-92	5.33 6.48 3.80
MATTAPOISETT RIVER BASIN						
011059106	Mattapoisett River tributary #1 near Rochester, MA	Lat 41°44'35", 70°52'04", Plymouth County, at bridge on Hartley Road, 2.6 mi west of Rochester.	--	1982, 1992	7-14-92 8-24-92 9-17-92	.22 1.10 .36

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at low-flow partial-record stations during water year 1992--Continued

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
SLOCUMS RIVER BASIN						
01105930	Paskamanset River at Turner Pond near New Bedford, MA	Lat 41°40'43", long 70°58'39", Bristol County, at bridge on Old Plainville Road, 4.0 mi northwest of New Bedford.	8.12	1991-92	10-04-91	16.2
					1-21-92	9.92
					1-28-92	21.6
					2-04-94	12.3
					2-13-92	8.18
					5-22-92	7.34
					6-18-92	6.01
					7-28-92	1.72
					8-25-92	12.4
					9-16-92	4.28
01105935	Destruction Brook near South Dartmouth, MA	Lat 41°34'20", long 71°00'47", Bristol County, at bridge on Slades Corner Road, 5 mi southwest of South Dartmouth.	2.64	1972-74, 1991-92	10-04-91	3.20
					1-22-92	3.64
					1-28-92	6.78
					2-04-92	4.32
					2-13-92	3.42
					5-22-92	2.38
					6-18-92	1.66
					7-29-92	1.14
					8-25-92	4.54
					9-17-92	2.01
WESTPORT RIVER BASIN						
01105937	Shingle Island River near North Dartmouth, MA	Lat 41°40'55", long 71°01'05", Bristol County, at bridge on Old Fall River Road, 3 mi northwest of North Dartmouth.	8.59	1957, 1972-74, 1991-92	10-04-91	11.3
					1-21-92	9.48
					1-28-92	20.4
					2-04-94	11.7
					2-13-92	8.95
					5-22-92	5.62
					6-18-92	3.54
					7-29-92	1.18
					8-25-92	4.89
					9-17-92	1.88
TAUNTON RIVER BASIN						
01107188	Winnetuxet River at Thompson Street near Halifax, MA	Lat 41°58'09", long 70°54'03", Plymouth County, at bridge on Thompson Street, 2.4 mi southwest of Halifax.	36.0	1990-92	7-14-92	18.9
					7-29-92	10.4
					9-17-92	14.6
01108140	Poquoy Brook near North Middleboro, MA	Lat 41°54'20", long 70°59'19", Plymouth County, at culvert on Vernon Street, 2.0 mi south of North Middleboro.	8.23	1966-68, 1990-92	7-14-92	4.55
					7-29-92	2.59
					8-24-92	6.14
01108180	Cotley Brook at East Taunton, MA	Lat 41°52'57", long 71°02'54", Bristol County, at bridge on Middleboro Avenue, 1.0 mi west of East Taunton.	7.53	1966-68, 1990-92	7-14-92	2.20
					7-29-92	1.45
					8-24-92	4.22
01109040	Rumford River at Norton, MA	Lat 41°58'23", long 71°10'32", Bristol County, at bridge on State Highway 123, 0.8 mi northeast of Norton.	20.7	1965, 1990-92	7-14-92	8.48
					8-24-92	19.0
					9-17-92	7.66
PALMER RIVER BASIN						
01109185	East Branch Palmer River near Rehoboth, MA	Lat 41°51'36", long 71°13'47", Bristol County, at bridge on State Highway 44, 1.7 mi northeast at Rehoboth.	--	1992	7-14-92	0
					8-24-92	.20
					9-17-92	.13

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1992--Continued

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
TEN MILE RIVER BASIN						
01109381	Speedway Brook at Attleboro, MA	Lat 41°55'37", long 71°17'08", Bristol County, at bridge on State Highway 152, 0.7 mi south of Attleboro.	--	1992	7-14-92	0.48
					8-24-92	.88
					9-17-92	.49
BLACKSTONE RIVER BASIN						
01110100	Quinsigamond River near Grafton, MA	Lat 42°11'39", long 71°41'35", Worcester County, 0.4 mi upstream from Fisherville Pond, 1.0 mi south of Grafton.	37.2	1991-92	7-14-92	16.6
					7-29-92	13.0
					8-25-92	27.6
					9-18-92	13.2
THAMES RIVER BASIN						
01123810	Quinebaug River tributary at Sandersdale, MA	Lat 42°04'15", long 72°00'23", Worcester County, at bridge at wastewater treatment plant off Dresser Hill Road, 0.5 mi north- east of Sandersdale.	9.4	1980-82, 1991-92	7-14-92	1.08
					7-29-92	1.08
					8-25-92	3.71
					9-18-92	1.62
01124390	Little River at Rich- ardson Corners, MA	Lat 42°09'16", long 71°54'47", Worcester County, at bridge on US Highway 20, 0.7 mi east of Richardson Corners.	8.58	1980-82, 1991-92	7-14-92	2.46
					7-29-92	2.97
					8-25-92	6.89
					9-18-92	3.81
CONNECTICUT RIVER BASIN						
01161400	Millers River at Old North Ashburnham Station near Winchendon, MA	Lat 42°39'19", long 71°59'21", Worcester County, 200 ft below bridge on State High- way 12, 0.3 mi west of Old North Ashburn- ham Station, 3.7 mi southeast of Winchendon.	23.7	1965-66, 1991-92	7-28-92	2.73
					8-24-92	14.5
					9-17-92	4.19
01164300	Lawrence Brook at Royalston, MA	Lat 42°41'14", long 72°10'39", Worcester County, at Northeast Fitzwilliam Road, 0.9 mi northeast of Royalston.	16.4	1965-66, 1991-92	7-28-92	1.34
					8-24-92	7.45
					9-17-92	2.28
01165090	West Branch Tully River at North Orange, MA	Lat 42°38'45", long 72°15'25", Franklin County, at bridge on Tully Road, 0.8 mi north of North Orange.	14.1	1966, 1992	7-28-92	1.60
					8-24-92	3.02
					9-17-92	1.63
01168300	Cold River near Zoar, MA	Lat 42°38'12", long 72°56'10", Franklin County, at bridge 150 ft east of State Highway 2, 0.9 mi upstream from mouth, 1.1 mi south of Zoar.	29.6	1938, 1965, 1967-69, 1979-81, 1983, 1991-92	7-29-92	6.33
					8-25-92	8.04
					9-17-92	8.32
01168400	Chickley River near Charlemont, MA	Lat 42°37'28", long 72°54'27", Franklin County, at bridge on Chickley Road, 0.5 mi upstream from mouth, 1.7 mi west of Char- lemont.	27.1	1967-69, 1991-92	7-29-92	8.86
					8-25-92	9.46
					9-17-92	3.68
01168650	Clesson Brook near Shelburne Falls, MA	Lat 42°36'47", long 72°46'10", Franklin County, at bridge on State Highway 112, 0.5 mi upstream from mouth, 1.7 mi north- west of Shelburne Falls.	18.2	1967-69, 1991-92	7-28-92	4.59
					8-24-92	4.12
					9-17-92	6.17
01170575	Sawmill Brook near Montague, MA	Lat 42°31'23", long 72°32'24", Franklin County, at bridge on State Highway 63, 1.1 mi south of Montague.	--	1992	7-29-92	7.20
					8-25-92	10.0
					9-18-92	4.82
01170902	Bloody Brook near South Deerfield, MA	Lat 42°28'30", long 72°38'03", Franklin County, at culvert on Whately Road, 1.3 mi west of South Deerfield.	5.0	1991-92	7-29-92	0
					8-25-92	.08
					9-17-92	.08

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at low-flow partial-record stations during water year 1992--Continued

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
CONNECTICUT RIVER BASIN--Continued						
01171947	Bachelor Brook at Granby, MA	Lat 42°16'33", long 72°30'31", Hampshire County, at bridge on North Street, 1.2 mi north of Granby.	--	1991-92	7-29-92 8-25-92 9- 3-92	4.73 23.6 5.70
01172810	Canesto Brook near Barre, MA	Lat 42°26'15", long 72°02'26", Worcester County, at bridge on State Highway 62, 3.5 mi east of Barre.	--	1992	7-28-92 8-24-92 9-16-92	2.90 6.54 2.09
01173420	Muddy Brook at Ware, MA	Lat 42°14'53", long 72°15'59", Hampshire County, at bridge on Greenwich Street, 0.4 mi north of Ware.	18.5	1991-92	7-28-92 8-24-92 9-17-92	6.83 18.7 7.24
01175710	Fivemile River near North Brookfield, MA	Lat 42°17'39", long 72°02'18", Worcester County, at outlet of Brooks Pond, 2.5 mi northeast of North Brookfield.	13.2	1991-92	7-28-92 8-24-92 9-17-92	3.17 7.00 3.87
01176780	Twelvemile Brook near North Wilbraham, MA	Lat 42°08'52", long 72°24'00", Hampden County, at bridge on Crane Hill Road, 1.4 mi east of North Wilbraham.	--	1992	7-29-92 8-24-92 9-17-92	7.52 18.7 7.21
01177360	South Branch Mill River at Porter Road near East Longmeadow, MA	Lat 42°05'06", long 72°28'50", Hampden County, at bridge on Porter Road, 2.0 mi north of East Longmeadow.	--	1991-92	7-29-92 8-24-92 9-17-92	5.91 8.61 5.77
01178200	Westfield Brook at East Windsor, MA	Lat 42°28'41", long 72°59'09", Berkshire County, at bridge on High Street, at East Windsor, 1.6 mi upstream from mouth.	11.0	1962-65, 1984, 1991-92	7-28-92 8-24-92 9-17-92	5.24 5.55 4.66
01178300	Swift River at Swift River, MA	Lat 42°26'50", long 72°51'29", Hampshire County, at bridge on State Highway 9, at Swift River.	22.9	1962-65, 1984, 1991-92	7-28-92 8-24-92 9-17-92	8.19 7.93 8.28
01178490	West Branch at West Chesterfield, MA	Lat 42°24'02", long 72°52'36", Hampshire County, at bridge on South Road, 0.2 mi south of West Chesterfield.	--	1992	7-28-92 8-24-92 9-17-92	10.9 5.57 10.3
01183210	Munn Brook near Westfield, MA	Lat 42°07'05", long 72°48'01", Hampden County, at bridge on Granville Road, 2.0 mi west of Westfield.	25.0	1991-92	7-29-92 8-25-92 9- 3-92	15.7 16.4 10.9
01184855	West Branch Farmington River near Otis, MA	Lat 42°09'40", long 73°04'19", Berkshire County, 20 ft upstream from confluence with Fall River, 2.4 mi south of Otis.	50.0	1991-92	7-28-92 8-24-92 9- 2-92	16.6 28.4 16.3
01185490	Clam River at West New Boston, MA	Lat 42°06'03", long 73°05'43", Berkshire County, at culvert on State Highway 8, 2.1 mi South of New Boston.	2.62	1955, 1965, 1984, 1991-92	7-28-92 8-24-92 9- 2-92	9.87 40.8 10.3
01186300	Sandy Brook near Sandisfield, MA	Lat 42°02'37", long 73°08'13", Berkshire County, at culvert on New Marlborough Road, 0.1 mi north of Connecticut State line, 4.6 mi south of Sandisfield.	9.85	1984-86, 1992	7-28-92 8-24-92 9- 2-92	4.15 8.80 3.31
HOUSATONIC RIVER BASIN						
01197120	Southwest Branch Housatonic River at Pittsfield, MA	Lat 42°26'28", long 73°17'47", Berkshire County, at Mungerford Street, 550 ft down- stream from Smith Brook, at Pittsfield.	20.4	1963-65, 1991-92	7-28-92 8-24-92 9- 2-92 9-15-92	5.52 6.56 6.46 5.25
01197180	Greenwater Brook at East Lee, MA	Lat 42°17'59", long 73°12'53", Berkshire County, at bridge on private land near US Highway 20, 0.3 mi east of East Lee.	7.64	1963-65, 1991-92	7-28-92 8-24-92 9- 2-92	3.24 4.85 3.80
01197230	Hop Brook near South Lee, MA	Lat 42°16'13", long 73°15'06", Berkshire County, at bridge on Meadow Street, 1.4 mi southeast of South Lee.	22.1	1963-65, 1991-92	7-29-92 8-24-92 9- 2-92	6.50 17.0 7.41

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1992--Continued

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
HOUSATONIC RIVER BASIN--Continued						
01198000	Green River near Great Barrington, MA	Lat 42°11'31", long 73°23'28", Berkshire County, at Hurlburt Street bridge, 1.5 mi west of Great Barrington, and 3 mi upstream from mouth.	51.0	1952-71†,	7-28-92	15.1
				1973,	8-24-92	15.4
				1980-81,	9- 2-92	11.3
				1983, 1991-92	9-17-92	12.3
01198060	Fenton Brook near South Egremont, MA	Lat 42°09'17", long 73°26'51", Berkshire County, at bridge on Mount Washington Road, 1.8 mi west of South Egremont.	2.94	1963-65,	7-28-92	.68
				1992	8-24-92	1.39
					9- 2-92	.63
01198200	Konkapot River at Ashley Falls, MA	Lat 42°03'11", long 73°19'35", Berkshire County, at bridge on US Highway 7, 0.5 mi southeast of Ashley Falls.	61.1	1963-65,	8-25-92	47.0
				1991-92	9- 2-92	23.6
					9-17-92	23.6
HUDSON RIVER BASIN						
01359967	Kinderhook Creek at Hancock, MA	Lat 42°32'19", long 73°20'01", Berkshire County, at bridge on State Highway 43, 0.6 mi southwest of Hancock.	--	1992	7-28-92	5.42
					8-24-92	4.71
					9- 2-92	4.23
					9-15-92	3.98

† Operated as a continuous-record gaging station

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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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 1992

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
WEWEANTIC RIVER BASIN						
01105905 Sippican River	Weweantic River	Lat 41°44'03", long 70°46'31", Plymouth County, at bridge on County Road, 2.5 mi north of Marion, MA.	28.1	1972-74, 1991	10- 5-91 7-30-92 9-18-92	*34.0 *7.02 *9.69
MATTAPOISETT RIVER BASIN						
01105917 Mattapoisett River	Buzzards Bay	Lat 41°39'45", long 70°50'20", Plymouth County, 0.4 mi above bridge on U.S. Highway 6, 1.5 mi west of Mattapoisett, MA.	24.0	1965, 1972-74, 1982, 1991	10- 5-91 7-30-92 9-17-92	*19.6 *1.94 *11.9
ACUSHNET RIVER BASIN						
01105926 Acushnet River	Buzzards Bay	Lat 41°41'45", long 70°54'52", Bristol County, at bridge on Hamlin Road, 1.0 mi north of Acushnet, MA.	16.4	1972-74, 1991	10- 5-91 5-22-92 7-30-92 9-18-92	*11.6 *23.2 *2.32 *5.14
BUTTONWOOD BROOK BASIN						
01105928 Buttonwood Brook	Buzzards Bay	Lat 41°36'15", long 70°57'20", Bristol County, at bridge on Russells Mills Road, 1.5 mi northwest of South Dartmouth, MA.	2.93	1972-74	5-21-92 6-17-92 7-30-92 8-26-92 9-18-92	*1.29 *.79 *.23 *2.14 *1.00
SLOCUMS RIVER BASIN						
011059315 Paskamanset River	Slocums River	Lat 41°37'36", long 70°59'12", Bristol County, near sewer pumping station at end of access road from Tucker Road at Friends Academy, 0.9 mi south of North Dartmouth, MA.	18.1	1991	7-28-92 9-16-92	*3.95 *8.17
011059318 Unnamed Tributary	Paskamanset River	Lat 41°36'37", long 70°00'11", Bristol County, at culvert on Chase Road 2.3 mi south of North Dartmouth, MA.	2.58	1991	7-28-92 9-16-92	*.13 *.63
01105932 Paskamanset River	Slocums River	Lat 41°36'42", long 70°59'39", Bristol County, 400 ft east of well A off access road from Chase Road, 100 ft below tributary inflow, 2.0 mi south of North Dartmouth, MA.	22.9	1991	7-28-92 9-16-92	*4.28 *9.70
011059326 Paskamanset River	do.	Lat 41°35'24", long 70°59'50", Bristol County, 500 ft east of water filtration plant at well D off Chase Road, 3.4 mi west of South Dartmouth, MA.	25.8	1991	7-28-92 9-16-92	*4.68 *9.98
011059328 Unnamed Tributary	Paskamanset River	Lat 41°35'17", long 70°59'51, Bristol County, 800 ft south of water filtration plant on gravel road at well D off Chase Road, 3.4 mi west of South Dartmouth, MA.	0.25	--	9-16-92	*.05

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1992--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SLOCUMS RIVER BASIN--Continued						
01105933 Paskamanset River	Slocums River	Lat 41°35'07", long 70°59'27", Bristol County, at bridge on Russells Mills Road, 3 mi west of South Dartmouth, MA.	26.2	1972-74, 1991	10- 4-91	*39.7
					1-22-92	*20.6
					1-29-92	*64.6
					2- 2-92	*28.3
					2-13-92	*22.8
					5-22-92	*15.2
					6-18-92	*11.2
					7-28-92	*4.31
					8-25-92	*30.4
					9-16-92	*10.0
EAST BRANCH WESTPORT RIVER BASIN						
01105943 Shingle Island River	East Branch Westport River	Lat 41°40'10", long 71°01'32", Bristol County, at bridge on Hixville Road, 3 mi northwest of North Dartmouth, MA.	18.8	1972-74, 1991	10- 4-91	*17.1
					1-21-92	*15.4
					1-28-92	*31.7
					2- 4-92	*19.9
					2-13-92	*15.2
					5-22-92	*11.9
					6-18-92	*7.13
					7-29-92	*3.69
					8-25-92	*9.12
					9-17-92	*4.91
01105945 East Branch Westport River	Rhode Island Sound	Lat 41°37'52", long 71°03'15", Bristol County, at bridge on Forge Road, 0.8 mi north of Head of Westport, MA.	28.2	1991	5-21-92	*21.9
					6-18-92	*10.8
					7-29-92	*6.32
					8-26-92	*16.5
				9-18-92	*8.82	
01105947 Bread and Cheese Brook	East Branch Westport River	Lat 41°38'00", long 71°03'46", Bristol County, at culvert on State Highway 177, 1.0 mi north of Head of Westport, MA.	8.70	1972-74	5-21-92	*7.49
					6-18-92	*2.91
					7-29-92	*.94
					8-26-92	*4.25
				9-18-92	*1.75	
01105950 Kirby Brook	do.	Lat 41°36'02", long 71°04'25", Bristol County, at culvert on Drift Road, 1.5 mi south of Head of Westport, MA.	3.69	1964-74†	5-21-92	*1.86
					6-17-92	*.33
					7-30-92	*.05
					8-26-92	*.85
					9-16-92	*.37
WEST BRANCH WESTPORT RIVER BASIN						
01106000 Adamsville Brook	West Branch Westport River	Lat 41°33'30", long 71°07'47", Newport County, on right bank 0.2 mi upstream from milldam at Adamsville, R.I., and 0.7 mi upstream from mouth.	7.91	1941-78†, 1986-87†, 1991	10- 5-91	*5.32
					5-21-91	*5.58
					6-17-92	*2.35
					7-29-92	*.79
					8-26-92	*3.96
					9-18-92	*1.93
01106005 Angeline Brook	do.	Lat 41°33'05", long 71°06'20", Bristol County, at culvert on Cornell Road, 2.5 mi northwest of Westport Point, MA.	3.22	1972-74	5-21-92	*1.91
					6-18-92	*.56
					7-30-92	*.25
					8-26-92	*1.32
					9-18-92	*.78

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at miscellaneous sites during water year 1992--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
RUNNINS RIVER BASIN						
01109270 Runnins River	Barrington River (Narragansett Bay)	Lat 41°49'25", long 71°20'00", Bristol County, at culvert on Pleasant Street, 1.0 mi north of Seekonk.	4.24	1967-83†	4-25-92	64.4
					6-23-92	1.05
					7- 9-92	1.30
					8-17-92	1.79
					8-18-92	18.5
					8-31-92	.86
	9-28-92	5.57				
BLACKSTONE RIVER BASIN						
01109651 Blackstone River	Narragansett Bay (Atlantic Ocean)	Lat 42°13'37", long 71°47'14", Worcester County, at bridge on Millbury Street, 250 ft northeast of State Highway 146, in Worcester, MA.	--	--	7-10-91	13.5
					8-14-91	14.0
					10- 2-91	69.1
01110500 Blackstone River	do.	Lat 42°09'13", long 71°39'09", Worcester County, 100 ft downstream from Sutton Street Bridge, at Northbridge, MA.	139	1940-77‡, 1978-91	10- 2-91	236
					10-15-91	231
					11-25-91	602
					1- 8-92	286
					2-19-92	262
					3-26-92	211
	5-15-92	222				
	7-30-92	108				
01113650 Blackstone River	do.	Lat 41°54'40", long 71°24'12", Providence County, at bridge on Lonsdale Avenue, at Lonsdale, RI.	441	1986-88, 1991	10- 2-91	760
THAMES RIVER BASIN						
01125000 French River	Quinebaug River	Lat 42°03'03", long 71°53'08", Worcester County, on right bank in Dudley, 50 ft upstream from Pleasant Street Bridge at Webster, 1.1 mi upstream from Potash Brook, in Dudley, MA.	85.3	1949-81‡, 1982-91	10-15-91	125
					11-21-91	177
					1- 7-92	220
					2-18-92	180
					5-15-92	99.2
					7-31-92	26.5
CONNECTICUT RIVER BASIN						
01173180 Ware River	Connecticut River	Lat 42°22'48", long 72°06'53", Worcester County, at bridge on Old Furnace Road, 0.3 mi west of Barre Plains, MA.	--	1988-91	10-11-91	189
HOUSATONIC RIVER BASIN						
01198128 Housatonic River	Long Island Sound	Lat 42°04'10", long 73°20'27", Berkshire County, at bridge on State Highway 7, 0.9 mi north of Ashley Falls, MA	--	--	7-28-92	254

† Operated as a crest-stage partial-record station.

‡ Operated as a continuous-record gaging station.

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS IN MASSACHUSETTS

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)
MERRIMACK RIVER BASIN									
01094400 NORTH NASHUA RIVER AT FITCHBURG, MA (LAT 42 34 34N LONG 071 47 19W)									
OCT 1991					APR 1992				
04...	1103	78	140	17.0	09...	1302	110	155	9.0
DEC					MAY				
03...	1021	173	97	2.0	22...	1051	61	176	21.0
JAN 1992					JUL				
13...	1546	99	142	4.0	19...	1200	38	202	21.5
FEB					AUG				
26...	1246	243	220	4.0	04...	1057	49	198	22.0
01094500 NORTH NASHUA RIVER NEAR LEOMINSTER, MA (LAT 42 30 06N LONG 071 43 23W)									
OCT 1991					MAY 1992				
04...	0838	139	205	16.0	22...	0822	98	264	18.0
JAN 1992					JUL				
13...	1421	173	216	4.0	19...	0915	90	302	19.5
FEB					AUG				
26...	1026	375	348	3.0	05...	0834	89	213	19.0
01096000 SQUANNACOOK RIVER NEAR WEST GROTON, MA (LAT 42 38 03N LONG 071 39 30W)									
OCT 1991					JUL 1992				
07...	1240	253	84	14.0	22...	0945	229	69	18.0
FEB 1992					AUG				
27...	0931	220	144	2.0	05...	1442	44	107	20.0
MAY									
22...	1341	61	101	20.0					
01096500 NASHUA RIVER AT EAST PEPPERELL, MA (LAT 42 40 03N LONG 071 34 32W)									
FEB 1992					JUL 1992				
27...	1225	1060	180	4.0	19...	1500	351	178	22.0
01097000 ASSABET RIVER AT MAYNARD, MA (LAT 42 25 55N LONG 071 27 01W)									
OCT 1991					MAY 1992				
03...	1020	165	202	15.0	21...	1121	118	240	20.0
NOV					JUN				
26...	0945	493	134	5.0	22...	1010	122	274	20.0
JAN 1992					JUL				
13...	1006	146	267	2.0	27...	0915	45	294	22.0
FEB					SEP				
25...	1111	151	229	4.0	09...	1510	63	338	21.0
APR									
08...	1411	202	224	11.0					
01097300 NASHOBA BROOK NEAR ACTON, MA (LAT 42 31 19N LONG 071 24 15W)									
OCT 1991					MAY 1992				
03...	0839	12	206	15.0	21...	0904	10	206	15.0
NOV					JUN				
25...	1230	67	125	7.0	29...	1153	8.2	178	19.5
JAN 1992					AUG				
13...	0841	14	219	1.0	11...	1100	15	187	18.0
FEB					SEP				
25...	1251	14	194	2.0	21...	1105	1.5	240	14.5
APR									
08...	1226	20	192	10.0					
01098530 SUDBURY RIVER AT SAXONVILLE, MA (LAT 42 19 31N LONG 071 23 53W)									
NOV 1991					MAY 1992				
26...	1215	409	201	7.0	21...	1401	70	251	21.0
JAN 1992					JUN				
13...	1146	176	224	4.0	22...	1625	120	219	20.5
FEB					JUL				
25...	1516	150	243	4.0	27...	1305	23	306	23.0
APR					SEP				
09...	0841	242	220	9.0	09...	1116	79	251	22.0

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS IN MASSACHUSETTS--Continued 163

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)
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MERRIMACK RIVER BASIN--Continued

01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK, AT LOWELL, MA (LAT 42 38 12N LONG 071 18 09W)

OCT 1991					JUN 1992				
02...	1028	1140	176	14.0	30...	1241	343	262	--
FEB 1992					SEP				
27...	1436	879	224	3.0	22...	0948	41	283	20.0

01100000 MERRIMACK RIVER BELOW CONCORD RIVER AT LOWELL, MA (LAT 42 38 45N LONG 071 17 56W)

OCT 1991					FEB 1992				
02...	1348	8200	174	15.0	27...	1710	7750	225	3.0

01100600 SHAWSHOEN RIVER NEAR WILMINGTON, MA (LAT 42 34 05N LONG 071 12 55W)

OCT 1991					APR 1992				
08...	1036	52	270	11.0	07...	0946	47	357	8.0
DEC					MAY				
05...	1006	55	666	1.0	27...	1231	18	359	17.0
JAN 1992					JUN				
14...	1126	46	393	4.0	30...	1609	16	289	24.0
MAR					SEP				
02...	0000	36	350	--	22...	1250	5.8	308	18.0

PARKER RIVER BASIN

01101000 PARKER RIVER AT BYFIELD, MA (LAT 42 45 10N LONG 070 56 46W)

OCT 1991					JUL 1992				
08...	1346	16	162	13.0	01...	1345	6.9	191	22.0
MAR 1992					AUG				
02...	1221	41	150	1.0	12...	0949	6.0	195	20.0
MAY					SEP				
28...	0945	15	181	--	23...	1255	3.0	209	17.0

IPSWICH RIVER BASIN

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA (LAT 42 34 10N LONG 071 01 39W)

OCT 1991					MAY 1992				
09...	1000	41	215	11.0	28...	1320	26	243	18.0
DEC					JUL				
04...	1250	114	211	2.0	02...	1525	14	220	22.0
JAN 1992					AUG				
14...	1331	84	201	2.0	12...	1634	15	201	22.0
MAR					SEP				
02...	1531	81	216	1.0	24...	1251	11	244	15.0
APR									
07...	1131	87	216	8.0					

01102000 IPSWICH RIVER NEAR IPSWICH, MA (LAT 42 39 35N LONG 070 53 39W)

OCT 1991					JUL 1992				
09...	1146	103	196	11.0	02...	1155	63	226	23.0
MAR 1992					AUG				
02...	1401	250	182	1.0	12...	1352	50	236	22.0
MAY					SEP				
28...	1147	88	231	16.0	24...	0950	25	249	16.5

MYSTIC RIVER BASIN

01102500 ABERJONA RIVER AT WINCHESTER, MA (LAT 42 26 50N LONG 071 08 22W)

OCT 1991					JUL 1992				
09...	1402	18	430	15.0	06...	1202	67	200	19.0
MAR 1992					AUG				
03...	1251	21	493	3.0	13...	1022	9.3	355	20.5
MAY					SEP				
27...	1535	9.5	537	16.5	25...	1243	7.9	414	13.0

164 SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS IN MASSACHUSETTS--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)
CHARLES RIVER BASIN									
01104000 MOTHER BROOK AT DEDHAM, MA (LAT 42 15 18N LONG 071 09 53W)									
OCT 1991					APR 1992				
10...	1319	26	208	--	27...	1040	145	156	9.0
DEC					JUN				
19...	1215	78	207	0.0	15...	1315	14	175	30.0
JAN 1992					JUL				
31...	1320	152	50	0.5	22...	1127	0.28	617	22.0
MAR					SEP				
18...	1017	122	164	3.0	02...	1420	0.32	684	23.0
01104200 CHARLES RIVER AT WELLESLEY, MA (LAT 42 18 59N LONG 071 13 42W)									
OCT 1991					JUN 1992				
17...	0857	208	236	--	11...	1040	371	169	27.5
FEB 1992					AUG				
06...	1020	199	122	0.5	10...	1056	75	266	21.0
APR					SEP				
28...	1615	477	183	10.0	25...	0922	65	278	15.0
01104500 CHARLES RIVER AT WALTHAM, MA (LAT 42 22 20N LONG 071 14 03W)									
OCT 1991					JUN 1992				
11...	0844	233	209	--	11...	1558	378	198	28.0
JAN 1992					AUG				
31...	1006	359	49	0.5	10...	1446	84	292	22.0
MAR					SEP				
17...	0910	501	178	2.5	21...	1443	61	262	20.5
APR									
24...	1000	380	176	15.0					
NEPONSET RIVER BASIN									
01105000 NEPONSET RIVER AT NORWOOD, MA (LAT 42 10 39N LONG 071 12 05W)									
OCT 1991					JUN 1992				
10...	1130	28	197	--	09...	1525	54	152	21.5
DEC					JUL				
10...	0930	84	178	4.0	22...	1127	6.5	255	21.5
MAR 1992					SEP				
16...	1030	80	161	4.5	02...	1250	6.3	248	19.0
APR									
28...	1018	88	156	--					
01105500 EAST BRANCH NEPONSET RIVER AT CANTON, MA (LAT 42 09 16N LONG 071 08 47W)									
OCT 1991					APR 1992				
10...	0833	22	202	--	28...	1250	65	163	9.0
DEC					JUN				
10...	1215	73	106	5.0	09...	1230	56	159	22.0
MAR 1992									
16...	1355	62	180	4.5					
WEYMOUTH BACK RIVER BASIN									
01105600 OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MA (LAT 42 11 25N LONG 070 56 43W)									
OCT 1991					MAY 1992				
09...	1000	3.8	222	--	01...	1015	6.4	194	9.5
DEC					JUN				
20...	1148	5.2	221	1.0	09...	0946	5.9	188	10.5
JAN 1992					JUL				
29...	1048	6.1	213	2.0	21...	0853	1.2	254	20.0
MAR					SEP				
23...	1440	6.5	825	3.5	01...	1130	8.7	216	20.0
APR									
13...	0911	44	151	6.0					

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)

NORTH RIVER BASIN

01105730 INDIAN HEAD RIVER AT HANOVER, MA (LAT 42 06 02N LONG 070 49 23W)

OCT 1991					MAY 1992				
09...	1200	32	251	--	04...	1540	61	223	14.5
DEC					JUN				
11...	1015	81	98	4.0	08...	1314	68	187	21.0
JAN 1992					SEP				
29...	1333	49	202	1.0	01...	1320	7.0	229	24.0
MAR									
23...	0922	473	277	2.5					

JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MA (LAT 41 59 27N LONG 070 44 03W)

OCT 1991					MAY 1992				
09...	1115	20	103	--	04...	1310	29	96	10.5
DEC					JUN				
11...	1230	39	--	4.0	08...	1001	45	86	20.0
JAN 1992					JUL				
29...	1521	36	99	1.0	22...	1330	11	112	24.0
MAR									
03...	1145	53	103	2.0					
23...	1150	28	173	2.0					

QUASHNET RIVER BASIN

011058837 QUASHNET RIVER AT WAQUOIT VILLAGE, MA (LAT 41 35 32N LONG 070 30 30W)

OCT 1991					JUN 1992				
18...	0918	12	81	--	16...	0854	12	72	12.0
MAR 1992					JUL				
11...	1024	14	47	8.0	20...	1012	13	78	18.5
APR					SEP				
12...	1450	28	76	10.0	01...	1426	8.7	94	20.0
MAY					03...	1000	12	55	13.0
04...	0950	13	75	10.5					

TAUNTON RIVER BASIN

01109000 WADING RIVER NEAR NORTON, MA (LAT 41 56 51N LONG 071 10 38W)

OCT 1991					APR 1992				
03...	1100	37	235	--	12...	1001	196	157	11.0
DEC					29...	1637	88	155	12.0
12...	0939	100	135	3.0	JUN				
JAN 1992					17...	0935	27	172	21.0
24...	1136	214	135	1.0	JUL				
MAR					24...	0850	6.2	197	20.0
19...	0945	92	157	3.0					

01109060 THREEMILE RIVER AT NORTH DIGHTON, MA (LAT 41 51 58N LONG 071 07 24W)

OCT 1991					JUL 1992				
04...	0945	78	216	--	24...	1130	24	222	22.0
MAR 1992					AUG				
24...	1049	169	172	2.0	31...	1105	27	223	24.0
JUN									
16...	1510	60	165	27.0					

01109070 SEGREGANSET RIVER NEAR DIGHTON, MA (LAT 41 50 25N LONG 071 08 36W)

OCT 1991					JUN 1992				
04...	0855	8.5	94	--	16...	1610	2.3	80	24.0
DEC					JUL				
12...	1139	31	73	3.0	20...	1430	1.7	101	21.0
MAR 1992					AUG				
25...	0849	18	88	3.0	31...	1105	0.64	106	22.0
APR									
12...	1210	47	79	10.0					
29...	1350	20	73	10.0					

166 SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS IN MASSACHUSETTS--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)
BLACKSTONE RIVER BASIN									
01110000 QUINSIGAMOND RIVER AT NORTH GRAFTON, MA (LAT 42 13 49N LONG 071 42 41W)									
JAN 1992					JUL 1992				
08...	1415	39	286	2.0	31...	1355	10	306	21.0
MAR					SEP				
31...	1240	69	314	3.0	08...	1400	20	310	22.5
JUN									
18...	1355	20	313	21.0					
CONNECTICUT RIVER BASIN									
01162000 MILLERS RIVER NEAR WINCHENDON, MA (LAT 42 41 03N LONG 072 05 02W)									
OCT 1991					MAR 1992				
10...	1145	195	63	11.0	24...	0930	108	73	0.5
NOV					JUL				
19...	1048	180	56	3.5	18...	1515	50	73	23.0
FEB 1992									
11...	1256	57	73	0.5					
01162500 PRIEST BROOK NEAR WINCHENDON, MA (LAT 42 40 57N LONG 072 06 56W)									
OCT 1991					MAR 1992				
09...	1305	42	50	10.0	24...	1126	18	52	1.0
NOV					JUL				
19...	0914	33	46	3.0	17...	1350	7.2	52	23.0
FEB 1992					AUG				
11...	1045	6.1	55	1.0	04...	1054	5.1	48	19.0
01163200 OTTER RIVER AT OTTER RIVER, MA (LAT 42 35 18N LONG 072 02 29W)									
OCT 1991					JUL 1992				
09...	1024	87	125	10.0	18...	1328	15	250	21.0
FEB 1992					AUG				
11...	1455	26	274	1.0	04...	1434	26	178	21.0
MAR									
23...	1335	45	225	1.0					
01166500 MILLERS RIVER AT ERVING, MA (LAT 42 35 51N LONG 072 26 19W)									
OCT 1991					JUL 1992				
25...	0916	588	93	10.0	16...	1345	265	126	23.0
APR 1992					AUG				
13...	1414	642	103	6.0	05...	1355	202	149	23.0
MAY									
28...	1209	257	133	14.0					
01168500 DEERFIELD RIVER AT CHARLEMONT, MA (LAT 42 37 33N LONG 072 51 20W)									
OCT 1991					AUG 1992				
21...	1045	1120	44	10.0	27...	0843	101	56	--
01169000 NORTH RIVER AT SHATTUCKVILLE, MA (LAT 42 38 18N LONG 072 43 32W)									
OCT 1991					MAY 1992				
23...	1600	117	115	10.0	27...	1217	85	151	13.0
JAN 1992					JUL				
23...	1528	105	68	0.5	16...	0956	253	126	16.5
MAR					AUG				
03...	1425	73	136	2.0	26...	0906	32	159	--
APR									
29...	1249	253	107	7.0					
01169900 SOUTH RIVER NEAR CONWAY, MA (LAT 42 32 31N LONG 072 41 39W)									
OCT 1991					APR 1992				
24...	1357	35	121	12.0	28...	1211	78	91	--
DEC					MAY				
17...	1136	57	111	0.0	28...	0908	21	134	10.0
JAN 1992					JUL				
28...	1525	32	160	0.5	16...	1518	27	65	16.5
MAR					AUG				
05...	1105	30	131	1.5	26...	1320	11	181	15.0

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS IN MASSACHUSETTS--Continued 167

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)
CONNECTICUT RIVER BASIN--Continued									
01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MA (LAT 42 32 09N LONG 072 39 14W)									
OCT 1991 28...	1117	937	102	11.5					
01170100 GREEN RIVER NEAR COLRAIN, MA (LAT 42 42 12N LONG 072 40 16W)									
OCT 1991 24...	0925	63	96	8.5	APR 1992 29...	0857	118	81	6.0
DEC 16...	1207	139	70	1.0	MAY 27...	1449	45	117	12.0
JAN 1992 29...	0955	50	93	0.5	JUL 16...	1239	95	75	--
MAR 12...	1712	222	60	1.0					
01171300 FORT RIVER NEAR AMHERST, MA (LAT 42 21 30N LONG 072 30 23W)									
OCT 1991 24...	0830	46	78	10.0	APR 1992 15...	0835	51	70	5.0
JAN 1992 21...	1409	34	81	0.0	MAY 28...	1200	23	90	--
FEB 27...	1108	105	64	1.0	AUG 18...	1140	204	72	--
01171500 MILL RIVER AT NORTHAMPTON, MA (LAT 42 19 05N LONG 072 39 21W)									
OCT 1991 25...	0930	65	77	12.0	MAY 1992 28...	1438	43	94	--
29...	0900	427	146	7.5	JUL 14...	1145	28	--	17.0
FEB 1992 26...	0944	117	64	2.0	AUG 04...	0650	176	126	--
APR 15...	1223	101	75	7.0	17...	0920	105	94	12.0
01172500 WARE RIVER NEAR BARRE, MA (LAT 42 25 35N LONG 072 01 30W)									
OCT 1991 10...	1500	102	55	11.0	MAR 1992 25...	1035	69	60	1.0
NOV 20...	1045	107	51	4.0	JUL 18...	1051	27	73	20.5
FEB 1992 14...	1109	28	72	0.5					
01173500 WARE RIVER AT GIBBS CROSSING, MA (LAT 42 14 10N LONG 072 16 23W)									
OCT 1991 23...	1030	253	66	13.0	JUL 1992 08...	1400	153	79	22.0
DEC 03...	0800	229	--	4.0	AUG 03...	1400	73	78	22.0
MAR 1992 02...	1130	281	--	1.0	SEP 15...	1400	68	93	20.0
01174600 CADWELL CREEK NEAR PELHAM, MA (LAT 42 21 16N LONG 072 23 18W)									
AUG 1992 21...	1057	0.44	54	16.0					
01174900 CADWELL CREEK NEAR BELCHERTOWN, MA (LAT 42 20 08N LONG 072 22 12W)									
AUG 1992 21...	0931	0.80	29	16.0					
01175500 SWIFT RIVER AT WEST WARE, MA (LAT 42 16 04N LONG 072 19 59W)									
OCT 1991 22...	0805	126	40	13.5	JUL 1992 09...	1145	68	42	12.0
JAN 1992 22...	0928	186	24	1.0	AUG 21...	1417	41	42	16.0
MAR 02...	0828	168	40	--	SEP 25...	1620	47	41	18.0
JUN 04...	0849	72	41	--					

168 SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS IN MASSACHUSETTS--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)
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CONNECTICUT RIVER BASIN--Continued

01175670 SEVENMILE RIVER NEAR SPENCER, MA (LAT 42 15 54N LONG 072 00 19W)

OCT 1991					JUN 1992				
11...	1355	16	54	13.0	25...	1030	21	55	20.0
NOV					AUG				
20...	1330	17	54	9.0	06...	1045	3.1	63	21.0
FEB 1992					SEP				
18...	0830	15	58	1.0	16...	1010	2.2	82	15.0
MAR									
25...	1315	13	57	1.5					

01176000 QUABOAG RIVER AT WEST BRIMFIELD, MA (LAT 42 10 56N LONG 072 15 51W)

OCT 1991					JUL 1992				
22...	1300	248	95	20.0	08...	0950	118	130	21.0
MAR 1992					AUG				
05...	0844	213	100	3.0	03...	1010	71	128	21.0
APR					SEP				
21...	1128	454	90	12.0	15...	1015	79	123	19.0
JUN									
05...	1149	168	99	--					

01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA (LAT 42 14 14N LONG 072 53 46W)

OCT 1991					MAY 1992				
28...	1445	62	84	12.5	26...	1347	67	69	--
JAN 1992					JUL				
22...	1225	114	63	2.0	13...	1215	40	80	22.0
FEB					AUG				
24...	1145	87	79	0.0	21...	1049	345	68	18.0
APR									
13...	1250	287	71	4.0					

HOUSATONIC RIVER BASIN

01197000 EAST BRANCH HOUSATONIC RIVER AT COLTSVILLE, MA (LAT 42 28 10N LONG 073 11 49W)

OCT 1991					JUN 1992				
22...	0835	65	250	8.0	02...	1008	136	175	13.0
DEC					02...	1346	111	148	15.0
10...	0943	247	136	3.0	JUL				
JAN 1992					14...	0818	25	262	18.0
22...	0926	42	176	2.0	14...	1121	38	169	17.5
FEB					SEP				
26...	0906	52	302	1.5	02...	1512	23	79	--
APR									
08...	1443	80	243	--					

01197500 HOUSATONIC RIVER NEAR GREAT BARRINGTON, MA (LAT 42 13 55N LONG 073 21 19W)

OCT 1991					JUN 1992				
11...	0930	444	170	12.5	26...	0910	199	385	17.0
JAN 1992					AUG				
03...	1530	424	156	1.0	21...	1020	281	300	17.0
FEB									
27...	1050	320	438	2.0					

HUDSON RIVER BASIN

01331500 HOOSIC RIVER AT ADAMS, MA (LAT 42 36 40N LONG 073 07 28W)

OCT 1991					JAN 1992				
22...	1402	56	202	9.0	23...	0946	56	201	1.5
DEC					FEB				
11...	0914	104	180	1.5	26...	1413	55	275	2.0

01332500 HOOSIC RIVER NEAR WILLIAMSTOWN, MA (LAT 42 42 21N LONG 073 10 50W)

OCT 1991					APR 1992				
23...	0932	166	233	9.0	09...	1539	300	262	7.0
DEC					JUN				
12...	0850	266	274	3.5	03...	1201	234	246	15.0
JAN 1992					JUL				
22...	1317	161	101	2.0	15...	0957	176	190	17.0
FEB					SEP				
27...	1247	127	289	2.5	03...	0927	52	340	--

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS IN MASSACHUSETTS--Continued 169

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)
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HUDSON RIVER BASIN--Continued

01333000 GREEN RIVER AT WILLIAMSTOWN, MA (LAT 42 42 32N LONG 073 11 50W)

OCT 1991					APR 1992				
23...	1223	78	174	9.5	09...	1328	63	189	3.5
DEC					JUN				
11...	1216	122	171	3.5	03...	0912	63	145	16.5
JAN 1992					JUL				
22...	1612	58	156	0.0	14...	1427	22	205	18.0
FEB					SEP				
27...	1002	42	199	1.0	02...	1313	8.2	223	16.5

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS IN RHODE ISLAND

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
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TEN MILE RIVER BASIN

01109403 TEN MILE RIVER AT PAWTUCKET AVENUE AT EAST PROVIDENCE, RI (LAT 41 49 51N LONG 071 21 06)

DEC 1991					JUN 1992				
09...	1329	116	264	4.5	04...	1340	74	350	19.5
JAN 1992					JUL				
28...	1407	133	240	2.0	17...	1220	44	365	23.5
MAR					SEP				
03...	1322	88	294	2.5	08...	1025	38	346	20.0
APR									
10...	1259	88	293	11.5					

BLACKSTONE RIVER BASIN

01111300 NIPMUC RIVER NEAR HARRISVILLE, RI (LAT 41 58 52N LONG 071 41 11W)

DEC 1991					MAY 1992				
11...	1056	47	49	4.0	21...	1412	13	56	19.5
JAN 1992					JUN				
31...	1004	29	55	1.5	18...	1426	6.9	54	20.5
MAR					SEP				
02...	1454	25	53	2.5	17...	0956	3.2	66	17.5
APR									
09...	1021	27	57	7.0					

01112500 BLACKSTONE RIVER AT WOONSOCKET, RI (LAT 42 00 22N LONG 071 30 13W)

DEC 1991					JUN 1992				
17...	1312	1110	183	2.0	08...	1445	1500	144	21.0
JAN 1992					JUL				
31...	1318	706	172	3.0	20...	1445	282	193	26.0
MAR					SEP				
04...	1422	506	209	3.5	16...	1500	189	268	21.0
APR									
17...	1452	1200	197	7.5					

MOSHASSUCK RIVER BASIN

01114000 MOSHASSUCK RIVER AT PROVIDENCE, RI (LAT 41 50 02N LONG 071 24 42W)

OCT 1991					APR 1992				
30...	1103	8.2	389	9.5	10...	1022	29	303	10.5
DEC					JUN				
10...	1511	47	265	7.0	04...	1500	26	336	20.0
JAN 1992					JUL				
27...	1229	43	252	2.0	15...	1302	18	239	21.5
MAR					AUG				
04...	1151	28	298	5.0	31...	1451	16	388	21.0

WOONASQUATUCKET RIVER BASIN

01114500 WOONASQUATUCKET RIVER AT CENTERDALE, RI (LAT 41 51 32N LONG 071 29 16W)

DEC 1991					JUN 1992				
11...	1344	124	149	6.0	03...	1450	60	153	20.0
JAN 1992					JUL				
27...	1425	128	151	3.0	17...	1014	29	160	21.5
MAR					AUG				
04...	0959	47	162	3.5	31...	1125	25	181	22.0
APR									
09...	1444	75	163	11.0					

PAWTUXET RIVER BASIN

01116000 SOUTH BRANCH PAWTUXET RIVER AT WASHINGTON, RI (LAT 41 41 24N LONG 071 33 59W)

OCT 1991					APR 1992				
30...	1251	96	87	10.0	13...	1040	141	85	7.5
DEC					JUN				
18...	1445	226	74	3.0	03...	1238	63	99	17.0
JAN 1992					JUL				
27...	1014	274	77	1.5	20...	1035	94	84	24.5
MAR					SEP				
05...	1035	117	84	3.0	14...	1059	111	79	19.0

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
POTOWOMUT RIVER BASIN									
01117000 HUNT RIVER NEAR EAST GREENWICH, RI (LAT 41 38 28N LONG 071 26 45W)									
JUL 1992 23...	1146	6.6	136	22.0					
PAWCATUCK RIVER BASIN									
01117350 CHIPUXET RIVER AT WEST KINGSTON, RI (LAT 41 28 56N LONG 071 33 06W)									
OCT 1991 28...	1450	5.4	112	15.5	JUN 1992 02...	1238	20	101	17.5
DEC 19...	1510	16	102	2.0	JUL 22...	1425	2.8	121	24.0
MAR 1992 06...	1225	17	99	4.5	SEP 15...	1442	5.0	100	17.5
APR 15...	1426	17	100	12.0					
01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI (LAT 41 28 36N LONG 071 36 19W)									
OCT 1991 30...	1435	38	69	9.0	APR 1992 16...	1329	63	70	9.0
DEC 19...	1314	76	68	2.0	JUN 02...	1044	111	54	13.0
JAN 1992 30...	1240	109	66	3.0	JUL 22...	1205	23	76	22.5
MAR 06...	1059	65	73	5.5					
01117468 BEAVER RIVER NEAR USQUEPAUG, RI (LAT 41 29 33N LONG 071 37 43W)									
DEC 1991 19...	1113	21	65	1.0	JUN 1992 01...	1055	44	47	12.5
MAR 1992 09...	1352	20	61	7.5	JUL 22...	1057	4.9	64	16.0
APR 16...	1150	16	62	7.0	SEP 15...	1110	5.0	64	11.0
01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI (LAT 41 26 42N LONG 071 40 53W)									
OCT 1991 29...	1055	84	87	11.5	APR 1992 29...	0945	182	82	10.5
NOV 26...	1023	283	65	5.0	MAY 28...	0935	100	92	15.0
DEC 27...	0940	152	87	1.0	JUN 29...	1205	98	81	20.0
JAN 1992 30...	1029	257	71	1.0	JUL 30...	1439	51	97	21.5
FEB 27...	0944	220	77	4.0	AUG 26...	1047	124	79	22.0
MAR 30...	0950	266	72	7.0	SEP 29...	1325	190	66	16.5
01117800 WOOD RIVER NEAR ARCADIA, RI (LAT 41 34 26N LONG 071 43 16W)									
DEC 1991 13...	1414	111	43	7.5	JUN 1992 05...	1250	62	41	16.5
JAN 1992 24...	1029	318	45	2.0	JUL 20...	1140	35	42	20.0
MAR 05...	1214	73	45	5.5	SEP 14...	1206	41	42	14.0
APR 13...	1429	72	43	9.0					
01118000 WOOD RIVER AT HOPE VALLEY, RI (LAT 41 29 53N LONG 071 43 01W)									
OCT 1991 28...	1055	92	78	14.5	APR 1992 15...	1245	132	75	10.0
DEC 13...	1212	184	70	6.5	JUN 05...	1029	129	66	18.5
JAN 1992 29...	1250	230	66	2.5	JUL 23...	1235	43	78	21.0
MAR 09...	1342	176	71	7.5	SEP 14...	1425	69	65	18.5

GROUND-WATER LEVELS IN MASSACHUSETTS

BARNSTABLE COUNTY

413956070164301. Barnstable well A1W 230.

LOCATION.--Lat 41°39'56", long 70°16'43", Barnstable County, Hydrologic Unit 01090002, 50 ft west of Mary Dunn Road at Hyannis Airport and 0.3 mi 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, depth 35.8 ft, screened 32.8 to 35.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 43.23 ft above sea level. Measuring point:
Top of casing, at land-surface datum.

