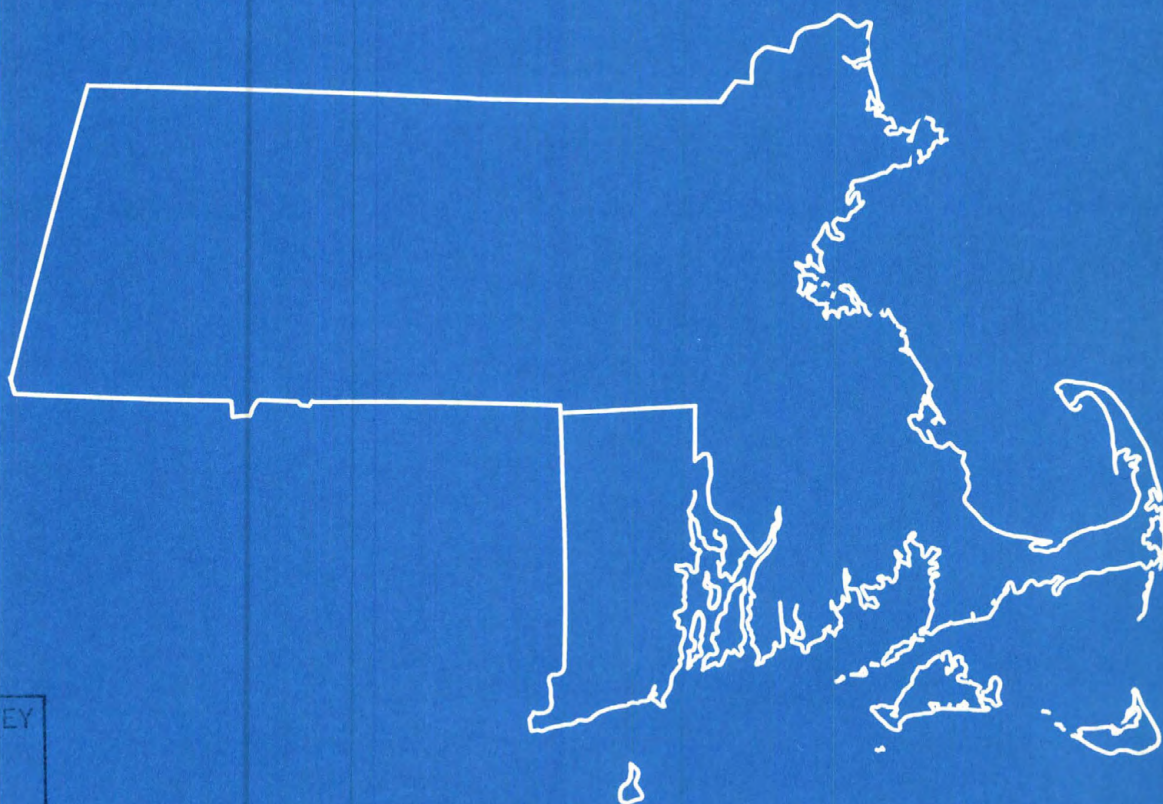




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Water Resources Data Massachusetts and Rhode Island Water Year 1993



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

CALENDAR FOR WATER YEAR 1993

1992

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19
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1993

JANUARY							FEBRUARY							MARCH						
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31																				
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25	26	27	28	29	30	31	29	30	31					26	27	28	29	30		



Water Resources Data Massachusetts and Rhode Island Water Year 1993

by R.A. Gadoury, R.S. Socolow, G.G. Girouard, and L.R. Ramsbey



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-93-1
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

Gordon P. Eaton, *Director*

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

1994

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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Charlie Shivers, Jr.
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Anne M. Weaver was responsible for the word processing and publishing phases of the report and Kenneth L. Judd prepared the illustrations. Bruce S. Davies and Steven S. Kiesman, Hartford, CT, and John A. Colman, Marlborough, MA, reviewed portions of the report.

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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15. Supplementary Notes Prepared in cooperation with the States of Massachusetts and Rhode Island and with other agencies.			
16. Abstract (Limit: 200 words) Water resources data for the 1993 water year for Massachusetts and Rhode Island consists of records of stage, discharge, and water quality of streams; contents of lakes and reservoirs; and ground-water levels. This report contains discharge records for 77 gaging stations, monthend contents of five lakes and reservoirs, water quality at 10 gaging stations, and water levels for 137 observation wells. Data also are included for 59 low-flow partial-record stations. Miscellaneous hydrologic data were collected at various sites that were not a 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 part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Massachusetts and Rhode Island.			
17. Document Analysis a. Descriptors *Massachusetts, *Rhode Island, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analysis, Sediments, Water temperatures, Sampling sites, Water levels and analyses. b. Identifiers/Open-Ended Terms c. COSATI Field Group			
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(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
Connecticut River at West Springfield, Mass.	01177200	9623	Temp., S.C., pH, D.O.	1973-76, 1978-81 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, 1993

By R.A. Gadoury, R.S. Socolow, G.G. Girouard, and L.R. Ramsbey

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 discharge records at 77 gaging stations; monthend contents of 5 lakes and reservoirs; water quality at 10 gaging stations; and water levels for 137 observation wells. Data also are included for 59 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 that were not involved in the systematic data-collection program and are published as miscellaneous 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 operated 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 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."

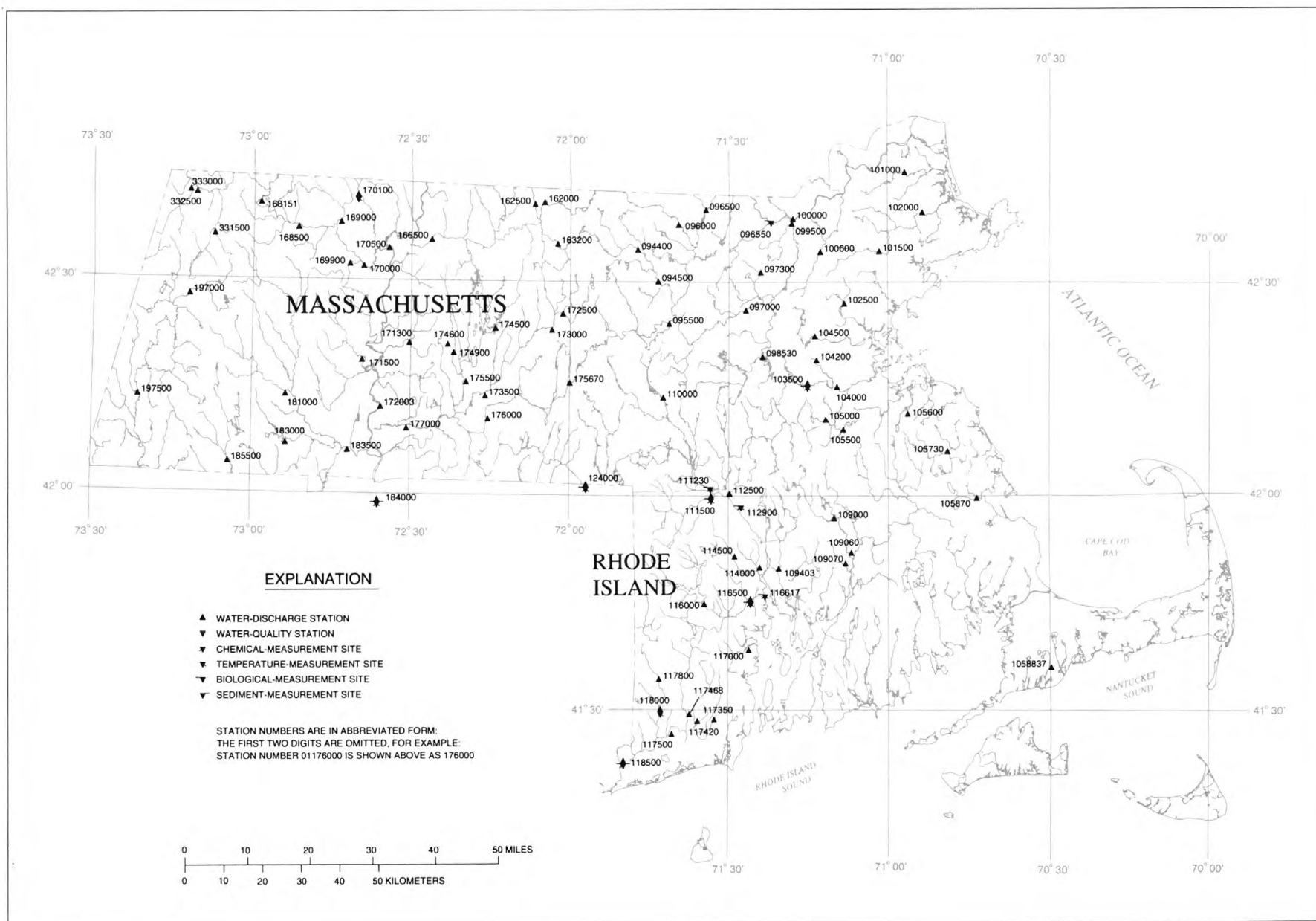


Figure 1.--Location of gaging-stations.

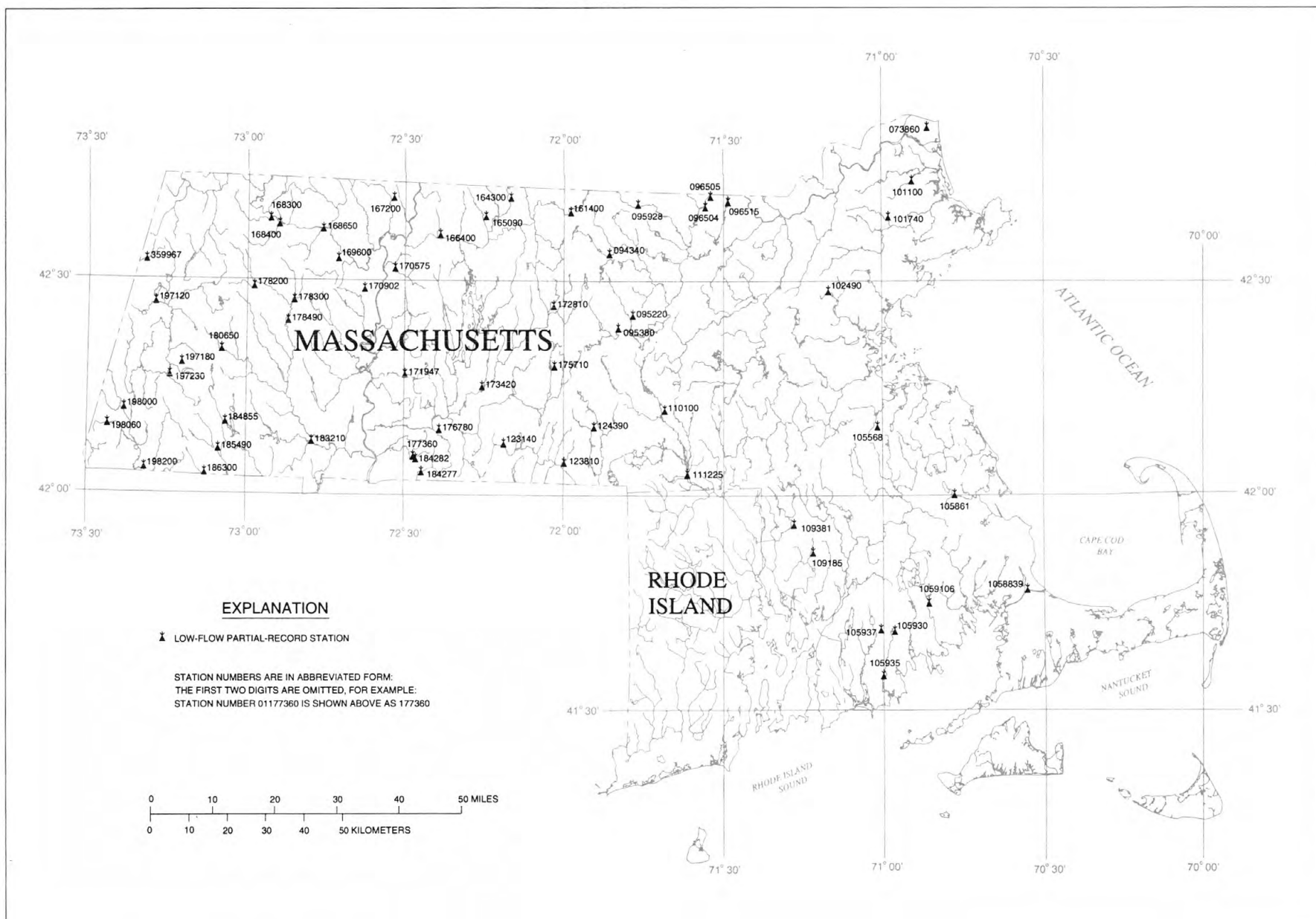


Figure 2.--Location of partial-record stations.