PERIOD OF RECORD.--January 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.51 ft below land-surface datum, May 20, 1987; lowest measured, 26.59 ft below land-surface datum, Oct. 21, 1991.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	26.59	DEC 20	25.99	FEB 21	25.91	APR 22	25.74	JUN 24	25.32	AUG 21	24.83
NOV 20	26.35	JAN 22	25.78	MAR 20	25.95	MAY 20	25.85	JUL 22	25.57	SEP 23	25.13

414154070165001. Barnstable well A1W 247.

LOCATION.--Lat 41°41'54", long 70°16'50", Barnstable County, Hydrologic Unit 01090002, 30 ft east of Mary Dunn Road and 0.2 mi 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, depth 52 ft, screened 49 to 52 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 44.52 ft above sea level. Measuring point:
Top of casing, 2.0 ft above land-surface datum.

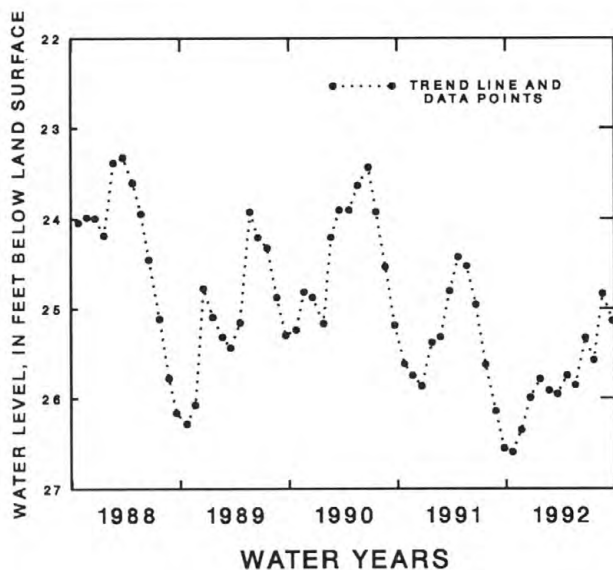
PERIOD OF RECORD.--November 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.73 ft below land-surface datum, May 26, 1987; lowest measured, 28.64 ft below land-surface datum, Oct. 25, 1966.

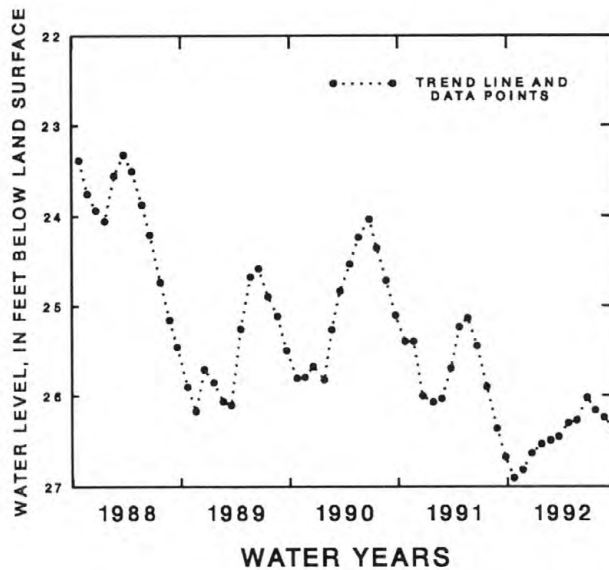
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	26.90	DEC 20	26.63	FEB 21	26.49	APR 22	26.30	JUN 24	26.02	AUG 21	26.24
NOV 20	26.81	JAN 22	26.53	MAR 20	26.45	MAY 20	26.27	JUL 22	26.16	SEP 23	26.37

A1W230



A1W247



GROUND-WATER LEVELS IN MASSACHUSETTS

173

BARNSTABLE COUNTY--Continued

414129070361401. Bourne well BHW 198.

LOCATION.--Lat 41°41'29", long 70°36'14", Barnstable County, Hydrologic Unit 01090002, 50 ft west of County Road and 0.3 mi 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, depth 50 ft, screened 47 to 50 ft; new well drilled at same location August 1990, diameter 2.0 in, depth 50 ft, screened 40-50 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 55.56 ft above sea level. Measuring point:

Top of casing, 1.65 ft above land-surface datum; prior to August 1990, 2.47 ft 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, 29.88 ft below land-surface datum, Apr. 22, 1987; lowest measured, 36.17 ft below land-surface datum, Oct. 25, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	34.50	DEC 23	33.60	FEB 21	33.42	APR 24	33.46	JUN 24	33.69	AUG 26	33.88
NOV 26	34.06	JAN 24	33.45	MAR 20	33.49	MAY 22	33.68	JUL 22	33.95	SEP 24	34.12

414518070020301. Brewster well BMW 21.

LOCATION.--Lat 41°45'18", long 70°02'03", Barnstable County, Hydrologic Unit 01090002, about 50 ft north of Nook Road, 0.1 mi south of Cliff Pond, 0.3 mi 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, depth 25 ft, screened 22 to 25 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 36.97 ft above sea level. Measuring point:

Top of casing, 2.40 ft above land-surface datum.

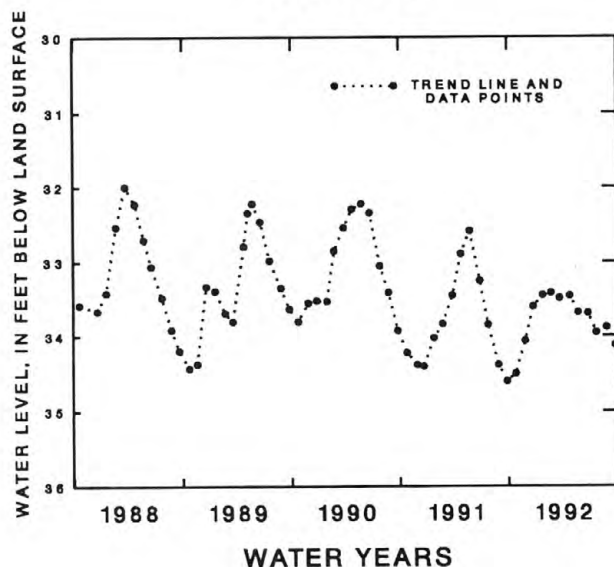
PERIOD OF RECORD.--October 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.90 ft below land-surface datum, Apr. 25, 1974; lowest measured, 13.34 ft below land-surface datum, Oct. 25, 1966.

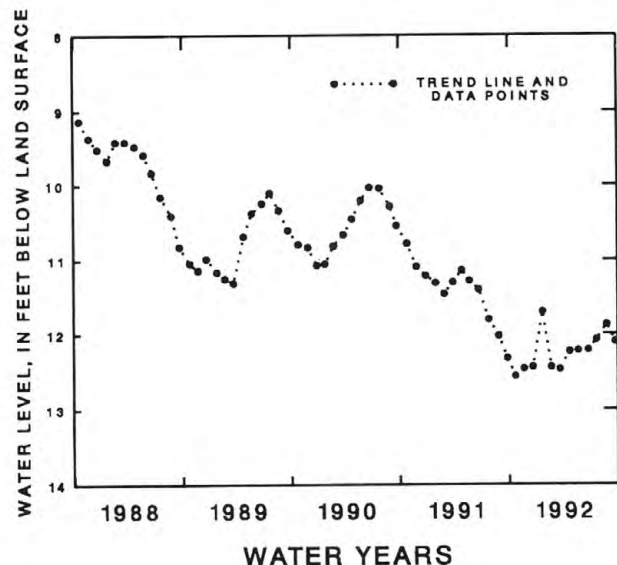
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.56	DEC 20	12.44	FEB 20	12.44	APR 22	12.23	JUN 24	12.21	AUG 25	11.87
NOV 20	12.46	JAN 22	11.70	MAR 20	12.47	MAY 21	12.22	JUL 22	12.07	SEP 23	12.10

BHW198



BMW21



GROUND-WATER LEVELS IN MASSACHUSETTS

BARNSTABLE COUNTY--Continued

414630070014901. Brewster well BMW 22.

LOCATION.--Lat 41°46'30", long 70°01'49", Barnstable County, Hydrologic Unit 01090002, 50 ft east of entrance to Nicker-
son State Park and 50 ft 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, depth 52 ft, screened 49 to 52 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 50.45 ft above 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, 28.13 ft below land-surface datum, May 26, 1983; lowest
measured, 33.60 ft below land-surface datum, Jan. 31, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	32.99	DEC 20	32.77	FEB 20	32.57	APR 22	32.29	JUN 24	31.93	AUG 25	32.12
NOV 20	32.83	JAN 22	32.58	MAR 20	32.54	MAY 21	32.18	JUL 22	32.09	SEP 23	32.45

414100070011101. Chatham well CGW 138.

LOCATION.--Lat 41°41'00", long 70°01'11", Barnstable County, Hydrologic Unit 01090002, 50 ft east of State Highway 137
and 300 ft 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, depth 44 ft, screened 41 to 44 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 35.28 ft above sea level. Measuring point:

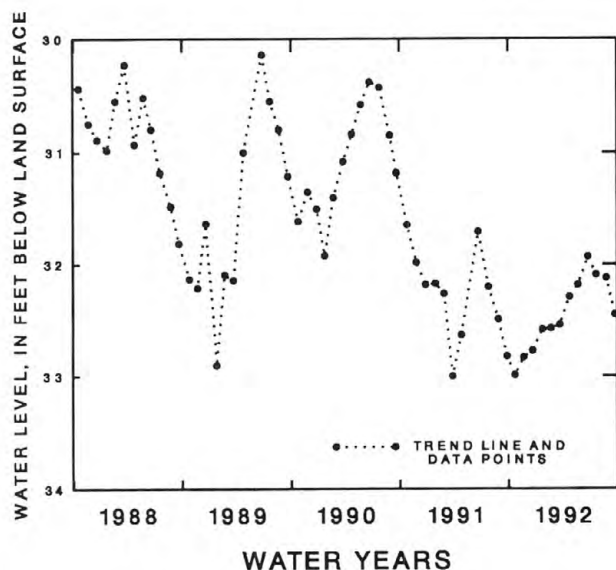
Top of casing, 4.77 ft above land-surface datum; prior to June 1980, 3.80 ft above land-surface datum.

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, 20.94 ft below land-surface datum, Apr. 25, 1983; lowest
measured, 26.38 ft below land-surface datum, Sept. 25, 1980.

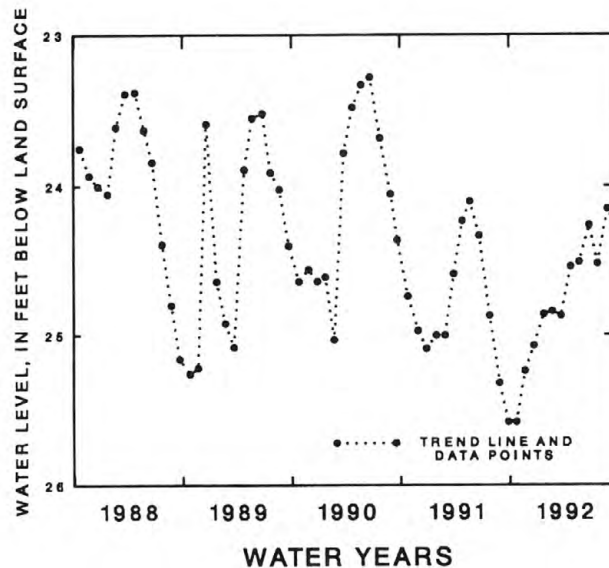
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	25.58	DEC 20	25.07	FEB 20	24.84	APR 22	24.54	JUN 24	24.26	AUG 25	24.15
NOV 20	25.24	JAN 22	24.86	MAR 20	24.87	MAY 21	24.51	JUL 22	24.52	SEP 23	24.27

BMW22



CGW138



BARNSTABLE COUNTY--Continued

413525070291904. Mashpee well MIW 29.

LOCATION.--Lat 41°35'25", long 70°29'19", Barnstable County, Hydrologic Unit 01090002, 20 ft west of dirt road, 0.8 mi north of intersection of Great Hay Road and dirt road which is 0.12 mi northeast of intersection of Red Brook Road and Great Hay Road in Mashpee.

Owner: Town of Mashpee.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Hydraulic-rotary drilled observation water-table well, diameter 2.0 in, depth 40.0 ft, screened 37.0 to 40.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 15.78 above sea level. Measuring point:

Top of steel coupling, 1.36 ft above land-surface datum.

PERIOD OF RECORD.--February 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.62 ft below land-surface datum, Apr. 22 1987; lowest measured, 10.03 ft below land-surface datum, Oct. 24, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	9.55	DEC 23	9.04	FEB 21	8.82	APR 24	8.77	JUN 24	8.53	AUG 26	8.38
NOV 26	9.19	JAN 22	8.99	MAR 24	8.86	MAY 22	7.94	JUL 22	8.84	SEP 24	8.81

414418070241601. Sandwich well SDW 252.

LOCATION.--Lat 41°44'18", long 70°24'16", Barnstable County, Hydrologic Unit 01090002, 0.5 mi north of State Highway 6A and 15 ft east of Private Road in Sandwich.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 57 ft, screened 55 to 57 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 53.47 ft above sea level. Measuring point:

Top of casing, 1.0 ft above land-surface datum.

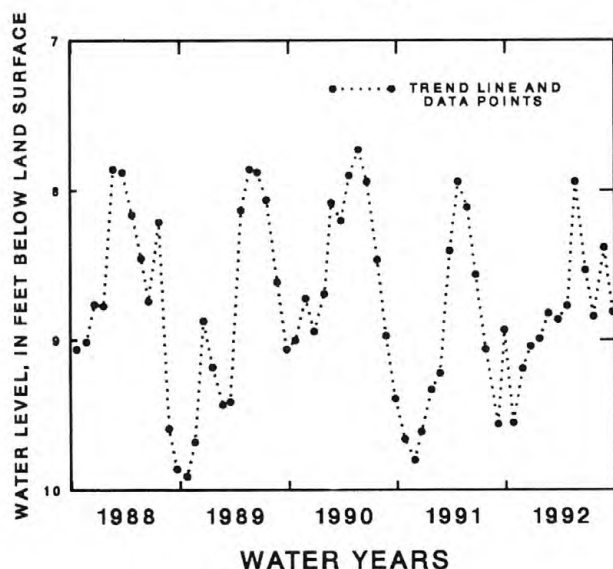
PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.88 ft below land-surface datum, Apr. 25, 1983; lowest measured, 48.23 ft below land-surface datum, Oct. 25, 1966.

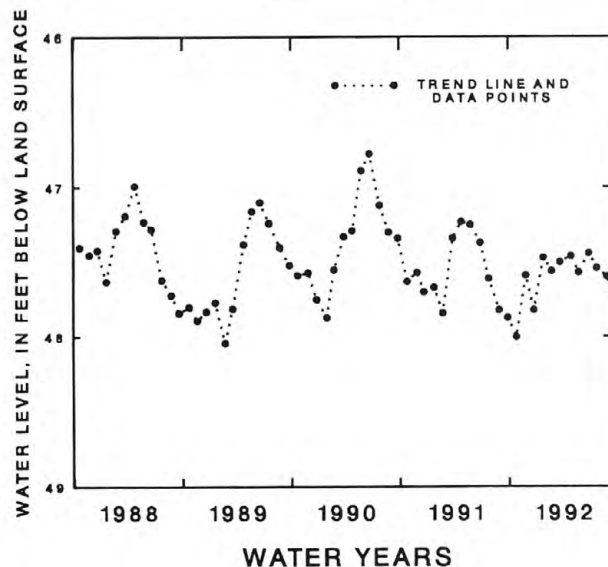
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	48.00	DEC 23	47.82	FEB 21	47.56	APR 26	47.46	JUN 25	47.44	AUG 26	47.60
NOV 26	47.59	JAN 24	47.47	MAR 20	47.50	MAY 22	47.57	JUL 22	47.54	SEP 24	47.74

MIW29



SDW252



GROUND-WATER LEVELS IN MASSACHUSETTS

BARNSTABLE COUNTY--Continued

414124070265901. Sandwich well SDW 253.

LOCATION.--Lat 41°41'24", long 70°26'59", Barnstable County, Hydrologic Unit 01090002, 800 ft west of Stowe Road and 50 ft south of Farmersville Road in Sandwich.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 70 ft, screened 67 to 70 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 111.20 ft above sea level. Measuring point:

Top of casing, 3.0 ft 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 below land-surface datum, July 30, 1973; lowest measured, 55.05 ft below land-surface datum, Feb. 28, 1967.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	52.55	DEC 23	52.68	FEB 21	52.59	APR 26	52.72	JUN 24	52.75	AUG 26	52.70
NOV 26	52.55	JAN 22	52.70	MAR 20	52.69	MAY 22	52.82	JUL 22	52.99	SEP 24	52.99

420239070062001. Truro well TSW 1.

LOCATION.--Lat 42°02'39", long 70°06'20", Barnstable County, Hydrologic Unit 01090002, near old pumping station about 200 ft north of State Highway 6A and 1.2 mi 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, depth 68 ft, cased to 68 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 16.80 ft above sea level. Measuring point:

Top of casing, 3.50 ft above land-surface datum.

REMARKS.--Water levels affected by pumping, barometric pressure, and tide.

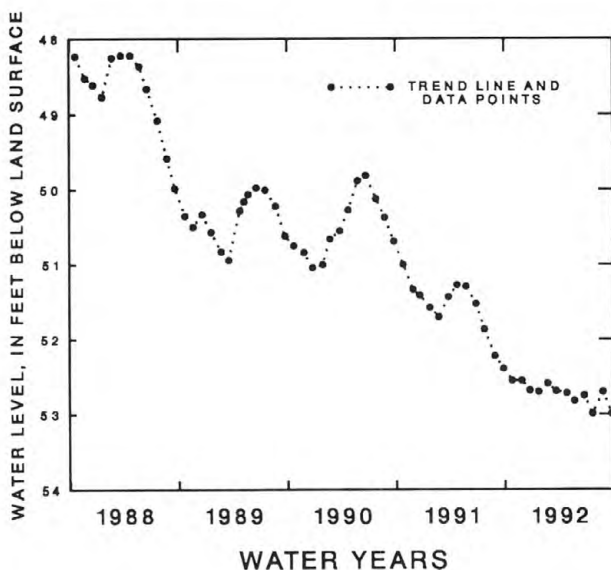
PERIOD OF RECORD.--August 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.28 ft below land-surface datum, Mar. 23, 1983; lowest measured, 12.10 ft below land-surface datum, Sept. 11, 1954.

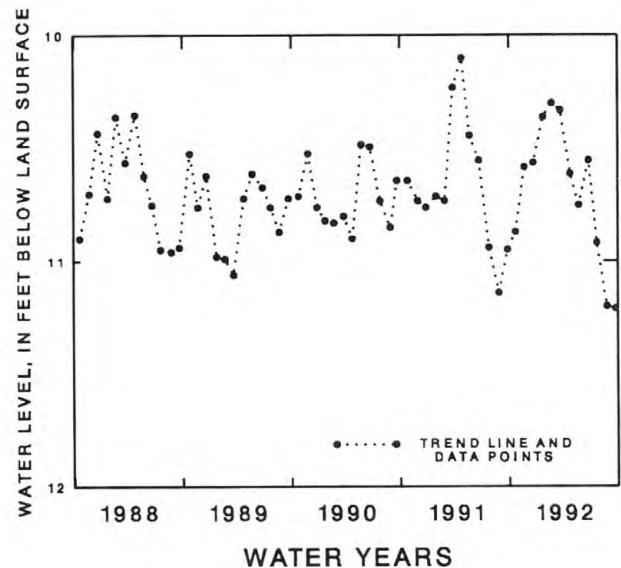
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	10.87	DEC 20	10.56	FEB 20	10.30	APR 22	10.61	JUN 23	10.55	AUG 25	11.20
NOV 20	10.58	JAN 22	10.36	MAR 20	10.33	MAY 21	10.75	JUL 22	10.92	SEP 23	11.21

SDW253



TSW1



BARNSTABLE COUNTY--Continued

420206070045901. Truro well TSW 89.

LOCATION.--Lat 42°02'06", long 70°04'59", Barnstable County, Hydrologic Unit 01090002, 300 ft west of U.S. Highway 6 and 50 ft 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, depth 27.7 ft, screened 24.7 to 27.7 ft; new well drilled at same location November 1989, diameter 2.0 in, depth 21.7 ft, screened 16.7 to 21.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 16.60 ft above sea level. Measuring point:

Top of casing, at land-surface datum; prior to November 1989, 0.22 ft 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, 10.20 ft below land-surface datum, Apr. 25, 1983; lowest measured, 12.96 ft below land-surface datum, Sept. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.60	DEC 20	12.09	FEB 20	11.92	APR 22	11.99	JUN 23	11.82	AUG 25	12.36
NOV 20	12.13	JAN 22	11.96	MAR 20	12.05	MAY 21	12.09	JUL 22	12.06	SEP 23	12.56

415353069585401. Wellfleet well WNW 17.

LOCATION.--Lat 41°53'53", long 69°58'54", Barnstable County, Hydrologic Unit 01090002, about 150 ft east of old pumping station and 45 ft 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, depth 42 ft, screen information not available.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 19.10 ft above sea level. Measuring point:

Top of casing, 1.13 ft above land-surface datum.

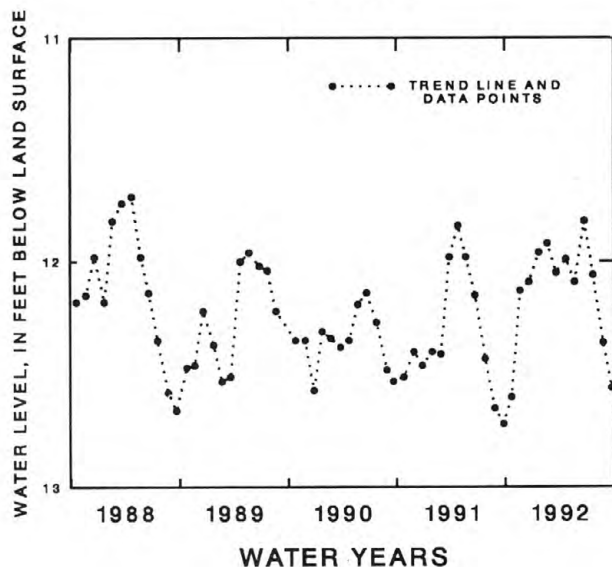
PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.27 ft below land-surface datum, June 27, 1967; lowest measured, 12.75 ft below land-surface datum, Jan. 31, 1967.

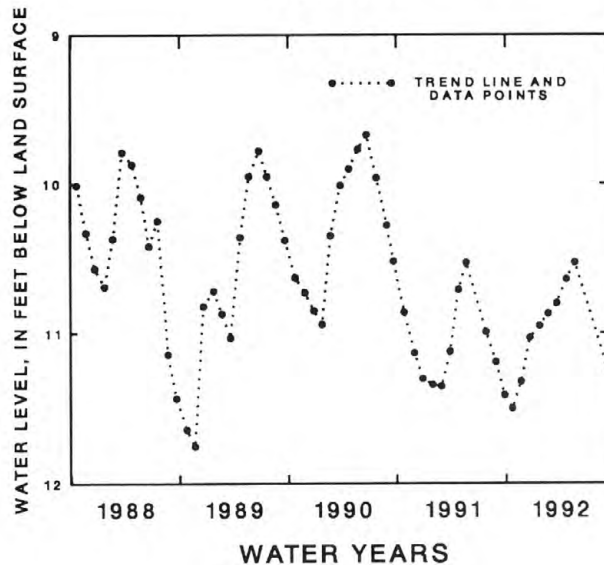
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	11.50	DEC 20	11.03	FEB 20	10.87	APR 22	10.64				
NOV 20	11.32	JAN 22	10.95	MAR 20	10.80	MAY 21	10.53				

TSW89



WNW17



GROUND-WATER LEVELS IN MASSACHUSETTS

BERKSHIRE COUNTY

421550073025101. Becket well A3W 12.

LOCATION.--Lat 42°15'50", long 73°02'51", Berkshire County, Hydrologic Unit 01080206, at edge of Bonny Rigg Restaurant parking lot, 30 ft north of Route 20 and 0.2 mi east of Route 8.

Owner: Jim McCann.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 35 ft, screened 25 to 35 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1285 ft above sea level. Measuring point:

Top of casing 3.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.56 ft below land-surface datum, July 22, 1988; lowest measured, 4.62 ft below land-surface datum, Aug. 23, 1988, July 24, 1991.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	3.35	DEC 23	3.47	FEB 24	3.81	APR 22	2.99	JUN 21	3.86	AUG 21	3.36
NOV 21	3.33	JAN 22	3.75	MAR 22	3.70	MAY 21	3.70	JUL 23	3.62	SEP 21	3.81

423503073075401. Cheshire well CJW 2.

LOCATION.--Lat 42°35'03", long 73°07'54", Berkshire County, Hydrologic Unit 02020003, at intersection of Wells and Jenks Roads 2.3 mi northeast of Cheshire.

Owner: John Jayko.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 22 ft, cased with stone to 22 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,210 ft, above sea level. Measuring point:

Inside rim of concrete well top, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1951 to current year.

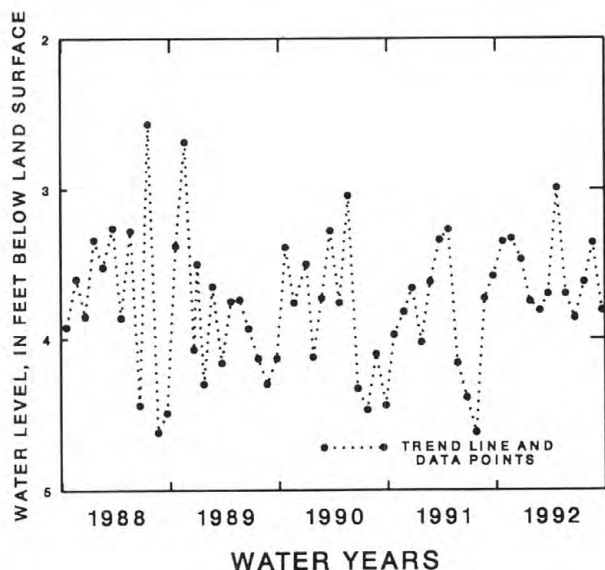
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.09 ft below land-surface datum, Jan. 19, 1952; lowest measured, 19.10 ft below land-surface datum, Sept. 20, 1991.

REMARKS.--Water level may be affected by nearby pumping during summer period.

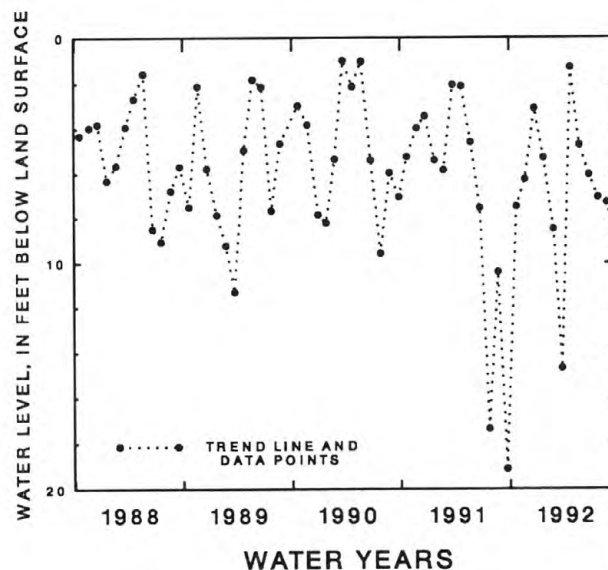
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	7.48	DEC 23	3.09	FEB 24	8.50	APR 23	1.29	JUN 23	6.05	AUG 22	7.29
NOV 21	6.26	JAN 22	5.28	MAR 23	14.68	MAY 22	4.71	JUL 23	7.06	SEP 22	8.69

A3W12



CJW2



GROUND-WATER LEVELS IN MASSACHUSETTS

179

BERKSHIRE COUNTY--Continued

421316073212801. Great Barrington well GMW 2.

LOCATION.--Lat 42°13'16", long 73°21'28", Berkshire County, Hydrologic Unit 01100005, 30 ft west of State Highway 41 and 1.5 mi 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, depth 15 ft, cased with stone to 15 ft, open end.
 INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 732 ft above sea level. Measuring point:

Top of stone curbing, east side of well 1.12 ft above land-surface datum. Prior to July 25, 1978, measured at land-surface datum.

REMARKS.--Water level affected by stream.

PERIOD OF RECORD.--June 1951 to current year. Continuous graphic recorder January 1968 to August 1982.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.99 ft below land-surface datum, Apr. 21, 1983; lowest measured, 14.97 ft below land-surface datum, Nov. 20, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	8.84	DEC 23	8.89	FEB 24	11.19	APR 23	7.25	JUN 23	11.93	AUG 22	11.96
NOV 21	9.74	JAN 22	10.15	MAR 24	9.92	MAY 22	10.01	JUL 23	12.22	SEP 22	12.24

420912073043001. Otis well OTW 7.

LOCATION.--Lat 42°09'12", long 73°04'30", Berkshire County, Hydrologic Unit 01080207, about 400 ft south of Hawley Road and 15 ft 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, depth 17.5 ft, screened 15.5 to 17.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,145 ft above sea level. Measuring point:

Top of casing, 4.12 ft above land-surface datum.

REMARKS.--Water levels affected by Minor Brook and Farmington River.

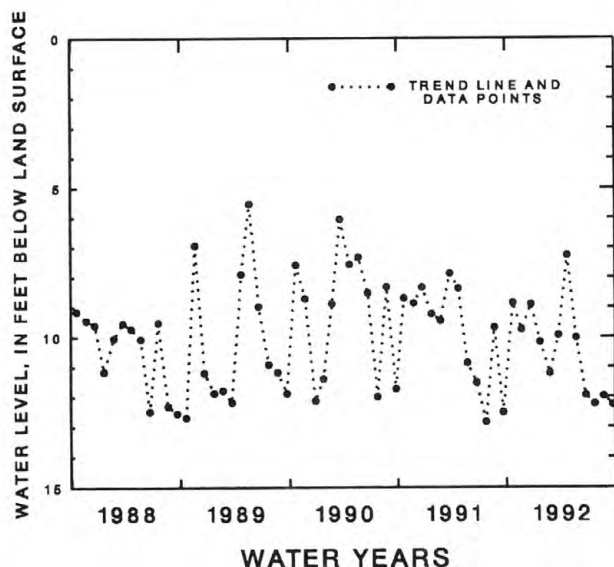
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.55 ft below land-surface datum, Apr. 21, 1983; lowest measured, 10.16 ft below land-surface datum, Sept. 21, 1983.

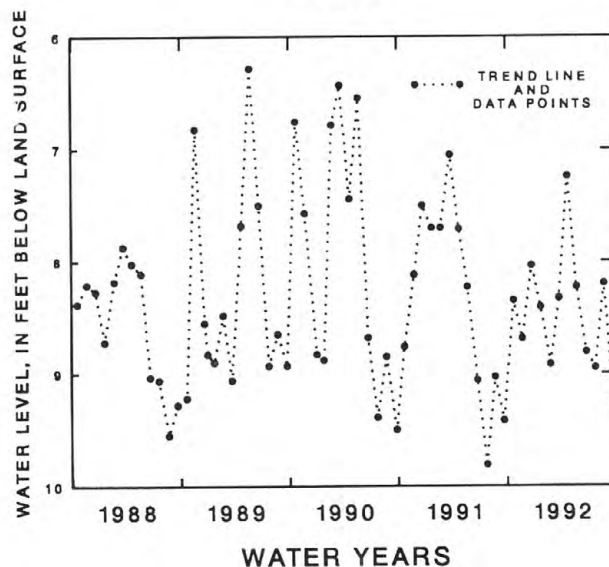
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	8.35	DEC 23	8.04	FEB 24	8.92	APR 23	7.24	JUN 23	8.81	AUG 22	8.20
NOV 21	8.69	JAN 22	8.41	MAR 24	8.33	MAY 22	8.23	JUL 23	8.95	SEP 22	9.24

GMW2



OTW7



GROUND-WATER LEVELS IN MASSACHUSETTS

BERKSHIRE COUNTY--Continued

422745073112001. Pittsfield well PTW 51.

LOCATION.--Lat 42°27'45", long 73°11'20", Berkshire County, Hydrologic Unit 01100005, 30 ft east of Hubbard Ave. and about 100 ft 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 2.0 ft, depth 31.5 ft, screened 26.5 to 31.5 ft.

Prior to July 1986, augered observation water-table well, diameter 1.25 in depth 31.5 ft, screened 29.5 to 31.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Digital recorder (60-min punch) July 1986 to current year.

DATUM.--Elevation of land-surface datum is 1,050 ft above sea level. Measuring point:

Top of casing, 1.83 ft above land-surface datum; prior to July 1986, top of casing, 2.50 ft 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 below land-surface datum, Apr. 25, 1969; lowest measured, 27.57 ft below land-surface datum, Dec. 11, 1964.

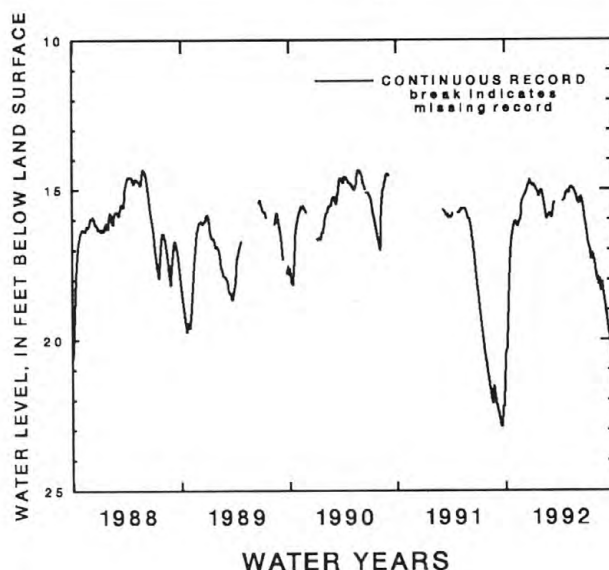
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.44	16.08	15.27	14.87	15.03	15.82	---	15.12	15.39	16.49	17.76	18.98
2	20.33	16.07	15.25	14.87	15.07	15.88	---	15.12	15.39	16.58	17.86	19.06
3	20.33	16.06	15.20	14.87	15.13	15.89	---	15.02	15.41	16.70	17.96	19.16
4	20.33	16.06	15.17	14.85	15.19	15.92	---	14.97	15.44	16.76	18.01	19.12
5	20.33	16.06	15.19	14.82	15.26	15.93	---	14.95	15.47	16.78	17.88	19.22
6	20.24	16.06	15.17	14.82	15.32	15.93	---	14.93	15.36	16.83	17.93	19.33
7	19.90	16.06	15.13	14.86	15.36	15.87	---	14.93	15.29	16.85	18.04	19.42
8	19.59	16.12	15.12	14.87	15.43	15.74	---	14.93	15.27	16.93	18.12	19.52
9	19.31	16.18	15.08	14.89	15.50	15.69	---	14.91	15.24	16.95	18.13	19.60
10	18.99	16.20	15.05	14.91	15.56	15.63	---	14.91	15.24	16.97	17.97	19.70
11	18.67	16.23	15.03	14.94	15.60	15.49	15.40	14.94	15.25	17.07	17.92	19.74
12	18.31	16.20	15.02	14.94	15.69	15.43	15.36	14.94	15.27	17.16	18.04	19.75
13	17.99	16.17	14.98	15.02	15.74	15.43	15.36	14.92	15.29	17.23	18.15	19.84
14	17.75	16.15	14.89	14.98	15.83	15.43	15.36	14.92	15.32	17.32	18.22	19.93
15	17.50	16.10	14.86	15.04	15.92	15.43	15.36	14.96	15.36	17.22	18.28	20.02
16	17.29	16.05	14.85	15.05	15.95	15.43	15.36	14.97	15.43	17.09	18.35	20.11
17	17.11	16.04	14.84	15.06	15.98	15.43	15.32	14.97	15.50	17.06	18.36	20.20
18	16.96	16.03	14.80	15.10	15.96	---	15.29	14.97	15.56	17.14	18.25	20.28
19	16.83	16.00	14.79	15.12	15.90	---	15.23	15.02	15.63	17.23	18.07	20.34
20	16.72	15.98	14.76	15.17	15.90	---	15.17	15.04	15.70	17.16	18.03	20.42
21	16.63	15.95	14.68	15.19	15.87	---	15.13	15.06	15.80	17.14	18.13	20.50
22	16.55	15.87	14.66	15.24	15.88	---	15.11	15.09	15.89	17.25	18.23	20.59
23	16.49	15.63	14.68	15.18	15.87	---	15.10	15.11	15.98	17.30	18.30	20.59
24	16.44	15.46	14.72	15.06	15.87	m 15.75	15.09	15.15	16.04	17.25	18.37	20.47
25	16.37	15.40	14.76	15.08	15.86	---	15.07	15.17	16.08	17.32	18.44	20.47
26	16.31	15.38	14.80	15.06	15.79	---	15.05	15.20	16.14	17.40	18.51	20.57
27	16.25	15.37	14.82	15.06	15.78	---	15.04	15.24	16.19	17.46	18.58	20.63
28	16.21	15.33	14.82	15.05	15.80	---	15.05	15.29	16.26	17.55	18.67	20.69
29	16.18	15.29	14.80	15.03	15.80	---	15.06	15.34	16.34	17.66	18.72	20.75
30	16.12	15.28	14.81	15.01	---	---	15.08	15.39	16.41	17.72	18.77	20.82
31	16.10	---	14.86	15.00	---	---	---	15.43	---	17.81	18.87	---
MEAN	17.89	15.90	14.93	15.00	15.65	---	---	15.06	15.63	17.14	18.22	19.99
HIGH	20.44	16.23	15.27	15.24	15.98	---	---	15.43	16.41	17.81	18.87	20.82
LOW	16.10	15.28	14.66	14.82	15.03	---	---	14.91	15.24	16.49	17.76	18.98

WTR YR 1992 HIGH 14.66 DEC 21, 22, 23 LOW 20.85 SEP 30

m Measured

PTW51



GROUND-WATER LEVELS IN MASSACHUSETTS

181

BERKSHIRE COUNTY--Continued

420351073193602. Sheffield well SJW 58.

LOCATION.--Lat 42°03'51", long 73°19'36", Berkshire County, Hydrologic Unit 01100005, about 100 ft east of U.S. Highway 7 and 30 ft 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 with sand point, diameter 2.0 in, depth 32 ft, screened 27 to 32 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 680 ft above sea level. Measuring point:

Top of casing, 1.6 ft above land-surface datum.

PERIOD OF RECORD.--October 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.02 ft below land-surface datum, June 23, 1990; lowest measured, 15.82 ft below land-surface datum, Oct. 16, 1987.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	13.19	DEC 23	13.02	FEB 24	13.47	APR 23	13.35	JUN 23	13.27	AUG 22	14.08
NOV 21	13.48	JAN 22	13.20	MAR 24	13.59	MAY 22	12.82	JUL 23	13.73	SEP 22	14.48

BRISTOL COUNTY

415447071155301. Attleboro well ATW 83.

LOCATION.--Lat 41°54'47", long 71°15'53", Bristol County, Hydrologic Unit 01090004, about 150 ft north of parking lot and 200 ft 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, depth 20.6 ft, screened 18.6 to 20.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 145 ft above sea level. Measuring point:

Top of casing, 2.5 ft above land-surface datum.

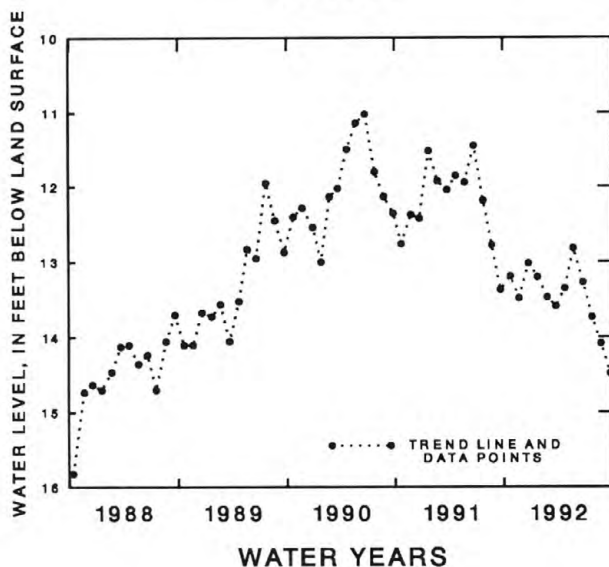
PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.98 ft below land-surface datum, Jan. 27, 1978; lowest measured, 5.23 ft below land-surface datum, Aug. 26, 1964.