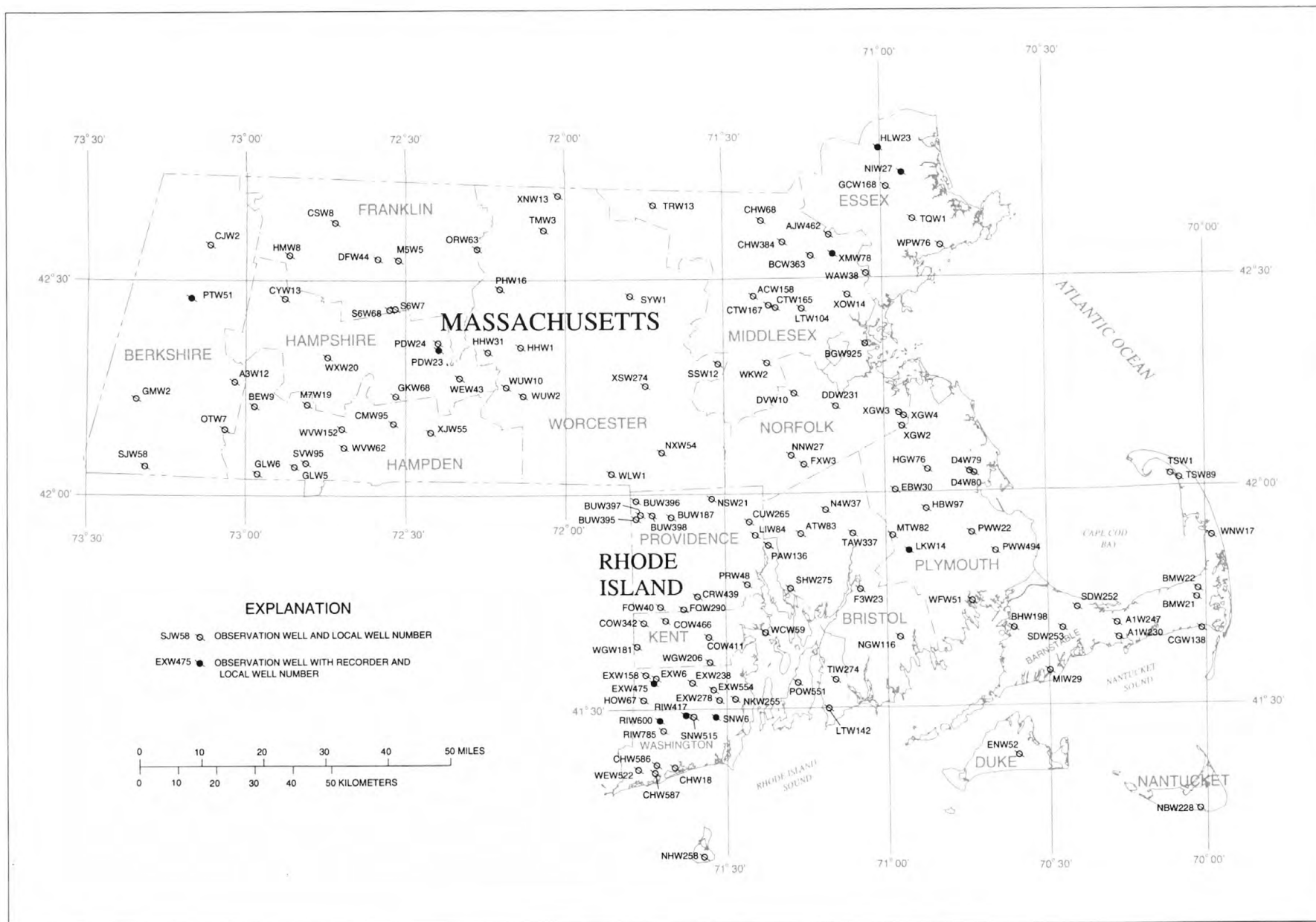


Figure 3.--Location of observation wells.

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, Earth Science Information Center, Open-File Reports Section, Box 25286, MS 517, Denver 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-93-1." 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) 490-5000. A limited number of CD-ROM discs will be available for sale by the U.S. Geological Survey, Earth Science Information Center, Open-File Reports Section, Box 25286, MS 517, Denver 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 Pollu-

tion Control, B.M. Donahoe, Director; Metropolitan District Commission, M.I. Bhatti, Commissioner, Division of Watershed Management, J.M. McGinn, Director, Parks Engineering and Construction Division, F. D. Faucher, Director.

Rhode Island: State Water Resources Board, Roy Anderson, Chairman, M. Paul Sams, 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 two gaging stations published in this report. Organizations supplying data are acknowledged in the station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

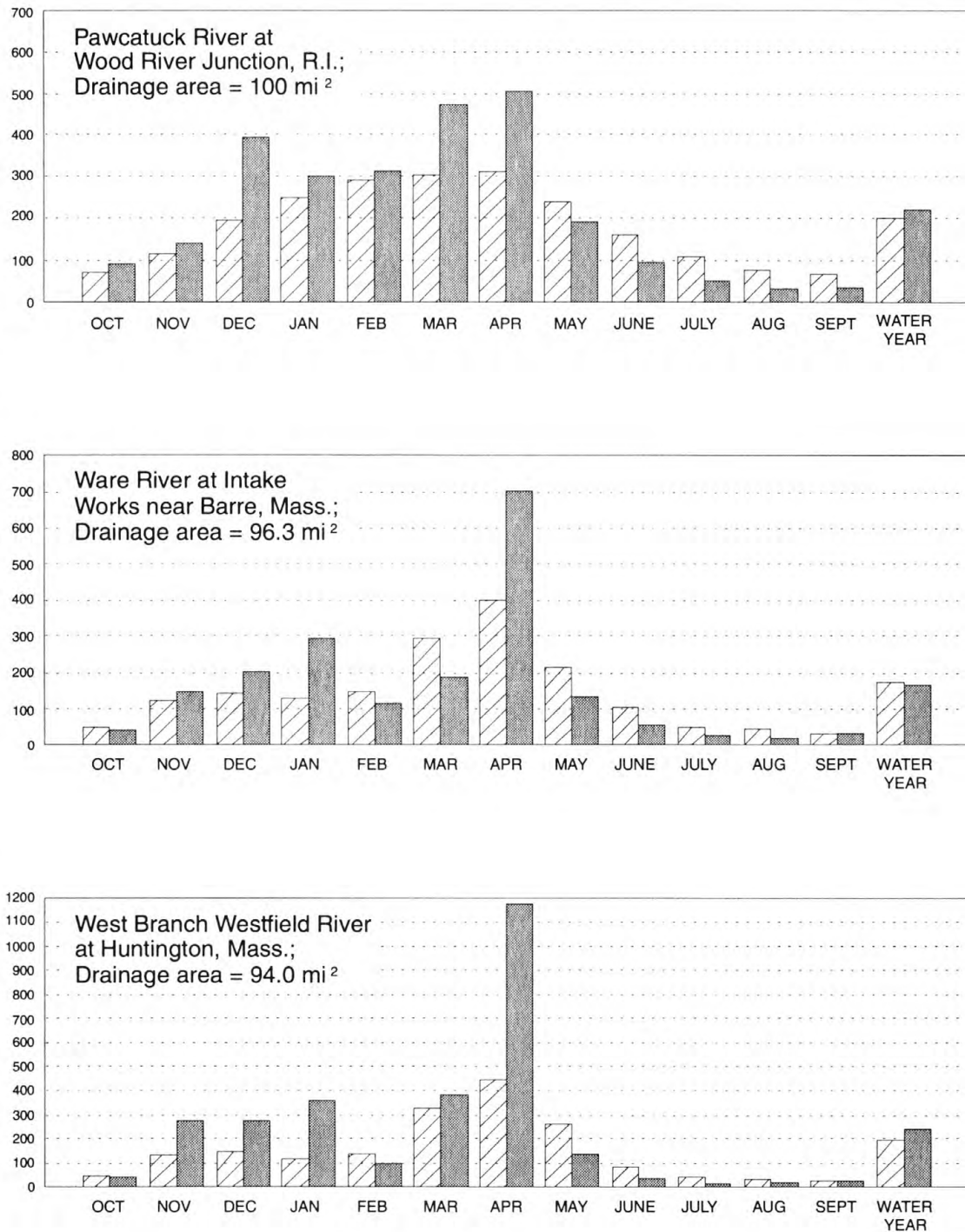
Streamflow

Runoff for the 1993 water year was in the normal range throughout Massachusetts and Rhode Island. Runoff ranged from about 21 in. in north-central Massachusetts to about 25 in. in northeastern Massachusetts, and ranged from about 28 to 32 in. in Rhode Island and the remainder of Massachusetts. 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 1993 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 (within the lowest 25 percent of record) 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.

Floods and Droughts

Snowmelt and rain near the end of March and early April combined to produce some significant peak discharges in northeastern Massachusetts, where streams having considerable channel storage are slow to rise and slow to recede. Portions of roads in some river basins were closed for several days because of the flooding. The peak discharge at the gaging station Ipswich River near Ipswich (June

DISCHARGE, IN CUBIC FEET PER SECOND



EXPLANATION

- ▨ Median of monthly and yearly mean discharge for period 1961-90.
- Monthly and yearly mean discharge for 1993 water year.

Figure 4.--Comparison of discharge at three long-term index stations during the 1993 water year with median discharge for period 1961-90.

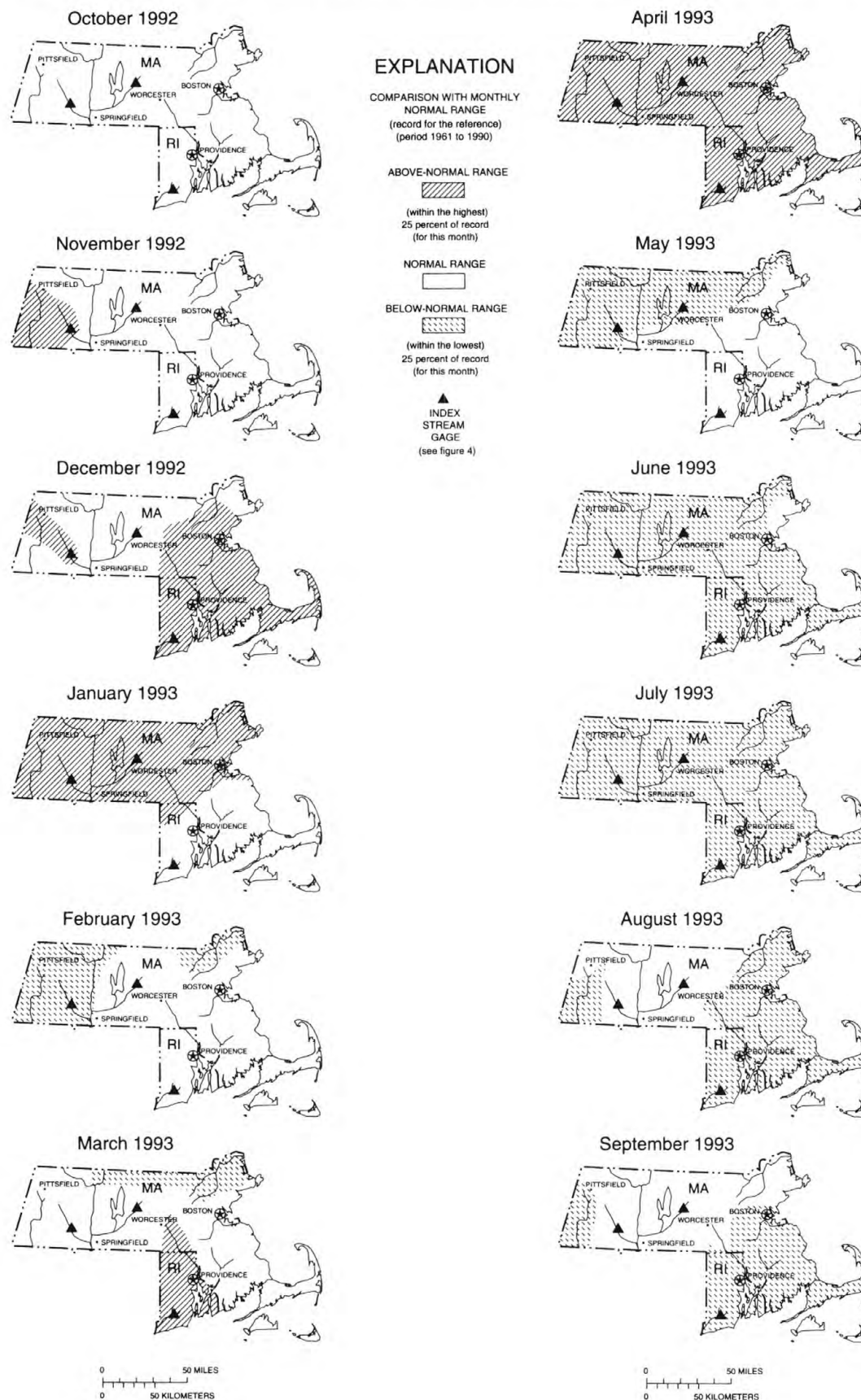


Figure 5.--Monthly surface-water conditions during the 1993 water year in Massachusetts and Rhode Island.

1930 to present) had a recurrence interval of about 30 years (peaks having a 1 in 30 chance of occurring in any given year). Streams throughout both States with less channel storage recorded peaks with recurrence intervals of 5 years or less, the majority having recurrence intervals of about 2 years. In southeastern Massachusetts and the southern half of Rhode Island peak discharges occurred on Dec. 12-14, with recurrence intervals of about 2-4 years. Comparison of low flows at gaging stations with the flow-duration curves (a curve that defines the percentage of time a given flow will be exceeded) showed that during late August and early September streamflow declined to less than the 99-percent flow-duration discharge in Rhode Island and eastern and south-central Massachusetts. The minimum discharge recorded at the gaging station Wading River near Norton, Mass. (June 1925 to present) was less than the calculated 7Q10 value (the 7-day discharge having a 1 in 10 chance of occurring in any given year). Elsewhere in Massachusetts streamflow tended to fall in the 95- to 99-percent flow-duration discharge range.

Reservoir Storage

Monthend storage of Quabbin Reservoir in central Massachusetts ranged from 102.5 percent of usable capacity in April to 92.7 percent of usable capacity in September. The combined monthend storage of Borden Brook and Cobble Mountain Reservoirs in western Massachusetts ranged from 96 percent of usable capacity in December to 67 percent of usable capacity in September. The monthend storage of Sci-tuate Reservoir in central Rhode Island ranged from 102 percent of usable capacity in March to 70 percent of usable capacity in September.

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.