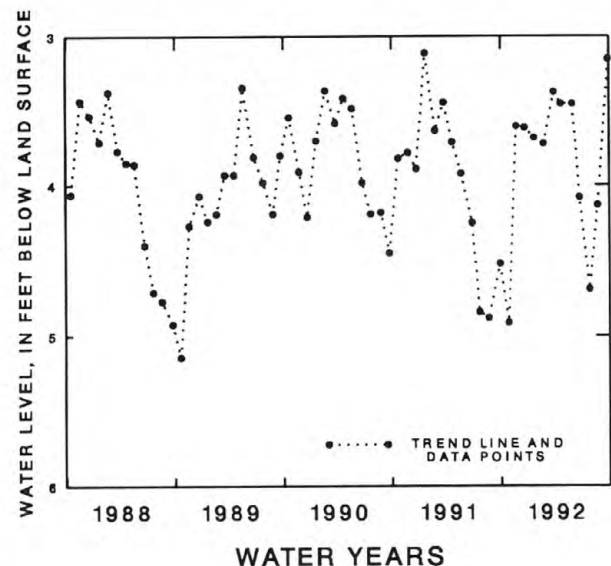
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	4.91	DEC 20	3.61	FEB 22	3.72	APR 20	3.45	JUN 22	4.08	AUG 22	4.13
NOV 22	3.60	JAN 21	3.68	MAR 28	3.37	MAY 29	3.45	JUL 25	4.69	SEP 27	3.15

SJW58



ATW83



GROUND-WATER LEVELS IN MASSACHUSETTS

BRISTOL COUNTY--Continued

414705071045301. Freetown well F3W 23.

LOCATION.--Lat 41°47'05", long 71°04'53", Bristol County, Hydrologic Unit 01090004, about 300 ft west of State Highway 24 and 200 ft 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, depth 42 ft, screened 40 to 42 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 38 ft above sea level. Measuring point:

Top of casing, 2.0 ft 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, 8.72 ft below land-surface datum, Apr. 22, 1983; lowest measured, 15.70 ft below land-surface datum, Jan. 29, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	14.49	DEC 20	13.83	FEB 22	13.85	APR 20	13.74	JUN 22	14.10	AUG 22	14.54
NOV 22	13.97	JAN 20	13.94	MAR 28	13.68	MAY 29	14.08	JUL 25	14.79	SEP 27	14.80

414025070572801. New Bedford well NGW 116.

LOCATION.--Lat 41°40'25", long 70°57'28", Bristol County, Hydrologic Unit 01090002, New Bedford Municipal Airport, 30 ft 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, depth 27.3 ft, screened 25.3 to 27.3 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 65 ft above sea level. Measuring point:

Top of casing, 1.0 ft above land-surface datum.

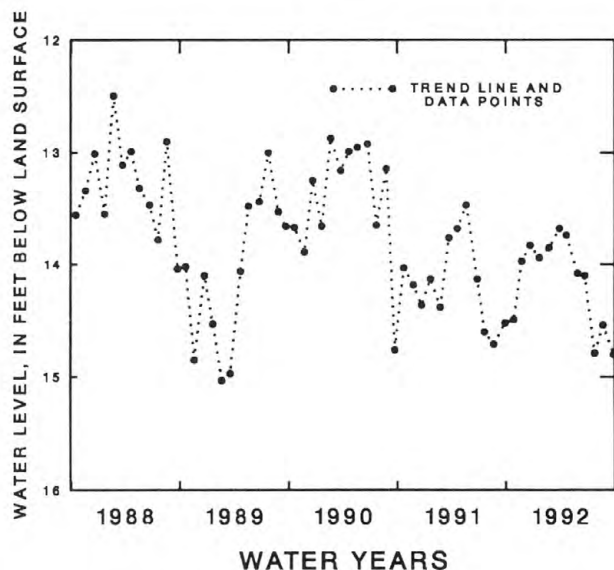
PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.31 ft below land-surface datum, Mar. 26, 1969; lowest measured, 5.20 ft below land-surface datum, July 24, 1964.

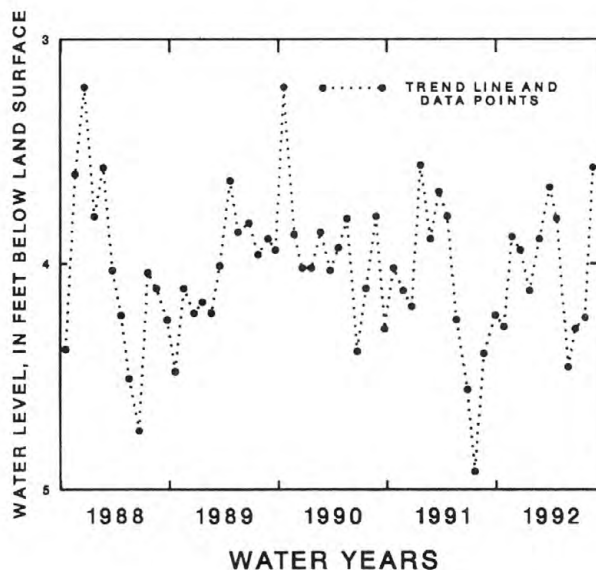
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	4.28	DEC 20	3.94	FEB 22	3.89	APR 20	3.80	JUN 22	4.29	AUG 22	3.57
NOV 22	3.88	JAN 20	4.12	MAR 28	3.66	MAY 29	4.46	JUL 25	4.24	SEP 27	3.65

F3W23



NGW116



GROUND-WATER LEVELS IN MASSACHUSETTS

183

BRISTOL COUNTY--Continued

415812071111101. Norton well N4W 37.

LOCATION.--Lat 41°58'12", long 71°11'11", Bristol County, Hydrologic Unit 01090004, at Wheaton College, 250 ft north-east 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, depth 19.4 ft, screened 17.4 to 19.4 ft. INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 105 ft above sea level. Measuring point:

Top of casing, 3.0 ft 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 below land-surface datum, Dec. 29, 1969; lowest measured, 11.24 ft below land-surface datum, Oct. 23, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	8.19	DEC 20	6.24	FEB 22	7.02	APR 20	6.44	JUN 22	8.19	AUG 22	8.07
NOV 20	6.45	JAN 20	6.68	MAR 28	5.86	MAY 29	8.16	JUL 25	9.41	SEP 27	9.21

414714071175901. Seekonk well SHW 275.

LOCATION.--Lat 41°47'14", long 71°17'59", Bristol County, Hydrologic Unit 01090004, middle of median strip of Interstate Highway 195 and 1.1 mi 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, depth 14.4 ft, screened 12.4 to 14.4 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 21 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

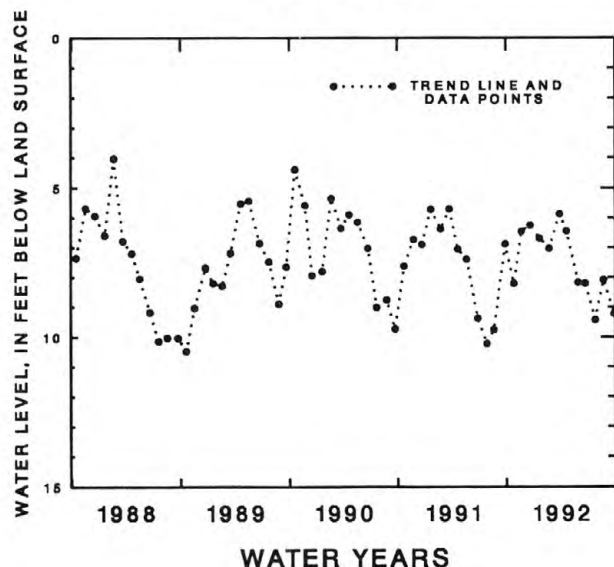
PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.02 ft below land-surface datum, Dec. 20, 1986; lowest measured, 8.02 ft below land-surface datum, Sept. 26, 1980.

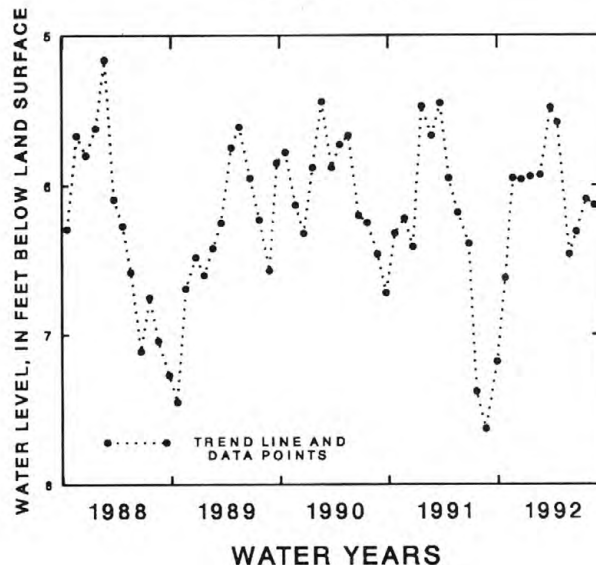
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	6.62	DEC 20	5.96	FEB 22	5.93	APR 20	5.58	JUN 22	6.31	AUG 22	6.13
NOV 22	5.95	JAN 20	5.94	MAR 28	5.48	MAY 29	6.46	JUL 25	6.09	SEP 27	6.07

N4W37



SHW275



GROUND-WATER LEVELS IN MASSACHUSETTS

BRISTOL COUNTY--Continued

415457071060101. Taunton well TAW 337.

LOCATION.--Lat 41°54'57", long 71°06'01", Bristol County, Hydrologic Unit 01090004, Taunton State Hospital, about 200 ft west of Mill River and about 300 ft 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, depth 20 ft, screened 18 to 20 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 50 ft above sea level. Measuring point:

Top of casing, 2.5 ft 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 below land-surface datum, Dec. 29, 1969; lowest measured, 12.43 ft below land-surface datum, Oct. 22, 1988.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	9.26	DEC 20	8.41	FEB 22	8.56	APR 20	8.43	JUN 22	9.29	AUG 22	9.70
NOV 22	8.55	JAN 20	8.59	MAR 28	8.31	MAY 29	9.22	JUL 25	9.72	SEP 27	9.64

DUKES COUNTY

412346070353403. Edgartown well ENW 52.

LOCATION.--Lat 41°23'46", long 70°35'34", Dukes County, Hydrologic Unit 01090002, 0.5 mi west of Airport Road and 0.6 mi north of West Tisbury Road in Edgartown.

Owner: Martha's Vineyard State Forest.

AQUIFER.--Glacial sand, gravel and cobbles of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in, depth 64 ft, screened 61 to 64 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 34 ft above sea level. Measuring point:

Top of casing, 0.02 ft below land-surface datum.

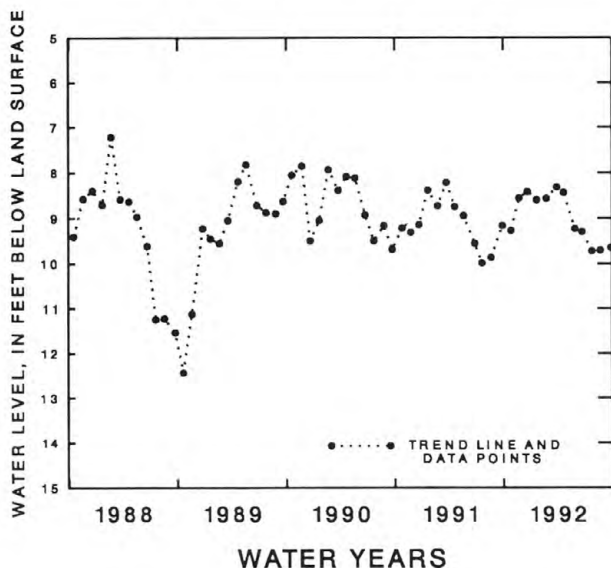
PERIOD OF RECORD.--December 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.93 ft below land-surface datum, May 24 and June 27, 1987; lowest measured, 20.51 ft below land-surface datum, Feb. 26, 1981.

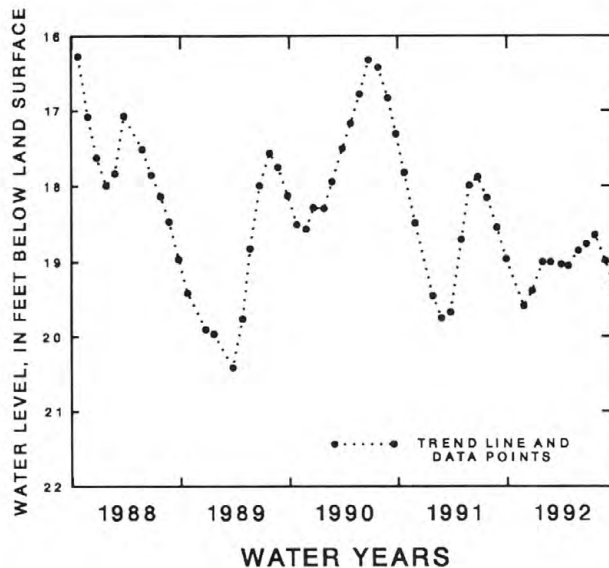
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	19.59	JAN 27	19.00	MAR 30	19.03	MAY 27	18.85	JUL 22	18.64	SEP 23	19.29
DEC 23	19.38	FEB 23	19.00	APR 23	19.05	JUN 23	18.76	AUG 27	18.98		

TAW337



ENW52



GROUND-WATER LEVELS IN MASSACHUSETTS

185

ESSEX COUNTY

423734071080901. Andover well AJW 26.

LOCATION.--Lat 42°37'34", long 71°08'09", Essex County, Hydrologic Unit 01070002, 90 ft north of Ballardvale Road and 30 ft 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, depth 15 ft, cased with stone to 15 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 189 ft above sea level. Measuring point:

Upper edge of brick lip in corner of opening, 2.5 ft 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 below land-surface datum, Mar. 26, 1969; lowest measured, dry, Oct. 26, 1986.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	10.97	DEC 23	9.21	FEB 23	10.92	APR 25	9.60	JUN 21	10.34	AUG 27	10.45
NOV 21	10.67	JAN 21	10.14	MAR 29	9.37	MAY 29	10.35	JUL 27	10.97	SEP 27	12.43

423641071102501. Andover well AJW 462.

LOCATION.--Lat 42°36'41", long 71°10'25", Essex County, Hydrologic Unit 01070002, about 1,200 ft south of Shawsheen River, and 30 ft 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, depth 32.5 ft, screened 30.5 to 32.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 110 ft above sea level. Measuring point:

Top of casing, 2.0 ft above land-surface datum.

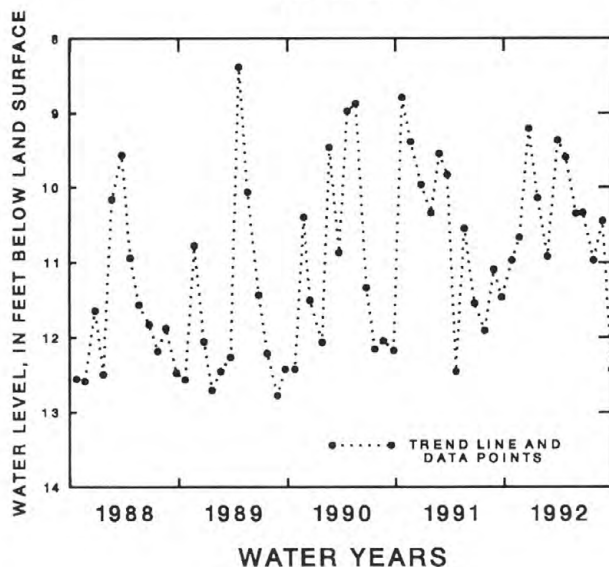
PERIOD OF RECORD.--November 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.72 ft below land-surface datum, June 20, 1984; lowest measured, 15.80 ft below land-surface datum, Oct. 23, 1980.

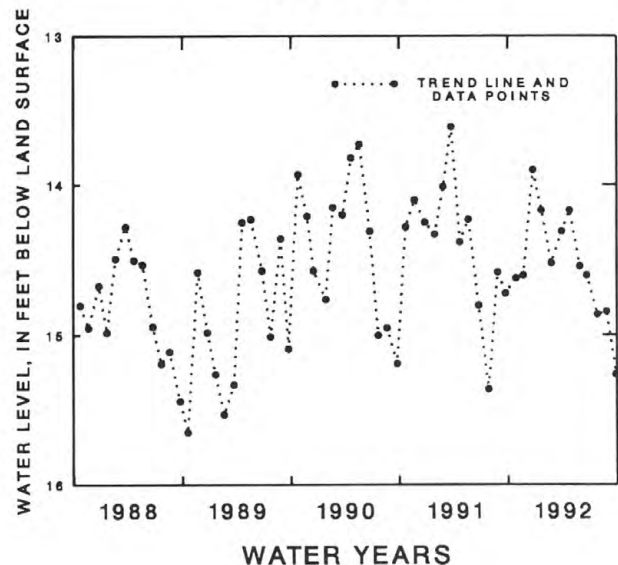
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	14.62	DEC 23	13.90	FEB 23	14.52	APR 25	14.17	JUN 21	14.60	AUG 27	14.84
NOV 21	14.60	JAN 21	14.17	MAR 29	14.31	MAY 29	14.54	JUL 27	14.86	SEP 27	15.26

AJW26



AJW462



GROUND-WATER LEVELS IN MASSACHUSETTS

ESSEX COUNTY--Continued

424322070592401. Georgetown well GCW 168.

LOCATION.--Lat 42°43'22", long 70°59'24", Essex County, Hydrologic Unit 01090001, 18 ft south of State Highway 133 and 25 ft 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, depth 21 ft, screened 19 to 21 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 80 ft above sea level. Measuring point:

Top of casing, 2.0 ft above land-surface datum.

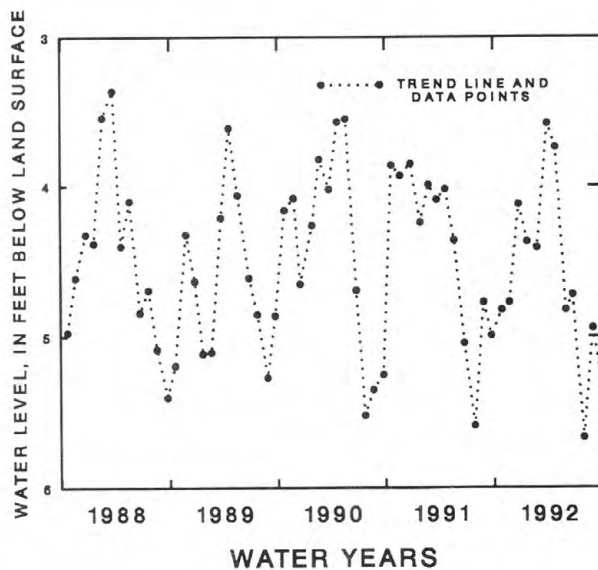
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.42 ft below land-surface datum, Mar. 27, 1969; lowest measured, 6.65 ft below land-surface datum, Sept. 22, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	4.82	DEC 23	4.12	FEB 23	4.41	APR 25	3.74	JUN 21	4.72	AUG 27	4.94
NOV 21	4.77	JAN 21	4.37	MAR 29	3.58	MAY 29	4.82	JUL 27	5.67	SEP 27	5.31

GCW168



GROUND-WATER LEVELS IN MASSACHUSETTS

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ESSEX COUNTY--Continued

424841071004101. Haverhill well HLW 23.

LOCATION.--Lat 42°48'41", long 71°00'41", Essex County, Hydrologic Unit 01070002, about 50 ft north of Amesbury Line Road and 0.9 mi south of State Highway 110 in Haverhill.

Owner: Mrs. Benjamin Hamm.

AQUIFER.--Glacial sand of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 12 in, depth 15.1 ft, cased with tile to 15.1 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Continuous graphic recorder October 1960 to September 1982, digital recorder (60-minute punch) October 1984 to current year.

DATUM.--Elevation of land-surface datum is 105 ft above sea level. Measuring point:

Top edge of hole in base of wooden recorder shelter, 1.65 ft above land-surface datum.

PERIOD OF RECORD.--October 1960 to current year.

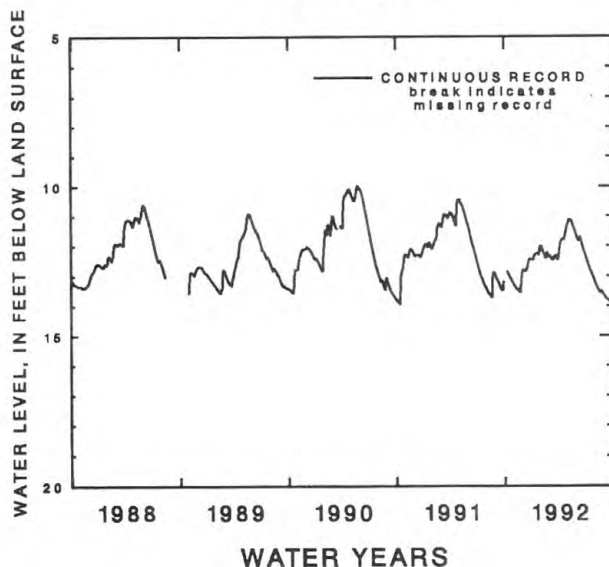
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.96 ft below land-surface datum, Apr. 7, 8, 1987; lowest, 15.02 ft below land-surface datum, Feb. 2, 1966.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	13.29	12.80	12.44	12.03	12.32	12.11	11.20	11.76	12.40	13.25	13.69
2	---	13.30	12.79	12.44	12.06	12.35	12.04	11.17	11.75	12.43	13.28	13.71
3	---	13.32	12.79	12.46	12.09	12.37	11.97	11.14	11.77	12.47	13.30	13.72
4	---	13.34	12.79	12.47	12.12	12.39	11.93	11.12	11.80	12.50	13.33	13.74
5	---	13.36	12.79	12.40	12.15	12.41	11.89	11.11	11.84	12.54	13.35	13.74
6	---	13.37	12.80	12.35	12.18	12.43	11.86	11.11	11.80	12.56	13.37	13.75
7	---	13.39	12.81	12.33	12.20	12.44	11.83	11.12	11.70	12.59	13.39	13.76
8	12.82	13.40	12.83	12.31	12.23	12.45	11.79	11.12	11.70	12.63	13.41	13.77
9	12.84	13.42	12.83	12.30	12.26	12.46	11.79	11.12	11.70	12.66	13.44	13.77
10	12.86	13.43	12.82	12.28	12.29	12.47	11.78	11.13	11.71	12.68	13.45	13.78
11	12.88	13.45	12.81	12.27	12.31	12.46	11.78	11.16	11.75	12.71	13.46	13.79
12	12.90	13.45	12.80	12.27	12.35	12.43	11.78	11.18	11.78	12.74	13.49	13.79
13	12.93	13.45	12.78	12.27	12.37	12.40	11.78	11.19	11.82	12.77	13.50	13.80
14	12.95	13.47	12.76	12.25	12.39	12.37	11.78	11.21	11.86	12.81	13.52	13.81
15	12.97	13.48	12.72	12.24	12.42	12.34	11.78	11.26	11.90	12.83	13.53	13.83
16	12.99	13.49	12.67	12.22	12.38	12.32	11.79	11.29	11.93	12.83	13.55	13.84
17	13.00	13.50	12.62	12.22	12.27	12.31	11.77	11.31	11.97	12.86	13.56	13.85
18	13.02	13.52	12.57	12.22	12.22	12.31	11.73	11.32	12.00	12.88	13.54	13.87
19	13.04	13.53	12.53	12.24	12.20	12.31	11.70	11.36	12.02	12.90	13.50	13.88
20	13.06	13.53	12.49	12.24	12.21	12.32	11.65	11.38	12.06	12.93	13.48	13.89
21	13.08	13.54	12.46	12.25	12.24	12.34	11.61	11.41	12.10	12.95	13.49	13.89
22	13.10	13.54	12.44	12.28	12.27	12.37	11.55	11.44	12.13	12.98	13.52	13.90
23	13.12	13.46	12.42	12.28	12.30	12.39	11.50	11.47	12.16	13.01	13.54	13.91
24	13.14	13.30	12.42	12.15	12.33	12.41	11.46	11.50	12.19	13.04	13.56	13.92
25	13.16	13.15	12.41	12.06	12.35	12.44	11.41	11.54	12.22	13.06	13.58	13.93
26	13.18	13.03	12.43	12.02	12.36	12.46	11.36	11.57	12.25	13.09	13.59	13.94
27	13.20	12.95	12.43	12.01	12.33	12.45	11.32	11.60	12.29	13.12	13.61	13.95
28	13.21	12.89	12.44	12.00	12.31	12.40	11.30	11.63	12.31	13.15	13.62	13.96
29	13.23	12.84	12.44	12.00	12.30	12.35	11.27	11.67	12.34	13.17	13.64	13.97
30	13.25	12.81	12.44	12.00	---	12.27	11.24	11.71	12.36	13.20	13.65	13.98
31	13.28	---	12.44	12.01	---	12.19	---	11.74	---	13.23	13.67	---
MEAN	---	13.33	12.63	12.23	12.26	12.38	11.68	11.33	11.97	12.83	13.49	13.84
HIGH	---	13.54	12.83	12.47	12.42	12.47	12.11	11.74	12.36	13.23	13.67	13.98
LOW	---	12.81	12.41	12.00	12.03	12.19	11.24	11.11	11.70	12.40	13.25	13.69

WTR YR 1992 HIGH 11.11 MAY 4, 5, 6 LOW 13.98 SEP 30

HLW23



GROUND-WATER LEVELS IN MASSACHUSETTS

ESSEX COUNTY--Continued

424520070562401. Newbury well NIW 27.

LOCATION.--Lat 42°45'20", long 70°56'24", Essex County, Hydrologic Unit 01090001, about 300 ft east of Interstate Highway 95 and 100 ft 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, depth 19.8 ft, cased with tile to 19.8 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Continuous graphic recorder January 1967 to September 1982, digital recorder (60-minute punch) October 1984 to current year.

DATUM.--Elevation of land-surface datum is 55 ft above sea level. Measuring point:

Top edge of hole in base of steel recorder shelter, 2.15 ft above land-surface datum. Prior to October 1978, 2.0 ft above land-surface datum; October 1978 to Sept. 18, 1990, 1.95 ft 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, 1.48 ft below land-surface datum, Apr. 5, 1987; lowest, 12.68 ft below land-surface datum, Nov. 24, 1965.

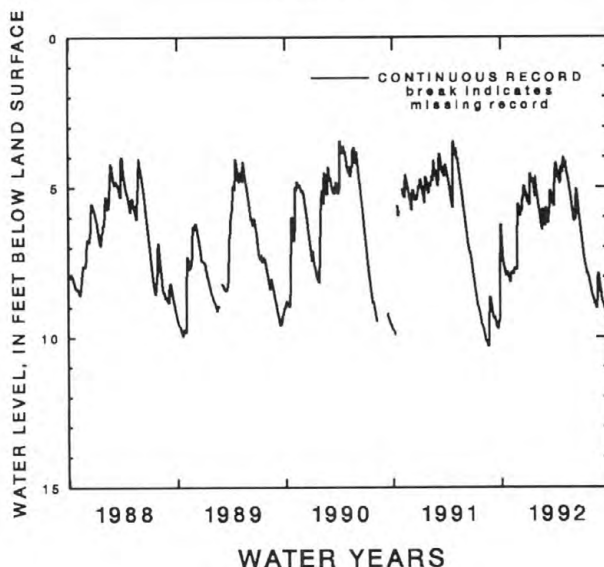
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.59	8.06	5.81	5.51	5.40	5.85	4.19	4.29	6.13	7.02	8.59	8.63
2	6.79	7.92	5.89	5.54	5.49	5.94	4.19	4.36	5.96	7.12	8.62	8.74
3	6.97	7.84	5.95	5.58	5.58	6.01	4.22	4.17	5.94	7.22	8.67	8.81
4	7.14	7.81	5.86	5.59	5.64	6.07	4.30	4.14	6.01	7.31	8.72	8.82
5	7.30	7.81	5.80	4.88	5.69	6.12	4.38	4.24	6.09	7.36	8.72	8.81
6	7.41	7.81	5.77	4.54	5.78	6.18	4.45	4.35	5.98	7.41	8.73	8.84
7	7.46	7.81	5.78	4.57	5.84	6.20	4.50	4.44	5.38	7.47	8.78	8.87
8	7.52	7.84	5.81	4.63	5.91	6.03	4.54	4.49	5.07	7.54	8.83	8.91
9	7.59	7.89	5.79	4.66	5.98	5.90	4.62	4.53	5.04	7.59	8.89	8.96
10	7.64	7.91	5.60	4.66	6.09	5.81	4.67	4.57	5.09	7.62	8.89	9.01
11	7.67	7.89	5.43	4.73	6.14	5.67	4.73	4.64	5.18	7.67	8.88	9.04
12	7.71	7.81	5.36	4.81	6.22	5.33	4.72	4.70	5.27	7.72	8.92	9.05
13	7.77	7.74	5.31	4.85	6.29	5.11	4.75	4.72	5.36	7.78	8.97	9.08
14	7.84	7.70	5.27	4.84	6.33	5.10	4.78	4.77	5.46	7.86	9.01	9.12
15	7.90	7.69	5.08	4.72	6.42	5.14	4.82	4.87	5.57	7.89	9.02	9.15
16	7.92	7.67	4.95	4.76	5.98	5.21	4.88	4.96	5.69	7.85	9.03	9.19
17	7.93	7.70	4.94	4.85	5.71	5.26	4.76	5.02	5.80	7.86	8.98	9.23
18	7.90	7.73	4.96	4.93	5.85	5.33	4.35	5.08	5.89	7.91	8.67	9.27
19	7.82	7.73	5.04	5.02	5.93	5.37	4.31	5.15	5.98	7.97	8.14	9.31
20	7.80	7.74	5.11	5.10	5.97	5.40	4.31	5.22	6.07	8.00	7.91	9.36
21	7.83	7.76	5.12	5.18	6.03	5.44	4.35	5.29	6.17	8.01	7.86	9.40
22	7.84	7.71	5.16	5.27	6.12	5.49	4.41	5.37	6.26	8.08	7.89	9.44
23	7.88	7.10	5.19	5.30	6.17	5.51	4.46	5.44	6.36	8.14	7.97	9.46
24	7.92	6.28	5.23	4.66	6.24	5.56	4.51	5.53	6.46	8.19	8.04	9.49
25	7.96	5.74	5.29	4.79	6.30	5.61	4.21	5.62	6.53	8.23	8.11	9.52
26	7.99	5.55	5.36	4.95	6.16	5.63	4.02	5.70	6.60	8.29	8.19	9.56
27	8.02	5.55	5.41	5.09	5.71	5.41	4.02	5.77	6.68	8.34	8.27	9.55
28	8.07	5.59	5.47	5.13	5.67	4.94	4.04	5.86	6.76	8.39	8.34	9.52
29	8.13	5.66	5.50	5.20	5.74	4.46	4.13	5.95	6.85	8.45	8.39	9.52
30	8.16	5.75	5.48	5.27	---	4.37	4.20	6.05	6.93	8.51	8.47	9.56
31	8.17	---	5.50	5.32	---	4.33	---	6.13	---	8.57	8.54	---
MEAN	7.70	7.29	5.43	5.00	5.94	5.48	4.43	5.01	5.95	7.85	8.55	9.17
HIGH	8.17	8.06	5.95	5.59	6.42	6.20	4.88	6.13	6.93	8.57	9.03	9.56
LOW	6.59	5.55	4.94	4.54	5.40	4.33	4.02	4.14	5.04	7.02	7.86	8.63

WTR YR 1992 HIGH 4.00 APR 28 LOW 9.58 SEP 30

NIW27



ESSEX COUNTY--Continued

423845070542501. Topsfield well TQW 1.

LOCATION.--Lat 42°38'45", long 70°54'25", Essex County, Hydrologic Unit 01090001, 0.7 mi south of Ipswich Road and 120 ft 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, depth 22.0 ft, cased with stone to 22.0 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 130 ft above sea level. Measuring point:

Top edge of steel rim in concrete cover, 0.6 ft 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, 5.22 ft below land-surface datum, Mar. 23, 1983; lowest measured, 17.52 ft below land-surface datum, Jan. 27, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	14.55	DEC 23	8.19	FEB 23	10.07	APR 25	9.07	JUN 21	11.70	AUG 27	11.87
NOV 20	12.80	JAN 21	8.96	MAR 29	9.20	MAY 29	11.21	JUL 27	12.88	SEP 27	14.41

423505070491702. Wenham well WFW 76.

LOCATION.--Lat 42°35'05", long 70°49'17", Essex County, Hydrologic Unit 01090001, 45 ft west of State Highway 128 and 120 ft 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, depth 22.0 ft, screened 20.0 to 22.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 60 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

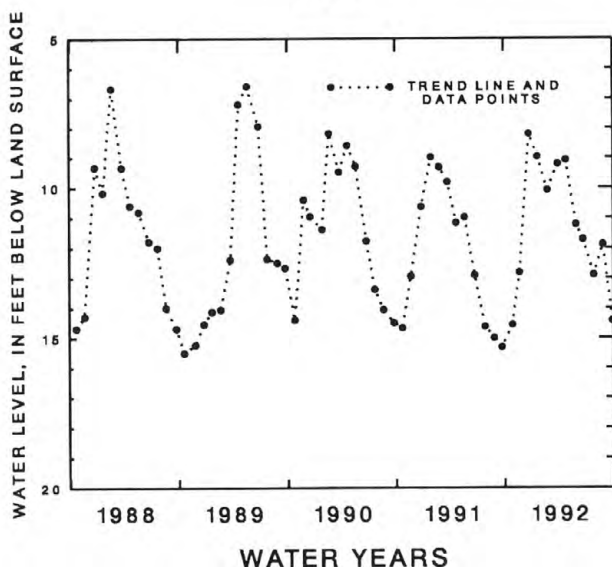
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.39 ft below land-surface datum, Jan. 26, 1978; lowest measured, 4.36 ft below land-surface datum, Sept. 28, 1971.

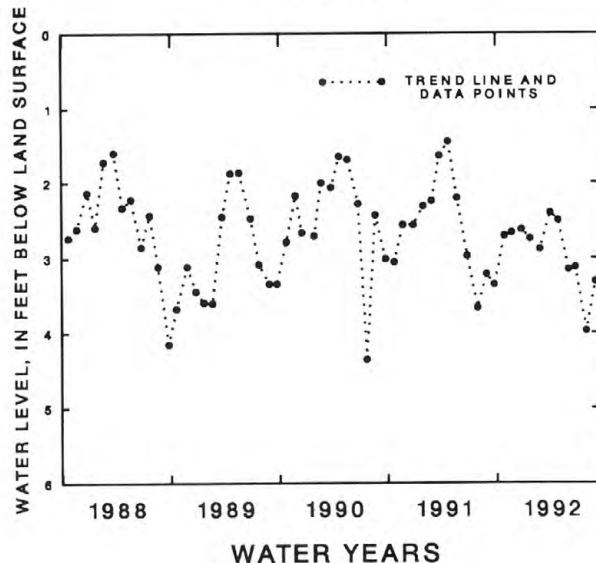
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	2.70	DEC 23	2.62	FEB 23	2.88	APR 25	2.50	JUN 21	3.12	AUG 27	3.31
NOV 20	2.66	JAN 21	2.74	MAR 29	2.40	MAY 29	3.15	JUL 27	3.97	SEP 27	3.20

TQW1



WPW76



GROUND-WATER LEVELS IN MASSACHUSETTS

FRANKLIN COUNTY

423809072435601. Colrain well CSW 8.

LOCATION.--Lat 42°38'09", long 72°43'56", Franklin County, Hydrologic Unit 01080203, 15 ft east of State Highway 112 and 100 ft 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, depth 32.3 ft, screened 30.3 to 32.3 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 460 ft above sea level. Measuring point:

Top of casing, 1.66 ft 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 below land-surface datum, Apr. 24, 1969; lowest measured, 23.48 ft below land-surface datum, Jan. 31, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	20.96	DEC 22	17.95	FEB 22	18.99	APR 22	17.51	JUN 21	18.09	AUG 21	20.26
NOV 22	19.39	JAN 23	17.94	MAR 22	19.05	MAY 23	17.50	JUL 21	19.21	SEP 21	21.11

423310072355801. Deerfield well DFW 44.

LOCATION.--Lat 42°33'10", long 72°35'58", Franklin County, Hydrologic Unit 01080203, 1.2 mi south of Deerfield River Bridge and 15 ft 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, depth 27.6 ft, screened 25.6 to 27.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 140 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

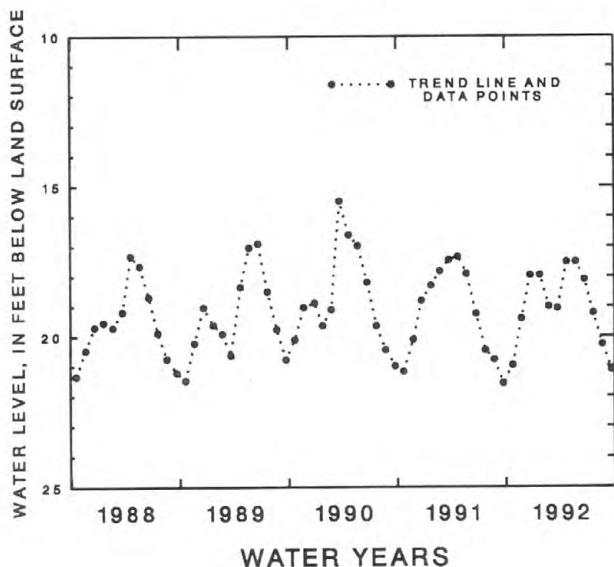
PERIOD OF RECORD.--December 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.42 ft below land-surface datum, May 29, 1979; lowest measured, 6.16 ft below land-surface datum, Sept. 25, 1980.

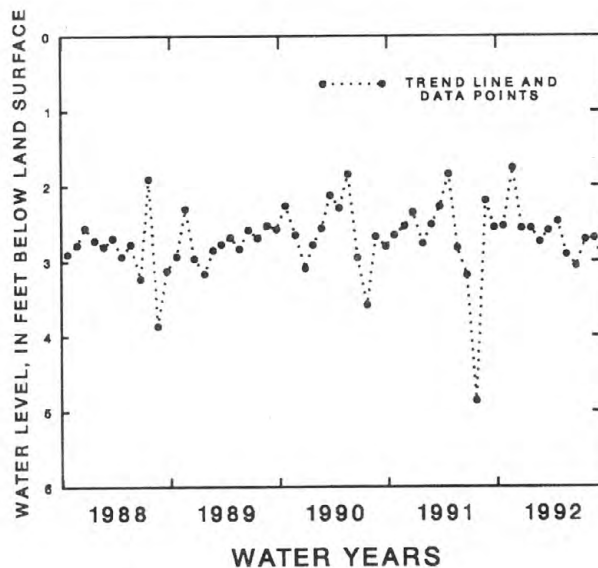
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	2.53	DEC 22	2.56	FEB 22	2.74	APR 22	2.47	JUN 22	3.06	AUG 23	2.69
NOV 23	1.76	JAN 23	2.56	MAR 21	2.59	MAY 21	2.91	JUL 24	2.71	SEP 23	3.05

CSW8



DFW44



GROUND-WATER LEVELS IN MASSACHUSETTS

191

FRANKLIN COUNTY--Continued

423339072524101. Hawley well HMW 8.

LOCATION.--Lat 42°33'39", long 72°52'41", Franklin County, Hydrologic Unit 01080206, in state forest parking area on west side of Plainfield Road opposite East Cemetery.

Owner: State Forest.

AQUIFER.--Glacial till and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 17 ft, screened 7 to 17 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1700 ft above sea level. Measuring point:

Top of casing, 4.18 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.92 ft below land-surface datum, May 23, 1990; lowest measured, 6.45 ft below land-surface datum, Aug. 22, 1987.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	4.04	DEC 22	3.44	FEB 22	4.20	APR 22	3.35	JUN 21	3.95	AUG 21	4.15
NOV 23	3.70	JAN 24	3.57	MAR 22	4.07	MAY 23	3.69	JUL 21	4.37	SEP 21	4.96

423305072320301. Montague well M5W 5.

LOCATION.--Lat 42°33'05", long 72°32'03", Franklin County, Hydrologic Unit 01080201, about 15 ft west of Montague Road, 0.2 mi north of Old Northfield Road, and 1.0 mi north of Montague.

Owner: Thomas C. Kurtyka.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in, depth 12 ft, screened 9 to 12 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 240 ft above sea level. Measuring point:

Top of casing, 1.75 ft above land-surface datum.

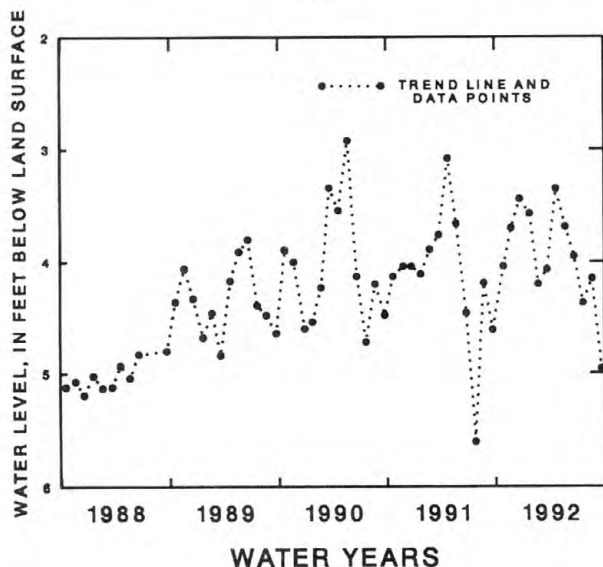
PERIOD OF RECORD.--January 1936 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.41 ft below land-surface datum, Feb. 26, 1976; lowest measured, 8.00 ft below land-surface datum, Dec. 28, 1966.

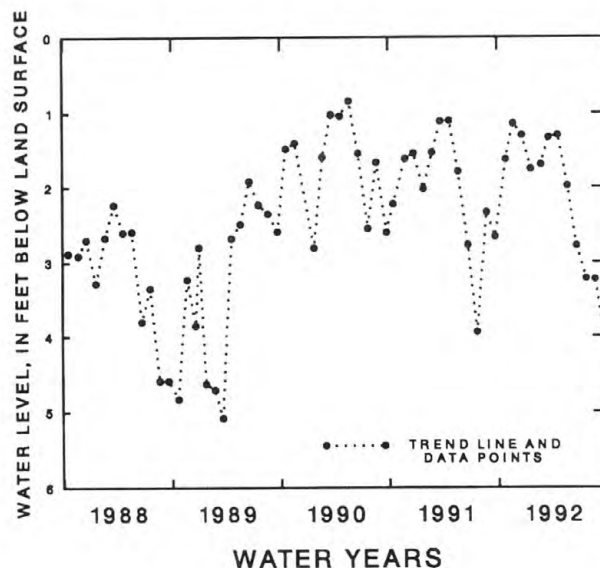
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	1.63	DEC 22	1.30	FEB 24	1.70	APR 21	1.30	JUN 22	2.78	AUG 23	3.23
NOV 23	1.14	JAN 21	1.76	MAR 21	1.33	MAY 23	1.98	JUL 24	3.22	SEP 23	4.01

HMW8



M5W5



GROUND-WATER LEVELS IN MASSACHUSETTS

FRANKLIN COUNTY--Continued

423441072170701. Orange well ORW 63.

LOCATION.--Lat 42°34'41", long 72°17'07", Franklin County, Hydrologic Unit 01080202, at Orange Airport, 100 ft along and 50 ft northwest of main entrance road to airport, off East River Street in Orange.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 20.6 ft, screened 18.6 to 20.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 530 ft above sea level. Measuring point:

Top of casing, 3.75 ft above land-surface datum, 3.45 ft prior to May 1992.

PERIOD OF RECORD.--January 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.20 ft below land-surface datum, June 21, 1989; lowest measured, 8.44 ft below land-surface datum, Mar. 22, 1989.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	6.15	DEC 22	5.86	FEB 22	7.25	MAY 23	6.97	JUL 24	7.93	SEP 23	8.13
NOV 23	6.42	JAN 23	6.60	MAR 22	7.00	JUN 22	7.36	AUG 23	7.61		

422607072324401. Sunderland well S6W 7.

LOCATION.--Lat 42°26'07", long 72°32'44", Franklin County, Hydrologic Unit 01080201, about 100 ft east of State Highway 116 and 30 ft north of Russellville Brook in Sunderland.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in, depth 54 ft, cased to 54 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 210 ft above sea level. Measuring point:

Top of casing, at land-surface datum.

REMARKS.--Water level affected by pumping and nearby Russellville Brook.

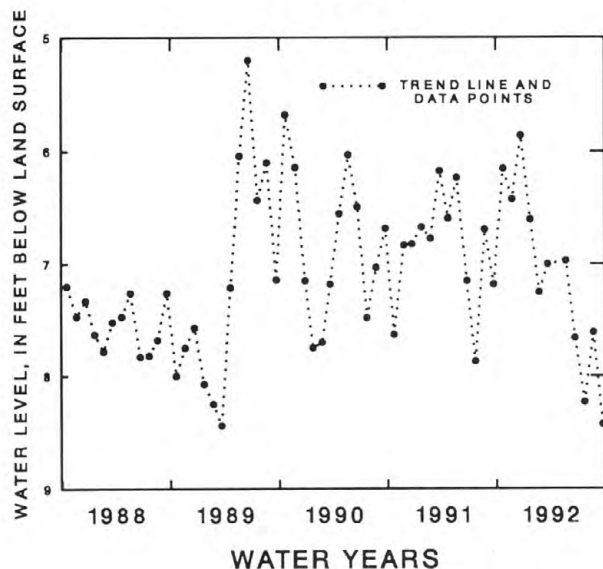
PERIOD OF RECORD.--November 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.25 ft below land-surface datum, Apr. 24, 1984; lowest measured, 23.26 ft below land-surface datum, Feb. 24, 1966.

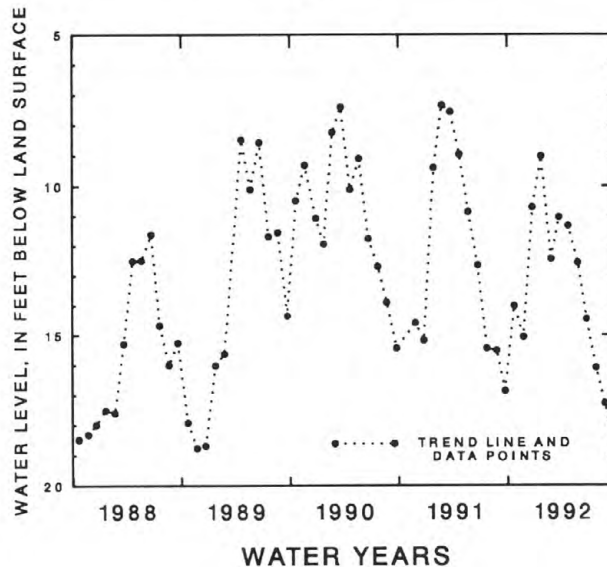
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	14.00	DEC 22	10.70	FEB 23	12.43	APR 21	11.32	JUN 22	14.45	AUG 23	17.27
NOV 22	15.05	JAN 21	9.01	MAR 21	11.03	MAY 23	12.56	JUL 24	16.08	SEP 23	18.56

ORW63



S6W7



GROUND-WATER LEVELS IN MASSACHUSETTS

193

FRANKLIN COUNTY--Continued

422559072332402. Sunderland well S6W 68.

LOCATION.--Lat 42°25'59", long 72°33'24", Franklin County, Hydrologic Unit 01080201, about 175 ft east of North Plain Road and 500 ft north of Plum Tree Road in Sunderland.

Owner: Robert Laurenitis.

AQUIFER.--Glacial lacustrine deposits of late Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in, depth 28 ft, screened 25 to 28 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 160 ft above sea level. Measuring point:

Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.09 ft below land-surface datum, Oct. 22, 1989, May 21, 1990; lowest measured, 5.00 ft below land-surface datum, Aug. 23, Sept. 22, 1985.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	2.56	DEC 22	2.29	FEB 23	3.03	APR 21	2.30	JUN 22	3.57	AUG 23	3.38
NOV 22	2.33	JAN 21	2.90	MAR 21	2.38	MAY 23	2.89	JUL 24	3.80	SEP 23	4.13

HAMPDEN COUNTY

421228072585301. Blandford well BEW 9.

LOCATION.--Lat 42°12'28", long 72°58'53", Hampden County, Hydrologic Unit 01080206, 10 ft west of Blair Road and 0.25 mi south of intersection with North Blandford Road.

Owner: Springfield Water Department.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 15 ft, screened 5 to 15 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1140 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

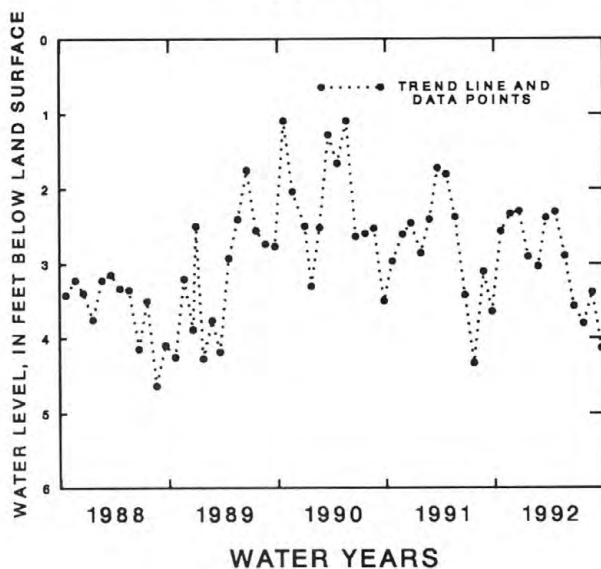
PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.89 ft below land-surface datum, May 22, 1990; lowest measured, 3.85 ft below land-surface datum, Aug. 22, 1987.

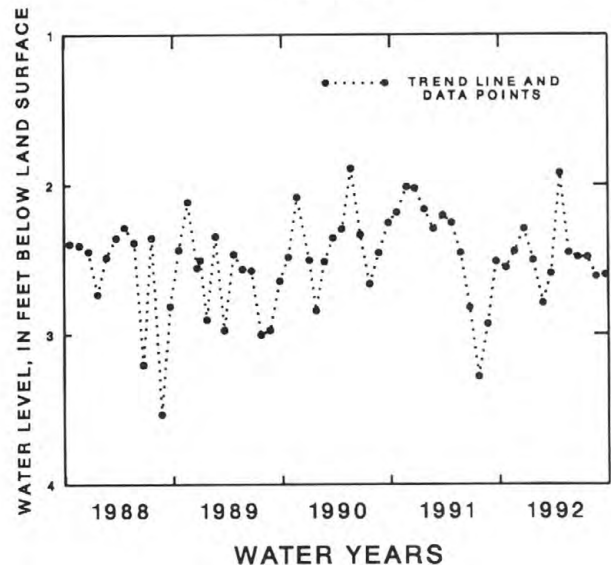
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	2.55	DEC 23	2.29	FEB 24	2.79	APR 22	1.92	JUN 21	2.48	AUG 21	2.61
NOV 21	2.44	JAN 22	2.50	MAR 22	2.59	MAY 21	2.45	JUL 23	2.48	SEP 21	2.60

S6W68



BEW9



GROUND-WATER LEVELS IN MASSACHUSETTS

HAMPDEN COUNTY--Continued

421012072324501. Chicopee well CMW 95.

LOCATION.--Lat 42°10'12", long 72°32'45", Hampden County, Hydrologic Unit 01080204, in Chicopee Memorial State Park, 100 ft east of check-in house on north side of road in Chicopee.

Owner: Commonwealth of Massachusetts.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in PVC, depth 34.0 ft, screened 30.0 to 34.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 200 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--August 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.40 ft below land-surface datum, Aug. 21, 1984; lowest measured, 23.62 ft below land-surface datum, Mar. 22, 1989.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	21.18	DEC 21	20.93	FEB 23	21.18	APR 21	21.19	JUN 21	21.14	AUG 21	21.66
NOV 22	21.31	JAN 21	20.95	MAR 21	21.30	MAY 21	20.84	JUL 21	21.50	SEP 21	21.88

420357072511601. Granville well GLW 5.

LOCATION.--Lat 42°03'57", long 72°51'16", Hampden County, Hydrologic Unit 01080206, near Granville Public School, 275 ft south of State Highway 57 and 0.2 mi 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, depth 67.7 ft, screened 65.7 to 67.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 675 ft above sea level. Measuring point:

Top of casing, 2.0 ft above land-surface datum.

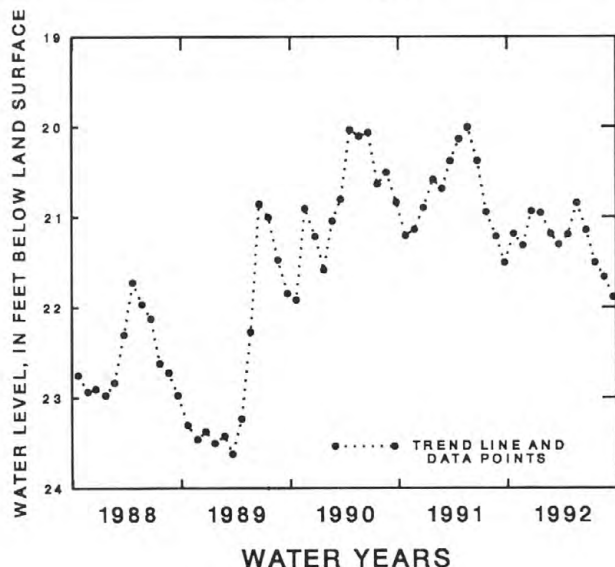
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.06 ft below land-surface datum, June 21, 1983; lowest, 37.20 ft below land-surface datum, Jan. 24, 1966.

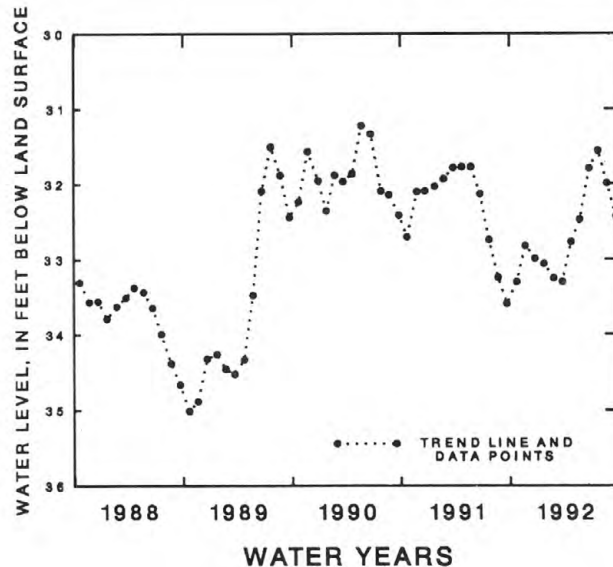
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	33.30	DEC 23	32.99	FEB 24	33.25	APR 23	32.77	JUN 23	31.79	AUG 22	31.99
NOV 21	32.82	JAN 22	33.06	MAR 24	33.30	MAY 22	32.47	JUL 23	31.55	SEP 22	32.43

CMW95



GLW5



GROUND-WATER LEVELS IN MASSACHUSETTS

195

HAMPDEN COUNTY--Continued

420259072581701. Granville well GLW 6.

LOCATION.--Lat 42°02'59", long 72°58'17", Hampden County, Hydrologic Unit 01080207, at Granville State Forest, 20 ft west of West Hartland Road and 0.9 mi 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, depth 20.8 ft, screened 18.8 to 20.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,160 ft above sea level. Measuring point:

Top of casing, 2.5 ft 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 below land-surface datum, Apr. 26, 1972; lowest measured, 8.42 ft below land-surface datum, Aug. 25, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	5.37	DEC 23	4.08	FEB 24	5.65	APR 23	2.99	JUN 23	5.05	AUG 22	4.05
NOV 21	5.85	JAN 22	4.90	MAR 24	4.82	MAY 22	5.31	JUL 23	5.18	SEP 22	6.76

421240072490201. Montgomery well M7W 19.

LOCATION.--Lat 42°12'40", long 72°49'02", Hampden County, Hydrologic Unit 01080206, at corner of Russell Road and road to cemetery, about 500 ft south of intersection of Main Road and Russell Road.

Owner: Westfield Water Department.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 18 ft, screened 8 to 18 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1060 ft above sea level. Measuring point:

Top of casing, 1.0 ft above land-surface datum.

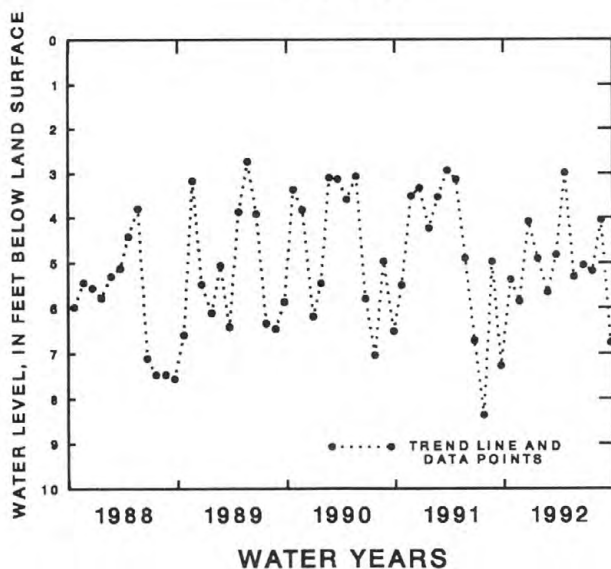
PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.08 ft below land-surface datum, Nov. 25, 1990; lowest measured, 5.86 ft below land-surface datum, Aug. 22, 1987.

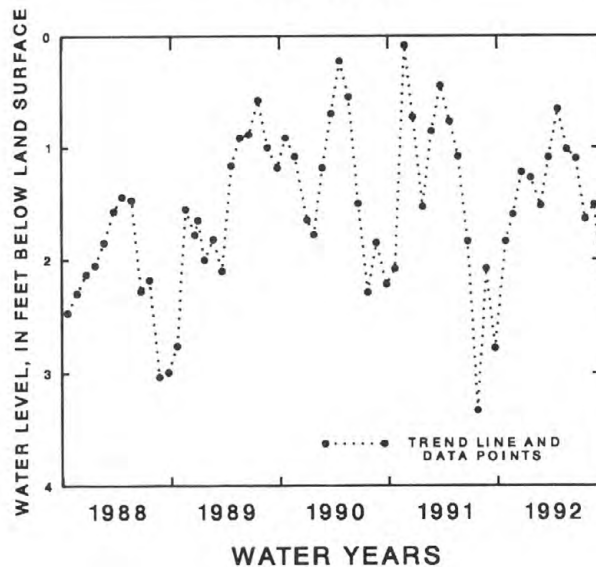
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	1.84	DEC 21	1.22	FEB 23	1.52	APR 21	.65	JUN 21	1.10	AUG 21	1.51
NOV 22	1.60	JAN 21	1.27	MAR 21	1.09	MAY 21	1.02	JUL 21	1.64	SEP 21	2.32

GLW6



M7W19



GROUND-WATER LEVELS IN MASSACHUSETTS

HAMPDEN COUNTY--Continued

420430072491201. Southwick well SVW 95.

LOCATION.--Lat 42°04'30", long 72°49'12", Hampden County, Hydrologic Unit 01080206, in garden 100 ft north of Route 57 and about 600 ft west of intersection with Loomis Street.

Owner: Paul Zaschack.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 37 ft, screened 27 to 37 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 270 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.66 ft below land-surface datum, July 24, 1989; lowest measured, 4.87 ft below land-surface datum, Oct. 22, 1986.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	3.86	DEC 23	3.78	FEB 24	3.90	APR 23	3.02	JUN 23	2.65	AUG 22	2.67
NOV 21	4.22	JAN 22	3.90	MAR 24	3.28	MAY 22	2.88	JUL 23	2.80	SEP 22	3.82

420646072420101. Westfield well WVW 62.

LOCATION.--Lat 42°06'46", long 72°42'01", Hampden County, Hydrologic Unit 01080206, at Western Massachusetts Hospital about 200 ft east of East Mountain Road and 0.4 mi 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, depth 25 ft, casing information not available.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 210 ft above sea level. Measuring point:

Top of casing, 3.5 ft above land-surface datum.

REMARKS.--Water level affected by pumping.

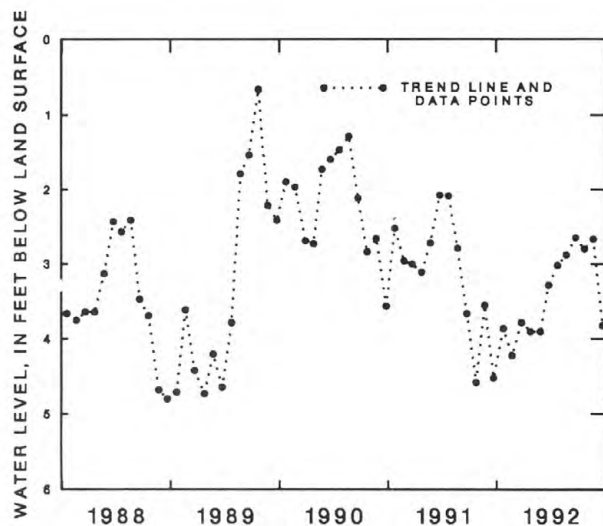
PERIOD OF RECORD.--August 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.70 ft below land-surface datum, Oct. 29, 1975; lowest measured, well dry, Sept. 22, 1983, Nov. 21, 1983, Mar. 21, 1985.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

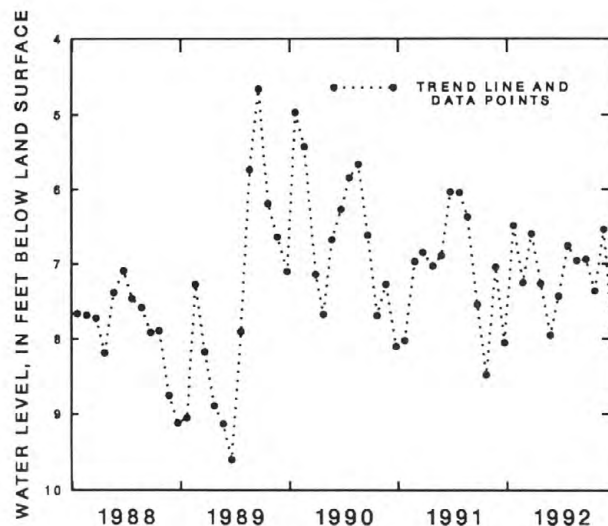
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	6.49	DEC 21	6.60	FEB 22	7.95	APR 21	6.76	JUN 21	6.94	AUG 21	6.54
NOV 22	7.25	JAN 21	7.26	MAR 21	7.43	MAY 21	6.96	JUL 21	7.36	SEP 21	8.07

SVW95



WATER YEARS

WVW62



WATER YEARS

GROUND-WATER LEVELS IN MASSACHUSETTS

197

HAMPDEN COUNTY--Continued

420924072422602. Westfield well WVW 152.

LOCATION.--Lat 42°09'24", long 72°42'26", Hampden County, Hydrologic Unit 01080206, about 100 ft south of Owen District Road, 0.4 mi west of intersection of Owen District Road and Mountain Road at East Mountain Country Club, 0.4 mi east of Barnes Municipal Airport.

Owner: City of Westfield.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.0 in, depth 16 ft, screened 6 to 16 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 215.69 ft above sea level. Measuring point:

Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.20 ft below land-surface datum, June 21, 1989; lowest measured, 4.72 ft below land-surface datum, Dec. 21, 1986, Jan. 24, 1987.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	3.62	DEC 21	3.60	FEB 22	3.50	APR 21	3.41	JUN 21	3.82	AUG 21	3.47
NOV 22	3.42	JAN 21	3.58	MAR 21	3.57	MAY 21	3.77	JUL 21	3.67	SEP 21	3.98

420905072254001. Wilbraham well XJW 55.

LOCATION.--Lat 42°09'05", long 72°25'40", Hampden County, Hydrologic Unit 01080204, 45 ft south of U.S. Highway 20 and 0.1 mi 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, depth 62.5 ft, screened 60.5 to 62.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 255 ft above sea level. Measuring point:

Top of casing, 1.0 ft above land-surface datum.

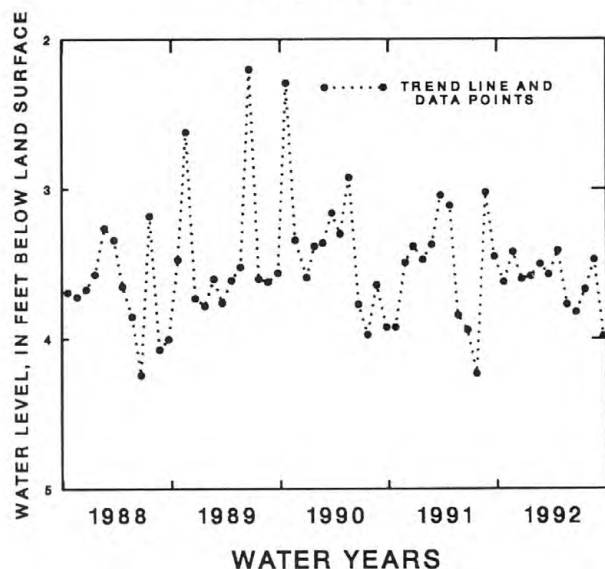
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.56 ft below land-surface datum, Mar. 28, 1979; lowest measured, 45.44 ft below land-surface datum, Jan. 24, 1966.

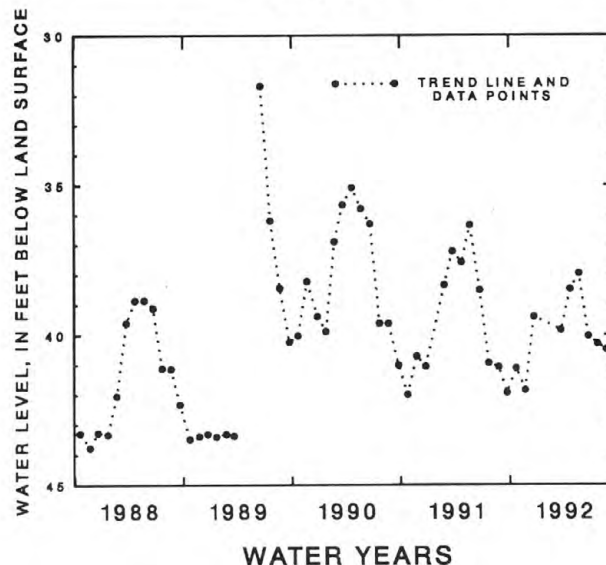
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	41.10	DEC 21	39.39	APR 21	38.47	JUN 21	40.03	AUG 21	40.48		
NOV 22	41.83	MAR 21	39.83	MAY 21	37.95	JUL 21	40.28	SEP 21	41.27		

WVW152



XJW55



GROUND-WATER LEVELS IN MASSACHUSETTS

HAMPSHIRE COUNTY

422733072532601. Cummington well CYW 13.

LOCATION.--Lat 42°27'33", long 72°53'26", Hampshire County, Hydrologic Unit 01080206, at end of dirt road between lumber yard and elementary school in Cummington center.

Owner: Town of Cummington.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 39 ft, screened 29 to 39 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 988 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.11 ft below land-surface datum, Mar. 22, 1990; lowest measured, 6.24 ft below land-surface datum, July 24, 1991.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.60	DEC 22	4.02	FEB 22	5.02	APR 22	3.67	JUN 21	5.09	AUG 21	5.29
NOV 22	3.74	JAN 24	4.22	MAR 22	5.00	MAY 23	4.62	JUL 21	5.45	SEP 21	6.15

421355072322001. Granby well GKW 68.

LOCATION.--Lat 42°13'55", long 72°32'20", Hampshire County, Hydrologic Unit 01080201, about 15 ft east of Morgan Street, 0.3 mi south of East Street, and 2.0 mi 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, depth 18 ft, screened 16 to 18 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 239.17 ft above sea level. Measuring point:

Top of casing, at land-surface datum.

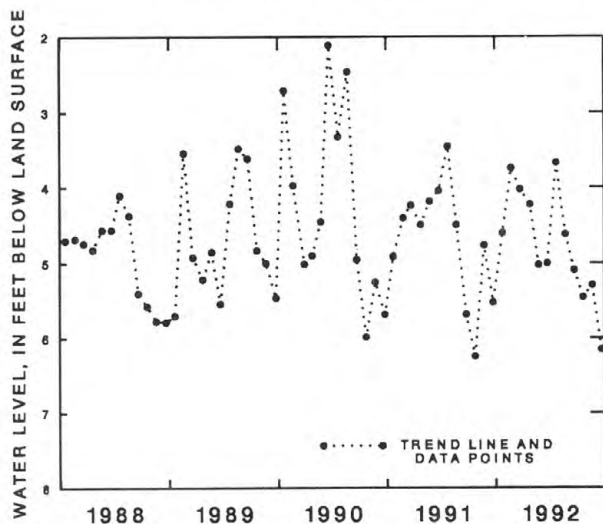
PERIOD OF RECORD.--April 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.25 ft below land-surface datum, Apr. 21, 1983; lowest measured, 11.17 ft below land-surface datum, Nov. 25, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

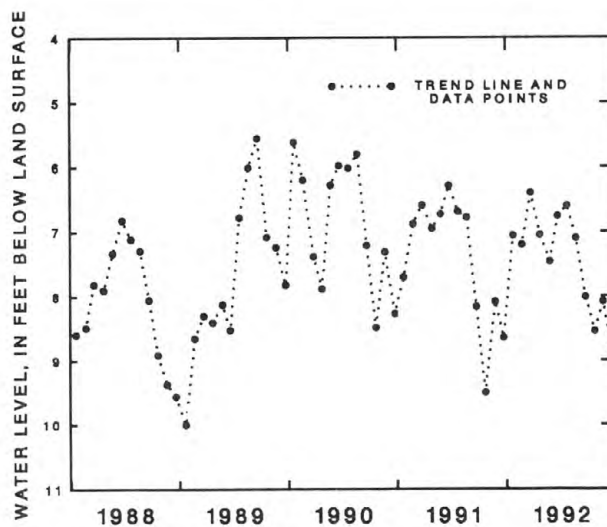
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	7.06	DEC 21	6.40	FEB 23	7.46	APR 21	6.60	JUN 22	8.01	AUG 21	8.08
NOV 22	7.20	JAN 21	7.05	MAR 21	6.76	MAY 21	7.10	JUL 24	8.54	SEP 21	8.90

CYW13



WATER YEARS

GKW68



WATER YEARS

GROUND-WATER LEVELS IN MASSACHUSETTS

199

HAMPSHIRE COUNTY--Continued

422103072241102. Pelham well PDW 23.

LOCATION.--Lat 42°21'03", long 72°24'11", Hampshire County, Hydrologic Unit 01080204, at Knight's Corner, 50 ft east of U.S. Highway 202 and 75 ft south of small pond in Pelham.

Owner: Massachusetts Department of Public Works.

AQUIFER.--Glacial sand and gravel of the Pleistocene age and bedrock.

WELL CHARACTERISTICS.--Air-percussion observation water-table well, diameter 6.0 in, depth 740 ft, cased to 740 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Continuous graphic recorder October 1981

to December 1983, April 1986 to October 1991; digital recorder (60-minute punch) October 1991 to current year.

DATUM.--Elevation of land-surface datum is 939 ft above sea level. Measuring point:

Top of hole in base of wooden recorder shelter, 1.6 ft above land-surface datum.

PERIOD OF RECORD.--October 1981 to October 1991; digital recorder (60-minute punch) October 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.44 ft below land-surface datum, Apr. 7, 1982;

lowest, 15.72 ft below land-surface datum, Sept. 21, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

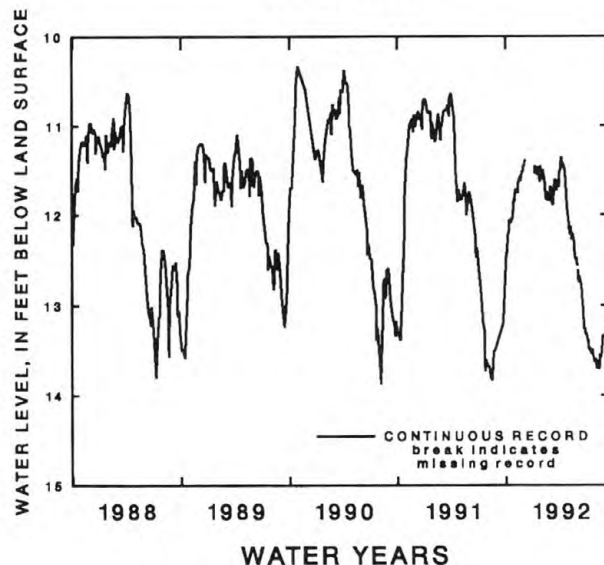
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.46	11.73	11.45	---	11.49	11.75	11.42	12.21	12.68	13.38	13.61	13.36
2	12.46	11.71	11.45	---	11.52	11.81	11.38	12.20	12.68	13.41	13.62	13.40
3	12.42	11.71	11.38	---	11.55	11.84	11.35	12.13	12.69	13.47	13.64	13.41
4	12.39	11.73	---	11.54	11.57	11.86	11.36	12.13	12.70	13.49	13.64	13.40
5	12.36	11.74	---	11.48	11.55	11.87	11.37	12.17	12.73	13.49	13.61	13.43
6	12.24	11.74	---	11.45	11.61	11.89	11.42	12.22	12.73	13.46	13.65	13.45
7	12.22	11.72	---	11.46	11.63	11.87	11.43	12.26	12.75	13.48	13.69	13.44
8	12.22	11.73	---	11.50	11.63	11.78	11.41	12.27	12.77	13.51	13.71	13.42
9	12.22	11.76	---	11.52	11.67	11.78	11.44	12.22	12.79	13.48	13.68	13.47
10	12.18	11.74	---	11.47	11.77	11.78	11.45	12.20	12.84	13.48	13.58	13.51
11	12.08	11.64	---	11.53	11.80	11.65	11.47	12.24	12.89	13.50	13.54	13.48
12	12.05	11.61	---	11.54	11.82	11.60	11.44	12.27	12.94	13.54	13.54	13.51
13	12.05	11.61	---	11.55	11.83	11.61	11.48	12.24	12.97	13.53	13.58	13.54
14	12.05	11.61	---	11.49	11.80	11.62	11.49	12.24	13.01	13.54	13.56	13.55
15	12.06	11.60	---	11.46	11.83	11.63	11.49	12.31	13.07	13.54	13.54	13.56
16	12.05	11.57	---	11.49	11.74	11.69	11.57	12.37	13.15	13.53	13.52	13.56
17	12.09	11.61	---	11.50	11.80	11.72	11.58	12.41	13.22	13.48	13.49	13.55
18	12.05	11.62	---	11.51	11.84	11.73	11.64	12.42	13.26	13.55	13.42	13.54
19	12.04	11.61	---	11.56	11.80	11.70	11.72	12.47	13.26	13.58	13.35	13.54
20	12.04	11.59	---	11.57	11.78	11.67	11.79	12.49	13.24	13.58	13.34	13.60
21	12.06	11.58	m 11.25	11.58	11.80	11.66	11.84	12.49	13.26	13.58	13.32	13.64
22	12.04	11.54	---	11.63	11.84	11.66	11.89	12.49	13.29	13.61	13.33	13.63
23	12.02	11.51	---	11.62	11.82	11.60	11.94	12.47	13.32	13.63	13.34	13.63
24	11.99	11.52	---	11.45	11.84	11.64	11.99	12.48	13.33	13.63	13.35	13.71
25	11.94	11.52	---	11.49	11.83	11.69	12.00	12.52	13.30	13.63	13.34	---
26	11.89	11.52	---	11.54	11.73	11.69	12.03	12.56	13.32	13.61	13.35	---
27	11.84	11.47	---	11.59	11.68	11.58	12.06	---	13.33	13.59	13.35	---
28	11.82	11.45	---	11.60	11.71	11.52	12.11	12.60	13.34	13.61	13.33	---
29	11.85	11.45	---	11.57	11.70	11.50	12.15	12.67	13.37	13.65	13.31	13.60
30	11.81	11.45	---	11.54	---	11.51	12.17	12.73	13.40	13.68	13.33	13.62
31	11.76	---	---	11.50	---	11.46	---	12.74	---	13.70	13.33	---
MEAN	12.09	11.61	---	---	11.72	11.69	11.66	---	13.05	13.55	13.48	---
HIGH	12.46	11.76	---	---	11.84	11.89	12.17	---	13.40	13.70	13.71	---
LOW	11.76	11.45	---	---	11.49	11.46	11.35	---	12.68	13.38	13.31	---

WTR YR 1992 HIGH 11.18 DEC 4, LOW 13.71 AUG 8, SEP 24

m Measured

PDW23



GROUND-WATER LEVELS IN MASSACHUSETTS

HAMPSHIRE COUNTY--Continued

422103072241103. Pelham well PDW 24.

LOCATION.--Lat 42°21'03", long 72°24'11", Hampshire County, Hydrologic Unit 01080204, at Knight's Corner, 50 ft east of U.S. Highway 202 and 75 ft south of small pond in Pelham.

Owner: Massachusetts Department of Public Works.

AQUIFER.--Glacial sand and till of the Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, PVC, depth 25.0 ft, screened 21.0 to 25.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 940 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--August 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.30 ft below land-surface datum, May 21, 1990, Mar. 24, 1991; lowest water level measured, 6.79 ft below land-surface datum, Aug. 23, 1987.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	3.58	DEC 21	3.32	FEB 23	4.18	APR 21	3.05	JUN 22	5.13	AUG 23	4.32
NOV 22	3.15	JAN 21	3.90	MAR 21	3.56	MAY 21	3.98	JUL 24	5.18	SEP 23	5.32

421627072201701. Ware well WEW 43.

LOCATION.--Lat 42°16'27", long 72°20'17", Hampshire County, Hydrologic Unit 01080204, 30 ft north of State Highway 9 and 200 ft 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, depth 27.2 ft, screened 25.2 to 27.2 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 380 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

REMARKS.--Water levels affected by Swift River.

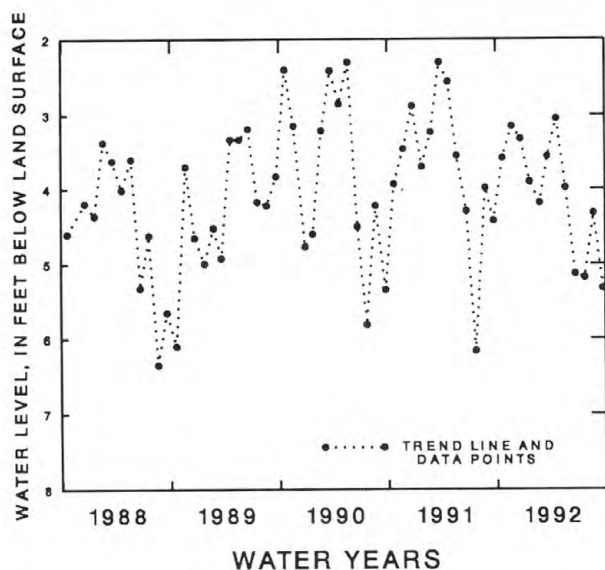
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1975, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.17 ft below land-surface datum, June 22, 1984; lowest measured, 10.34 ft below land-surface datum, Jan. 26, 1971.

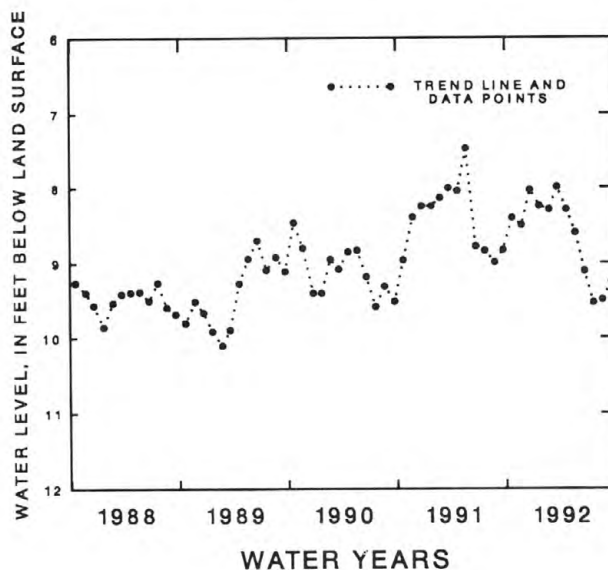
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	8.40	DEC 21	8.03	FEB 23	8.29	APR 21	8.29	JUN 21	9.11	AUG 21	9.49
NOV 22	8.50	JAN 21	8.24	MAR 21	7.99	MAY 21	8.60	JUL 21	9.53	SEP 21	9.25

PDW24



WEW43



GROUND-WATER LEVELS IN MASSACHUSETTS

201

HAMPSHIRE COUNTY--Continued

421923072451001. Westhampton well WXW 20.

LOCATION.--Lat 42°20'28", long 72°48'24", Hampshire County, Hydrologic Unit 01080206, 20 ft north of Northwest Road and 0.75 mi west of intersection of Kings Road and Northwest Road, 4 mi northwest of Westhampton.

Owner: Daniel Krug.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 42 ft, screened 32 to 42 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1175 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--July 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.30 ft below land-surface datum, June 22, 1989; lowest measured, 15.63 ft below land-surface datum, Sept. 22, 1991.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	14.88	DEC 22	11.50	FEB 22	12.19	APR 22	11.24	JUN 21	9.63	AUG 21	11.11
NOV 23	13.55	JAN 24	11.18	MAR 22	12.48	MAY 23	9.44	JUL 21	10.54	SEP 21	11.66

MIDDLESEX COUNTY

422812071244401. Acton well ACW 158.

LOCATION.--Lat 42°28'12", long 71°24'44", Middlesex County, Hydrologic Unit 01070005, 30 ft north of State Highway 2 and 150 ft 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, depth 33.8 ft, screened 31.8 to 33.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 153 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

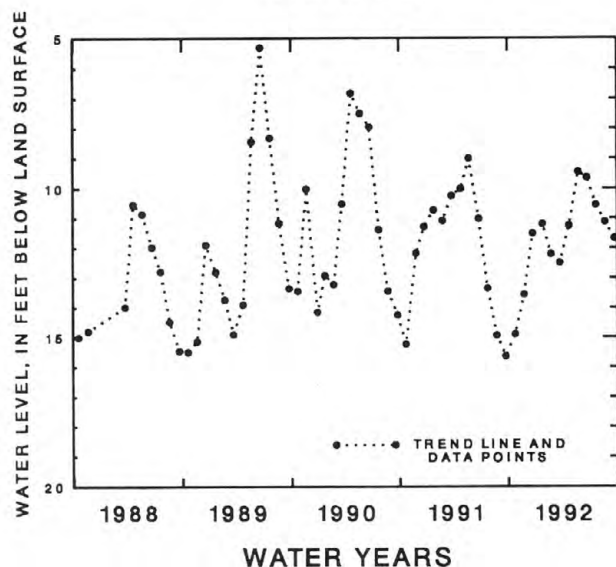
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.98 ft below land-surface datum, Apr. 23, 1987; lowest measured, 21.86 ft below land-surface datum, Jan. 26, 1966.

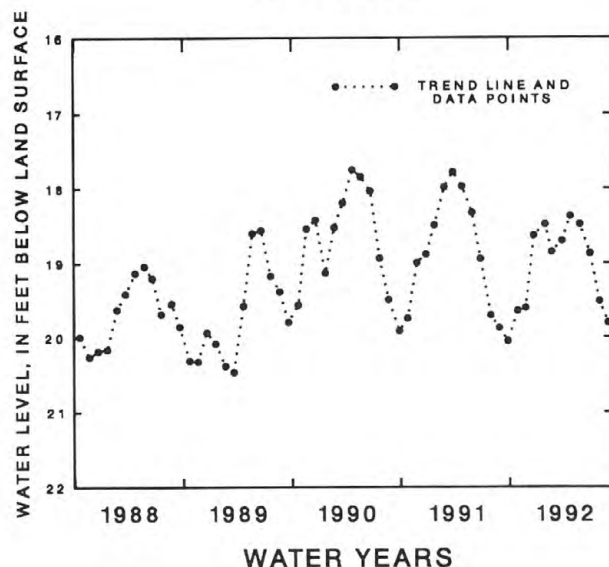
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	19.64	DEC 23	18.63	FEB 21	18.85	APR 24	18.37	JUN 29	18.87	AUG 28	19.80
NOV 25	19.60	JAN 30	18.48	MAR 27	18.70	MAY 26	18.48	JUL 30	19.51	SEP 29	20.11

WXW20



ACW158



GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY--Continued

423349071134101. Billerica well BCW 363.

LOCATION.--Lat 42°33'49", long 71°13'41", Middlesex County, Hydrologic Unit 01070002, 20 ft south of Baldwin Road and 50 ft 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, depth 15.5 ft, cased with stone to 15.5 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 166 ft above sea level. Measuring point:

Top of pipe on wooden cover, 2.50 ft 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, 1.13 ft below land-surface datum, Mar. 22, 1984; lowest measured, dry Aug. 24, Sept. 22, Oct. 25, 1983.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	8.26	DEC 23	4.63	FEB 21	6.11	APR 24	4.99	JUN 29	7.24	AUG 28	9.27
NOV 25	6.37	JAN 30	5.53	MAR 27	5.28	MAY 26	5.75	JUL 30	8.93	SEP 29	10.62

423845071231401. Chelmsford well CHW 68.

LOCATION.--Lat 42°38'45", long 71°23'14", Middlesex County, Hydrologic Unit 01070002, 1,300 ft north of intersection of Wharton Lane and the B and M Railroad, 400 ft east of Middlesex Street, and 0.5 mi north of Vinal Square in North Chelmsford.

Owner: Wellman Realty Company.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 50 ft, cased to 50 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 100.83 ft above sea level. Measuring point:

Top of hole in cap on casing, 1.40 ft below land-surface datum.

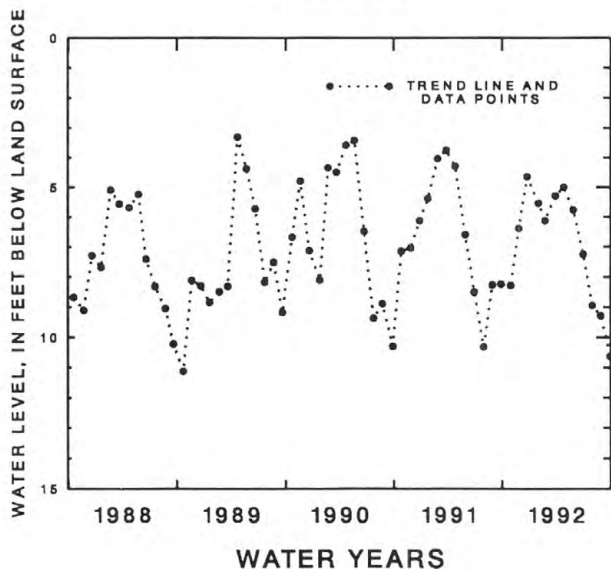
PERIOD OF RECORD.--August 1939 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.83 ft below land-surface datum, Apr. 23, 1987; lowest measured, 12.24 ft below land-surface datum, Sept. 28, 1957.

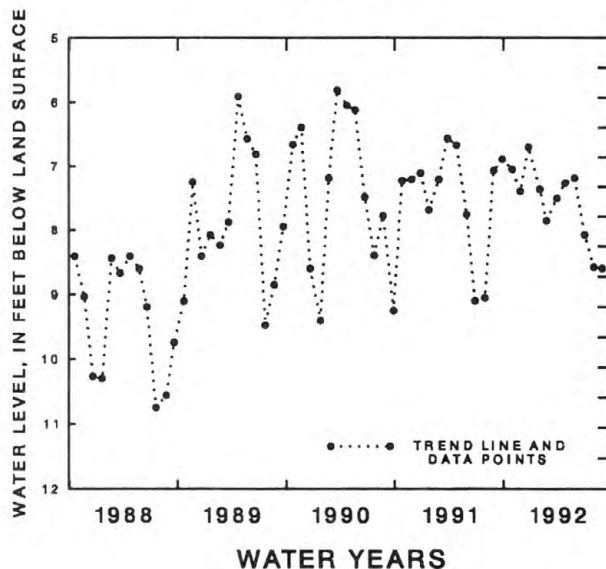
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	7.05	DEC 23	6.70	FEB 21	7.86	APR 24	7.27	JUN 29	8.08	AUG 28	8.60
NOV 25	7.40	JAN 30	7.37	MAR 27	7.51	MAY 26	7.19	JUL 30	8.58	SEP 29	8.84

BCW363



CHW68



GROUND-WATER LEVELS IN MASSACHUSETTS

203

MIDDLESEX COUNTY--Continued

423546071190702. Chelmsford well CHW 385.

LOCATION.--Lat 42°35'46", long 71°19'07", Middlesex County, Hydrologic Unit 01070002, 15 ft east of U.S. Highway 3 and 0.4 mi 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, depth 42.8 ft, screened 40.8 to 42.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 123.30 ft above sea level. Measuring point:

Top of casing, 0.3 ft below 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, 13.83 ft below land-surface datum, June 25, 1982; lowest measured, 19.04 ft below land-surface datum, Nov. 21, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	15.93	DEC 23	15.15	MAR 27	15.90	MAY 26	16.11	JUL 30	16.51	SEP 29	16.49
NOV 25	15.45	FEB 21	15.74	APR 24	15.89	JUN 29	16.04	AUG 28	16.23		

422637071202701. Concord well CTW 165.

LOCATION.--Lat 42°26'37", long 71°20'27", Middlesex County, Hydrologic Unit 01070005, 30 ft south of State Highway 2 and 0.1 mi 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, depth 66.7 ft, screened 64.7 to 66.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 201.12 ft above sea level. Measuring point:

Top of casing, 0.5 ft above land-surface datum, 2.0 ft prior to October 1991.

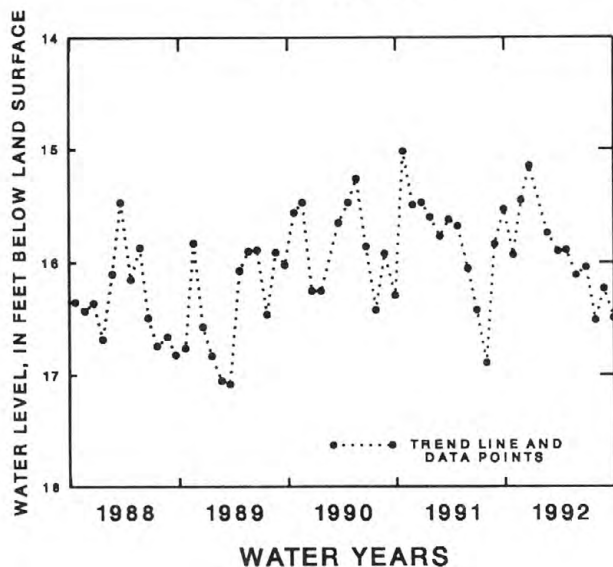
PERIOD OF RECORD.--February 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.50 ft below land-surface datum, July 20, 1984; lowest measured, 47.10 ft below land-surface datum, Feb. 28, 1967.

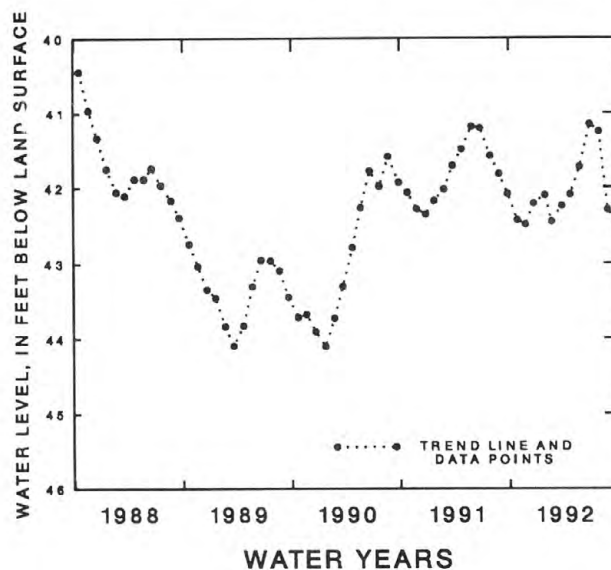
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	42.43	DEC 23	42.21	FEB 21	42.45	APR 24	42.09	JUN 29	41.15	AUG 28	42.29
NOV 25	42.49	JAN 30	42.10	MAR 27	42.24	MAY 26	41.73	JUL 30	41.25	SEP 29	42.48

CHW385



CTW165



GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY--Continued

422650071214402. Concord well CTW 167.

LOCATION.--Lat 42°26'50", long 71°21'44", Middlesex County, Hydrologic Unit 01070005, 10 ft south of State Highway 2 and 10 ft 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, depth 24.8 ft, screened 21.8 to 24.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 135 ft above sea level. Measuring point:

Top of casing, 3.30 ft 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, 4.47 ft below land-surface datum, Apr. 21, 1984; lowest measured, 10.59 ft below land-surface datum, Sept. 27, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	6.61	DEC 23	6.15	FEB 21	6.88	APR 24	5.89	JUN 29	7.40	AUG 28	7.50
NOV 25	5.66	JAN 30	6.69	MAR 27	5.89	MAY 26	6.92	JUL 30	7.79	SEP 29	8.14

422627071154002. Lexington well LTW 104.

LOCATION.--Lat 42°26'27", long 71°15'40", Middlesex County, Hydrologic Unit 01090001, at The Commonwealth of Massachusetts Department of Public Works maintenance depot, 0.2 mi west of State Highway 128 and 500 ft 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, depth 20.7 ft, screened 18.7 to 20.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 180 ft above sea level. Measuring point:

Top of casing, 4.5 ft above land-surface datum.