Ground-Water Levels

In Massachusetts, new high or low water levels for periods of record were measured at eight wells having 30 or more years of record. New high water levels were measured at Newbury 27 (February 1965 to present) in March and at Billerica 363 (June 1962

to present), East Bridgewater 30 (July 1958 to present), Lexington 104 (January 1965 to present), Weymough 2 (January 1965 to present), and Weymouth 4 (January 1965 to present) in April. New low water levels were measured at Norton 37 (June 1964 to present) and Wayland 2 (January 1965 to present) in September. During October through March, 41 new monthly high water levels and 12 new monthly low water levels were measured. Wells with water-level records starting in 1992 were not included in this summary. Monthly water levels and median, maximum, and minimum monthly levels for periods of record of three index observations wells in western and eastern Massachusetts and northern Rhode Island are shown in figure 6. Maps showing monthly ground-water conditions during the 1993 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 94 Massachusetts wells and 25 Rhode Island wells having 5 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.

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a

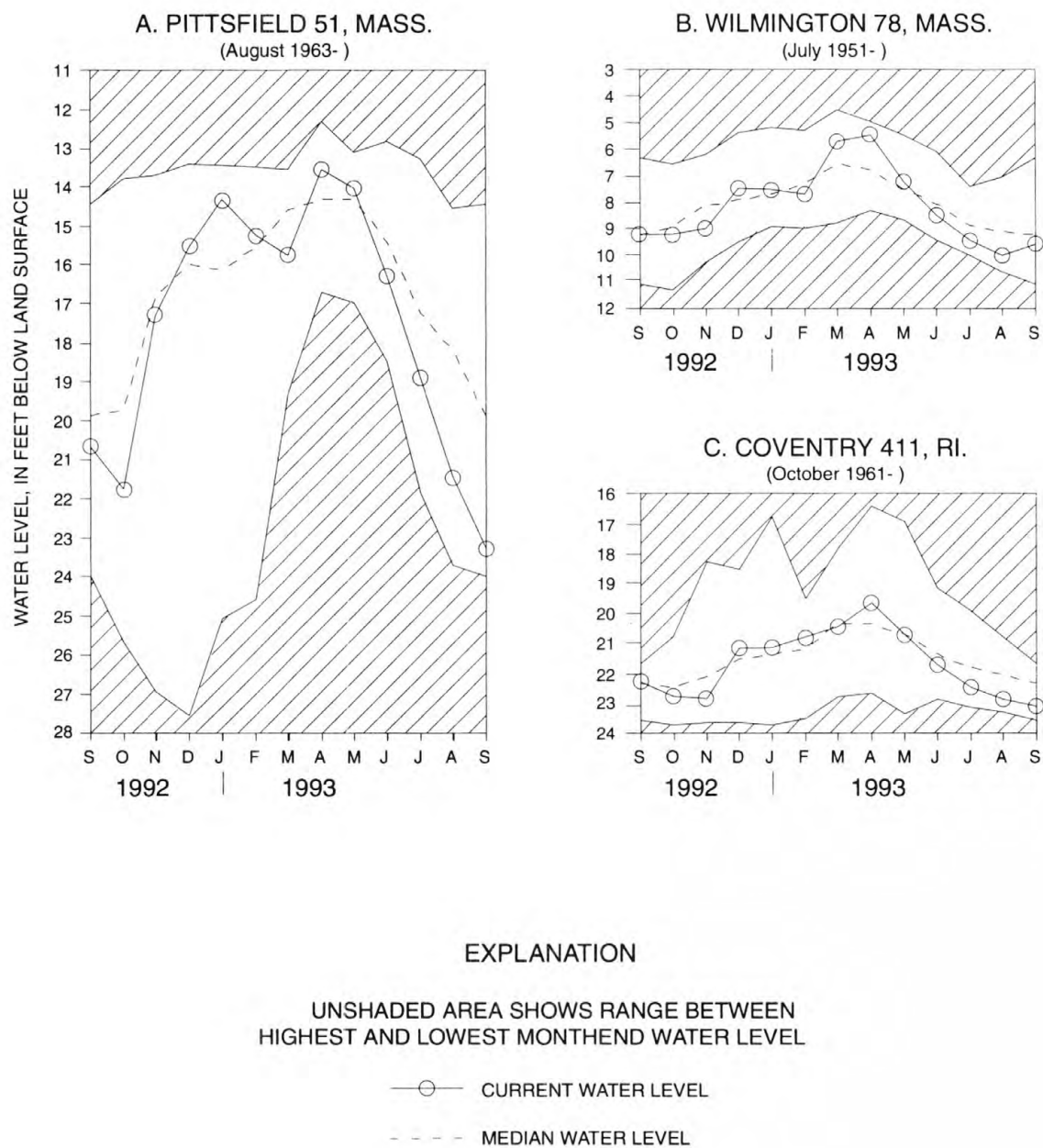


Figure 6.--Comparison of monthly water levels in selected observation wells during the 1993 water year with average, maximum, and minimum levels for periods of record.