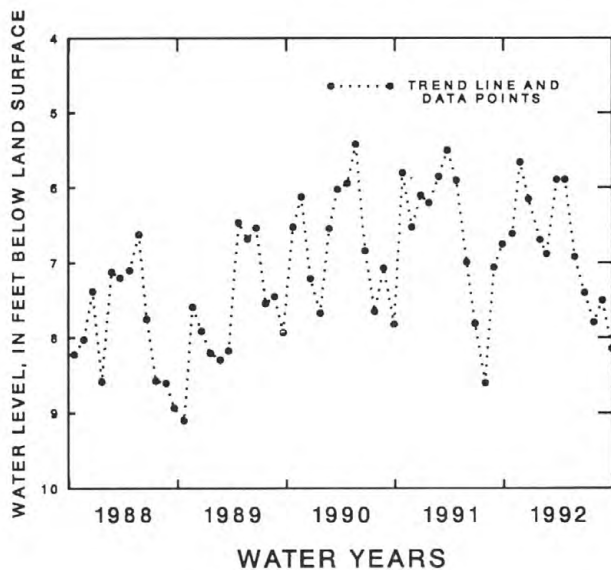
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.22 ft below land-surface datum, Mar. 20, 1984; lowest measured, 4.35 ft below land-surface datum, Aug. 26, 1975.

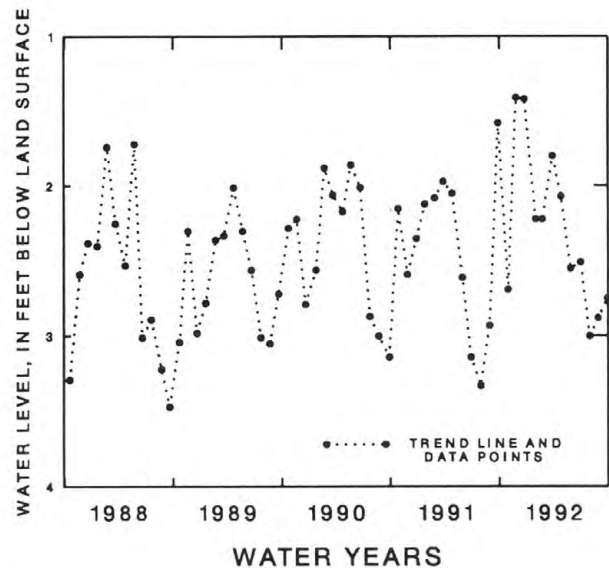
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	2.69	DEC 23	1.42	FEB 21	2.22	APR 24	2.07	JUN 29	2.51	AUG 28	2.88
NOV 25	1.41	JAN 30	2.22	MAR 27	1.80	MAY 26	2.55	JUL 30	3.00	SEP 29	2.75

CTW167



LTW104



MIDDLESEX COUNTY--Continued

421851071312601. Southborough well SSW 12.

LOCATION.--Lat 42°18'51", long 71°31'26", Middlesex County, Hydrologic Unit 01070005, 50 ft north of Overlook Drive circle, approximately .75 mile northeast of Southborough center.

Owner: Town of Southborough.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Drive-washed observation water-table well, diameter 1.25 in, depth 20 ft, screened 18 to 20 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 450 ft above sea level. Measuring point:

Top of casing, 0.5 ft above land-surface datum.

PERIOD OF RECORD.--July 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.21 ft below land-surface datum, Mar. 27, 1992; lowest measured, 12.73 ft below land-surface datum, July 30, 1991.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	6.29	DEC 23	3.51	FEB 21	5.33	APR 24	3.09	JUN 29	7.26	AUG 28	7.91
NOV 25	1.79	JAN 30	4.40	MAR 27	1.21	MAY 26	6.23	JUL 30	8.94	SEP 29	10.37

424055071435301. Townsend well TRW 13.

LOCATION.--Lat 42°40'55", long 71°43'43", Middlesex County, Hydrologic Unit 01070004, 15 ft south of Dudley Road and 15 ft 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, depth 32.9 ft, screened 30.9 to 32.9 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 313 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

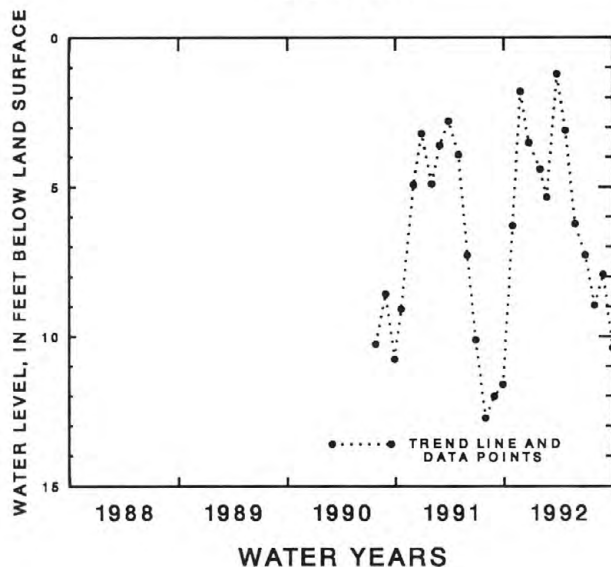
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.55 ft below land-surface datum, Apr. 24, 1987; lowest measured, 17.41 ft below land-surface datum, Jan. 26, 1966.

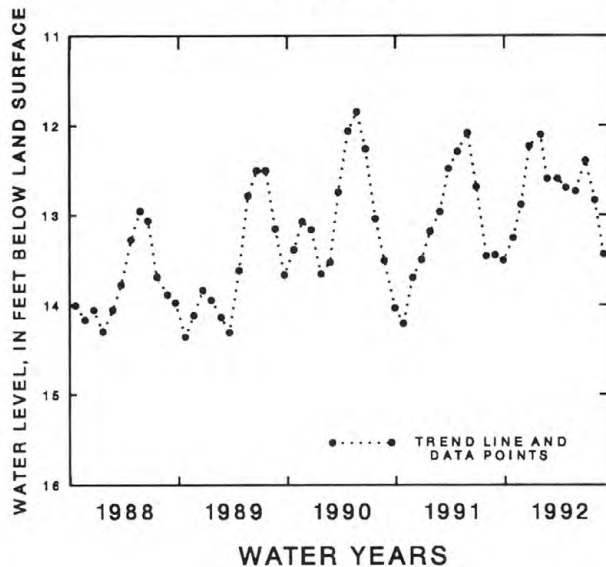
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	13.25	DEC 23	12.23	FEB 21	12.59	APR 24	12.69	JUN 29	12.39	AUG 28	13.43
NOV 25	12.88	JAN 30	12.10	MAR 27	12.59	MAY 26	12.73	JUL 30	12.83	SEP 29	13.36

SSW12



TRW13



GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY--Continued

423115071032001. Wakefield well WAW 38.

LOCATION.--Lat 42°31'15", long 71°03'20", Middlesex County, Hydrologic Unit 01090001, 75 ft north of State Highway 128 and 0.4 mi 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, depth 25.5 ft, screened 23.5 to 25.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 80 ft above sea level. Measuring point:

Top of casing, 3.0 ft 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 below land-surface datum, Mar. 27, 1969; lowest measured, 9.99 ft below land-surface datum, Sept. 22, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	7.18	DEC 23	5.92	FEB 21	6.07	APR 24	6.15	JUN 29	7.08	AUG 28	7.35
NOV 25	5.99	JAN 30	6.25	MAR 27	5.93	MAY 26	6.20	JUL 30	7.59	SEP 29	7.62

421852071220501. Wayland well WKW 2.

LOCATION.--Lat 42°18'52", long 71°22'05", Middlesex County, Hydrologic Unit 01070005, 0.25 mi west of State Highway 27 and 100 ft 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, depth 33.0 ft, screened 31.0 to 33.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 157.75 ft above sea level. Measuring point:

Top of casing, 4.0 ft above land-surface datum.

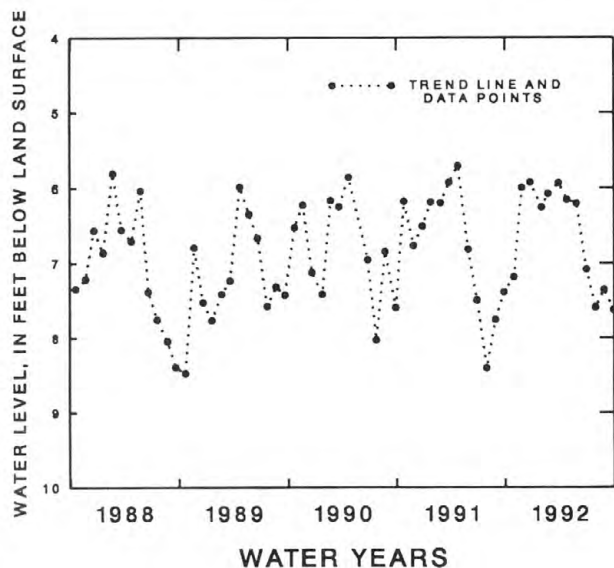
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.96 ft below land-surface datum, Mar. 27, 1972; lowest measured, 17.47 ft below land-surface datum, Jan. 22, 1981.

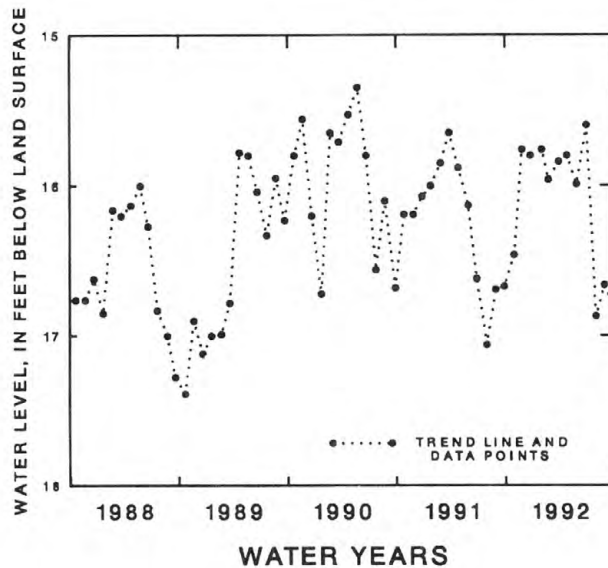
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	16.46	DEC 23	15.80	FEB 21	15.96	APR 24	15.80	JUN 29	15.60	AUG 28	16.66
NOV 25	15.76	JAN 30	15.76	MAR 27	15.84	MAY 26	15.99	JUL 30	16.87	SEP 29	16.82

WAW38



WKW2



GROUND-WATER LEVELS IN MASSACHUSETTS

207

MIDDLESEX COUNTY--Continued

423401071093801. Wilmington well XMW 78.

LOCATION.--Lat 42°34'01", long 71°09'38", Middlesex County, Hydrologic Unit 01090001, at Whitefield Public School in Wilmington, about 30 ft west of State Highway 62, and 0.3 mi 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, depth 12 ft, cased with stone to 12 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Continuous graphic recorder March 1958 to September 1982, digital recorder (60-minute punch) October 1984 to current year.

DATUM.--Elevation of land-surface datum is 95 ft above sea level. Measuring point:

Top edge of hole in base of wooden recorder shelter, 0.27 ft above land-surface datum, 0.42 ft prior to May 1991.

PERIOD OF RECORD.--July 1951 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.19 ft below land-surface datum, Apr. 19, 20, 1987; lowest measured, 11.27 ft below land-surface datum, Oct. 30, 1957.

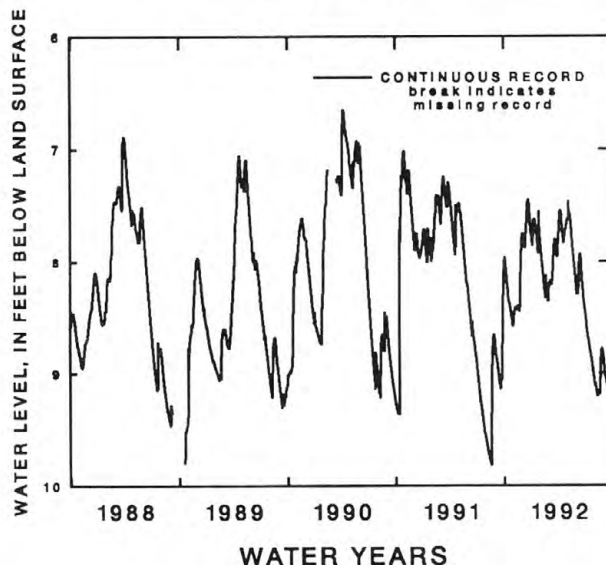
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.98	8.52	7.75	7.81	7.93	8.18	7.66	7.63	8.13	8.52	9.08	8.98
2	7.96	8.49	7.78	7.84	7.96	8.18	7.61	7.64	8.17	8.56	9.11	9.01
3	7.98	8.46	7.79	7.86	7.99	8.17	7.57	7.46	8.22	8.59	9.13	9.03
4	8.01	8.45	7.80	7.79	8.02	8.17	7.55	7.55	8.26	8.61	9.15	9.03
5	8.05	8.43	7.84	7.63	8.04	8.18	7.54	7.56	8.30	8.63	9.16	9.04
6	8.07	8.41	7.84	7.65	8.07	8.21	7.55	7.57	8.04	8.65	9.18	9.05
7	8.10	8.41	7.85	7.64	8.10	8.21	7.56	7.57	8.02	8.66	9.20	9.07
8	8.14	8.41	7.88	7.65	8.12	8.18	7.58	7.58	7.99	8.69	9.21	9.08
9	8.18	8.43	7.87	7.64	8.15	8.17	7.63	7.58	7.96	8.69	9.20	9.10
10	8.20	8.44	7.82	7.62	8.20	8.14	7.67	7.61	7.94	8.71	9.15	9.10
11	8.22	8.42	7.76	7.64	8.22	8.08	7.71	7.67	7.93	8.73	9.16	9.10
12	8.25	8.40	7.72	7.67	8.25	8.00	7.73	7.70	7.93	8.75	9.17	9.10
13	8.29	8.41	7.68	7.67	8.27	7.95	7.77	7.72	7.94	8.77	9.18	9.12
14	8.32	8.41	7.64	7.67	8.30	7.90	7.78	7.77	7.98	8.79	9.19	9.13
15	8.35	8.40	7.58	7.69	8.33	7.85	7.81	7.82	8.04	8.81	9.18	9.14
16	8.36	8.39	7.54	7.72	8.12	7.83	7.84	7.86	8.09	8.82	9.18	9.16
17	8.38	8.41	7.50	7.76	8.14	7.80	7.82	7.88	8.14	8.83	9.14	9.17
18	8.38	8.41	7.46	7.79	8.20	7.80	7.79	7.90	8.18	8.85	8.98	9.19
19	8.38	8.42	7.46	7.84	8.22	7.80	7.77	7.94	8.21	8.87	8.90	9.18
20	8.40	8.43	7.45	7.85	8.25	7.81	7.74	7.97	8.24	8.89	8.85	9.19
21	8.42	8.45	7.45	7.90	8.29	7.83	7.72	8.00	8.28	8.91	8.82	9.20
22	8.43	8.40	7.48	7.93	8.32	7.86	7.71	8.02	8.31	8.94	8.79	9.22
23	8.46	8.15	7.51	7.85	8.33	7.88	7.71	8.05	8.35	8.95	8.78	9.22
24	8.48	8.10	7.56	7.55	8.35	7.92	7.71	8.08	8.37	8.98	8.78	9.23
25	8.49	8.00	7.62	7.67	8.36	7.94	7.68	8.11	8.39	8.99	8.79	9.23
26	8.50	7.91	7.67	7.72	8.30	7.96	7.66	8.14	8.41	9.01	8.80	9.24
27	8.52	7.85	7.71	7.77	8.24	7.91	7.64	8.17	8.43	9.03	8.83	9.18
28	8.54	7.79	7.74	7.80	8.21	7.85	7.63	8.20	8.44	9.05	8.85	9.18
29	8.57	7.76	7.75	7.83	8.19	7.80	7.62	8.24	8.47	9.08	8.88	9.18
30	8.58	7.75	7.74	7.86	---	7.76	7.62	8.27	8.50	9.09	8.91	9.20
31	8.57	---	7.79	7.89	---	7.71	---	8.30	---	9.11	8.94	---
MEAN	8.31	8.29	7.68	7.75	8.19	7.97	7.68	7.86	8.19	8.82	9.02	9.13
HIGH	8.58	8.52	7.88	7.93	8.36	8.21	7.84	8.30	8.50	9.11	9.21	9.24
LOW	7.96	7.75	7.45	7.55	7.93	7.71	7.54	7.46	7.93	8.52	8.78	8.98

WTR YR 1992 HIGH 7.23 MAY 3 LOW 9.24 SEP 25, 26

XMW78



GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY--Continued

422819071065701. Winchester well XOW 14.

LOCATION.--Lat 42°28'19", long 71°06'57", Middlesex County, Hydrologic Unit 01090001, at 220 Forest Street and 100 ft north of Forest Street in Winchester.

Owner: J. E. Sharkey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in, depth 17.0 ft, cased with stone to 17.0 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 116.29 ft above 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 below land-surface datum, Mar. 26, 1969; lowest measured, 15.60 ft below land-surface datum, Oct. 31, 1957.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	10.80	DEC 23	8.93	FEB 21	10.48	APR 24	9.19	JUN 29	11.62	AUG 28	13.35
NOV 25	7.40	JAN 30	9.00	MAR 27	9.44	MAY 26	11.02	JUL 30	13.32	SEP 29	12.81

NANTUCKET COUNTY

411555070021901. Nantucket well NBW 228.

LOCATION.--Lat 41°15'55", long 70°02'19", Nantucket County, Hydrologic Unit 01090002, 165 ft south of Milestone Road and 300 ft east of Madequecham Valley Brook in Nantucket.

Owner: Nantucket Conservation Foundation.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 35.6 ft, screened 32.6 to 35.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 39 ft above sea level. Measuring point:

Top of casing, 0.7 ft above land-surface datum.

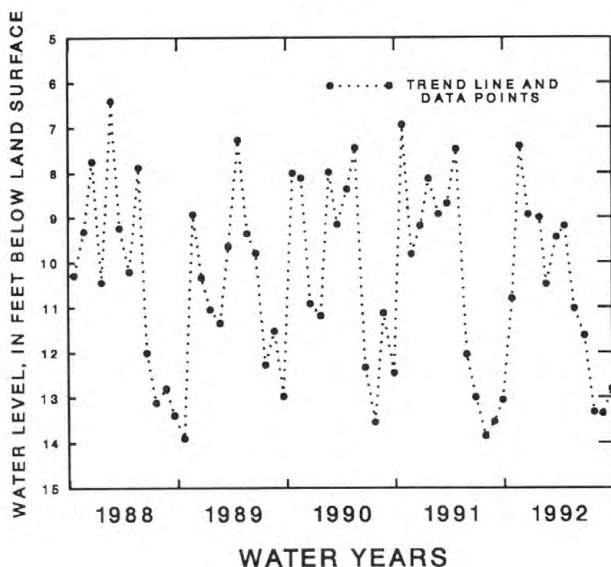
PERIOD OF RECORD.--March 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.45 ft below land-surface datum, Apr. 21, 1978; lowest measured, 27.90 ft below land-surface datum, Feb. 23, 1981.

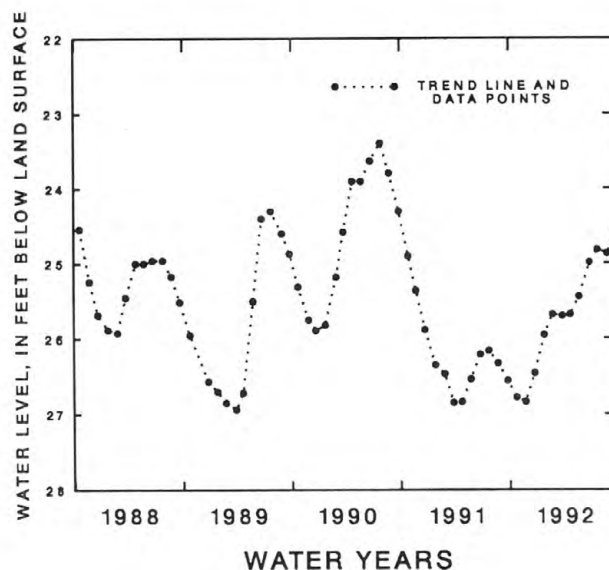
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	26.78	DEC 23	26.46	FEB 21	25.68	APR 21	25.68	JUN 26	24.99	AUG 25	24.87
NOV 22	26.84	JAN 24	25.95	MAR 25	25.70	MAY 21	25.44	JUL 23	24.82	SEP 24	24.57

XOW14



NBW228



GROUND-WATER LEVELS IN MASSACHUSETTS

209

NORFOLK COUNTY

421250071090901. Dedham well DDW 231.

LOCATION.--Lat 42°12'50", long 71°09'09", Norfolk County, Hydrologic Unit 01090001, 50 ft south of State Highway 128 and 0.3 mi 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, depth 21.9 ft, screened 19.9 to 21.9 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 65 ft above sea level. Measuring point:

Top of casing, 2.3 ft above land-surface datum. Prior to July 17, 1978, 1.5 ft above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.45 ft below land-surface datum, Mar. 28, 1978; lowest measured, 13.81 ft below land-surface datum, Sept. 27, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	8.67	DEC 20	5.83	FEB 22	6.83	APR 20	5.04	JUN 22	4.99	SEP 27	11.14
NOV 22	5.39	JAN 20	6.40	MAR 28	4.97	MAY 29	5.10	JUL 25	4.89		

421435071165701. Dover well DVW 10.

LOCATION.--Lat 42°14'35", long 71°16'57", Norfolk County, Hydrologic Unit 01090001, at Dover Public School about 400 ft southwest of and about 400 ft 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, depth 54 ft, screened 52 to 54 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 160 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

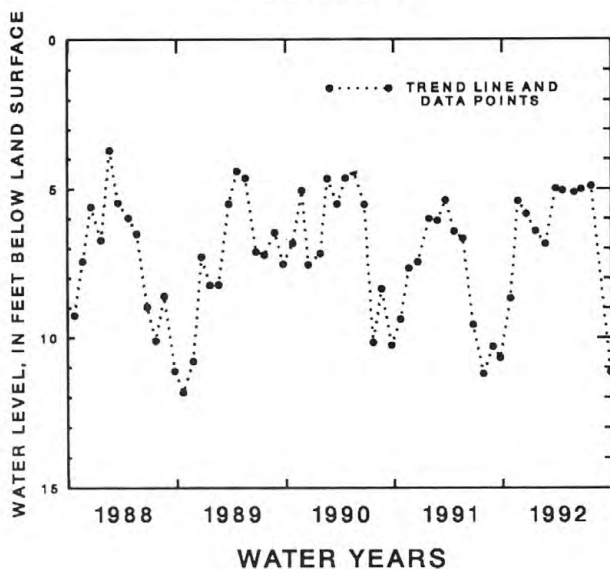
PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.95 ft below land-surface datum, Apr. 20, 1987; lowest measured, 36.87 ft below land-surface datum, Jan. 21, 1966.

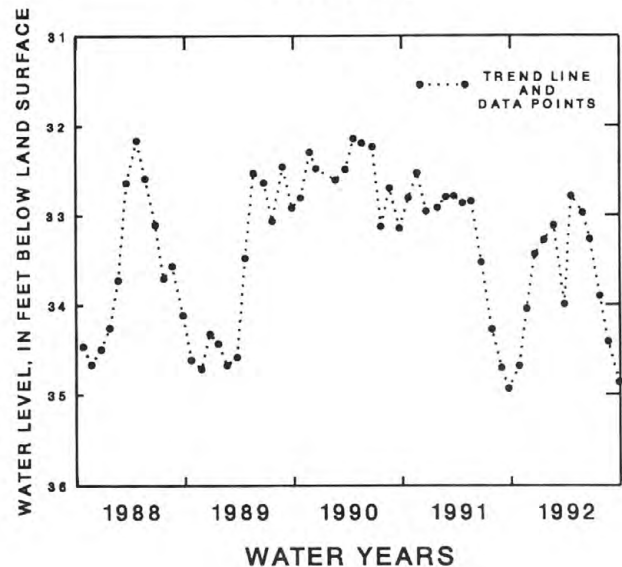
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	34.68	DEC 20	33.43	FEB 22	33.11	APR 20	32.78	JUN 22	33.26	AUG 22	34.41
NOV 22	34.04	JAN 20	33.27	MAR 28	33.99	MAY 29	32.97	JUL 25	33.90	SEP 27	34.86

DDW231



DVW10



GROUND-WATER LEVELS IN MASSACHUSETTS

NORFOLK COUNTY--Continued

420432071151201. Foxborough well FXW 3.

LOCATION.--Lat 42°04'32", long 71°15'12", Norfolk County, Hydrologic Unit 01090004, at Foxborough State Hospital, near railroad tracks, 100 ft east of driveway, and 250 ft 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, depth 32 ft, screened 30 to 32 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 290 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.24 ft below land-surface datum, Mar. 25, 1968; lowest measured, 21.42 ft below land-surface datum, Dec. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	19.97	DEC 20	19.10	FEB 22	19.42	APR 20	18.80	JUN 22	19.48	AUG 22	20.02
NOV 22	19.35	JAN 20	19.46	MAR 28	18.86	MAY 29	19.34	JUL 25	19.84	SEP 27	20.40

420545071174001. Norfolk well NNW 27.

LOCATION.--Lat 42°05'45", long 71°17'40", Norfolk County, Hydrologic Unit 01090001, 15 ft northwest of State Highway 1A and 0.1 mi 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, depth 18.4 ft, screened 16.4 to 18.4 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 160 ft above sea level. Measuring point:

Top of casing, 1.7 ft above land-surface datum.

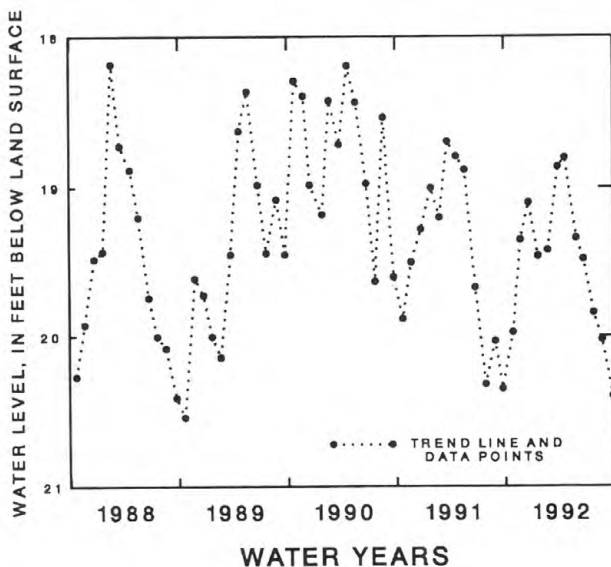
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.20 ft below land-surface datum, Dec. 20, 1986, and Apr. 20, 1987; lowest measured, 7.97 ft below land-surface datum, Sept. 24, 1980.

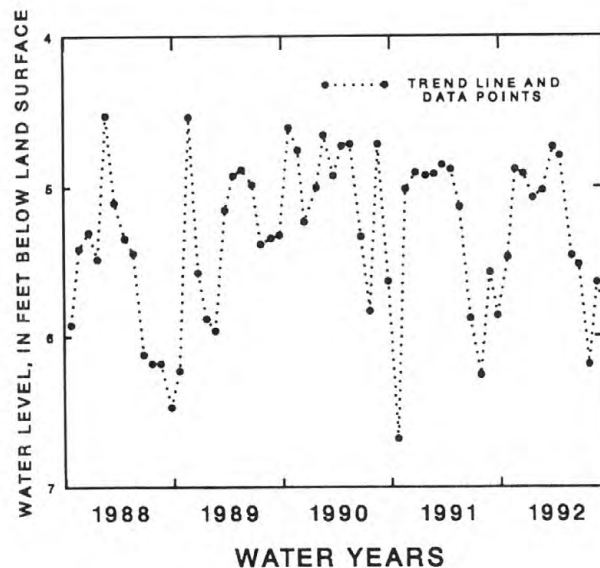
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	5.47	DEC 20	4.91	FEB 22	5.02	APR 20	4.79	JUN 22	5.52	AUG 22	5.64
NOV 22	4.88	JAN 20	5.07	MAR 28	4.73	MAY 29	5.46	JUL 25	6.19	SEP 27	5.91

FXW3



NNW27



GROUND-WATER LEVELS IN MASSACHUSETTS

211

NORFOLK COUNTY--Continued

420954070564501. Weymouth well XGW 2.

LOCATION.--Lat 42°09'54", long 70°56'45", Norfolk County, Hydrologic Unit 01090001, 40 ft 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, depth 30 ft, screened 28 to 30 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 180 ft above sea level. Measuring point:

Top of casing, 0.45 ft above land-surface datum, 3.0 ft prior to November 1989.

PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.25 ft below land-surface datum, Jan. 28, 1970; lowest measured, 22.63 ft below land-surface datum, Nov. 21, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	16.30	DEC 21	8.44	FEB 22	9.99	APR 20	7.99	JUN 22	11.31	AUG 22	14.45
NOV 22	10.09	JAN 26	8.67	MAR 28	8.20	MAY 29	10.84	JUL 25	14.40	SEP 27	14.60

421147070571901. Weymouth well XGW 3.

LOCATION.--Lat 42°11'47", long 70°57'19", Norfolk County, Hydrologic Unit 01090001, about 100 ft east of State Highway 18 and about 600 ft off State Highway 3 in Weymouth.
 Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 22.3 ft, screened 20.3 to 22.3 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 90 ft above sea level. Measuring point:

Top of casing, 2.5 ft above land-surface datum.

REMARKS.--Water level affected by pumping.

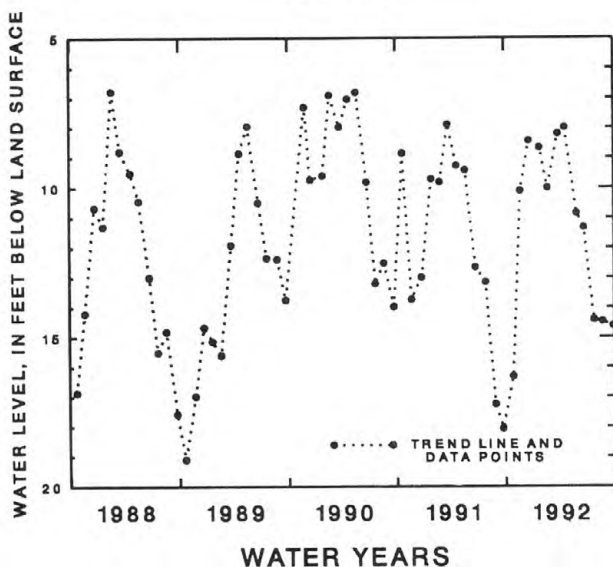
PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.91 ft below land-surface datum, Jan. 27, 1978; lowest measured, 18.10 ft below land-surface datum, Sept. 27, 1965.

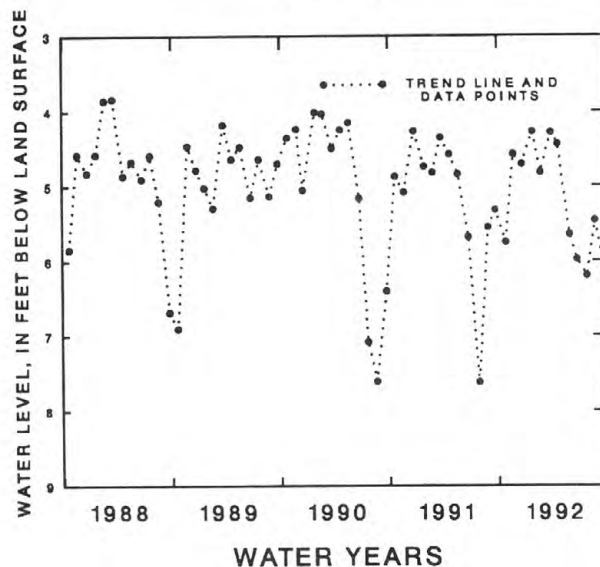
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	5.75	DEC 21	4.71	FEB 22	4.82	APR 20	4.45	JUN 22	5.98	AUG 22	5.46
NOV 22	4.58	JAN 26	4.28	MAR 28	4.29	MAY 29	5.65	JUL 25	6.20	SEP 27	6.19

XGW2



XGW3



GROUND-WATER LEVELS IN MASSACHUSETTS

NORFOLK COUNTY--Continued

421120070562801. Weymouth well XGW 4.

LOCATION.--Lat 42°11'20", long 70°56'28", Norfolk County, Hydrologic Unit 01090001, at median strip of State Highway 3 and 0.8 mi south of State Highway 18 in Weymouth.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 22.6 ft, screened 20.6 to 22.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 90 ft above sea level. Measuring point:

Top of casing, 2.5 ft 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, 4.75 ft below land-surface datum, Mar. 29, 1983; lowest measured, 10.45 ft below land-surface datum, Sept. 27, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	7.00	JAN 26	6.04	MAR 28	6.12	MAY 29	7.11	JUL 25	7.59	SEP 27	7.49
DEC 21	6.29	FEB 22	6.63	APR 20	6.21	JUN 22	7.59	AUG 22	7.30		

PLYMOUTH COUNTY

420321070433502. Duxbury well D4W 79.

LOCATION.--Lat 42°03'21", long 70°43'35", Plymouth County, Hydrologic Unit 01090002, 30 ft west of State Highway 3 and about 300 ft 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, depth 23.5 ft, screened 21.5 to 23.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 55 ft above sea level. Measuring point:

Top of casing, 1.5 ft above land-surface datum.

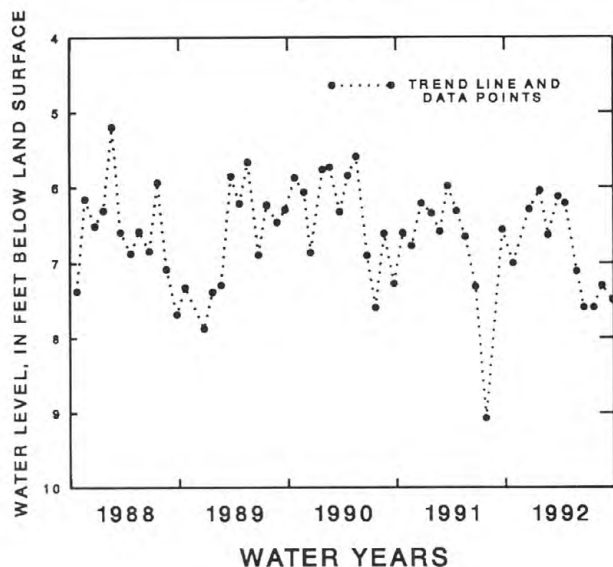
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.10 ft below land-surface datum, Jan. 26, 1978; lowest measured, 10.68 ft below land-surface datum, Sept. 28, 1965.

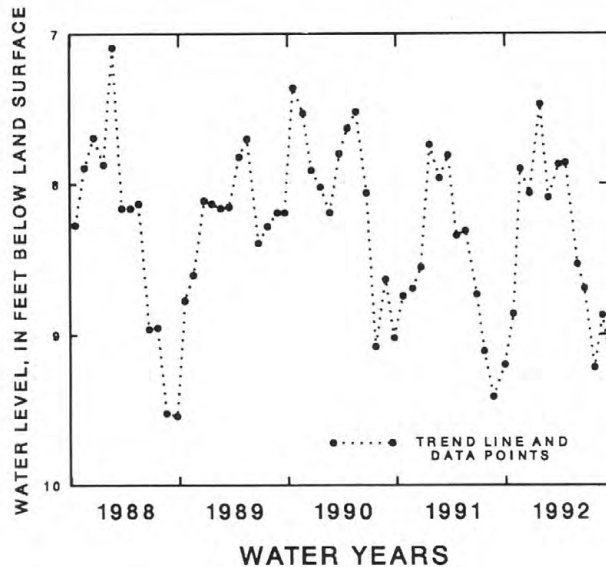
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	8.86	DEC 21	8.06	FEB 22	8.09	APR 20	7.86	JUN 22	8.69	AUG 22	8.87
NOV 20	7.90	JAN 26	7.47	MAR 28	7.87	MAY 29	8.53	JUL 25	9.22	SEP 27	9.29

XGW4



D4W79



GROUND-WATER LEVELS IN MASSACHUSETTS

213

PLYMOUTH COUNTY--Continued

420317070432901. Duxbury well D4W 80.

LOCATION.--Lat 42°03'17", long 70°43'29", Plymouth County, Hydrologic Unit 01090002, 78 ft south of State Highway 14 and 250 ft 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, depth 181 ft, cased to 59 ft, open hole.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 65 ft above sea level. Measuring point:

Top of hole in concrete cover, at land-surface datum.

PERIOD OF RECORD.--April 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.53 ft below land-surface datum, Jan. 26, 1978; lowest measured, 24.02 ft below land-surface datum, Sept. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	22.30	DEC 21	21.60	FEB 22	21.77	APR 20	21.53	JUN 22	22.17	AUG 22	22.43
NOV 20	21.42	JAN 20	20.83	MAR 28	21.50	MAY 29	22.09	JUL 25	22.68	SEP 27	22.77

420056070575701. East Bridgewater well EBW 30.

LOCATION.--Lat 42°00'56", long 70°57'57", Plymouth County, Hydrologic Unit 01090004, about 100 ft north of State Highway 106 and 800 ft 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, depth 24 ft, cased with stone to 24 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 85 ft above sea level. Measuring point:

Top of stone casing curb, 2.6 ft above land-surface datum.

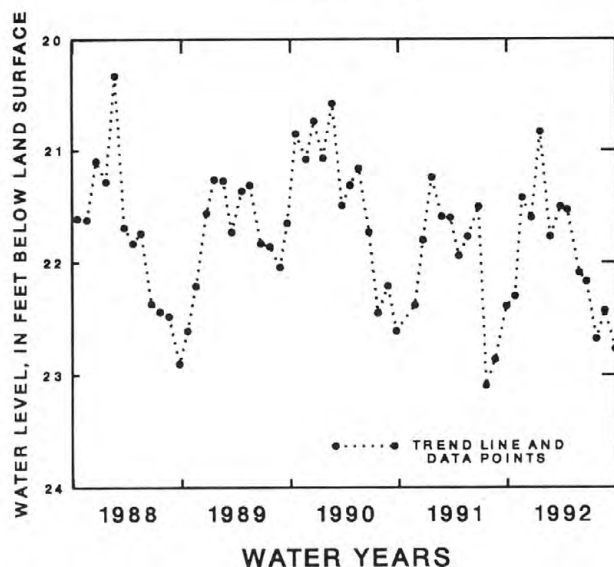
PERIOD OF RECORD.--July 1958 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.40 ft below land-surface datum, Mar. 27, 1969; lowest measured, 17.83 ft below land-surface datum, Dec. 28, 1965.

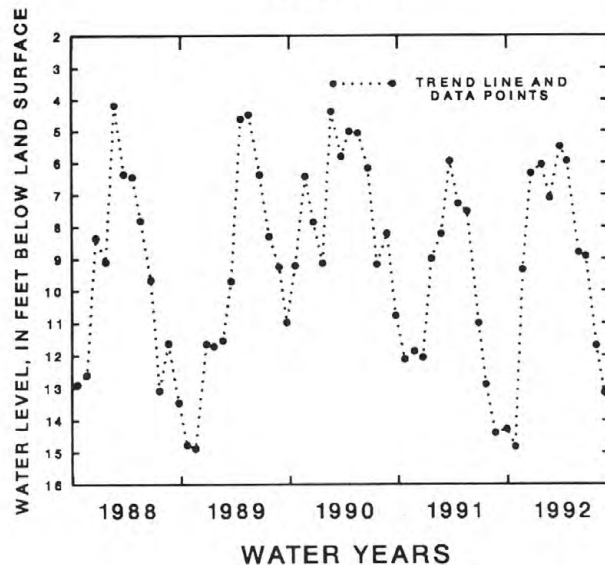
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	14.82	DEC 21	6.33	FEB 22	7.10	APR 20	5.95	JUN 22	8.92	AUG 22	13.15
NOV 22	9.34	JAN 26	6.06	MAR 28	5.50	MAY 29	8.80	JUL 25	11.70	SEP 27	13.98

D4W80



EBW30



GROUND-WATER LEVELS IN MASSACHUSETTS

PLYMOUTH COUNTY--Continued

415820070522801. Halifax well HBW 97.

LOCATION.--Lat 41°58'20", long 70°52'28", Plymouth County, Hydrologic Unit 01090004, 1,950 ft west of South Street and 130 ft south of River Street in Halifax.

Owner: Richard W. Green.

AQUIFER.--Sandstone interbedded with shale and conglomerate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 3.0 in, depth 945 ft, cased to 90 ft, open hole. INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 35 ft above sea level. Measuring point:

Top of casing, 0.5 ft above land-surface datum.

PERIOD OF RECORD.--April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.30 ft below land-surface datum, Jan. 26, 1978; lowest measured, 5.82 ft below land-surface datum, Oct. 24, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	4.90	DEC 22	3.62	FEB 22	3.58	APR 20	3.42	JUN 22	4.01	AUG 22	4.62
NOV 20	3.87	JAN 26	3.44	MAR 28	3.34	MAY 29	3.94	JUL 25	4.94	SEP 27	5.01

420353070520301. Hanson well HGW 76.

LOCATION.--Lat 42°03'53", long 70°52'03", Plymouth County, Hydrologic Unit 01090002, 100 ft south of State Highway 14 and 150 ft 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, depth 26.6 ft, screened 24.6 to 26.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 71 ft above sea level. Measuring point:

Top of casing, 1.5 ft above land-surface datum.

REMARKS.--Water level affected by Wampatuck Pond.

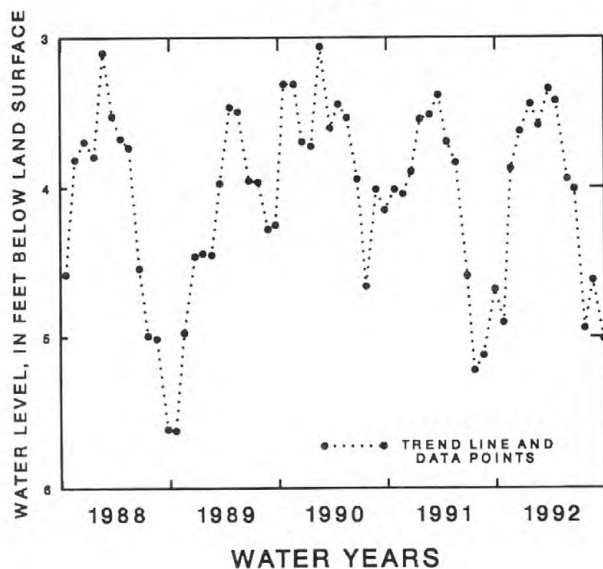
PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.50 ft below land-surface datum, Mar. 26, 1969; lowest measured, 6.53 ft below land-surface datum, Sept. 25, 1980.

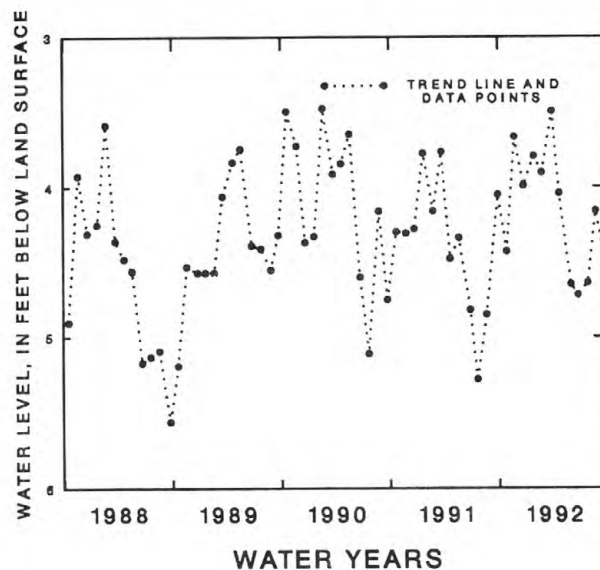
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	4.43	DEC 22	3.99	FEB 22	3.90	APR 20	4.04	JUN 22	4.72	AUG 22	4.16
NOV 22	3.66	JAN 26	3.79	MAR 28	3.49	MAY 29	4.65	JUL 25	4.64	SEP 27	4.53

HBW97



HGW76



PLYMOUTH COUNTY--Continued

415228070554601. Lakeville well LKW 14.

LOCATION.--Lat 41°52'28", long 70°55'46", Plymouth County, Hydrologic Unit 01090004, 30 ft 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, depth 41 ft, screened 39 to 41 ft.

INSTRUMENTATION.--Monthly or more frequent measurements with chalked tape by observer. Digital recorder (60-min punch) July 1986 to current year.

DATUM.--Elevation of land-surface datum is 105 ft above sea level. Measuring point:

Top of casing, 1.5 ft above land-surface datum.

REMARKS.--Recorder experienced mechanical difficulties during entire year, used monthly measurements only.

PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.28 ft below land-surface datum, Mar. 29, 1983; lowest measured, 23.59 ft below land-surface datum, Oct. 26, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	18.56	DEC 20	16.14	FEB 22	15.64	APR 20	14.62	JUN 22	15.50	AUG 22	18.17
NOV 20	17.45	JAN 20	15.95	MAR 28	15.04	MAY 29	15.23	JUL 20	16.76	SEP 27	19.13

415433070583302. Middleborough well MTW 82.

LOCATION.--Lat 41°54'33", long 70°58'33", Plymouth County, Hydrologic Unit 01090004, 15 ft southeast of southbound side of State Highway 25 and 435 ft 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, depth 26.5 ft, screened 24.5 to 26.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 45 ft above sea level. Measuring point:

Top of casing, 3.5 ft above land-surface datum.

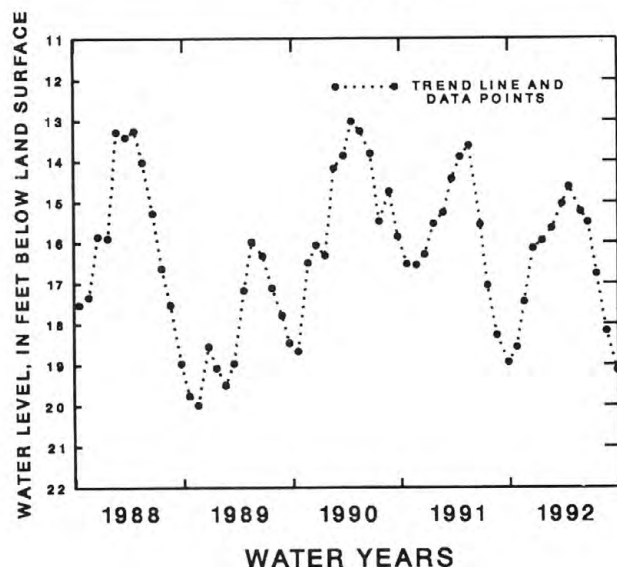
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.50 ft below land-surface datum, Mar. 24, 1983; lowest measured, 17.58 ft below land-surface datum, Oct. 24, 1980.

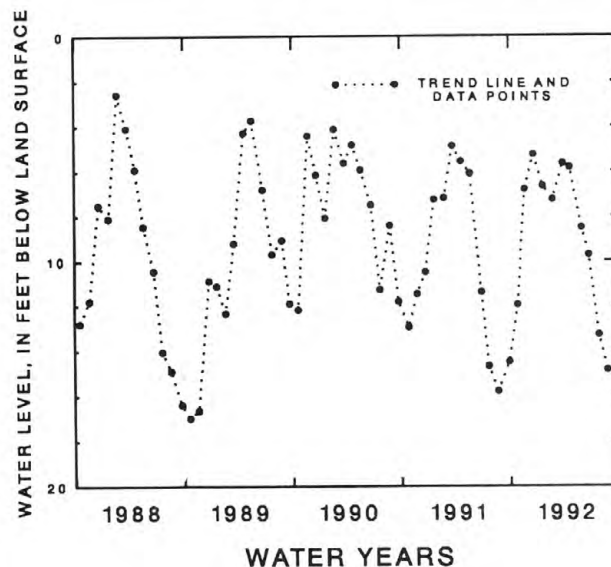
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	11.96	DEC 20	5.27	FEB 22	7.25	APR 20	5.84	JUN 22	9.74	AUG 22	14.85
NOV 20	6.80	JAN 20	6.65	MAR 28	5.66	MAY 29	8.52	JUL 25	13.29	SEP 27	15.13

LKW14



MTW82



GROUND-WATER LEVELS IN MASSACHUSETTS

PLYMOUTH COUNTY--Continued

415453070434901. Plymouth well PWW 22.

LOCATION.--Lat 41°54'53", long 70°43'49", Plymouth County, Hydrologic Unit 01090004, 10 ft 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, depth 42 ft, screened 40 to 42 ft; new well drilled at same location August 1990, diameter 2.0 in, depth 40 ft, screened 30-40 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 145 ft above sea level. 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 below land-surface datum, May 26, 1958; lowest measured, 28.99 ft below land-surface datum, Jan. 28, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	26.02	DEC 20	25.09	FEB 22	24.77	APR 20	24.86	JUN 22	25.07	AUG 22	26.68
NOV 20	25.54	JAN 20	25.02	MAR 28	25.08	MAY 29	25.00	JUL 25	25.36	SEP 27	25.99

415217070393102. Plymouth well PWW 494.

LOCATION.--Lat 41°52'17", long 70°39'31", Plymouth County, Hydrologic Unit 01090002, in Myles Standish State Forest, in gravel pit 50 ft southeast of intersection of Lower College Pond Road and Crawford Road, approximately five miles northeast of South Carver.

Owner: Massachusetts Department of Environmental Management.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.5 in, depth 47 ft, screened 42 to 47 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 129 ft above sea level. Measuring point:

Top of casing, 1.17 ft above land-surface datum.

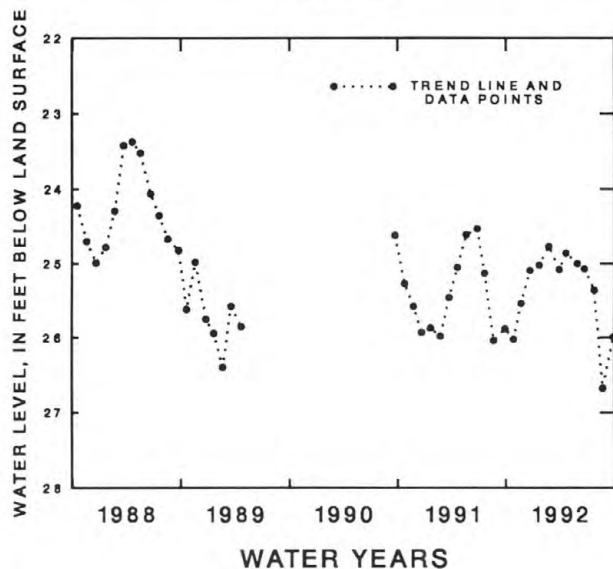
PERIOD OF RECORD.--August 1985 to current year. Prior to April 1989, three random measurements.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.24 ft below land-surface datum, May 14, 1987; lowest measured, 32.30 ft below land-surface datum, Oct. 26, 1991.

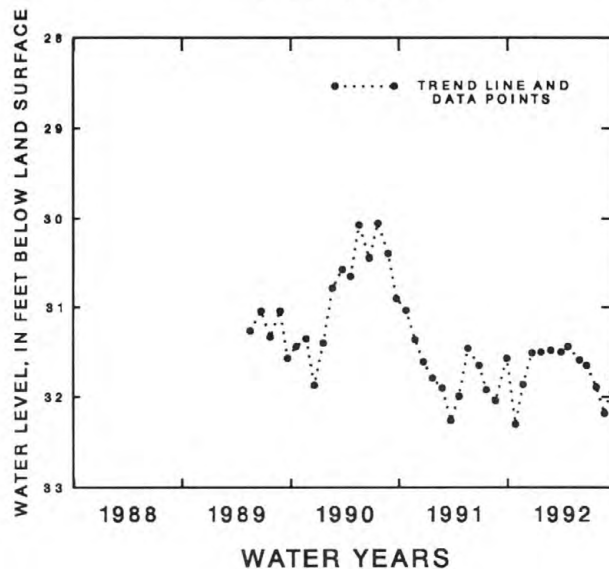
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	32.30	DEC 21	31.51	FEB 22	31.48	APR 20	31.44	JUN 22	31.65	AUG 22	32.18
NOV 20	31.86	JAN 20	31.50	MAR 28	31.50	MAY 29	31.59	JUL 25	31.89	SEP 27	31.77

PWW22



PWW494



GROUND-WATER LEVELS IN MASSACHUSETTS

217

PLYMOUTH COUNTY--Continued

414518070435701. Wareham well WFW 51.

LOCATION.--Lat 41°45'18", long 70°43'57", Plymouth County, Hydrologic Unit 01090002, 50 ft east of U.S. Highway 6 and 100 ft 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, depth 9.65 ft, cased with tile to 9.65 ft, open end. Prior to September 1980, well depth was 12.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 21 ft above sea level. Measuring point:

Top edge of tile casing, 2.3 ft above land-surface datum.

PERIOD OF RECORD.--July 1959 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.34 ft below land-surface datum, Jan. 26, 1978; lowest measured, 11.49 ft below land-surface datum, Aug. 20, 1991; well found dry several months in water years 1980-84.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	10.40	DEC 20	8.92	FEB 22	9.20	APR 20	8.96	JUN 22	9.79	AUG 22	10.03
NOV 20	9.40	JAN 20	8.93	MAR 28	9.30	MAY 29	9.64	JUL 25	10.40	SEP 27	10.90

SUFFOLK COUNTY

422133071033801. Boston well BGW 925.

LOCATION.--Lat 42°21'33", long 71°03'38", Suffolk County, 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, depth 624 ft, cased to 90 ft, open hole.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 35 ft above sea level. Measuring point:

Top of casing, 15 ft below land-surface datum.

REMARKS.--Water levels affected by tide and barometric pressure.

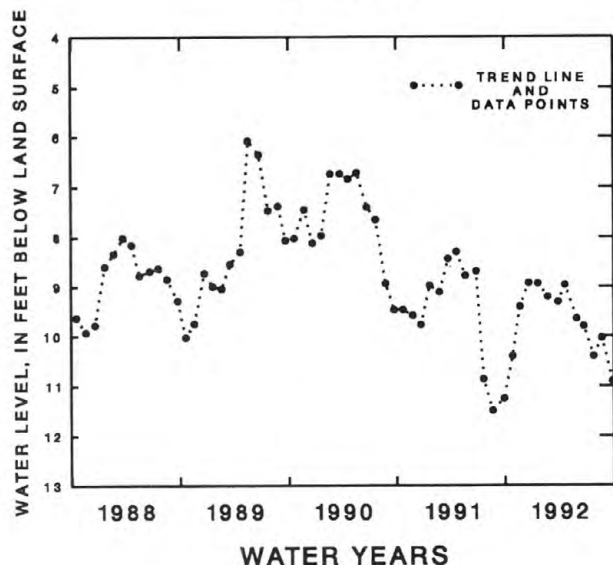
PERIOD OF RECORD.--February 1960 to current year. Water-level recorder October 1977 to September 1982. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 17.49 ft below measuring point, Jan. 22, 1985; lowest measured, 26.20 ft below measuring point, Oct. 7, 1966.

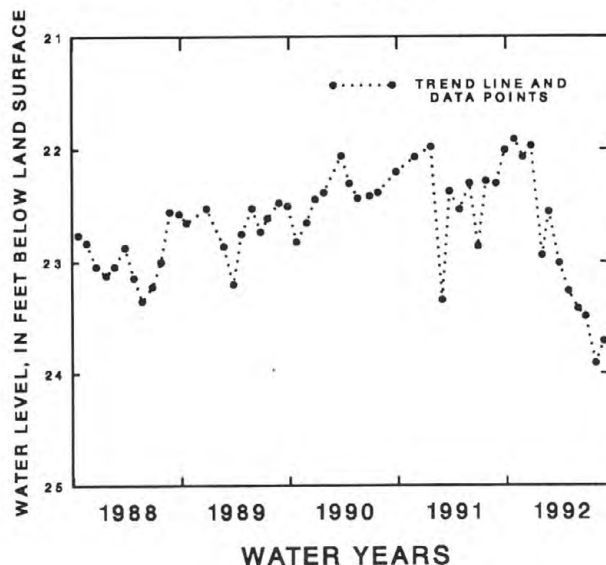
WATER LEVELS, IN FEET BELOW MEASURING POINT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	21.91	DEC 24	21.97	FEB 21	22.55	APR 27	23.26	JUN 23	23.49	AUG 24	23.71
NOV 26	22.07	JAN 29	22.94	MAR 27	23.01	MAY 29	23.42	JUL 27	23.91	SEP 28	23.56

WFW51



BGW925



GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY

422058072085501. Hardwick well HHW 1.

LOCATION.--Lat 42°20'58", long 72°08'55", Worcester County, Hydrologic Unit 01080204, 30 ft southeast of State Highway 32 and 0.6 mi 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, depth 33.2 ft, screened 31.2 to 33.2 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 580 ft above sea level. Measuring point:

Top of casing, 3.5 ft 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, 9.21 ft below land-surface datum, Apr. 21, 1983; lowest measured, 17.4 ft below land-surface datum, Nov. 22, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	14.39	DEC 20	12.08	FEB 21	14.80	APR 21	12.80	JUN 19	15.06	AUG 20	15.58
NOV 19	14.60	JAN 21	14.02	MAR 19	12.90	MAY 21	13.78	JUL 21	15.76	SEP 23	16.10

422020072145901. Hardwick well HHW 31.

LOCATION.--Lat 42°20'20", long 72°14'59", Worcester County, Hydrologic Unit 01080204, 5 ft north of Patrill Hollow Road and approximately 250 ft west of Muddy Brook in Hardwick.

Owner: Town of Hardwick.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 71.0 ft, screened 67.0 ft to 71.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 490 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

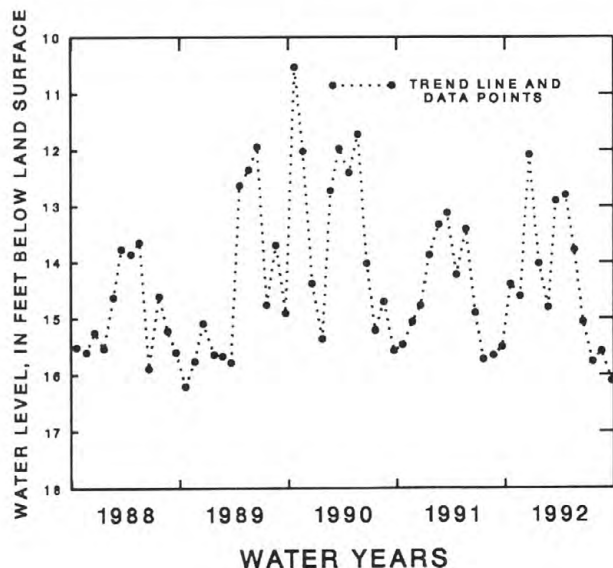
PERIOD OF RECORD.--November 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.25 ft below land-surface datum, Oct. 22, 1989; lowest measured, 12.00 ft below land-surface datum, Nov. 25, 1984.

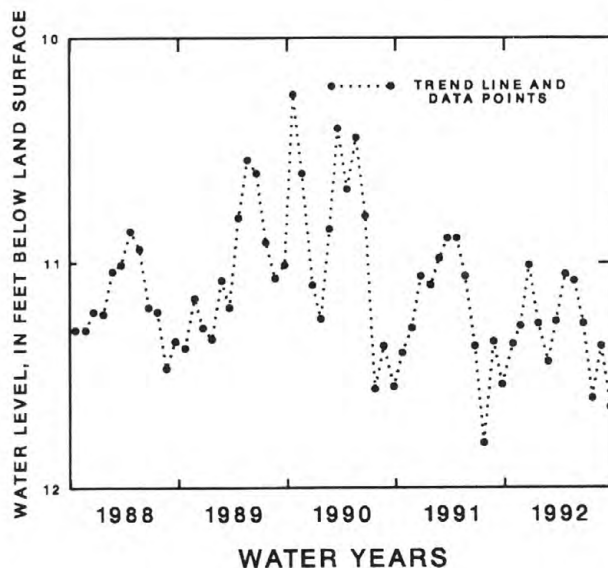
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	11.36	DEC 21	11.01	FEB 23	11.44	APR 21	11.05	JUN 21	11.27	AUG 21	11.37
NOV 22	11.28	JAN 21	11.27	MAR 21	11.26	MAY 21	11.08	JUL 21	11.60	SEP 21	11.64

HHW1



HHW31



WORCESTER COUNTY--Continued

420610071421402. Northbridge well NXW 54.

LOCATION.--Lat 42°06'10", long 71°42'14", Worcester County, Hydrologic Unit 01090003, about 100 ft 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, depth 12 ft, screened 10 to 12 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 370 ft above sea level. Measuring point:

Top of casing, 2.87 ft above land-surface datum, 2.0 ft prior to September 1992.

PERIOD OF RECORD.--August 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.33 ft below land-surface datum, Apr. 21, 1987; lowest measured, 5.14 ft below land-surface datum, Oct. 22, 1986.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	4.27	DEC 23	4.10	FEB 21	4.35	APR 21	4.07	JUN 19	4.35	AUG 20	4.37
NOV 19	4.20	JAN 21	4.24	MAR 19	4.23	MAY 21	4.25	JUL 20	4.49	SEP 29	4.59

422906072124301. Petersham well PHW 16.

LOCATION.--Lat 42°29'06", long 72°12'43", Worcester County, Hydrologic Unit 01080204, 0.6 mi east of West Street Cemetery, 500 ft south of West Street, and 100 ft west of access road in Petersham.

Owner: Mr. Berry.

AQUIFER.--Glacial sand and gravel of the Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in PVC, depth 39.0 ft, screened 29.0 to 39.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 790 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

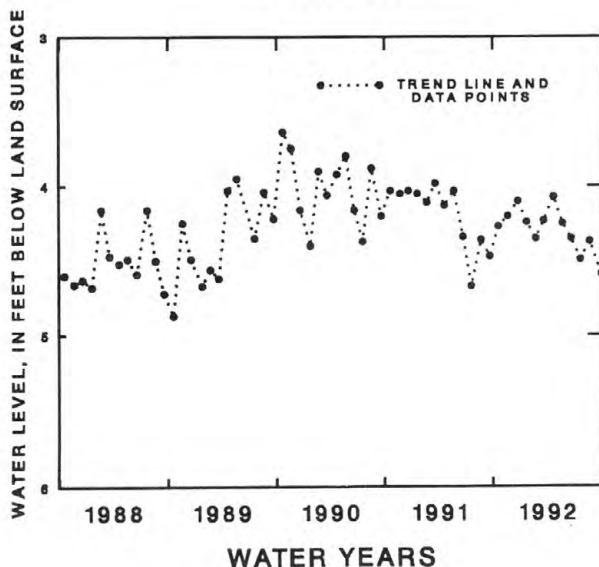
PERIOD OF RECORD.--January 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.71 ft below land-surface datum, June 5, 1984; lowest measured, 16.53 ft below land-surface datum, Oct. 24, 1984.

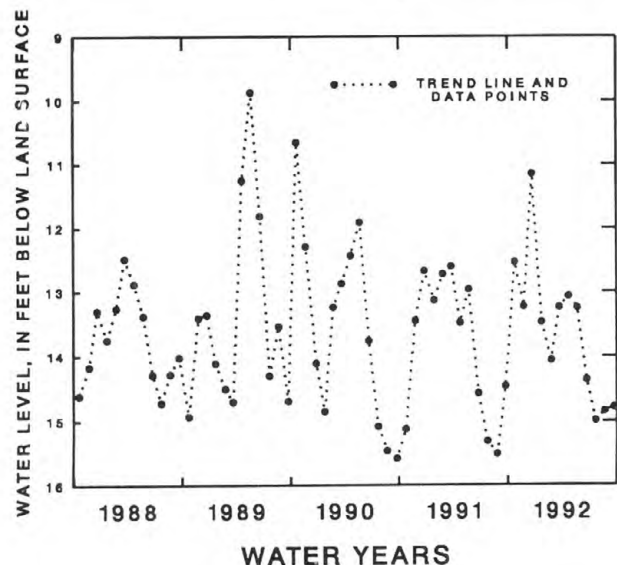
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	12.53	DEC 21	11.15	FEB 23	14.06	APR 21	13.07	JUN 21	14.36	AUG 21	14.84
NOV 22	13.23	JAN 21	13.47	MAR 21	13.24	MAY 21	13.25	JUL 21	14.99	SEP 21	14.78

NXW54



PHW16



GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY--Continued

422805071480801. Sterling well SYW 1.

LOCATION.--Lat 42°28'05", long 71°48'08", Worcester County, Hydrologic Unit 01070004, 45 ft northeast of Justice Hill Road and 0.8 mi 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, depth 15 ft, cased with stone to 15 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 710 ft above sea level. Measuring point:

Top edge of angle iron, at land-surface datum.

PERIOD OF RECORD.--May 1947 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.66 ft below land-surface datum, Mar. 26, 1969; dry, Nov. 28, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	3.07	DEC 23	3.14	FEB 21	3.05	APR 21	3.00	JUN 19	4.65	AUG 20	3.09
NOV 19	3.02	JAN 21	3.13	MAR 19	3.04	MAY 21	3.23	JUL 21	5.75	SEP 23	8.82

423717072043101. Templeton well TMW 3.

LOCATION.--Lat 42°37'17", long 72°04'31", Worcester County, Hydrologic Unit 01080202, 60 ft east of U.S. Highway 202 and 0.2 mi 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, depth 14 ft, screened 12 to 14 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 900 ft above sea level. Measuring point:

Top of casing, 4.2 ft above land-surface datum.

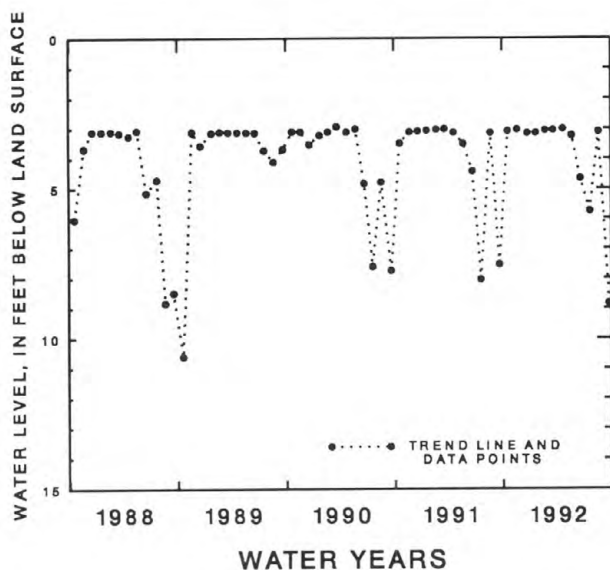
PERIOD OF RECORD.--December 1957 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.38 ft below land-surface datum, Aug. 21, 1991; lowest measured, 5.10 ft below land-surface datum, Sept. 29, 1964.

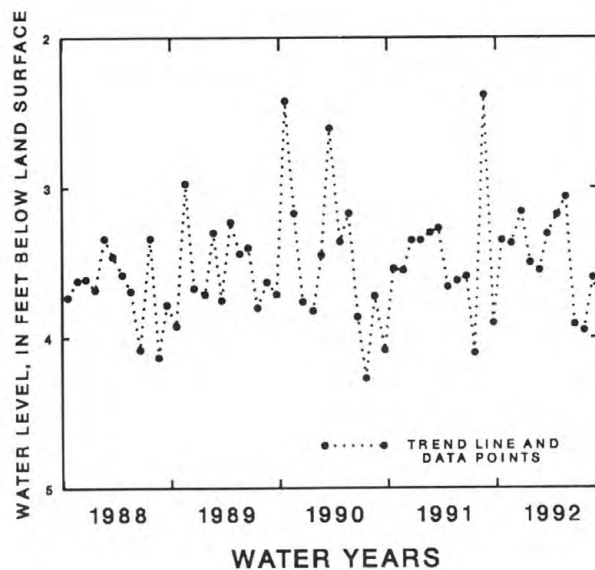
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	3.35	DEC 23	3.16	FEB 21	3.55	APR 21	3.18	JUN 19	3.91	AUG 20	3.60
NOV 19	3.37	JAN 21	3.50	MAR 19	3.31	MAY 21	3.06	JUL 21	3.95	SEP 23	3.91

SYW1



TMW3



GROUND-WATER LEVELS IN MASSACHUSETTS

221

WORCESTER COUNTY--Continued

420314071514001. Webster well WLW 1.

LOCATION.--Lat 42°03'14", long 71°51'40", Worcester County, Hydrologic Unit 01100001, 100 ft east of State Highway 52 and 100 ft 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, depth 27.0 ft, cased to 27.0 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 500 ft above sea level. Measuring point:

Top of casing, 3.4 ft above land-surface datum.

PERIOD OF RECORD.--September 1958 to November 1979, October 1981 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 below land-surface datum, Mar. 25, 1968; lowest measured, 17.90 ft below land-surface datum, Dec. 20, 1965

REVISIONS.--The water level reported for Oct. 27, 1981, was in error and should not be used.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	13.88	DEC 23	13.83	FEB 21	14.71	APR 21	13.61	JUN 19	13.88	AUG 20	14.05
NOV 19	14.33	JAN 21	14.43	MAR 19	14.53	MAY 21	13.68	JUL 20	14.17	SEP 23	14.88

421410072081301. West Brookfield well WUW 2.

LOCATION.--Lat 42°14'10", long 72°08'13", Worcester County, Hydrologic Unit 01080204, about 50 ft north of State Highway 9 and about 500 ft 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, depth 43.0 ft, screened 40 to 43 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 630 ft above sea level. Measuring point:

Top of casing, 0.3 ft above land-surface datum.

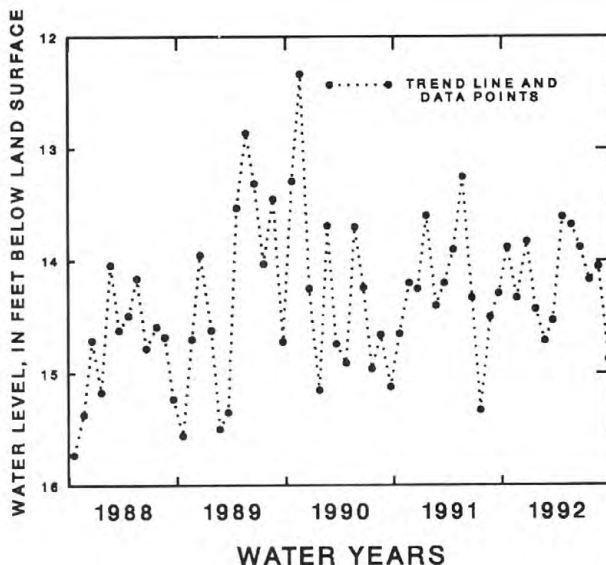
PERIOD OF RECORD.--October 1959 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.79 ft below land-surface datum, May 22, 1983; lowest measured, 23.63 ft below land-surface datum, Feb. 21, 1966.

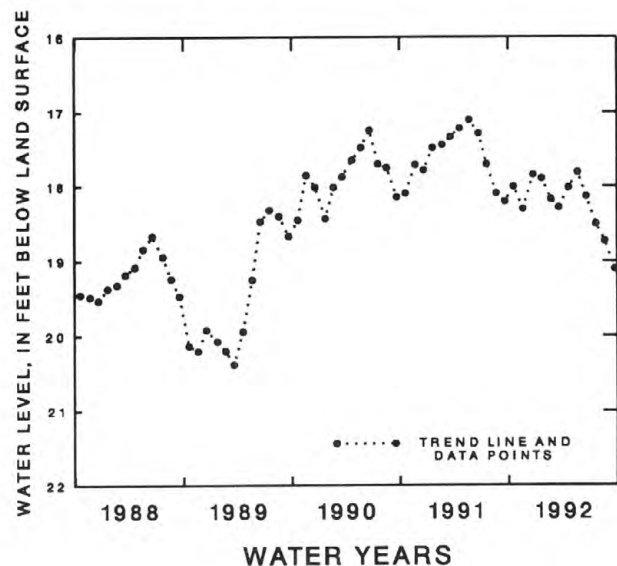
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	18.00	DEC 23	17.84	FEB 21	18.17	APR 21	18.01	JUN 19	18.13	AUG 20	18.73
NOV 19	18.30	JAN 21	17.89	MAR 19	18.28	MAY 21	17.81	JUL 21	18.50	SEP 23	19.10

WLW1



WUW2



GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY--Continued

421522072113401. West Brookfield well WUW 10.

LOCATION.--Lat 42°15'22", long 72°11'34", Worcester County, Hydrologic Unit 01080204, 15 ft east of Coy Hill Road and 1,850 ft 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, depth 64.5 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 833.23 ft above sea level. Measuring point:

Top of casing, 2.85 ft 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 below land-surface datum, Feb. 2, 1976; lowest measured, 12.36 ft below land-surface datum, Nov. 20, 1985.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	7.85	DEC 23	3.76	FEB 21	5.72	APR 21	2.48	JUN 19	7.10	AUG 20	8.44
NOV 19	7.55	JAN 21	4.73	MAR 19	3.90	MAY 21	4.70	JUL 21	8.07	SEP 23	10.13

424204072015201. Winchendon well XNW 13.

LOCATION.--Lat 42°42'04", long 72°01'52", Worcester County, Hydrologic Unit 01080202, about 50 ft east of Forristall Road, 0.2 mi north of Elmwood Road, and 1.6 mi northeast of Winchendon.

Owner: W. B. Hart.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 12 ft, cased with stone to 12 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,209.36 ft above sea level. Measuring point:

Top of extension pipe, 3.8 ft above land-surface datum.

PERIOD OF RECORD.--October 1939 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

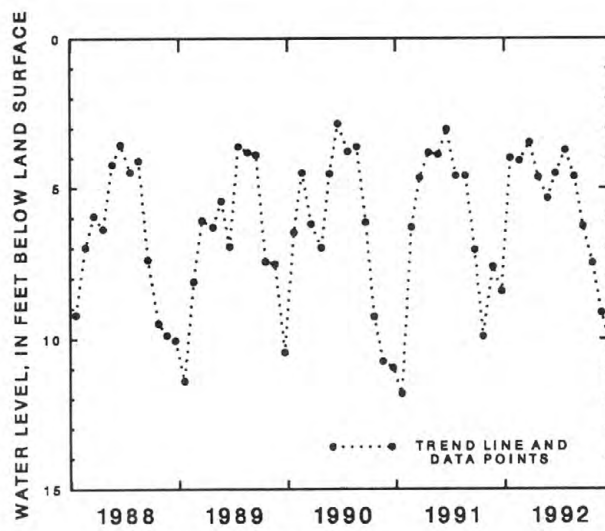
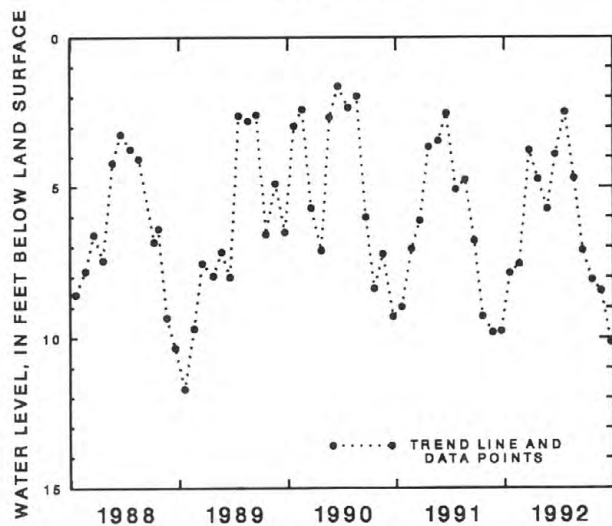
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.86 ft below land-surface datum, Mar. 20, 1948; lowest measured, 13.36 ft below land-surface datum, Dec. 24, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	3.98	DEC 23	3.46	FEB 21	5.33	APR 21	3.72	JUN 19	6.26	AUG 20	9.12
NOV 19	4.07	JAN 21	4.63	MAR 19	4.50	MAY 21	4.60	JUL 21	7.48	SEP 23	10.30

WUW10

XNW13



GROUND-WATER LEVELS IN MASSACHUSETTS

223

WORCESTER COUNTY--Continued

421538071451301. Worcester well XSW 274.

LOCATION.--Lat 42°15'38", long 71°45'13", Worcester County, Hydrologic Unit 01090003, about 300 ft north of Hamilton Street and about 300 ft 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, depth 54.6 ft, screened 52.6 to 54.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 400 ft above sea level. Measuring point:

Top of casing, 3.0 ft above land-surface datum.

REMARKS.--Water levels affected by Lake Quinsigamond.

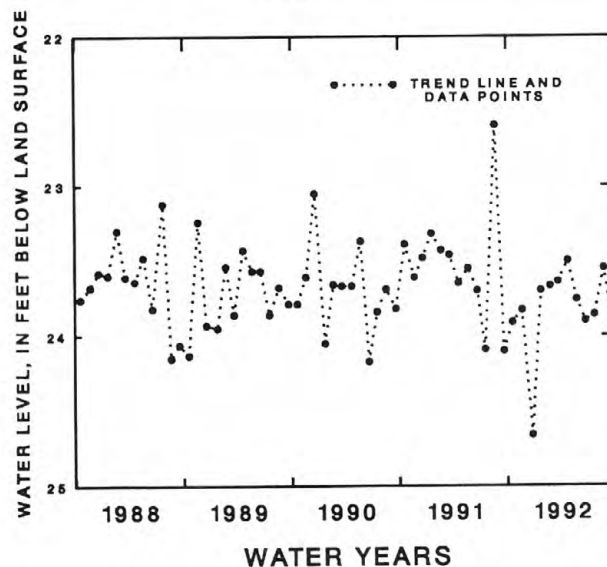
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.23 ft below land-surface datum, Mar. 27, 1972; lowest measured, 24.70 ft below land-surface datum, Oct. 26, 1983.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	23.91	DEC 23	24.66	FEB 21	23.67	APR 21	23.50	JUN 19	23.90	AUG 20	23.55
NOV 19	23.83	JAN 21	23.70	MAR 19	23.64	MAY 21	23.76	JUL 20	23.86	SEP 23	23.96

XSW274



GROUND-WATER LEVELS IN RHODE ISLAND

KENT COUNTY

414223071453701. Coventry well COW 342.

LOCATION.--Lat 41°42'23", long 71°45'37", Kent County, Hydrologic Unit 01090004, town of Coventry, Plainfield Pike. (Rt. 14) 1/4 mile from intersection with Rt. 117.

Owner: Emma G. Inman.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 13.1 ft, cased with stone to 13.1 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 380 ft. Measuring point: spray painted arrow on rock, 1.89 ft above land-surface datum.

PERIOD OF RECORD.--October 1953 to December 1961, December 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.45 ft below land-surface datum, Jan. 30, 1958; lowest measured, 11.90 ft below land-surface datum, Sep. 26, 1957.

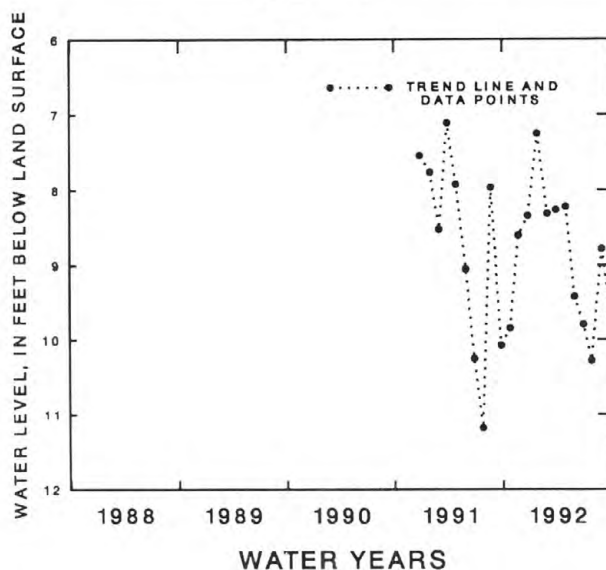
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1953 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1953	8.55	FEB 27, 1956	7.71	MAY 23, 1958	7.43	AUG 30, 1960	11.16
DEC 31	7.95	MAR 28	7.57	JUN 30	9.45	SEP 28	9.37
JAN 29, 1954	8.43	APR 26	6.76	JUL 31	9.28	OCT 27	9.53
FEB 26	7.65	MAY 28	8.71	AUG 28	8.93	NOV 29	9.35
MAR 29	7.12	JUN 27	9.74	SEP 26	9.87	DEC 27	9.41
APR 26	6.57	JUL 30	10.45	OCT 24	8.94	JAN 30, 1961	9.18
MAY 27	7.86	AUG 29	11.08	NOV 24	9.24	FEB 27	6.52
JUN 28	9.79	SEP 26	11.04	DEC 31	9.30	MAR 30	7.21
AUG 02	10.64	OCT 25	10.88	JAN 30, 1959	9.30	APR 27	6.73
30	10.63	NOV 28	8.77	FEB 27	8.97	MAY 25	6.51
SEP 28	8.00	DEC 27	7.66	MAR 27	7.81	JUN 28	9.15
OCT 28	9.22	JAN 30, 1957	8.12	APR 30	7.91	JUL 27	10.35
NOV 23	7.50	FEB 27	8.50	MAY 29	9.32	AUG 30	10.29
DEC 29	6.47	MAR 27	7.63	JUN 30	9.76	SEP 27	7.29
JAN 28, 1955	8.51	APR 29	7.83	JUL 29	9.14	OCT 30	9.28
FEB 25	8.03	MAY 27	9.55	AUG 28	10.53	NOV 30	8.87
MAR 30	7.05	JUN 25	10.61	SEP 25	11.14	DEC 27	9.07
APR 28	8.38	AUG 01	11.48	OCT 28	9.49	DEC 26, 1990	7.54
MAY 27	8.77	29	11.80	NOV 27	8.62	JAN 29, 1991	7.76
JUN 29	9.70	SEP 26	11.90	DEC 24	7.08	FEB 28	8.52
JUL 28	10.35	OCT 28	11.64	FEB 02, 1960	8.21	MAR 28	7.11
SEP 01	7.86	NOV 25	10.37	25	6.81	APR 26	7.92
29	8.90	DEC 30	7.60	MAR 25	8.24	MAY 29	9.05
OCT 28	6.54	JAN 30, 1958	6.45	MAY 02	8.33	JUN 26	10.25
NOV 29	7.36	FEB 26	8.32	31	8.92	JUL 24	11.18
DEC 30	9.28	MAR 26	6.66	JUL 01	10.27	AUG 21	7.96
JAN 27, 1956	8.67	APR 28	6.93	28	10.79	SEP 25	10.07

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	9.84	DEC 24	8.34	FEB 27	8.31	APR 29	8.22	JUN 27	9.79	AUG 27	8.78
NOV 22	8.60	JAN 25	7.25	MAR 27	8.26	MAY 28	9.42	JUL 24	10.28	SEP 28	9.68

COW342



GROUND-WATER LEVELS IN RHODE ISLAND

225

KENT COUNTY--Continued

414022071332801. Coventry well COW 411.

LOCATION.--Lat 41°40'22", long 71°33'28", Kent County, Hydrologic Unit 01090004, town of Coventry, about 75 ft west of house on Powhattan Avenue, 1.3 mi southeast of Washington.

Owner: Robert Card.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 26 ft, cased with concrete to 26 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 260 ft. Measuring point: Hole in top of concrete cover, 1.24 ft above land-surface datum.

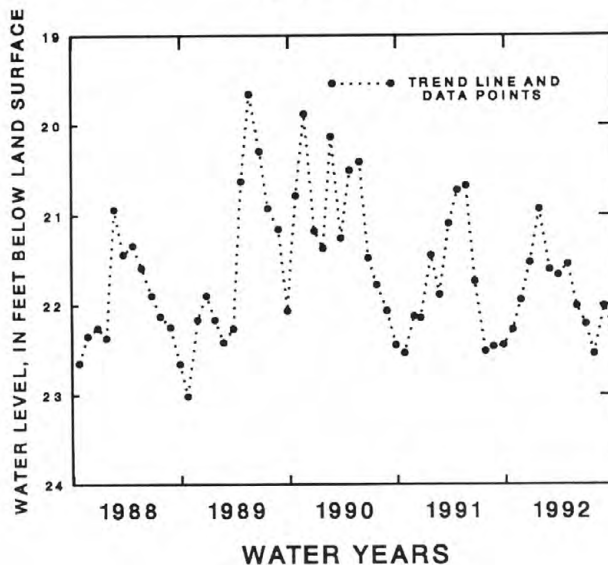
PERIOD OF RECORD.--October 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.43 ft below land-surface datum, Apr. 23, 1983; dry on Oct. 25, 1986.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	22.27	DEC 23	21.52	FEB 27	21.60	APR 29	21.54	JUN 27	22.21	AUG 28	22.01
NOV 22	21.94	JAN 24	20.93	MAR 27	21.66	MAY 28	22.01	JUL 24	22.54	SEP 25	22.25

COW411



GROUND-WATER LEVELS IN RHODE ISLAND

KENT COUNTY--Continued

414106071223901. Warwick well WCW 59.

LOCATION.--Lat 41°41'06", long 71°22'39", Kent County, Hydrologic Unit 01090004, town of Warwick, Warwick Neck, Our Lady of Providence Seminary. Former Senator Aldrich mansion. Next to Rocky Point Amusement Park.

Owner: O. L. P. Seminary.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 27.0 ft, cased with stone to 27.0 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 125 ft. Measuring point: spray painted arrow on rock, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--April 1949 to December 1955, November 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.12 ft below land-surface datum, Jan. 24, 1992; lowest measured, 24.77 ft below land-surface datum, Oct. 31, 1949.

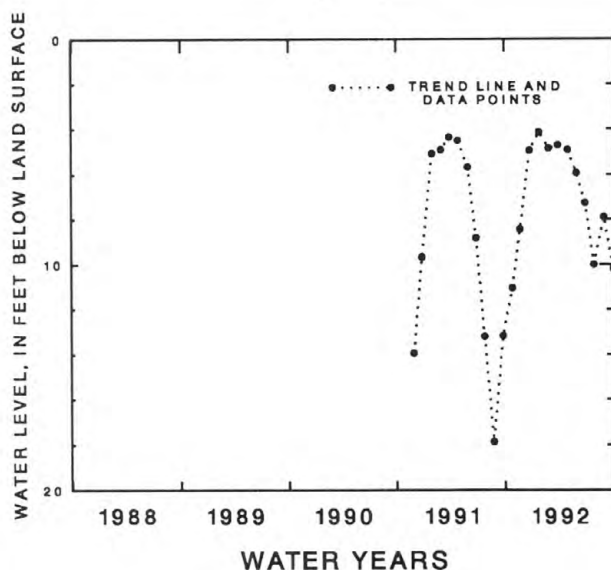
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, APRIL 1949 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 20, 1949	4.44	MAR 30, 1951	4.80	FEB 28, 1953	4.67	JAN 26, 1955	5.39
29	5.03	APR 27	4.94	MAR 28	4.43	FEB 23	4.57
MAY 31	5.30	MAY 29	4.49	APR 25	4.79	MAR 28	4.56
JUN 29	8.96	JUN 29	6.06	MAY 28	5.35	APR 27	4.84
JUL 29	12.84	JUL 27	9.58	JUN 30	8.94	MAY 25	5.80
AUG 31	16.14	SEP 04	12.99	JUL 31	12.05	JUN 28	8.26
SEP 29	18.18	26	14.78	AUG 31	12.01	JUL 26	10.48
OCT 31	24.77	OCT 31	17.25	OCT 01	14.42	AUG 25	6.54
NOV 29	19.04	NOV 30	7.38	28	16.08	SEP 27	9.04
DEC 29	16.29	DEC 28	4.62	NOV 27	4.59	OCT 27	5.00
JAN 30, 1950	8.12	JAN 31, 1952	4.45	DEC 31	4.77	NOV 25	4.64
MAR 01	4.70	FEB 29	4.72	JAN 29, 1954	4.40	DEC 29	5.98
29	4.42	MAR 31	4.81	FEB 25	4.41	NOV 28, 1990	13.93
MAY 01	4.87	APR 29	4.26	MAR 30	4.71	DEC 26	9.66
29	5.36	MAY 29	4.99	APR 26	4.54	JAN 29, 1991	5.07
AUG 02	10.30	JUN 27	7.44	MAY 27	4.89	FEB 28	4.90
30	12.76	JUL 31	11.92	JUN 28	7.52	MAR 28	4.34
SEP 29	13.81	AUG 29	10.84	AUG 02	11.67	APR 26	4.49
OCT 25	14.10	SEP 29	13.18	30	9.98	MAY 29	5.66
NOV 29	7.73	NOV 01	15.54	SEP 28	5.02	JUN 26	8.80
DEC 27	5.13	29	15.98	OCT 28	6.23	JUL 24	13.19
JAN 30, 1951	4.58	DEC 27	13.75	NOV 22	4.43	AUG 23	17.86
FEB 26	4.63	JAN 31, 1953	4.54	DEC 27	4.54	SEP 24	13.17

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	11.04	DEC 23	4.93	FEB 25	4.84	APR 29	4.90	JUN 26	7.25	AUG 28	7.88
NOV 21	8.42	JAN 24	4.12	MAR 27	4.70	MAY 28	5.92	JUL 25	9.99	SEP 28	10.19

WCW59



GROUND-WATER LEVELS IN RHODE ISLAND

227

KENT COUNTY--Continued

413907071465001. West Greenwich well GW 181.

LOCATION.--Lat 41°39'07", long 71°46'50", Kent County, Hydrologic Unit 01090005, town of West Greenwich, about 50 ft from southeast corner of a house 1.3 mi north of intersection of Hazard and Muddy Brook Roads, and 1.8 mi 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, depth 18.5 ft, lined with stone to 18.5 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 380 ft. Measuring point: Hole in top of concrete cover, 0.54 ft above land-surface datum.

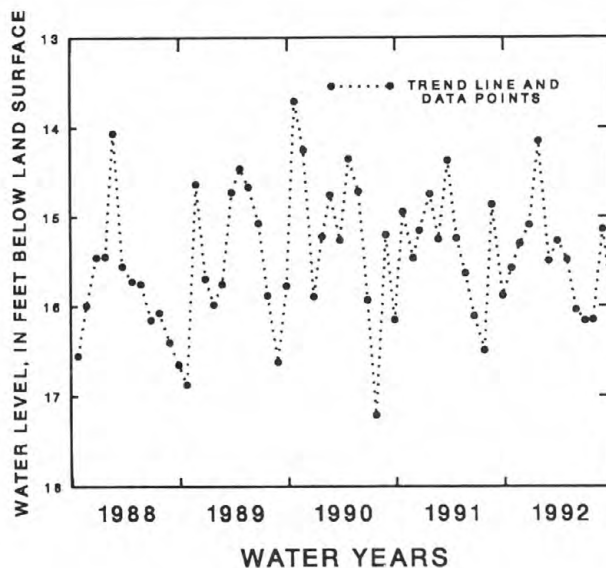
PERIOD OF RECORD.--January 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.15 ft below land-surface datum, Jan. 27, 1979; lowest measured, 17.78 ft below land-surface datum, Dec. 22, 1984.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	15.57	DEC 24	15.09	FEB 27	15.49	APR 29	15.48	JUN 27	16.16	AUG 27	15.14
NOV 22	15.30	JAN 25	14.15	MAR 27	15.27	MAY 28	16.04	JUL 24	16.15	SEP 28	15.98

WGW181



GROUND-WATER LEVELS IN RHODE ISLAND

KENT COUNTY--Continued

413645071332901. West Greenwich well GWG 206.

LOCATION.--Lat 41°36'45", long 71°33'29", Kent County, Hydrologic Unit 01090004, town of West Greenwich, Hopkins Hill Road.
Owner: Taylor.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 9.6 ft, cased with stone to 9.6 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 374.26 ft. Measuring point: spray painted arrow on rock, 3.05 ft above land-surface datum.