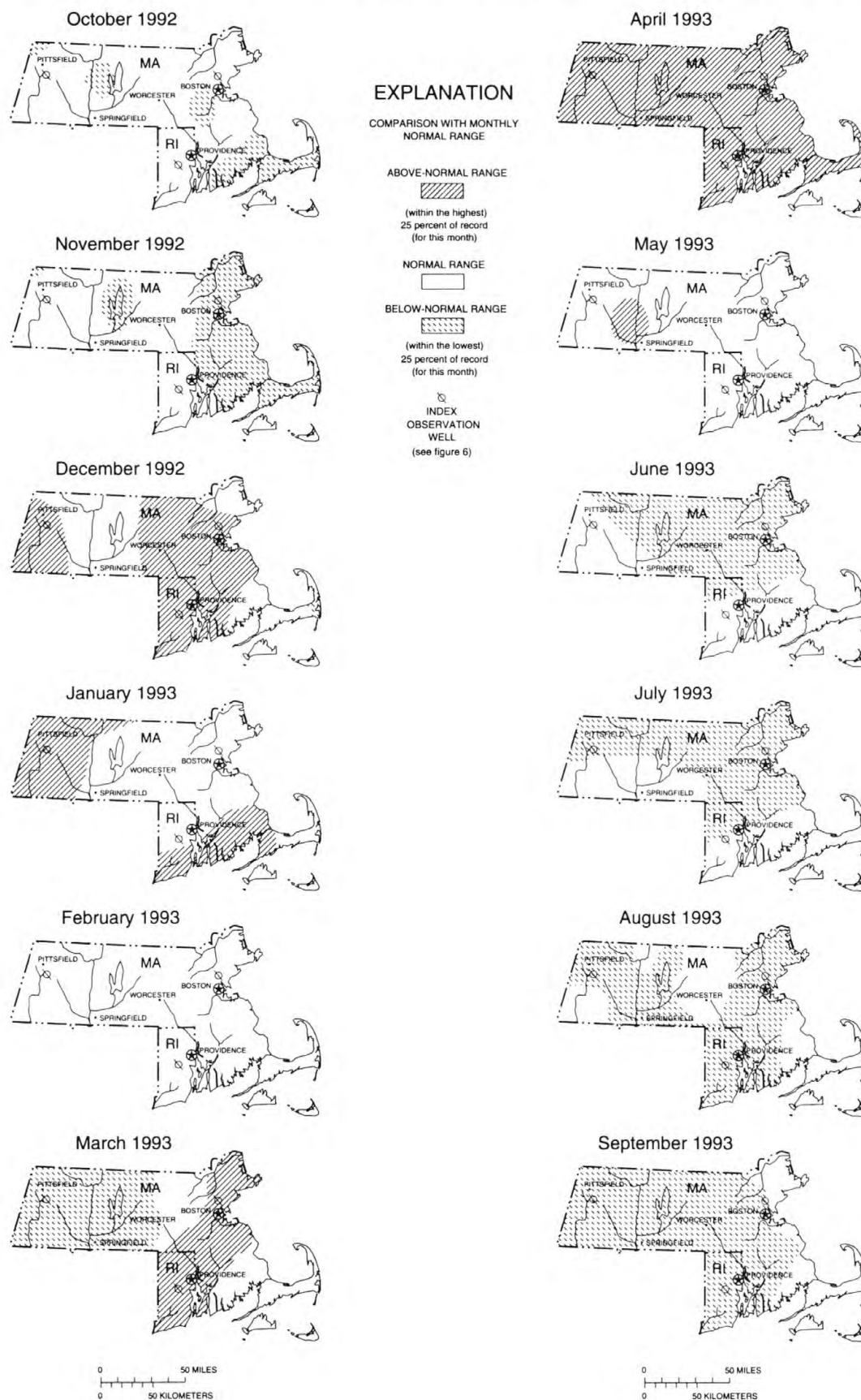


Figure 7.--Monthly ground-water conditions during the 1993 water year in Massachusetts and Rhode Island.

long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in more than one-third of the study units and ultimately will be conducted in 60 study units (major drainage basins and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Radiochemical programs 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.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1993 water year that began October 1, 1992, and ended September 30, 1993. 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 indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream 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.

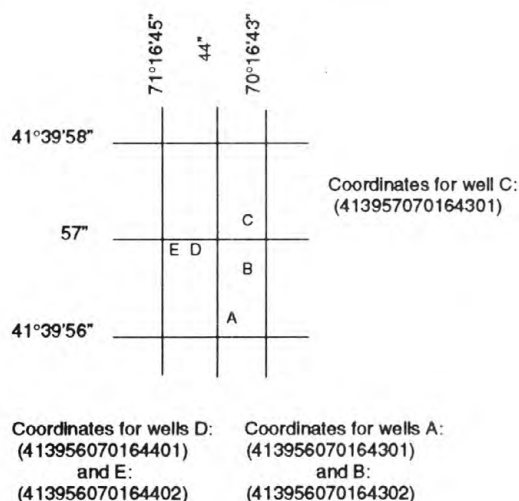


Figure 8.--System for numbering wells (latitude and longitude)

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, simi-

larly, 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 obscure the stage-discharge relations. This requires daily mean discharges to 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 noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diver-

sion 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) 490-5000.

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 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

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 a two-letter town code followed by the letter W to specify a 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 those 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 stud-

ies 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 efficient 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 measuring 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 suspended-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 artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate 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, 1993, is called the "1993 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 conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) 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 for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable 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. Ficken, and G. F. Smoot: USGS--TWRI Book 1, Chapter 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, Chapter 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, Chapter 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. McCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W. S. 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 W. 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, Chapter 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, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
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- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.
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- 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, Chapter 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, Chapter 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, Chapter B3. 1980. 106 pages.
- 3-B4. *Regression modeling of ground-water flow*, by R. L. Cooley and R. L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.
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- 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, Chapter 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, Chapter B6. 1987. 28 pages.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E. J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 90 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter 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, Chapter C2. 1970. 59 pages.
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- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L. C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 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, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R. L. Wershaw, M. J. Fishman, R. R. Grabbe, and L. E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L. J. Britton and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 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, Chapter 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, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S. A. Leake and D. E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L. J. Torak: USGS--TWRI Book 6, Chapter A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R. L. Cooley: USGS--TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water problems, Part 3: Design philosophy and programming details*, by L. J. Torak: USGS--TWRI Book 6, Chapter A5. 1993. 243 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, Chapter 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, Chapter 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, Chapter 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, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chapter 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, Chapter 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

Dissolved Trace-Element Concentrations

Note: Historical and current (1993 water year) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, the concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, the concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

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. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	30	111	257	e80	e48	890	157	108	12	15	7.9
2	18	28	97	e155	e80	e44	583	138	71	11	18	7.9
3	18	89	143	e130	e73	e41	413	117	50	14	34	9.2
4	17	100	138	141	e68	e43	344	113	40	14	20	39
5	15	80	123	512	e64	e45	314	110	36	13	16	17
6	15	88	101	482	e60	64	364	113	54	13	15	10
7	16	70	89	293	e57	54	400	104	47	18	12	8.4
8	16	57	77	219	e54	53	437	98	39	26	22	26
9	20	48	67	175	e53	60	482	90	35	20	19	21
10	61	44	e56	142	53	63	619	80	35	17	14	18
11	42	44	75	e110	51	67	1040	71	28	14	13	14
12	40	44	110	115	56	57	774	70	25	12	12	11
13	34	115	101	118	77	58	777	65	26	12	12	9.2
14	28	101	90	119	62	101	546	58	27	12	12	9.9
15	27	75	80	109	56	88	425	51	21	11	11	11
16	29	63	78	103	67	75	351	48	19	9.7	8.9	12
17	33	57	154	97	112	136	505	46	17	10	14	15
18	26	55	280	e84	86	183	436	43	16	9.6	51	14
19	29	50	202	e78	69	146	312	69	16	8.0	31	12
20	31	46	193	e76	e64	113	255	63	20	14	20	10
21	29	46	185	e69	e61	98	226	60	26	12	20	11
22	29	77	148	103	e62	90	212	56	29	11	15	37
23	27	262	128	129	e62	89	281	57	21	12	12	26
24	51	237	111	131	e59	108	230	50	15	12	14	18
25	57	240	92	250	e54	103	190	50	13	9.6	12	14
26	48	250	e91	167	e51	136	196	44	13	7.6	11	23
27	40	342	e78	131	e50	221	359	39	18	20	9.5	75
28	33	222	e72	108	e49	301	265	35	15	15	9.4	84
29	31	163	82	96	---	924	207	37	17	19	8.5	43
30	34	132	138	86	---	1490	175	31	14	23	6.6	33
31	33	---	223	e80	---	1110	---	30	---	18	7.1	---
TOTAL	946	3255	3713	4865	1790	6209	12608	2193	911	429.5	495.0	646.5
MEAN	30.5	108	120	157	63.9	200	420	70.7	30.4	13.9	16.0	21.5
MAX	61	342	280	512	112	1490	1040	157	108	26	51	84
MIN	15	28	56	69	49	41	175	30	13	7.6	6.6	7.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1993, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1973	78.7	182	1976	24.7	1981
1974	121	219	1976	31.3	1979
1975	136	284	1974	43.6	1981
1976	130	262	1979	24.6	1981
1977	142	294	1984	34.6	1980
1978	233	528	1983	84.1	1989
1979	245	600	1987	84.1	1985
1980	146	277	1984	63.2	1985
1981	95.8	368	1982	30.4	1993
1982	47.3	82.8	1973	13.9	1993
1983	52.7	137	1991	15.8	1987
1984	45.1	121	1991	15.8	1984