PERIOD OF RECORD.--October 1955 to June 1960, January 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.85 ft below land-surface datum, Oct. 17, 1955;
lowest measured, 9.34 ft below land-surface datum, Oct. 2, 1957.

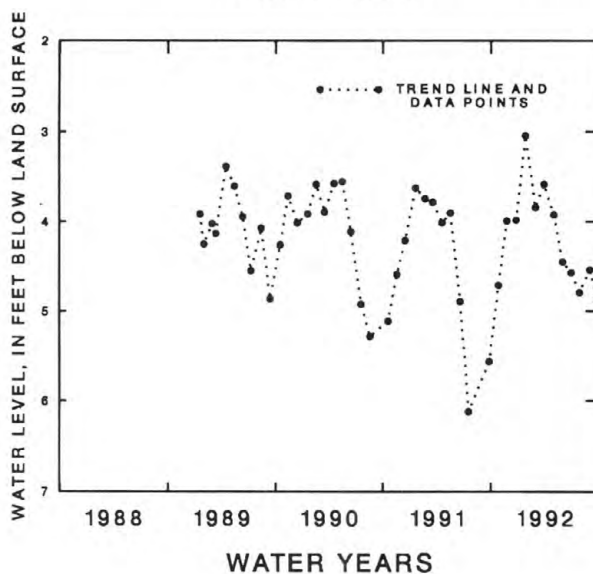
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1955 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1955	2.85	MAY 01, 1957	4.04	NOV 12, 1958	3.99	APR 27, 1960	3.99
NOV 03	3.83	15	4.27	26	4.30	MAY 11	3.91
17	3.65	28	4.58	DEC 10	4.02	25	3.92
DEC 01	3.99	JUN 13	4.95	22	4.25	JUN 08	4.33
15	4.17	27	5.60	JAN 07, 1959	4.18	22	4.74
28	4.47	JUL 11	6.47	21	4.21	JAN 18, 1989	3.91
JAN 12, 1956	3.70	24	7.22	FEB 04	3.79	31	4.25
30	4.12	AUG 07	7.48	18	3.92	FEB 28	4.02
FEB 09	3.63	22	8.03	MAR 04	3.65	MAR 13	4.13
23	3.88	SEP 05	8.32	18	3.55	APR 17	3.38
MAR 08	3.37	18	8.79	APR 01	3.60	MAY 15	3.60
22	3.83	OCT 02	9.34	15	3.79	JUN 12	3.94
APR 05	3.42	16	9.05	29	3.74	JUL 10	4.55
19	3.62	30	8.36	MAY 13	4.14	AUG 14	4.07
MAY 03	3.78	NOV 13	7.30	27	4.39	SEP 13	4.86
17	4.03	27	6.52	JUN 10	4.63	OCT 17	4.26
31	4.08	DEC 11	4.15	24	6.42	NOV 13	3.71
JUN 14	4.30	23	3.94	JUL 08	4.77	DEC 14	4.01
29	4.83	JAN 09, 1958	3.56	22	4.42	JAN 18, 1990	3.91
JUL 12	4.78	22	3.00	AUG 05	4.91	FEB 16	3.58
25	4.77	FEB 04	3.68	19	5.34	MAR 16	3.89
AUG 08	5.59	MAR 06	3.33	SEP 02	4.65	APR 17	3.57
22	5.83	19	3.57	02	4.65	MAY 15	3.55
SEP 05	7.30	APR 02	3.34	16	4.95	JUN 13	4.11
19	6.37	16	3.40	30	5.53	JUL 17	4.92
OCT 03	6.53	30	4.00	OCT 14	5.19	AUG 17	5.28
17	5.80	MAY 14	3.58	28	4.74	OCT 17	5.11
NOV 01	5.53	28	3.56	NOV 12	4.71	NOV 16	4.59
14	5.52	JUN 11	4.01	25	4.17	DEC 14	4.21
DEC 12	4.30	25	4.36	DEC 09	3.83	JAN 19, 1991	3.62
26	3.90	JUL 09	4.56	21	3.98	FEB 20	3.74
JAN 09, 1957	4.18	23	4.98	JAN 04, 1960	3.58	MAR 18	3.78
24	3.49	AUG 06	4.96	19	4.04	APR 18	4.01
FEB 07	3.97	20	4.95	FEB 02	4.01	MAY 16	3.90
20	4.10	SEP 03	4.78	17	3.88	JUN 18	4.89
MAR 06	4.00	17	4.94	MAR 02	3.80	JUL 17	6.12
22	3.77	OCT 01	4.44	16	4.04	SEP 24	5.56
APR 03	3.58	15	4.47	30	3.83		
17	3.81	29	3.85	APR 13	3.77		

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	4.71	DEC 24	3.98	FEB 27	3.84	APR 29	3.92	JUN 26	4.57
NOV 22	3.99	JAN 25	3.04	MAR 27	3.58	MAY 28	4.45	JUL 24	4.79
								AUG 28	4.54
								SEP 25	4.89

WG206



GROUND-WATER LEVELS IN RHODE ISLAND

229

NEWPORT COUNTY

413442071093801. Tiverton well TIW 274.

LOCATION.--Lat 41°34'42", long 71°09'38", Newport County, Hydrologic Unit 01090004, town of Tiverton, 305 Lake Road.

Owner: Charles DeMello, Jr.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in, depth 13.18 ft, cased with concrete to 13.18 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 160 ft. Measuring point: spray painted arrow on cross beam, 1.90 ft above land-surface datum.

PERIOD OF RECORD.--December 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.77 ft below land-surface datum, Mar. 28, 1991; lowest measured, 10.02 ft below land-surface datum, July 24, 1991.

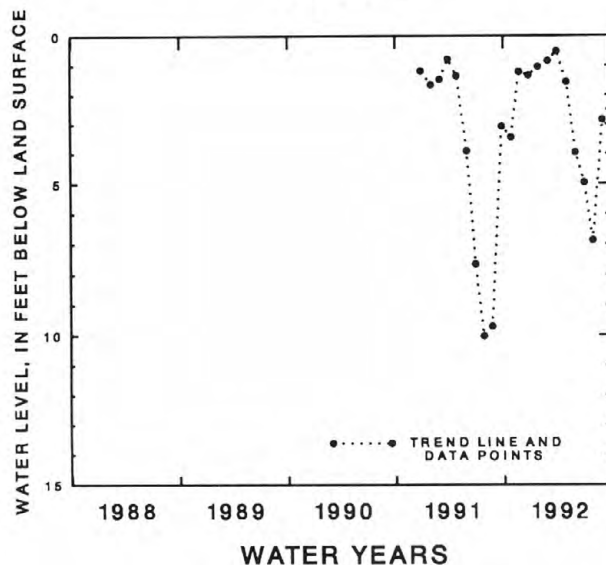
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, DECEMBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 26, 1990	1.17	MAR 28, 1991	.77	JUN 26, 1991	7.64	SEP 24, 1991	3.06
JAN 29, 1991	1.64	APR 26	1.34	JUL 24	10.02		
FEB 28	1.46	MAY 29	3.90	AUG 21	9.70		

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	3.43	DEC 24	1.32	FEB 27	.83	APR 29	1.55	JUN 27	4.95	AUG 28	2.83
NOV 22	1.20	JAN 25	1.03	MAR 27	.51	MAY 28	3.95	JUL 25	6.87	SEP 28	2.14

TIW274



GROUND-WATER LEVELS IN RHODE ISLAND

PROVIDENCE COUNTY

415710071402201. Burrillville well BUW 187.

LOCATION.--Lat 41°57'10", long 71°40'22", Providence County, Hydrologic Unit 01090003, town of Burrillville, 25 ft east of road and 75 ft southwest of a house 0.6 mi north of intersection of Harrisville and Lapham Farm Roads, and 0.9 mi 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, depth 19.8 ft, lined with stone to 19.8 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 462 ft. Measuring point: Hole in top of concrete cover, 0.58 ft above land-surface datum.

PERIOD OF RECORD.--January 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.74 ft below land-surface datum, Apr. 23, 1983; lowest measured, 19.83 ft below land-surface datum, Nov. 3, 1970.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	15.24	DEC 24	14.42	FEB 27	15.06	APR 29	14.65	JUN 27	15.46	AUG 27	16.04
NOV 22	14.99	JAN 25	14.71	MAR 27	14.92	MAY 28	15.07	JUL 24	15.97	SEP 28	16.37

415626071254601. Cumberland well CUW 265.

LOCATION.--Lat 41°56'26", long 71°25'46", Providence County, Hydrologic Unit 01090003, town of Cumberland, at 27 Scott Street, 900 ft 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, depth 20 ft, lined with stone to 20 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 130 ft. Measuring point: Hole in wooden cover, 0.06 ft above land-surface datum.

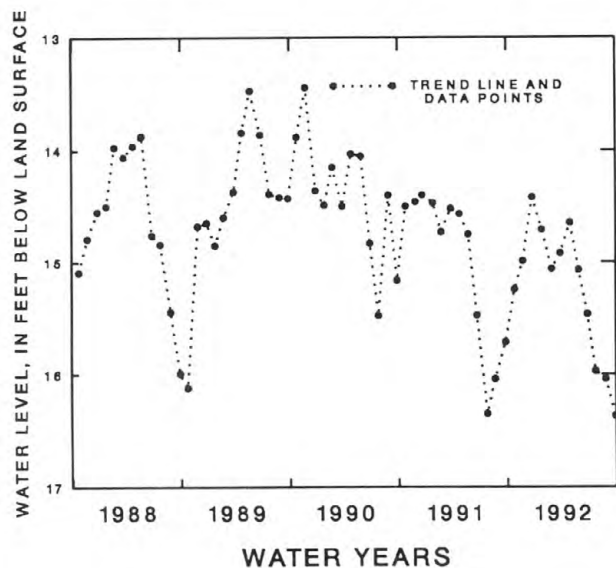
PERIOD OF RECORD.--August 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.20 ft below land-surface datum, Jan. 27, 1979; lowest measured, 17.20 ft below land-surface datum, Sept. 29, 1949.

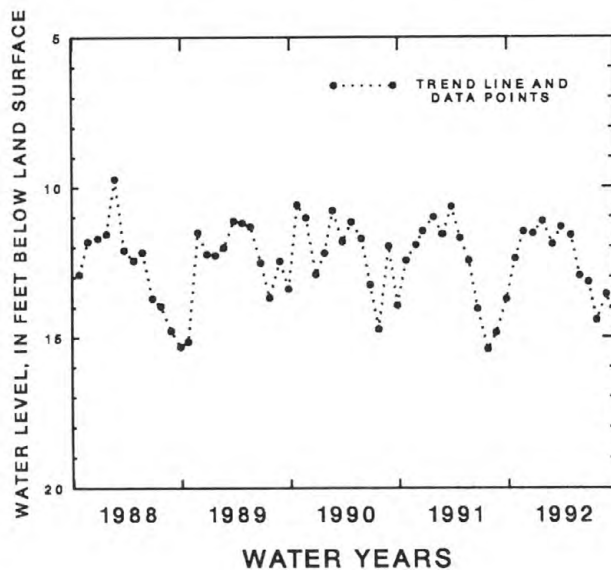
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	12.37	DEC 24	11.54	FEB 27	11.90	APR 29	11.60	JUN 27	13.16	AUG 27	13.56
NOV 22	11.48	JAN 25	11.14	MAR 27	11.33	MAY 28	12.95	JUL 24	14.42	SEP 28	14.66

BUW187



CUW265



GROUND-WATER LEVELS IN RHODE ISLAND

231

PROVIDENCE COUNTY--Continued

414420071422301. Foster well FOW 40.

LOCATION.--Lat 41°44'20", long 71°42'23", Providence County, Hydrologic Unit 01090004, town of Foster, Plainfield Pike..

Owner: Bennet

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 48 in, depth 15.4 ft, cased with stone to 15.4 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 630 ft. Measuring point: spray painted arrow top of casing, 0.40 ft. above land-surface datum.

PERIOD OF RECORD.--July 1953 to February 1959, April 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.29 ft below land-surface datum, May 27, 1954; lowest measured, 13.97 ft below land-surface datum, Oct. 28, 1957.

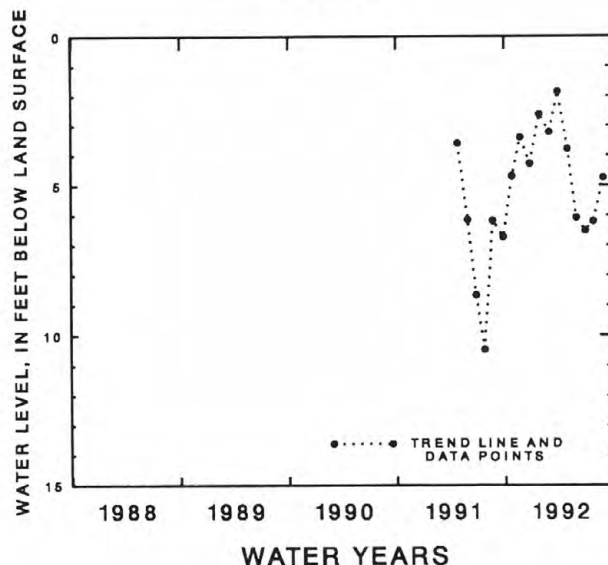
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, JULY 1953 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 31, 1953	7.81	APR 26, 1954	3.00	JAN 28, 1955	5.40	OCT 28, 1955	3.76
AUG 26	7.95	MAY 27	1.29	FEB 25	2.93	NOV 29	3.29
OCT 02	9.65	JUN 28	7.76	MAR 30	3.06	DEC 30	6.02
30	9.21	AUG 02	7.72	APR 28	3.04	JAN 27, 1956	3.63
NOV 27	2.20	30	7.23	MAY 27	2.78	FEB 27	3.12
DEC 31	3.62	SEP 28	3.90	JUN 29	6.08	MAR 28	2.47
JAN 29, 1954	3.12	OCT 28	5.20	JUL 28	7.12	APR 26	3.52
FEB 26	1.88	NOV 23	2.59	SEP 01	3.97	MAY 28	4.96
MAR 29	2.95	DEC 29	2.40	29	3.65	JUN 27	7.47
JUL 30, 1956	7.46	MAY 27, 1957	6.80	MAR 26, 1958	1.88	JAN 30, 1959	4.32
AUG 29	11.07	JUN 25	9.24	APR 28	3.40	FEB 27	4.78
SEP 26	10.96	AUG 01	13.16	MAY 23	4.16	APR 26, 1991	3.59
OCT 25	9.04	29	12.63	JUN 30	6.21	MAY 29	6.13
NOV 28	3.85	SEP 26	13.28	JUL 31	5.58	JUN 26	8.64
DEC 27	2.61	OCT 28	13.97	AUG 28	3.27	JUL 24	10.46
JAN 30, 1957	3.19	NOV 25	12.43	SEP 26	4.52	AUG 21	6.16
FEB 27	2.56	DEC 30	1.88	OCT 24	3.49	SEP 25	6.71
MAR 27	2.95	JAN 30, 1958	2.11	NOV 24	4.30		
APR 29	4.64	FEB 26	4.68	DEC 31	4.88		

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	4.67	DEC 24	4.27	FEB 27	3.21	APR 29	3.78	JUN 27	6.50	AUG 27	4.73
NOV 22	3.39	JAN 25	2.60	MAR 27	1.84	MAY 28	6.07	JUL 24	6.19	SEP 28	4.52

FOW40



GROUND-WATER LEVELS IN RHODE ISLAND

PROVIDENCE COUNTY--Continued

415437071242201. Lincoln well LIW 84.

LOCATION.--Lat 41°54'37", long 71°24'22", Providence County, Hydrologic Unit 0190003, town of Lincoln, at north side of Maplehurst Farms building, and 800 ft west of Blackstone River bridge in Lonsdale.

Owner: Maplehurst Farms, Inc.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 107 ft, cased to 107 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 60 ft. Measuring point: Inside lower lip of 8-in pipe, 3.32 ft above land-surface datum.

REMARKS.--Water level affected by Blackstone River floods.

PERIOD OF RECORD.--June 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.97 ft above land-surface datum, Jan. 28, 1976, lowest measured, 7.30 ft below land-surface datum, Aug. 24, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	5.43	DEC 24	4.91	FEB 27	4.49	APR 29	4.44	JUN 27	5.04	AUG 27	4.98
NOV 22	4.66	JAN 25	3.50	MAR 27	4.20	MAY 28	5.46	JUL 24	5.28	SEP 28	5.18

415948071325001 North Smithfield Well NSW 21.

LOCATION.--Lat 41°59'48", long 71°32'50", Providence County, Hydrologic Unit 1090003, town of North Smithfield, 500 ft southwest of State Highway 146A, 900 ft west of intersection of State Highway 146A and Harkness Road at Branch Village.

Owner: Wallace Shaw.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug domestic water-table well, diameter 24 in, depth 16 ft, cased with tile to 16 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 238.68 ft above sea level. Measuring point: Hole in concrete cover at top of tile casing, 1.84 ft below land-surface datum.

REMARKS.--Well used for domestic supply. Water levels affected by pumping.

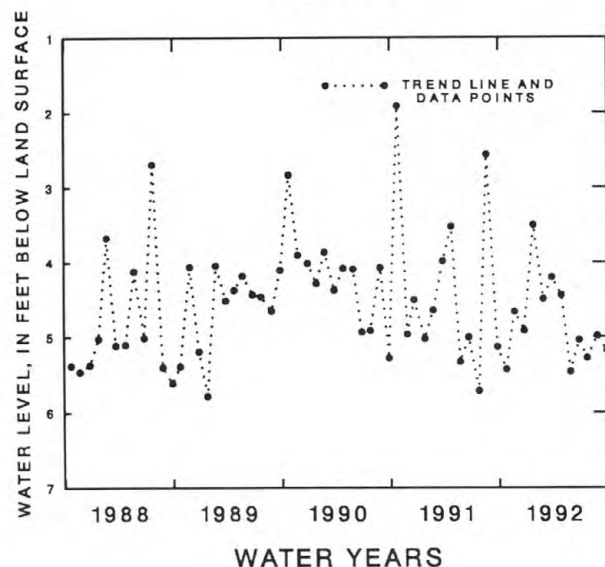
PERIOD OF RECORD.--May 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.67 ft below land-surface datum, Mar. 26, 1969; lowest measured, 11.71 ft below land-surface datum, Oct. 28, 1957.

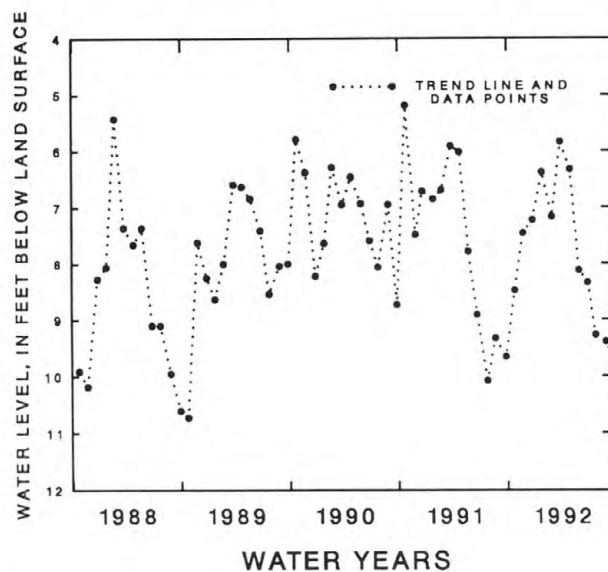
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	8.48	DEC 24	7.23	FEB 27	7.17	APR 29	6.33	JUN 27	8.34	AUG 27	9.39
NOV 22	7.46	JAN 25	6.38	MAR 27	5.84	MAY 28	8.12	JUL 24	9.27	SEP 28	9.75

LIW84



NSW21



GROUND-WATER LEVELS IN RHODE ISLAND

233

PROVIDENCE COUNTY--Continued

415317071220601. Pawtucket well PAW 136.

LOCATION.--Lat 41°53'17", long 71°22'06", Providence County, Hydrologic Unit 01090004, city of Pawtucket, at 314 Woodbine Street, and 1,500 ft 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, depth 43 ft, cased to about 40 ft, screened about 40 to 43 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 86 ft. Measuring point: Top of casing, 3.15 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.98 ft below land-surface datum, Apr. 23, 1983; lowest measured, 7.28 ft below land-surface datum, Jan. 29, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	5.21	DEC 24	4.74	FEB 27	4.89	APR 28	4.48	JUN 27	4.93	AUG 27	5.12
NOV 22	5.07	JAN 25	4.69	MAR 27	4.65	MAY 28	4.83	JUL 24	5.13	SEP 28	5.22

414746071255601. Providence well PRW 48.

LOCATION.--Lat 41°47'46", long 71°25'56", Providence County, Hydrologic Unit 01090004, city of Providence, at 333 Adelaide Avenue, and 800 ft northwest of Adelaide and 800 ft 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, depth 124 ft, cased to 116 ft, screened 116 to 124 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 45.79 ft, above sea level. Measuring point: Top edge of hole in center of steel cover, 0.48 ft below land-surface datum.

REMARKS.--Water level affected by pumping from one or more nearby wells.

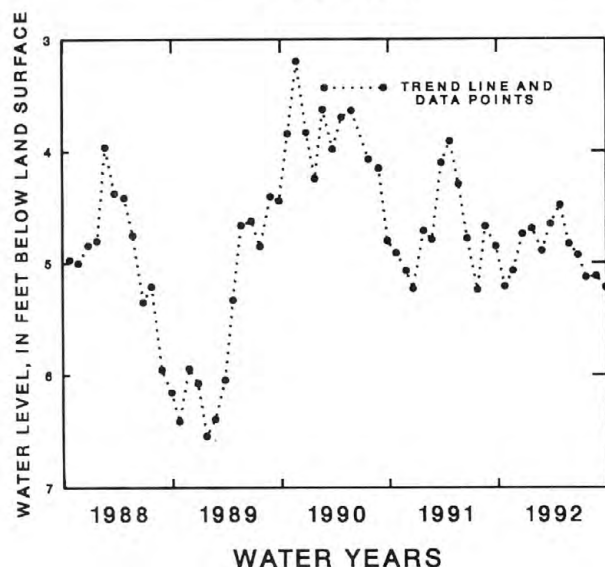
PERIOD OF RECORD.--December 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.78 ft below land-surface datum, Apr. 23, 1983; lowest measured, 10.22 ft below land-surface datum, Oct. 20, 1947.

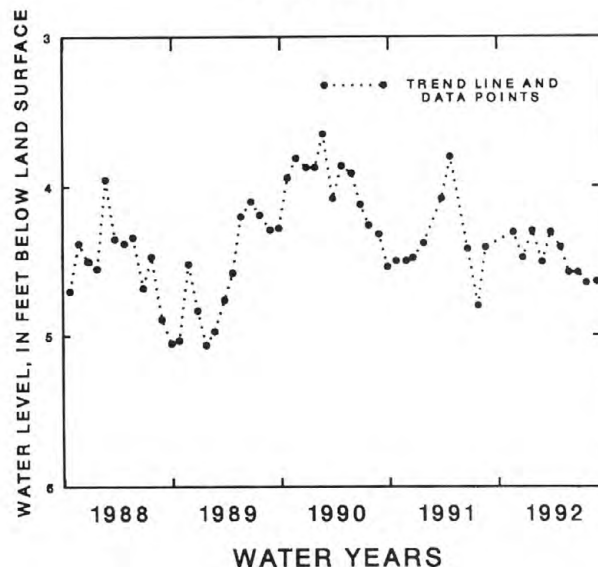
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 22	4.31	JAN 25	4.30	MAR 27	4.31	MAY 26	4.58	JUL 24	4.65	SEP 28	4.68
DEC 24	4.48	FEB 27	4.51	APR 29	4.41	JUN 26	4.58	AUG 28	4.64		

PAW136



PRW48



GROUND-WATER LEVELS IN RHODE ISLAND

PROVIDENCE COUNTY--Continued

414939071260801. Providence well PRW 1051.

LOCATION.--Lat 41°49'39", long 71°26'08", Providence County, Hydrologic Unit 01090004, city of Providence, at 10 Eagle Street, and 200 ft south of Valley and 300 ft east of Eagle Streets.

Owner: Licht Industries.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 10 in, depth 82 ft, cased to 82 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 10 ft. Measuring point: Top of extension on pipe, 2.83 ft above land-surface datum.

REMARKS.--Water level affected by pumping from one or more nearby wells. Since October 1971, reduced pumping has resulted in higher water levels. Extension pipe installed April 1992.

PERIOD OF RECORD.--January 1948 to current year. January 1948 to March 1949, weekly water level measurements. April 1949 to February 1976, continuous graphic recorder (published water levels were monthly lows). Since April 1976, water levels measured near end of month.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.83 ft above land-surface datum, Apr. 28, 1992; observed flowing at times in 1978-80, 1987-88; lowest measured, 16.10 ft below land-surface datum, Jan. 16, 1948.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM (READINGS ABOVE LAND SURFACE INDICATED BY "-"),
WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	-.23	DEC 24	-.08	FEB 25	-.11	APR 28	-2.83	JUN 27	-2.80	AUG 28	-2.80
NOV 22	-.10	JAN 24	-.06	MAR 27	-.11	MAY 26	-2.80	JUL 24	-2.80	SEP 28	-2.80

WASHINGTON COUNTY

412214071394001. Charlestown well CHW 18.

LOCATION.--Lat 41°22'14", long 71°39'40", Washington County, Hydrologic Unit 01090005, town of Charlestown, 1,900 ft 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 well, diameter 8 in, depth 32 ft, cased to 32 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 26 ft. Measuring point: Top of casing, at land-surface datum.

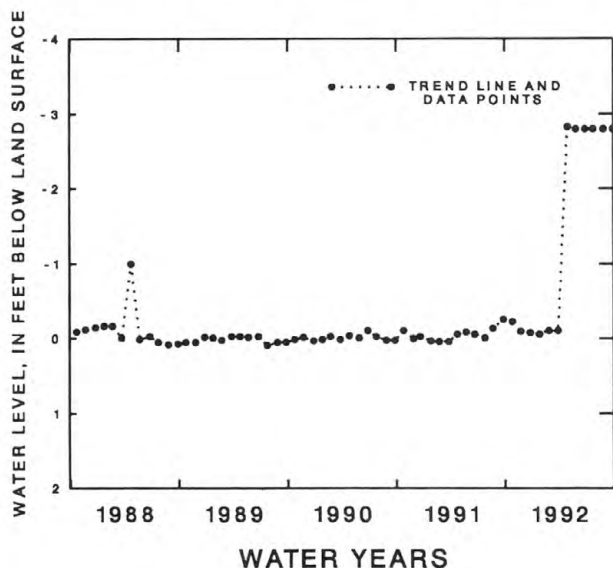
PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.09 ft below land-surface datum, Apr. 23, 1983; lowest measured, 21.63 ft below land-surface datum, Dec. 29, 1965.

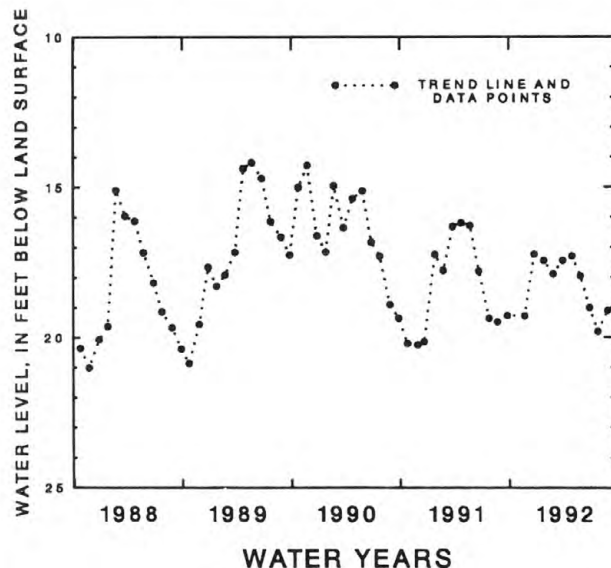
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21	19.28	JAN 24	17.44	MAR 28	17.44	MAY 26	17.95	JUL 24	19.80	SEP 25	19.12
DEC 23	17.23	FEB 25	17.88	APR 28	17.29	JUN 26	19.01	AUG 27	19.10		

PRW1051



CHW18



GROUND-WATER LEVELS IN RHODE ISLAND

235

WASHINGTON COUNTY--Continued

413423071431901. Exeter well EXW 6.

LOCATION.--Lat 41°34'23", long 71°43'19", Washington County, Hydrologic Unit 01090005, town of Exeter, in Arcadia State Forest, 150 ft west of Wood River, 250 ft south of Ten Rod Road, and 2.0 mi 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, depth 10 ft, cased with concrete to 10 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 132.80 ft above sea level. Measuring point: Hole in top of wooden cover, at land-surface datum.

REMARKS.--Water level affected by stage of nearby Wood River.

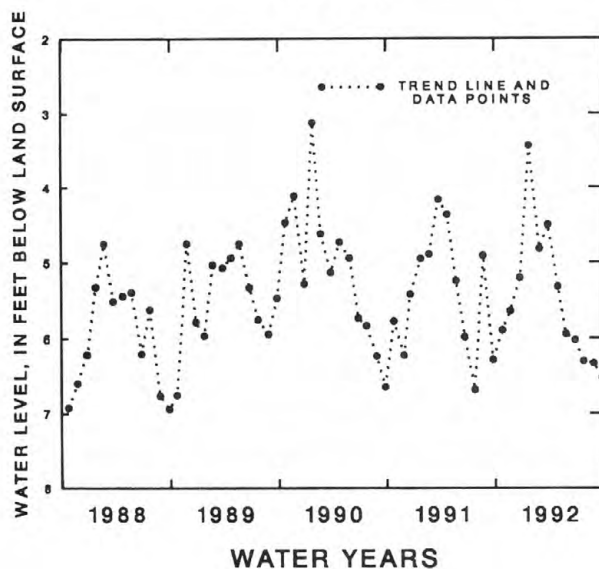
PERIOD OF RECORD.--December 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.34 ft below land-surface datum, Jan. 27, 1979; lowest measured, 7.97 ft below land-surface datum, Sept. 26, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	5.89	DEC 23	5.20	FEB 27	4.82	APR 29	5.32	JUN 26	6.02	AUG 27	6.33
NOV 21	5.64	JAN 24	3.44	MAR 27	4.50	MAY 26	5.94	JUL 24	6.30	SEP 25	6.52

EXW6



GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

413505071452801. Exeter well EXW 158.

LOCATION.--Lat 41°35'05", long 71°45'28", Washington County, Hydrologic Unit 01090005, town of Exeter, Escoheag Hill Road.

Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in, depth 18.3 ft, cased with stone to 18.3 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 315 ft. Measuring point: spray painted arrow on rock, at land-surface datum.

PERIOD OF RECORD.--September 1953 to February 1959, November 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.43 ft below land-surface datum, Mar. 26, 1958; lowest measured, 17.36 ft below land-surface datum, Aug. 30, 1957.

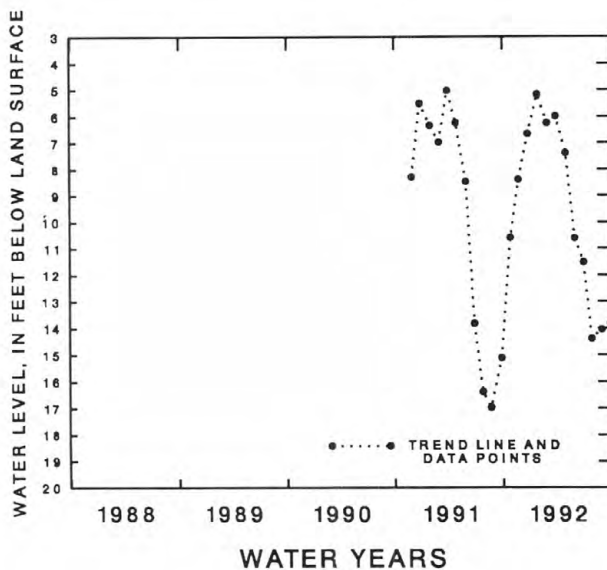
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, SEPTEMBER 1953 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 14, 1953	16.05	MAY 26, 1955	9.99	DEC 26, 1956	6.38	SEP 25, 1958	12.37
NOV 30	4.90	JUN 29	13.38	JAN 31, 1957	6.28	OCT 23	9.32
DEC 30	6.02	JUL 28	15.08	FEB 28	6.72	NOV 21	8.48
JAN 28, 1954	6.93	AUG 26	8.11	MAR 27	6.28	DEC 29	9.42
FEB 25	6.31	SEP 29	9.63	APR 30	6.96	JAN 29, 1959	10.51
MAR 30	5.82	OCT 27	5.93	MAY 29	10.09	FEB 26	8.34
APR 26	5.38	NOV 28	6.43	JUN 26	13.73	NOV 28, 1990	8.29
MAY 27	7.16	DEC 30	9.41	JUL 31	16.60	DEC 26	5.51
JUN 28	12.19	JAN 26, 1956	8.43	AUG 30	17.36	JAN 29, 1991	6.34
AUG 02	14.77	FEB 29	6.43	OCT 29		FEB 28	6.97
30	10.86	MAR 29	5.61	DEC 30	7.35	MAR 28	5.02
SEP 28	6.63	APR 27	6.49	JAN 31, 1958	4.55	APR 26	6.24
OCT 28	9.37	MAY 29	8.83	FEB 25	7.40	MAY 29	8.46
NOV 23	7.45	JUN 28	12.52	MAR 26	4.43	JUN 26	13.82
DEC 28	5.78	JUL 31	14.14	APR 25	5.37	JUL 24	16.38
JAN 27, 1955	8.10	AUG 30	15.64	MAY 23	6.79	AUG 21	16.97
FEB 25	6.78	SEP 27	16.76	JUN 27	9.98	SEP 25	15.11
MAR 29	6.18	OCT 26	16.94	JUL 30	11.85		
APR 28	8.30	NOV 28	15.50	AUG 27	11.80		

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	10.58	DEC 24	6.66	FEB 27	6.25	APR 29	7.38	JUN 27	11.52	AUG 27	14.05
NOV 22	8.38	JAN 25	5.17	MAR 27	5.99	MAY 28	10.60	JUL 24	14.39	SEP 25	13.83

EXW158



GROUND-WATER LEVELS IN RHODE ISLAND

237

WASHINGTON COUNTY--Continued

413400071363101. Exeter well EXW 238.

LOCATION.--Lat 41°34'00", long 71°36'31", Washington County, Hydrologic Unit 01090005, town of Exeter, Tripps Corner Road.

Owner: I. & J. Tefft

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 14.4 ft, cased with stone to 14.4 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 333.80 ft. Measuring point: spray painted arrow on rock, at land-surface datum.

PERIOD OF RECORD.--October 1955 to June 1960, May 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.37 ft below land-surface datum, Oct. 17, 1955;

lowest measured, 13.43 ft below land-surface datum, Oct. 2, 1957.

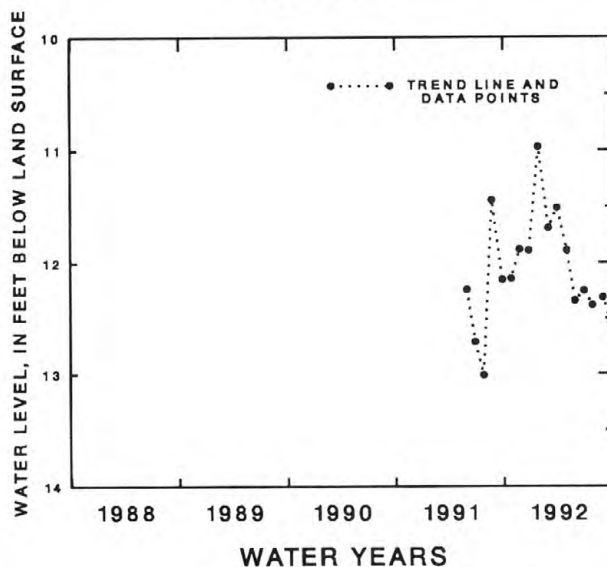
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, OCTOBER 1955 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1955	9.37	JAN 24, 1957	11.07	APR 16, 1958	10.79	JUN 24, 1959	11.86
NOV 03	11.10	FEB 07	11.80	30	10.54	JUL 05	12.43
17	10.87	20	11.98	MAY 13	11.10	22	12.04
DEC 01	11.51	MAR 06	11.81	28	11.02	AUG 05	12.65
15	11.82	22	11.42	JUN 11	11.70	19	12.74
28	12.12	APR 03	11.31	25	11.98	SEP 02	12.65
JAN 12, 1956	11.12	17	11.37	JUL 09	11.93	16	12.62
30	11.90	MAY 01	11.84	23	12.29	30	12.95
FEB 09	11.08	15	11.97	AUG 06	12.17	OCT 14	12.45
23	11.43	28	12.26	20	12.15	28	12.04
MAR 08	10.89	JUN 13	12.64	SEP 03	11.93	NOV 12	12.34
22	11.38	27	12.94	09	11.58	25	11.98
APR 05	10.62	JUL 11	13.00	17	12.17	DEC 09	11.55
19	10.92	24	13.27	OCT 01	11.40	21	11.58
MAY 03	11.38	AUG 07	13.33	15	11.95	JAN 04, 1960	11.23
17	11.78	22	13.28	29	11.18	19	11.93
31	11.84	SEP 05	13.24	NOV 12	11.66	FEB 02	11.81
JUN 14	12.15	18	13.29	26	12.00	17	11.60
29	12.41	OCT 02	13.43	DEC 10	11.73	MAR 02	11.19
JUL 12	12.06	16	13.09	22	11.98	16	11.74
25	12.07	30	12.75	JAN 07, 1959	11.90	30	11.53
AUG 08	12.74	NOV 13	12.48	21	12.02	APR 13	11.17
22	12.78	27	12.39	FEB 04	12.04	27	11.73
SEP 05	12.91	DEC 11	10.67	18	11.63	MAY 11	11.71
19	12.76	23	11.45	MAR 04	11.44	25	11.74
OCT 03	12.78	JAN 09, 1958	11.58	18	11.05	JUN 08	12.12
17	12.51	22	11.10	APR 01	11.03	22	12.45
NOV 02	12.30	FEB 04	11.25	15	11.29	MAY 29, 1991	12.24
14	12.52	20	11.82	29	11.53	JUN 26	12.71
DEC 12	11.81	MAR 06	10.95	MAY 13	11.97	JUL 24	13.01
26	11.61	19	11.23	27	12.14	AUG 21	11.44
JAN 09, 1957	12.10	APR 02	10.91	JUN 10	12.32	SEP 25	12.15

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	12.14	DEC 23	11.89	FEB 27	11.69	APR 29	11.89	JUN 26	12.25	AUG 28	12.31
NOV 22	11.88	JAN 25	10.97	MAR 27	11.51	MAY 26	12.34	JUL 24	12.38	SEP 25	12.54

EXW238



GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

413135071314201. Exeter well EXW 278.

LOCATION.--Lat 41°31'35", long 71°31'42", Washington County, Hydrologic Unit 01090005, town of Exeter, Liberty Road 1.04 miles from Rt. 2.

Owner: Tisdale

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 23.9 ft, cased with stone to 23.9ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 230.90 ft. Measuring point: spray painted arrow top of casing, 1.20 ft. above land-surface datum.

PERIOD OF RECORD.--August 1954 to June 1960, March 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.06 ft below land-surface datum, May 29, 1991; lowest measured, 23.80 ft below land-surface datum, Nov. 26, 1957.

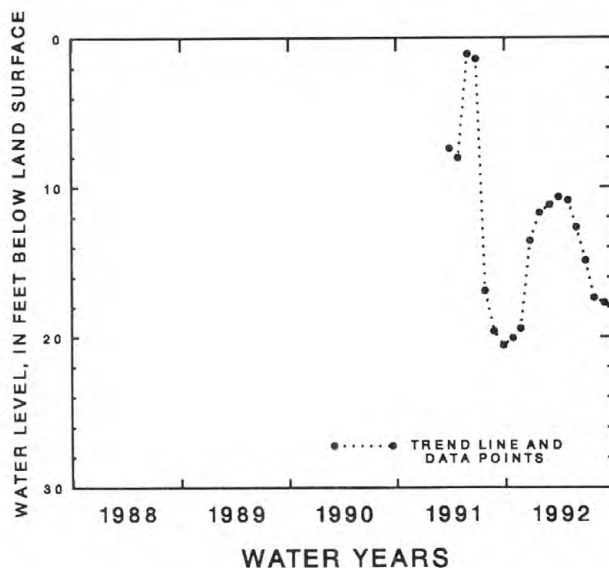
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, AUGUST 1954 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 12, 1954	16.18	DEC 01, 1955	9.29	JAN 30, 1956	11.78	MAR 22, 1956	8.30
OCT 18, 1955	11.35	15	10.43	FEB 09	8.71	APR 05	6.14
NOV 03	10.68	28	12.27	23	8.38	19	7.20
17	6.70	JAN 12, 1956	12.84	MAR 08	7.69	MAY 03	9.30
MAY 17, 1956	10.66	JUL 12, 1957	16.40	AUG 20, 1958	14.12	SEP 15, 1959	16.95
31	11.80	24	17.65	SEP 03	14.50	30	18.15
JUN 14	12.69	AUG 07	19.00	17	14.51	OCT 14	19.05
29	14.60	27	20.17	OCT 01	14.45	28	19.82
JUL 12	15.89	SEP 05	21.10	15	12.66	NOV 12	20.28
25	16.46	18	21.88	29	12.53	25	20.09
AUG 08	17.09	OCT 02	22.52	NOV 12	11.48	DEC 09	19.30
22	18.30	16	22.93	26	11.64	21	14.66
SEP 05	19.49	30	23.20	DEC 10	10.99	JAN 04, 1960	13.29
19	20.48	NOV 13	23.40	22	11.50	19	11.95
OCT 03	21.24	26	23.80	JAN 07, 1959	11.65	FEB 02	12.08
17	21.81	DEC 11	23.05	21	12.28	17	10.35
NOV 02	22.26	23	22.81	FEB 04	12.34	MAR 02	6.42
14	22.52	JAN 23, 1958	11.35	18	11.59	16	8.89
DEC 12	22.37	FEB 04	7.18	MAR 04	11.63	30	8.01
26	20.18	19	8.76	18	8.02	APR 13	6.31
JAN 09, 1957	15.80	MAR 05	6.62	APR 01	6.39	27	8.54
24	15.58	19	5.20	15	6.66	MAY 11	9.29
FEB 06	14.40	APR 02	4.32	29	7.74	25	9.78
20	13.15	16	4.36	MAY 13	9.23	JUN 08	10.61
MAR 06	13.03	30	3.69	27	10.76	22	12.35
21	11.45	MAY 14	5.22	JUN 10	11.56	MAR 28, 1991	7.38
APR 17	7.40	28	5.52	24	11.05	APR 26	8.02
MAY 01	9.14	JUN 11	8.02	JUL 08	11.69	MAY 29	1.06
15	10.94	25	9.54	22	11.35	JUN 26	1.38
28	11.72	JUL 09	11.20	AUG 05	12.85	JUL 24	16.87
JUN 13	13.37	23	11.92	19	14.46	AUG 23	19.59
27	14.97	AUG 06	13.06	SEP 02	15.79	SEP 24	20.54

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	20.05	DEC 23	13.55	FEB 27	11.16	APR 29	10.87	JUN 26	14.88	AUG 28	17.69
NOV 21	19.41	JAN 24	11.68	MAR 28	10.65	MAY 26	12.65	JUL 24	17.35	SEP 25	17.91

EXW278



GROUND-WATER LEVELS IN RHODE ISLAND

239

WASHINGTON COUNTY--Continued

413358071433801. Exeter well EXW 475.

LOCATION.--Lat 41°33'58", long 71°43'38", Washington County, Hydrologic Unit 01090005, town of Exeter, 70 ft east of Mt. Tom Road, 50 ft north of Blitzkrieg Trail, and 2.4 mi northwest of Barberville.

Owner: State Department of Environmental Management.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 40 ft, cased to 38 ft, screened 38 to 40 ft.

INSTRUMENTATION.--Continuous graphic recorder March 1981 to May 1988, digital recorder (60 minute punch) June 1988 to current year.

DATUM.--Land-surface datum is 142.92 ft above sea level. Measuring point:

floor of recorder shelter, 3.38 ft above land-surface datum.