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1973 - 1993
ANNUAL TOTAL	35072	38061.0	
ANNUAL MEAN	95.8	104	123
HIGHEST ANNUAL MEAN			169
LOWEST ANNUAL MEAN			59.5
HIGHEST DAILY MEAN	709	1490	2830
LOWEST DAILY MEAN	14	6.6	6.6
ANNUAL SEVEN-DAY MINIMUM	16	8.1	8.1
INSTANTANEOUS PEAK FLOW		1650	3510
INSTANTANEOUS PEAK STAGE		6.73	9.25
INSTANTANEOUS LOW FLOW		5.2	4.5
10 PERCENT EXCEEDS	198	244	258
50 PERCENT EXCEEDS	72	54	80
90 PERCENT EXCEEDS	25	12	25

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. WDR MA-RI-92-1: 1978(M).

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. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	56	189	446	141	97	1760	340	246	34	35	24
2	43	55	168	300	140	97	1220	308	171	33	36	23
3	42	171	254	e220	137	100	816	270	114	38	65	23
4	41	162	233	239	135	97	685	254	81	36	43	80
5	40	127	206	799	128	105	613	242	75	35	46	38
6	40	149	175	804	119	112	715	241	115	33	33	28
7	39	115	158	490	109	108	773	226	96	41	30	25
8	38	96	143	370	115	108	821	212	80	59	51	81
9	50	85	121	300	109	124	877	197	73	71	42	61
10	165	78	116	233	105	134	1020	184	71	43	35	40
11	86	79	169	210	106	139	1710	173	63	35	32	32
12	85	78	216	201	101	119	1380	173	57	32	30	28
13	68	189	191	205	131	93	1400	162	53	32	30	26
14	57	157	169	208	123	169	962	150	56	30	29	26
15	53	120	154	194	111	151	735	143	49	29	28	27
16	55	104	152	184	117	135	606	124	47	28	28	29
17	62	96	302	174	257	313	797	125	45	28	39	34
18	56	96	540	158	167	370	788	117	42	27	88	33
19	57	88	384	148	135	e280	580	178	40	27	61	28
20	63	83	341	143	119	214	472	164	48	41	42	26
21	60	80	337	141	116	194	420	152	52	32	40	28
22	57	117	265	199	121	185	388	139	65	29	34	113
23	56	461	228	242	120	187	545	140	50	29	30	59
24	75	378	200	236	112	222	451	126	41	29	31	40
25	90	394	155	454	104	221	383	124	38	27	30	35
26	81	426	166	309	98	307	369	115	36	27	28	63
27	68	572	139	240	100	485	728	104	46	55	27	207
28	60	365	131	205	99	654	561	98	38	40	25	191
29	56	268	146	181	---	1730	450	99	42	38	24	91
30	64	219	254	149	---	2920	382	89	37	51	24	69
31	60	---	404	135	---	2100	---	83	---	44	22	---
TOTAL	1910	5464	6806	8517	3475	12270	23407	5252	2067	1133	1138	1608
MEAN	61.6	182	220	275	124	396	780	169	68.9	36.5	36.7	53.6
MAX	165	572	540	804	257	2920	1760	340	246	71	88	207
MIN	38	55	116	135	98	93	369	83	36	27	22	23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1993, BY WATER YEAR (WY)

MEAN	111	173	200	206	224	376	418	243	162	89.8	82.4	88.5
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	36.5	36.7	36.7
(WY)	1942	1950	1966	1981	1980	1965	1985	1965	1964	1993	1993	1984

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1935 - 1993

ANNUAL TOTAL	63448	73047	
ANNUAL MEAN	173	200	197
HIGHEST ANNUAL MEAN			307
LOWEST ANNUAL MEAN			81.2
HIGHEST DAILY MEAN	1300	2920	7530
LOWEST DAILY MEAN	38	22	22
ANNUAL SEVEN-DAY MINIMUM	40	24	24
INSTANTANEOUS PEAK FLOW		3170	16300
INSTANTANEOUS PEAK STAGE		6.20	20.53
INSTANTANEOUS LOW FLOW		17	11
10 PERCENT EXCEEDS	352	450	410
50 PERCENT EXCEEDS	133	112	125
90 PERCENT EXCEEDS	56	30	49

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.--97 years, 190 ft³/s, 23.96 in/yr, adjusted to present drainage area.

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Mean	Per square mile	Runoff, in inches
October.....	33.7	0.31	0.36
November.....	113	1.05	1.17
December.....	209	1.94	2.24
Calendar year 1992.....	157	1.46	19.84
January.....	296	2.75	3.17
February.....	102	.95	.99
March.....	352	3.27	3.77
April.....	679	6.31	7.04
May.....	125	1.16	1.34
June.....	61.6	.57	.64
July.....	19.2	.18	.21
August.....	-7.44	-.07	-.08
September.....	15.4	.14	.16
Water year 1993.....	167	1.55	21.00

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

MERRIMACK RIVER BASIN

01096000 SQUANNACOOK RIVER NEAR WEST GROTON, MA

LOCATION.--Lat 42°38'03", long 71°39'30", Middlesex County, Hydrologic Unit 01070004, on left bank 0.7 mi 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. Satellite gage-height tele-meter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	24	98	228	75	56	1040	180	67	16	13	9.1
2	20	23	87	228	76	56	746	167	86	15	13	9.3
3	18	33	86	236	76	56	512	144	65	16	26	9.1
4	17	74	99	123	77	58	412	134	51	17	28	12
5	16	78	94	216	74	60	358	129	44	16	21	12
6	16	64	83	440	71	60	419	127	50	15	16	11
7	16	59	80	291	e59	59	476	121	59	14	15	10
8	16	50	74	203	62	60	506	111	54	14	14	11
9	16	42	64	165	62	65	534	102	46	16	14	15
10	23	37	58	128	60	74	559	94	41	16	20	14
11	29	34	63	112	62	80	808	88	37	14	17	13
12	33	34	86	108	62	72	801	89	34	14	15	13
13	31	45	92	109	65	66	849	86	32	13	14	14
14	29	79	85	102	67	58	645	80	30	13	16	11
15	26	69	76	103	65	75	465	74	28	12	10	10
16	26	55	76	101	63	71	375	69	26	12	12	10
17	26	48	88	97	89	80	384	65	25	11	22	10
18	24	45	205	93	e93	128	483	63	23	11	22	11
19	24	41	218	e79	86	151	347	73	22	11	35	11
20	24	38	164	78	e73	125	272	86	22	13	28	11
21	24	36	158	79	e69	103	228	82	25	13	22	10
22	26	41	131	87	67	96	206	74	27	12	18	14
23	24	84	116	129	67	98	247	67	25	11	15	23
24	24	191	e99	150	64	103	262	61	21	11	14	21
25	29	172	e84	199	61	111	210	57	19	11	13	17
26	37	187	81	203	59	130	192	53	18	10	12	18
27	20	252	e71	149	56	214	316	49	19	13	11	30
28	25	215	64	123	55	334	346	51	19	14	11	77
29	23	149	68	105	---	586	253	49	18	15	10	59
30	24	116	94	e82	---	1700	206	41	16	17	9.7	37
31	24	---	168	77	---	1450	---	39	---	15	9.4	---
TOTAL	732	2415	3110	4623	1915	6435	13457	2705	1049	421	516.1	532.5
MEAN	23.6	80.5	100	149	68.4	208	449	87.3	35.0	13.6	16.6	17.7
MAX	37	252	218	440	93	1700	1040	180	86	17	35	77
MIN	16	23	58	77	55	56	192	39	16	10	9.4	9.1
CFSM	.37	1.26	1.57	2.34	1.07	3.26	7.04	1.37	.55	.21	.26	.28
IN.	.43	1.41	1.82	2.70	1.12	3.76	7.86	1.58	.61	.25	.30	.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1887 - 1993, BY WATER YEAR (WY)