PERIOD OF RECORD.--March 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.58 ft below land-surface datum, Apr. 28, 29, 1983;

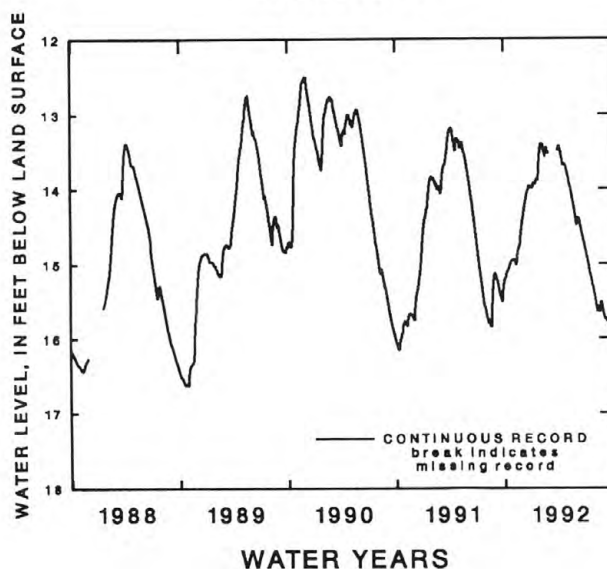
lowest, 16.74 ft below land-surface datum, Oct. 19, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.22	14.95	14.41	13.99	13.41	---	13.44	13.81	14.43	14.84	15.46	15.71
2	15.21	14.94	14.40	13.99	13.40	---	13.43	13.82	14.38	14.87	15.49	15.73
3	15.20	14.94	14.36	13.99	13.40	---	13.43	13.83	14.40	14.89	15.51	15.74
4	15.19	14.95	14.32	13.98	13.40	---	13.44	13.86	14.42	14.90	15.54	15.72
5	15.19	14.95	14.30	13.94	13.40	---	13.45	13.89	14.45	14.92	15.56	15.73
6	15.18	14.96	14.27	13.93	13.41	---	13.48	13.92	14.43	14.93	15.58	15.74
7	15.14	14.97	14.25	13.92	13.41	---	13.50	13.94	14.40	14.95	15.61	15.76
8	15.13	14.99	14.22	13.93	13.42	---	13.51	13.95	14.40	14.98	15.63	15.77
9	15.12	15.01	14.20	13.92	13.46	---	13.54	13.95	14.41	15.00	15.64	15.75
10	15.11	15.01	14.18	13.91	13.50	---	13.56	13.97	14.44	15.02	15.57	15.75
11	15.10	14.99	14.16	13.92	13.49	---	13.58	14.00	14.47	15.04	15.58	15.77
12	15.09	14.91	14.14	13.94	13.53	---	13.59	14.02	14.49	15.07	15.59	15.77
13	15.09	14.88	14.12	13.94	13.54	---	13.63	14.03	14.50	15.09	15.61	15.78
14	15.08	14.85	14.08	13.91	13.55	---	13.64	14.06	14.52	15.12	15.63	15.79
15	15.08	14.83	14.07	13.90	13.58	---	13.67	14.09	14.54	15.14	15.64	15.81
16	15.06	14.81	14.05	13.88	13.49	---	13.69	14.12	14.57	15.15	15.65	15.82
17	15.04	14.80	14.04	13.87	13.49	---	13.68	14.14	14.59	15.15	15.64	15.84
18	15.02	14.79	14.02	13.87	13.47	---	13.68	14.15	14.61	15.17	15.59	15.85
19	15.01	14.77	14.02	13.87	13.44	---	13.68	14.18	14.62	15.20	15.53	15.87
20	15.00	14.76	14.01	13.87	13.45	---	13.68	14.21	14.64	15.22	15.51	15.89
21	14.99	14.75	13.98	13.87	13.47	---	13.67	14.23	14.66	15.24	15.51	15.90
22	14.98	14.74	13.97	13.89	13.50	---	13.67	14.25	14.68	15.27	15.51	15.92
23	14.97	14.68	13.96	13.87	13.50	---	13.68	14.27	14.70	15.29	15.53	15.93
24	14.97	14.63	13.95	13.74	13.52	---	13.69	14.30	14.72	15.30	15.55	15.94
25	14.96	14.59	13.96	13.67	13.54	---	13.70	14.33	14.72	15.31	15.57	15.94
26	14.95	14.56	13.98	13.62	13.51	---	13.72	14.36	14.75	15.33	15.60	15.94
27	14.95	14.52	13.98	13.57	---	---	13.74	14.39	14.77	15.35	15.62	15.88
28	14.95	14.49	13.98	13.52	---	13.50	13.75	14.41	14.79	15.37	15.65	15.86
29	14.96	14.46	13.96	13.48	---	13.49	13.77	14.44	14.81	15.40	15.66	15.86
30	14.95	14.43	13.97	13.44	---	13.48	13.79	14.47	14.82	15.42	15.68	15.88
31	14.95	---	13.99	13.42	---	13.45	---	14.49	---	15.44	15.70	---
MEAN	15.06	14.80	14.11	13.82	---	---	13.62	14.13	14.57	15.14	15.59	15.82
HIGH	15.22	15.01	14.41	13.99	---	---	13.79	14.49	14.82	15.44	15.70	15.94
LOW	14.95	14.43	13.95	13.42	---	---	13.43	13.81	14.38	14.84	15.46	15.71

WTR YR 1992 HIGH 13.40 FEB 2, 3, 4, 5 LOW 15.94 SEP 24, 25, 26

EXW475



GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

413252071323601. Exeter well EXW 554.

LOCATION.--Lat 41°32'52", long 71°32'36", Washington County, hydrologic Unit 01090005, town of Exeter, about 1500 ft south of fire station at Exeter State (Dr. Joseph H. Ladd) School. One half mile West of Rt. 2 on Dawley Rd. and approx. 100 ft North of center line of Dawley Rd.
 Owner: State Dept. of Public Welfare.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 25.1 ft, cased to 22.8 ft, screened from 22.8 ft to 24.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 156.92 ft above sea level. Measuring point:
 Top of casing, 2.40 ft above land-surface datum.

REMARKS.--Replacement well for EXW16, which was influenced by parking lot runoff.

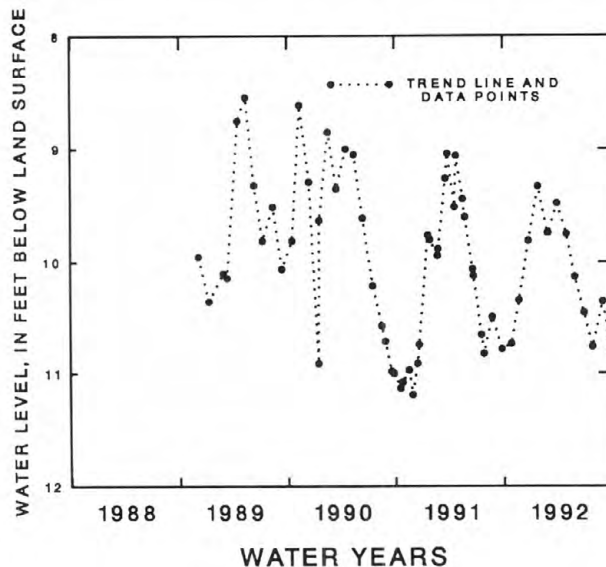
PERIOD OF RECORD.--December 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.54 ft below land-surface datum, May 15, 1989; lowest measured, 11.19 ft below land-surface datum, Nov. 28, 1990.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	10.73	JAN 24	9.33	MAR 28	9.48	JUN 26	10.45	SEP 25	10.79		
NOV 21	10.34	FEB 25	9.74	APR 28	9.75	JUL 24	10.76				
DEC 23	9.81	27	9.74	MAY 26	10.13	AUG 28	10.35				

EXW554



GROUND-WATER LEVELS IN RHODE ISLAND

241

WASHINGTON COUNTY--Continued

413126071455501. Hopkinton well HOW 67.

LOCATION.--Lat 41°31'26", long 71°45'55", Washington County, Hydrologic Unit 01090005, town of Hopkinton, Beach pond Road, Rt. 138.

Owner: Rhode Island Boy Scouts.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 22.1 ft, cased with stone to 22.1 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 335 ft. Measuring point: spray painted arrow on rock, 1.89 ft above land-surface datum.

PERIOD OF RECORD.--August 1953 to February 1959, November 1990 to current year..

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.70 ft below land-surface datum, Mar. 26, 1958; lowest measured, 22.90 ft below land-surface datum, Oct. 29, 1957.

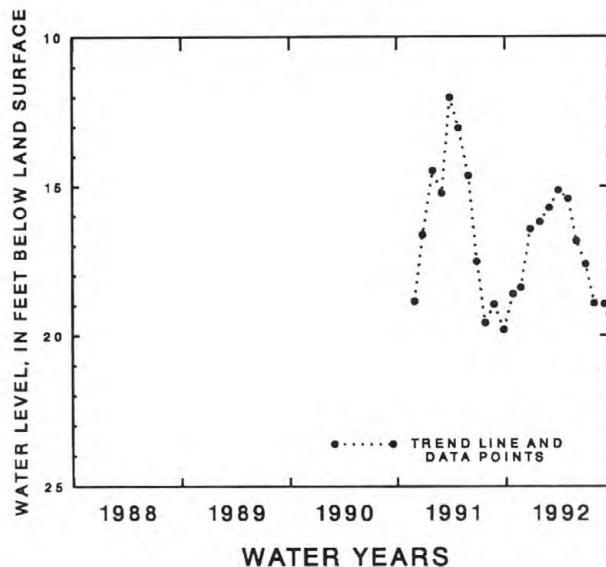
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, AUGUST 1953 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 30, 1953	20.37	JUN 28, 1954	16.64	MAR 29, 1955	11.42	DEC 30, 1955	15.06
OCT 22	16.24	AUG 02	21.09	APR 28	14.40	JAN 26, 1956	14.87
NOV 30	15.43	30	20.37	MAY 26	15.31	FEB 29	12.66
DEC 30	14.11	SEP 28	16.00	JUN 28	16.94	MAR 29	11.48
JAN 28, 1954	15.47	OCT 28	16.10	JUL 28	18.67	APR 27	11.31
FEB 25	14.89	NOV 23	14.72	AUG 26	13.39	MAY 29	14.12
MAR 30	12.64	DEC 28	11.08	SEP 29	16.47	JUN 28	16.01
APR 26	12.83	JAN 27, 1955	13.88	OCT 27	11.60	JUL 31	16.73
MAY 27	13.27	FEB 24	12.50	NOV 28	11.40	AUG 30	19.18
SEP 27, 1956	19.88	AUG 30, 1957	21.44	JUL 30, 1958	16.55	FEB 28, 1991	15.22
OCT 26	20.29	SEP 27	22.44	AUG 27	16.70	MAR 28	12.00
NOV 28	19.54	OCT 29	22.90	SEP 25	17.19	APR 26	13.03
DEC 26	16.39	NOV 25	21.74	OCT 23	15.81	MAY 29	14.63
JAN 31, 1957	16.28	DEC 30	18.11	NOV 21	15.35	JUN 26	17.51
FEB 28	15.88	JAN 31, 1958	13.69	DEC 29	16.08	JUL 24	19.56
MAR 27	14.10	FEB 25	15.19	JAN 29, 1959	16.52	AUG 23	18.95
APR 30	13.53	MAR 26	10.70	FEB 26	15.66	SEP 24	19.79
MAY 29	16.00	APR 25	10.80	NOV 28, 1990	18.85		
JUN 26	18.23	MAY 23	11.65	DEC 26	16.62		
JUL 31	20.35	JUN 27	14.73	JAN 29, 1991	14.46		

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	18.61	DEC 23	16.43	FEB 25	15.72	APR 29	15.41	JUN 26	17.61	AUG 27	18.95
NOV 21	18.39	JAN 24	16.19	MAR 27	15.12	MAY 26	16.83	JUL 24	18.92	SEP 25	20.03

HOW67



GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

410947071344803. New Shoreham well NHW 258.

LOCATION.--Lat 41°09'47", long 71°34'48", Washington County, Hydrologic Unit 01090005, town of New Shoreham, Lakeside Drive near Indian Cemetary.

Owner: State of Rhode Island, D.O.T.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 19.0 ft, cased to 14.0 ft, screened from 14.0 ft to 19.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 120 ft. Measuring point: Notch in PVC casing, 0.85 ft above land-surface datum.

PERIOD OF RECORD.--August 1990 and September 1990, June 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.25 ft below land-surface datum, June 13, 1991; lowest measured, 12.94 ft below land-surface datum, Sep. 25, 1991.

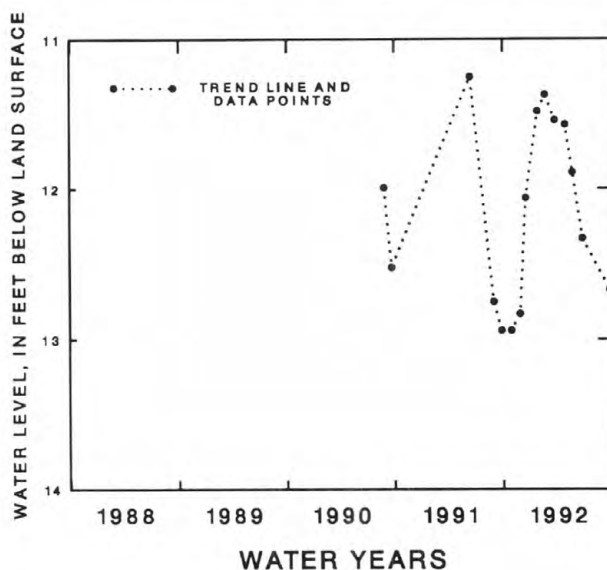
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, AUGUST 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 27, 1990	11.99	JUN 13, 1991	11.25	SEP 25, 1991	12.94		
SEP 21	12.52	AUG 30	12.75				

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	12.94	DEC 16	12.06	FEB 20	11.37	APR 27	11.57	JUN 23	12.33		
NOV 26	12.83	JAN 25	11.48	MAR 23	11.54	MAY 21	11.89	SEP 22	12.67		

NHW258



GROUND-WATER LEVELS IN RHODE ISLAND

243

WASHINGTON COUNTY--Continued

413148071281601. North Kingstown well NKW 255.

LOCATION.--Lat 41°31'48", long 71°28'16", Washington County, Hydrologic Unit 01090004, town of North Kingstown, 100 ft east of Pendar Road, 0.6 mi south of intersection of Pendar and Tower Hill Roads, and 1.0 mi south of Allenton.
Owner: Marcel Lacroix.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 14 ft, cased with concrete to 14 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 50 ft. Measuring point: Hole in top of concrete cover, 0.24 ft above 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 below land-surface datum, Mar. 26, 1968; lowest measured, 13.03 ft below land-surface datum, Oct. 26, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	9.42	DEC 23	8.52	FEB 25	8.43	APR 28	8.18	JUN 26	9.25	AUG 28	8.50
NOV 21	8.71	JAN 24	7.85	MAR 28	8.13	MAY 26	8.79	JUL 24	9.71	SEP 25	9.56

413308071280501. North Kingstown well NKW 450.

LOCATION.--Lat 41°33'08", long 71°28'05", Washington County, Hydrologic Unit 01090004, town of North Kingstown, at 890 Tower Hill Road in Belleville, and 0.35 mi 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, depth 17 ft, cased with concrete to 17 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 60 ft. Measuring point: Hole in top of concrete cover, 1.96 ft above land-surface datum.

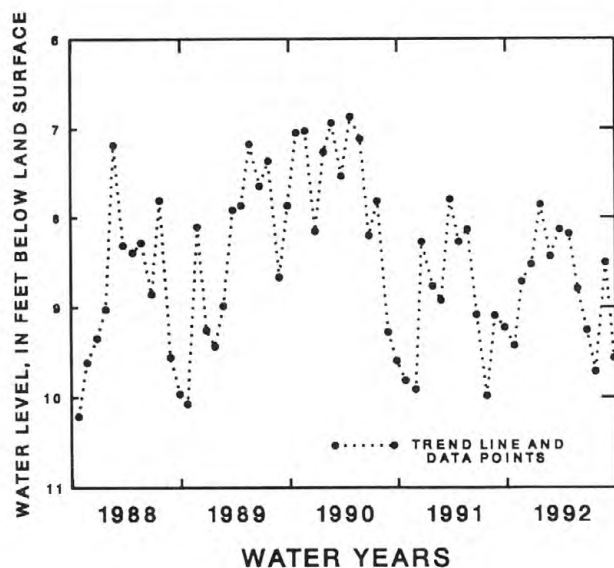
PERIOD OF RECORD.--October 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.32 ft below land-surface datum, Apr. 23, 1983; lowest measured, well dry several times in water years 1980-82, 1984, 1988.

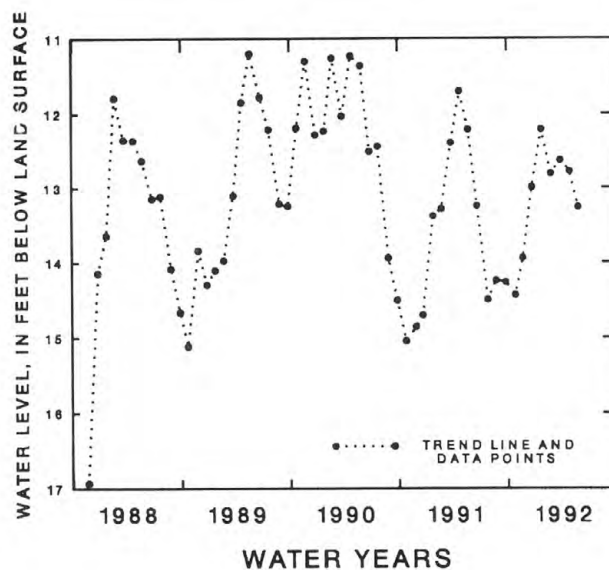
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	14.43	DEC 23	12.99	FEB 25	12.81	APR 28	12.78				
NOV 21	13.94	JAN 24	12.21	MAR 28	12.63	MAY 26	13.26				

NKW255



NKW450



GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

412932071374302. Richmond well RIW 417.

LOCATION.--Lat 41°29'32", long 71°37'43", Washington County, Hydrologic Unit 01090005, town of Richmond, about 50 ft south of State Highway 138, about 75 ft west of Beaver River, and 3.3 mi 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, depth 40 ft, cased to 37 ft, screened 37 to 40 ft.

INSTRUMENTATION.--Continuous graphic recorder December 1975 to May 1988, digital recorder (60 minute) June 1988 to current year.

DATUM.--Land-surface datum is 115.56 ft, above sea level. Measuring point: Floor of recorder shelter, 0.60 ft above land-surface datum.

REMARKS.--Water level affected by stage of nearby Beaver River.

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

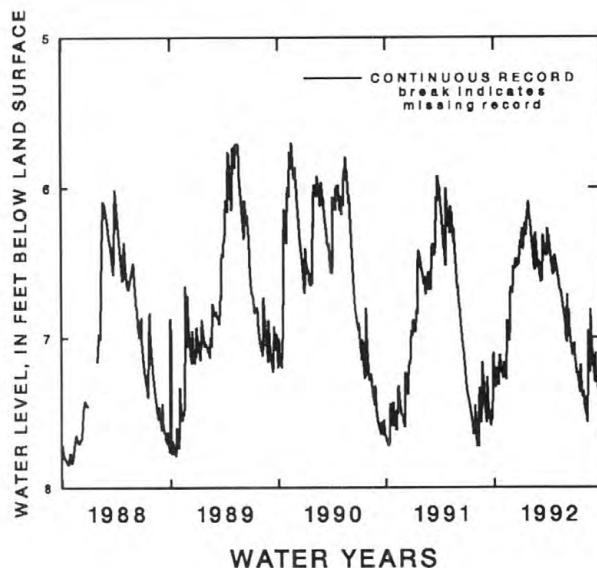
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.08 ft below land-surface datum, Apr. 25, 1983; lowest, 8.02 ft below land-surface datum, Oct. 3, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.27	7.18	6.70	6.33	6.26	6.56	6.31	6.58	6.77	7.20	7.47	7.28
2	7.29	7.16	6.70	6.29	6.29	6.58	6.33	6.59	6.71	7.22	7.49	7.30
3	7.31	7.18	6.63	6.27	6.32	6.59	6.35	6.61	6.81	7.24	7.51	7.26
4	7.32	7.20	6.53	6.31	6.34	6.60	6.38	6.61	6.88	7.24	7.51	7.10
5	7.33	7.22	6.52	6.41	6.36	6.61	6.40	6.63	6.93	7.23	7.52	7.15
6	7.28	7.24	6.54	6.40	6.38	6.63	6.42	6.65	6.83	7.23	7.54	7.21
7	7.20	7.25	6.54	6.38	6.40	6.61	6.44	6.67	6.81	7.25	7.56	7.24
8	7.20	7.26	6.54	6.34	6.42	6.57	6.46	6.68	6.87	7.27	7.57	7.26
9	7.25	7.27	6.54	6.31	6.44	6.59	6.48	6.68	6.92	7.28	7.39	7.27
10	7.27	7.28	6.50	6.30	6.48	6.62	6.50	6.68	6.96	7.30	6.95	7.29
11	7.29	7.11	6.48	6.28	6.50	6.48	6.51	6.68	6.98	7.32	7.05	7.31
12	7.29	6.90	6.48	6.25	6.52	6.31	6.52	6.69	7.00	7.34	7.11	7.32
13	7.29	6.88	6.47	6.23	6.53	6.32	6.54	6.71	7.02	7.35	7.18	7.34
14	7.31	6.91	6.48	6.26	6.54	6.33	6.56	6.72	7.04	7.36	7.23	7.36
15	7.32	6.94	6.52	6.32	6.55	6.36	6.57	6.74	7.06	7.37	7.23	7.38
16	7.17	6.95	6.52	6.30	6.31	6.39	6.58	6.75	7.07	7.18	7.23	7.39
17	7.14	6.97	6.52	6.28	6.30	6.40	6.56	6.77	7.09	7.20	7.16	7.40
18	7.12	6.99	6.52	6.24	6.35	6.42	6.47	6.78	7.11	7.27	6.89	7.42
19	7.11	7.00	6.52	6.20	6.38	6.42	6.46	6.80	7.12	7.32	6.81	7.43
20	7.14	7.01	6.51	6.18	6.41	6.43	6.45	6.82	7.10	7.35	6.88	7.44
21	7.17	7.02	6.51	6.16	6.44	6.44	6.45	6.83	7.04	7.37	6.95	7.45
22	7.19	6.96	6.51	6.13	6.47	6.45	6.45	6.85	7.09	7.39	7.00	7.46
23	7.20	6.75	6.49	6.11	6.49	6.45	6.47	6.85	7.12	7.40	7.05	7.42
24	7.21	6.69	6.46	6.09	6.51	6.45	6.49	6.87	7.11	7.36	7.08	7.43
25	7.22	6.66	6.44	6.09	6.53	6.45	6.50	6.88	7.03	7.36	7.11	7.45
26	7.23	6.67	6.40	6.13	6.49	6.45	6.51	6.93	7.08	7.38	7.15	7.39
27	7.24	6.69	6.38	6.17	6.48	6.32	6.52	6.98	7.13	7.39	7.17	7.10
28	7.24	6.69	6.36	6.19	6.52	6.27	6.54	6.99	7.14	7.43	7.19	7.15
29	7.26	6.69	6.35	6.20	6.54	6.31	6.56	7.00	7.16	7.45	7.20	7.22
30	7.27	6.70	6.40	6.22	---	6.34	6.56	7.02	7.18	7.47	7.23	7.27
31	7.26	---	6.38	6.23	---	6.32	---	7.03	---	7.48	7.25	---
MEAN	7.24	6.98	6.50	6.25	6.43	6.45	6.48	6.78	7.01	7.32	7.21	7.32
HIGH	7.33	7.28	6.70	6.41	6.55	6.63	6.58	7.03	7.18	7.48	7.57	7.46
LOW	7.11	6.66	6.35	6.09	6.26	6.27	6.31	6.58	6.71	7.18	6.81	7.10

WTR YR 1992 HIGH 6.09 JAN 24, 25 LOW 7.57 AUG 8

RIW417



GROUND-WATER LEVELS IN RHODE ISLAND

245

WASHINGTON COUNTY--Continued

412844071422802. Richmond well RIW 600.

LOCATION.--Lat 41°28'44", long 71°42'28", Washington County, Hydrologic Unit 01090005, town of Richmond, about 50 ft west of Hope Valley Road, and 1.5 mi northeast of Woodville.

Owner: State Department of Transportation.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 54 ft, cased to 49 ft, screened 49 to 54 ft.

INSTRUMENTATION.--Continuous graphic recorder September 1977 to May 1988, digital recorder (60 minute) June 1988 to current year.

DATUM.--Land-surface datum is 100.17 ft, above sea level. Measuring point: Floor of recorder shelter, 2.63 ft above land-surface datum.

PERIOD OF RECORD.--September 1977 to current year.

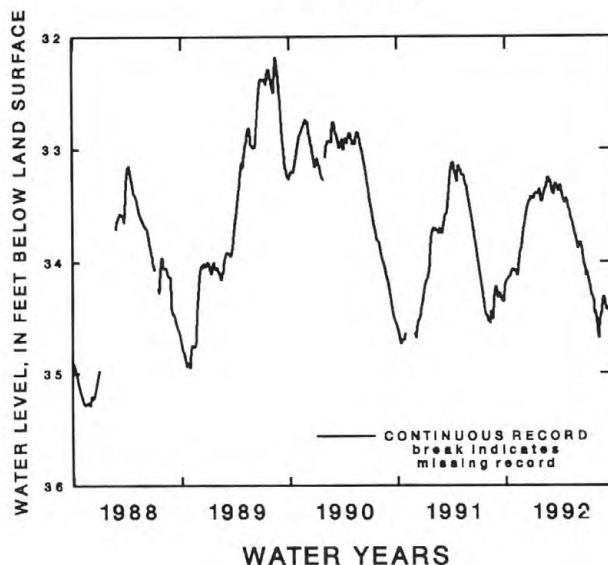
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.42 ft below land-surface datum, June 11, 1982; lowest, 35.94 ft below land-surface datum, Feb. 2, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.18	34.07	33.69	33.44	33.45	33.32	33.33	33.53	33.86	34.09	34.51	34.41
2	34.17	34.07	33.68	33.44	33.44	33.34	33.32	33.53	33.83	34.11	34.52	34.42
3	34.17	34.08	33.66	33.44	33.42	33.35	33.33	33.56	33.83	34.12	34.57	34.43
4	34.16	34.08	33.64	33.43	33.41	33.36	33.34	33.56	33.83	34.14	34.61	34.41
5	34.16	34.09	33.63	33.41	33.40	33.37	33.36	33.57	33.83	34.15	34.63	34.41
6	34.16	34.10	33.61	33.40	33.39	33.39	33.38	33.60	33.83	34.16	34.65	34.41
7	34.15	34.10	33.59	33.40	33.38	33.38	33.39	33.61	33.83	34.17	34.67	34.41
8	34.15	34.11	33.57	33.40	33.37	33.38	33.40	33.62	33.83	34.18	34.68	34.41
9	34.14	34.12	33.56	33.39	33.36	33.40	33.42	33.63	33.83	34.20	34.69	34.42
10	34.14	34.11	33.55	33.39	33.35	33.40	33.43	33.63	33.83	34.21	34.62	34.43
11	34.13	34.09	33.53	33.39	33.34	33.37	33.44	33.64	33.85	34.22	34.57	34.44
12	34.13	34.06	33.52	33.40	33.34	33.35	33.44	33.65	33.87	34.24	34.54	34.44
13	34.13	34.02	33.51	33.40	33.33	33.33	33.46	33.65	33.87	34.26	34.51	34.45
14	34.13	34.00	33.49	33.39	33.33	33.31	33.46	33.67	33.89	34.28	34.49	34.46
15	34.13	33.98	33.49	33.40	33.33	33.31	33.47	33.69	33.91	34.29	34.48	34.47
16	34.12	33.95	33.48	33.39	33.30	33.31	33.48	33.70	33.94	34.30	34.47	34.48
17	34.11	33.93	33.47	33.40	33.28	33.30	33.47	33.71	33.95	34.30	34.46	34.49
18	34.10	33.91	33.46	33.39	33.26	33.32	33.48	33.72	33.97	34.30	34.45	34.50
19	34.09	33.90	33.46	33.38	33.25	33.31	33.46	33.74	33.99	34.31	34.41	34.52
20	34.08	33.89	33.46	33.38	33.25	33.32	33.45	33.75	34.01	34.32	34.38	34.53
21	34.07	33.89	33.45	33.37	33.25	33.32	33.44	33.76	34.02	34.33	34.35	34.54
22	34.07	33.88	33.45	33.35	33.26	33.33	33.44	33.76	34.03	34.34	34.33	34.55
23	34.06	33.87	33.43	33.37	33.27	33.33	33.45	33.77	34.04	34.35	34.32	34.57
24	34.06	33.84	33.42	33.39	33.28	33.36	33.45	33.78	34.05	34.40	34.31	34.57
25	34.06	33.82	33.43	33.41	33.29	33.37	33.46	33.80	34.06	34.46	34.31	34.57
26	34.06	33.79	33.44	33.43	33.27	33.37	33.47	33.81	34.10	34.46	34.32	34.57
27	34.06	33.77	33.44	33.45	33.28	33.35	33.49	33.82	34.12	34.44	34.33	34.51
28	34.06	33.74	33.44	33.46	33.29	33.34	33.51	33.83	34.12	34.44	34.34	34.47
29	34.07	33.72	33.43	33.47	33.30	33.33	33.53	33.85	34.11	34.46	34.35	34.45
30	34.07	33.70	33.44	33.46	---	33.34	33.53	33.87	34.08	34.48	34.37	34.44
31	34.08	---	33.44	33.46	---	33.33	---	33.88	---	34.49	34.39	---
MEAN	34.11	33.96	33.51	33.41	33.33	33.34	33.44	33.70	33.94	34.29	34.47	34.47
HIGH	34.18	34.12	33.69	33.47	33.45	33.40	33.53	33.88	34.12	34.49	34.69	34.57
LOW	34.06	33.70	33.42	33.35	33.25	33.30	33.32	33.53	33.83	34.09	34.31	34.41

WTR YR 1992 HIGH 33.25 FEB 19, 20, 21 LOW 34.69 AUG 9

RIW600



GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

412718071415201. Richmond well RIW 785.

LOCATION.--Lat 41°27'18", long 71°41'52", Washington County, Hydrologic Unit 01090005, town of Richmond, about 50 ft. west of Narragansett Trail, and 1.2 miles north of Wood River Junction.
 Owner: Tuckahoe Turf Farms.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 40.06 ft, cased to 34.21 ft, screened from 34.21 ft to 40.06 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U. S. Geological Survey Personnel.

DATUM.--Elevation of land-surface datum is 85 ft. Measuring point: Top of casing, 0.65 ft above land-surface datum.

REMARKS.--Replacement well for RIW 231 which was destroyed.

PERIOD OF RECORD.-- October 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.91 ft below land-surface datum, Apr. 26, 1990, lowest measured, 26.02 ft below land-surface datum, Dec. 20, 1990.

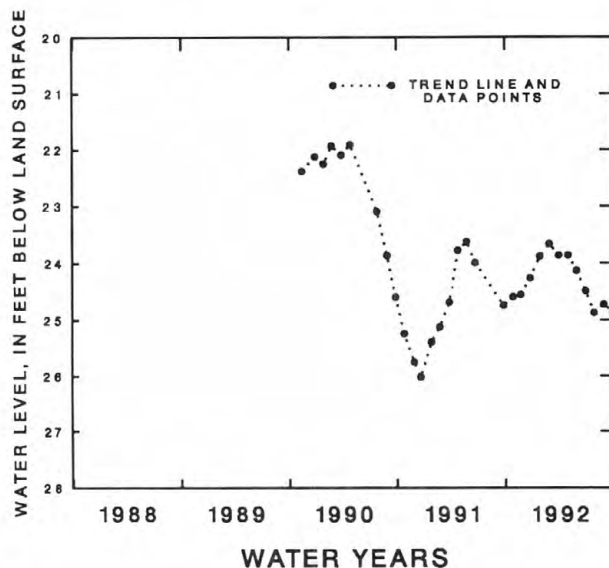
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, NOVEMBER 1989 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 14, 1989	22.38	APR 26, 1990	21.91	NOV 28, 1990	25.75	APR 24, 1991	23.77
DEC 28	22.12	JUL 25	23.09	DEC 20	26.02	MAY 23	23.62
JAN 26, 1990	22.25	AUG 28	23.86	JAN 25, 1991	25.39	JUN 21	23.99
FEB 22	21.93	SEP 26	24.59	FEB 22	25.12	SEP 24	24.74
MAR 27	22.09	OCT 25	25.24	MAR 26	24.68		

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	24.59	DEC 23	24.26	FEB 25	23.66	APR 28	23.86	JUN 26	24.49	AUG 26	24.72
NOV 21	24.55	JAN 24	23.88	MAR 28	23.86	MAY 26	24.13	JUL 24	24.87	SEP 25	24.87

RIW785



GROUND-WATER LEVELS IN RHODE ISLAND

247

WASHINGTON COUNTY--Continued

412918071321001. South Kingstown well SNW 6.

LOCATION.--Lat 41°29'18", long 71°32'10", Washington County, Hydrologic Unit 01090005, town of South Kingstown, at northwest corner of Mead Field at University of Rhode Island, and 0.9 mi 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, depth 34 ft, cased to 34 ft, open end.

INSTRUMENTATION.--Continuous graphic recorder July 1973 to May 1988, digital recorder (60 minute) June 1988 to current year.

DATUM.--Land-surface datum is 111.89 ft above sea level. Measuring point: Floor of recorder shelter, 0.04 ft above land-surface datum.

RECORD OF PERIOD.--November to December 1947, February 1955 to current year.

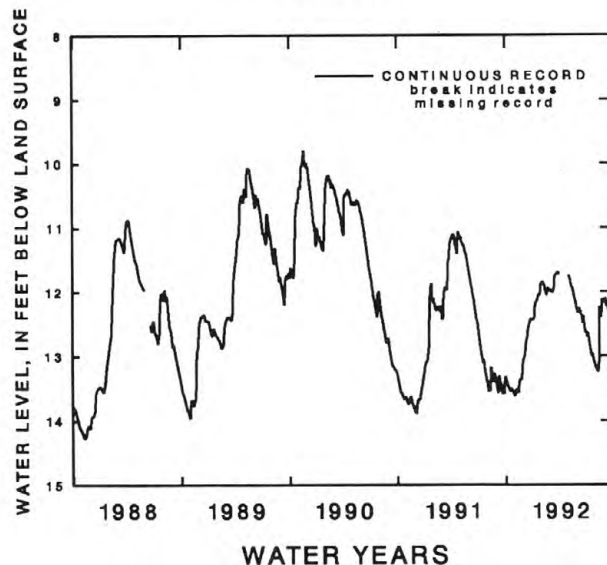
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.91 ft below land-surface datum, Apr. 25, 26, 1983; lowest, 15.06 ft below land-surface datum, Dec. 29, 1965.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.35	13.59	13.03	12.42	11.84	11.99	---	11.77	12.30	12.70	13.20	12.15
2	13.37	13.55	13.01	12.41	11.85	12.01	---	11.78	12.25	12.67	13.20	12.20
3	13.39	13.53	12.99	12.41	11.87	12.00	---	11.79	12.25	12.64	13.21	12.23
4	13.41	13.52	12.95	12.40	11.86	12.01	---	11.81	12.28	12.64	13.23	12.18
5	13.43	13.52	12.91	12.33	11.88	12.00	---	11.84	12.29	12.69	13.24	12.15
6	13.45	13.53	12.84	12.24	11.90	12.02	---	11.87	12.30	12.72	13.25	12.17
7	13.46	13.54	12.80	12.20	11.90	12.00	---	11.90	12.30	12.75	13.20	12.20
8	13.47	13.55	12.77	12.18	11.91	11.97	---	11.91	12.31	12.79	13.19	12.23
9	13.48	13.56	12.75	12.17	11.95	11.98	---	11.92	12.33	12.82	13.10	12.25
10	13.49	13.57	12.73	12.15	11.99	11.97	---	11.92	12.36	12.85	12.30	12.28
11	13.50	13.57	12.71	12.15	11.99	11.93	---	11.94	12.36	12.88	12.23	12.30
12	13.51	13.51	12.68	12.15	12.02	11.85	---	11.95	12.36	12.91	12.26	12.33
13	13.52	13.47	12.63	12.13	12.03	11.77	---	11.96	12.39	12.94	12.29	12.36
14	13.53	13.43	12.58	12.11	12.04	11.74	---	11.98	12.43	12.97	12.33	12.39
15	13.54	13.40	12.56	12.11	12.06	11.74	---	12.01	12.46	13.00	12.36	12.42
16	13.55	13.38	12.53	12.08	12.01	11.74	---	12.04	12.49	12.99	12.39	12.44
17	13.54	13.37	12.51	12.06	12.00	11.73	---	12.06	12.46	12.96	12.38	12.44
18	13.53	13.36	12.49	12.05	11.98	11.73	---	12.07	12.37	12.96	12.28	12.43
19	13.51	13.36	12.48	12.05	11.94	11.71	---	12.10	12.40	12.99	12.13	12.46
20	13.51	13.37	12.46	12.04	11.94	11.71	---	12.12	12.47	13.01	12.11	12.49
21	13.52	13.37	12.44	12.04	11.96	11.71	---	12.14	12.52	13.03	12.12	12.52
22	13.53	13.37	12.43	12.06	11.96	11.70	---	12.16	12.55	13.05	12.14	12.49
23	13.54	13.34	12.42	12.04	11.95	11.70	---	12.18	12.59	13.08	12.16	12.46
24	13.55	13.28	12.42	11.96	11.98	11.72	---	12.20	12.62	13.10	12.17	12.47
25	13.56	13.20	12.43	11.91	11.99	11.73	---	12.23	12.63	13.11	12.16	12.50
26	13.57	13.13	12.43	11.87	11.97	11.72	---	12.25	12.64	13.12	12.15	12.48
27	13.58	13.09	12.43	11.86	11.97	11.68	---	12.26	12.63	13.14	12.11	12.03
28	13.59	13.06	12.43	11.85	11.97	---	---	12.29	12.62	13.16	12.12	11.97
29	13.60	13.05	12.42	11.85	11.97	---	11.74	12.31	12.65	13.18	12.16	11.98
30	13.61	13.04	12.43	11.85	---	---	11.75	12.32	12.68	13.20	12.10	12.00
31	13.62	---	12.43	11.84	---	---	---	12.31	---	13.20	12.10	---
MEAN	13.51	13.39	12.62	12.10	11.95	---	---	12.04	12.44	12.94	12.50	12.30
HIGH	13.62	13.59	13.03	12.42	12.06	---	---	12.32	12.68	13.20	13.25	12.52
LOW	13.35	13.04	12.42	11.84	11.84	---	---	11.77	12.25	12.64	12.10	11.97

WTR YR 1992 HIGH 11.68 MAR 27 LOW 13.62 OCT 31

SNW6



GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

412923071361601. South Kingstown well SNW 515.

LOCATION.--Lat 41°29'23", long 71°36'16", Washington County, Hydrologic Unit 01090005, town of South Kingstown, at Laurel Lane Golf Course, 2.7 mi west of West Kingstown.

Owner: R. R. Holley.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in, depth 30 ft, lined with stone to 30 ft, shored. INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 127.84 ft above sea level. Measuring point: Top edge of concrete casing on south rim of well, 2.11 ft above land-surface datum. Dec. 27, 1975, to Apr. 25, 1981, measuring point 1.61 ft lower.

PERIOD OF RECORD.--May 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.44 ft below land-surface datum, May 26, 1966. Dry several times in water years 1978, 1980-85, 1987-88, 1991.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	28.04	DEC 23	26.85	FEB 25	26.85	APR 28	26.92	JUN 26	27.90	AUG 26	27.30
NOV 21	27.77	JAN 24	26.80	MAR 28	26.89	MAY 26	27.47	JUL 24	27.08	SEP 25	28.10

412154071462901. Westerly well WEW 522.

LOCATION.--Lat 41°21'54", long 71°46'29", Washington County, Hydrologic Unit 01090005, town of Westerly, 350 ft northwest of intersection of Pound and Old Shore Roads and 1.0 mi north of Dunn Corner.

Owner: S. Panciera.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 16 ft, lined with stone to 16 ft, shored. INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 45 ft. Measuring point: Southwest corner of stone casing, 0.91 ft above land-surface datum.

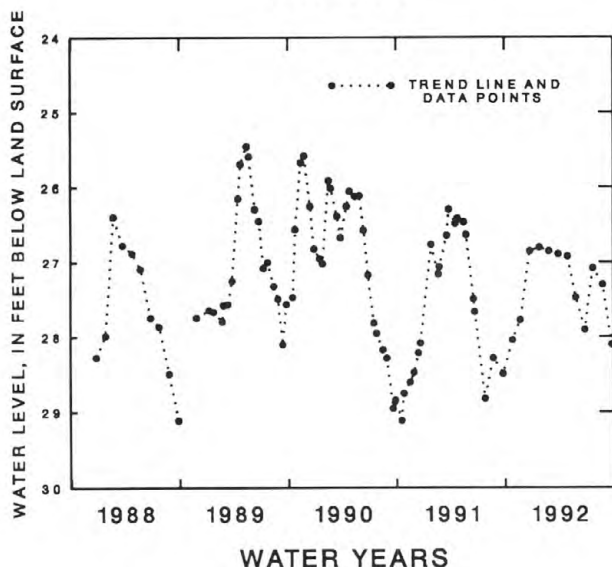
PERIOD OF RECORD.--January 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.23 ft below land-surface datum, Apr. 23, 1983; lowest measured, 14.61 ft below land-surface datum, Sept. 24, 1980.

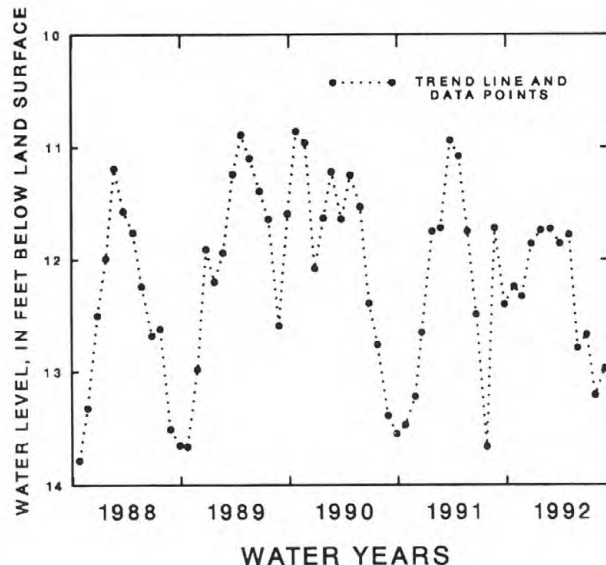
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	12.24	DEC 23	11.86	FEB 25	11.73	APR 28	11.78	JUN 26	12.67	AUG 27	12.97
NOV 21	12.33	JAN 24	11.74	MAR 28	11.86	MAY 26	12.79	JUL 24	13.21	SEP 25	12.94

SNW515



WEW522



QUALITY OF GROUND WATER

249

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

LOCAL IDENTIFI- FIER	STATION NUMBER	GEO- LOGIC UNIT	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)
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BERKSHIRE COUNTY

GMW 67	421047073182001	112SRFD	6.52	16.34	08-19-92	0925	214	8.3	7.5
GMW 68	421101073235201	112SRFD	12.37	22.10	08-17-92	1545	158	6.0	10.5
GMW 69	421120073235901	112SRFD	15.17	21.62	08-18-92	1535	235	6.4	13.0
M6W 24	421030073135901	112SRFD	1.12	10.48	08-19-92	0815	171	6.2	10.5
NKW 54	420302073171501	112SRFD	11.15	19.79	08-17-92	1200	397	7.5	12.0
SJW 76	420914073213601	112SRFD	10.70	15.10	08-18-92	1145	--	7.3	9.5
SJW 77	420730073211401	112SRFD	12.09	15.15	08-17-92	1330	278	6.8	11.0
SJW 78	420718073222401	112SRFD	4.45	7.00	08-18-92	1400	200	7.8	11.0

LOCAL IDENTIFI- FIER	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CAR- BONATE WATER FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
GMW 67	26	11	1.1	1.2	0	123	101	8.7	0.70	<0.10
GMW 68	14	5.0	8.3	0.70	0	67	55	7.5	15	<0.10
GMW 69	28	11	3.6	0.30	0	125	102	17	9.3	<0.10
M6W 24	20	7.6	1.4	0.60	0	106	87	1.9	0.80	<0.10
NKW 54	46	20	3.3	1.9	0	198	162	12	22	<0.10
SJW 76	54	25	2.5	1.6	0	286	234	20	4.2	<0.10
SJW 77	31	10	12	1.3	0	131	107	11	17	<0.10
SJW 78	25	10	1.7	1.3	0	120	98	11	1.9	<0.10

LOCAL IDENTIFI- FIER	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
GMW 67	<0.010	6.3	116	<0.010	0.130	0.020	<0.20	<0.010	<0.010
GMW 68	<0.010	5.8	80	<0.010	0.092	0.050	<0.20	<0.010	0.010
GMW 69	<0.010	8.1	164	<0.010	<0.050	0.210	0.60	<0.010	0.020
M6W 24	<0.010	7.4	104	<0.010	<0.050	0.240	0.40	0.030	0.010
NKW 54	0.020	7.3	252	<0.010	4.10	<0.010	<0.20	<0.010	<0.010
SJW 76	0.010	7.9	230	<0.010	0.110	0.020	<0.20	<0.010	<0.010
SJW 77	0.010	5.6	160	<0.010	2.70	<0.010	<0.20	<0.010	<0.010
SJW 78	0.010	8.5	116	<0.010	0.120	0.050	<0.20	<0.010	0.020

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

LOCAL IDENTIFI- FIER	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	ALPHA RADIO. WATER DISS AS TH-230 (PCI/L) (04126)	ALPHA SED SUSP DRY WGH AS TH-230 (PCI/L) (04127)	ALPHA, COUNT, 2 SIGMA WAT DIS AS NAT U (UG/L) (75986)	ALPHA COUNT, 2 SIGMA WAT DIS AS TH-230 (PCI/L) (75987)	BETA, 2 SIGMA WATER, DISS, AS SR90 /Y90 (PCI/L) (75988)
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BERKSHIRE COUNTY--Continued

GMW 67	6	<1	2.4	<0.6	<0.6	<0.6	0.57	0.41	0.60
GMW 68	1200	2100	0.9	9.1	<0.6	17	0.53	0.39	0.47
GMW 69	1900	720	1.7	3.8	7.2	5.9	2.3	1.7	0.56
M6W 24	3200	250	1.2	<0.6	0.8	<0.6	0.72	0.51	0.51
NKW 54	<3	<1	2.5	1.0	<0.6	<0.6	0.41	0.28	0.63
SJW 76	6	98	1.8	0.7	2.2	<0.6	1.5	1.1	0.57
SJW 77	4	20	1.3	<0.6	<0.6	<0.6	0.61	0.44	0.51
SJW 78	6	1000	1.6	5.1	<0.6	5.7	0.62	0.47	0.52

LOCAL IDENTIFI- FIER	BETA, 2 SIGMA WATER, DISS, AS CS-137 (PCI/L) (75989)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	ALPHA, 2 SIGMA SED SUS TOT DRY AS TH-230 (PCI/L) (76004)	BETA, 2 SIGMA SED, SUSP, TOT DRY AS SR90Y90 (PCI/L) (76005)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADON 222 TOTAL (PCI/L) (82303)
GMW 67	0.87	41	0.27	0.50	<0.6	<0.6	1.8	<0.6	910
GMW 68	0.56	26	7.4	1.9	0.6	20	0.8	8.4	500
GMW 69	0.75	27	2.7	0.96	9.4	4.4	1.3	3.6	360
M6W 24	0.64	38	0.37	0.51	1.1	<0.6	1.0	<0.6	380
NKW 54	0.95	38	0.46	0.62	<0.6	<0.6	1.8	0.9	830
SJW 76	0.84	40	0.33	0.54	3.0	0.7	1.3	0.7	720
SJW 77	0.69	25	0.22	0.53	0.8	<0.6	1.0	<0.6	520
SJW 78	0.70	26	2.9	1.1	<0.6	6.1	1.2	4.8	120

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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