	MEAN	52.5	100	118	118	129	223	278	147	81.2	37.0	30.1	32.0
MAX	296	304	301	323	328	554	654	343	315	84.7	16.6	245	
(WY)	1956	1956	1987	1956	1970	1983	1987	1954	1982	1951	1986	1954	
MIN	9.41	12.6	22.7	20.1	33.6	81.5	75.8	51.9	21.0	8.26	6.21	6.80	
(WY)	1965	1965	1966	1981	1980	1989	1985	1965	1965	1965	1966	1965	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1887 - 1993

ANNUAL TOTAL	36256		37910.6										
ANNUAL MEAN	99.1		104										
HIGHEST ANNUAL MEAN										112			
LOWEST ANNUAL MEAN										174		1956	
HIGHEST DAILY MEAN	769	Jun 7	1700	Mar 30	3420	Apr 6	1987			35.9		1965	
LOWEST DAILY MEAN	16	Sep 18	9.1	Sep 1	2.0	Sep 7	1965						
ANNUAL SEVEN-DAY MINIMUM	16	Oct 3	9.7	Aug 28	4.3	Aug 28	1966						
INSTANTANEOUS PEAK FLOW			1990	Mar 30	4220	Apr 6	1987						
INSTANTANEOUS PEAK STAGE			6.57	Mar 30	8.16	Apr 6	1987						
INSTANTANEOUS LOW FLOW			8.6	Aug 15									
ANNUAL RUNOFF (CFSM)	1.56		1.63							1.76			
ANNUAL RUNOFF (INCHES)	21.17		22.14							23.87			
10 PERCENT EXCEEDS	213		222							252			
50 PERCENT EXCEEDS	79		59							67			
90 PERCENT EXCEEDS	24		13							15			

e Estimated

MERRIMACK RIVER BASIN

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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, 315 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. Telephone and satellite gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	172	597	1030	444	374	5790	1070	252	194	59	53
2	171	193	543	980	445	367	5170	939	357	186	127	58
3	168	222	545	748	447	365	4170	863	409	153	155	131
4	138	228	675	724	462	364	3120	797	404	86	159	77
5	125	290	635	907	447	364	2510	757	285	66	157	60
6	128	345	576	1570	424	364	2350	726	251	147	143	72
7	128	371	503	1680	386	363	2530	682	336	179	130	151
8	121	305	465	1260	379	364	2660	624	355	156	57	166
9	128	272	419	1020	369	366	2690	579	339	155	118	184
10	130	274	384	854	369	369	2730	539	326	97	143	162
11	139	266	277	734	363	415	3030	430	315	66	142	179
12	203	255	502	680	361	453	3620	467	241	70	45	133
13	228	266	726	673	360	314	4000	558	193	72	86	123
14	259	287	640	676	365	273	3940	480	192	124	88	153
15	251	363	559	655	367	502	3450	453	192	127	53	80
16	225	305	514	624	367	492	2860	428	189	74	111	56
17	216	294	559	597	470	516	2460	409	196	58	85	133
18	174	309	979	560	628	894	2420	353	197	61	153	157
19	198	322	1180	480	546	912	2380	340	163	62	209	111
20	226	316	1010	457	441	801	2000	398	149	107	147	67
21	223	269	945	475	425	708	1710	441	138	123	64	70
22	220	251	869	505	424	650	1550	424	155	118	177	76
23	188	376	767	670	401	641	1520	360	158	114	126	155
24	173	830	688	781	395	699	1580	335	160	72	136	288
25	152	877	564	937	380	734	1440	329	158	59	97	176
26	200	895	538	1060	380	779	1270	335	155	134	172	95
27	224	1070	474	871	380	1060	1490	330	89	163	130	159
28	214	1110	432	738	379	1460	1750	322	63	81	55	454
29	218	868	438	647	---	2150	1560	254	67	141	59	515
30	199	697	547	560	---	4040	1320	232	161	91	130	384
31	221	---	825	465	---	5590	---	232	---	85	79	---
TOTAL	5757	12898	19375	24618	11604	27743	79070	15486	6645	3421	3592	4678
MEAN	186	430	625	794	414	895	2636	500	221	110	116	156
MAX	259	1110	1180	1680	628	5590	5790	1070	409	194	209	515
MIN	121	172	277	457	360	273	1270	232	63	58	45	53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1993, BY WATER YEAR (WY)

	MEAN	304	480	587	594	661	1126	1257	721	489	254	219	236
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1936 - 1993

ANNUAL TOTAL	186282	214887	
ANNUAL MEAN	509	589	576
HIGHEST ANNUAL MEAN			969
LOWEST ANNUAL MEAN			214
HIGHEST DAILY MEAN	2330	Jun 7	5790 Apr 1
LOWEST DAILY MEAN	32	Sep 21	45 Aug 12
ANNUAL SEVEN-DAY MINIMUM	104	Sep 17	76 Aug 31
INSTANTANEOUS PEAK FLOW			5870 Apr 1
INSTANTANEOUS PEAK STAGE			10.10 Apr 1
INSTANTANEOUS LOW FLOW			5.3 Aug 12
10 PERCENT EXCEEDS	980		1260
50 PERCENT EXCEEDS	442		360
90 PERCENT EXCEEDS	164		89
			1240
			363
			97
			19400 Mar 20 1936
			1.1 Aug 13 1939
			14 Aug 1 1965
			20900 Mar 20 1936
			19.10 Mar 20 1936

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 by discharge measurements on the day of sampling.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
NOV										
18...	1100	9680	79	7.0	2.5	4.0	1.9	771	12.3	93
JAN										
12...	1015	9200	103	6.8	-1.0	0.0	1.2	775	14.0	94
MAR										
31...	1245	42800	86	6.5	14.0	1.0	14	763	14.8	104
MAY										
11...	1230	6000	103	6.4	30.0	16.5	1.5	760	10.3	106
JUN										
17...	1030	8970	134	6.3	23.0	23.0	1.0	770	9.2	106
AUG										
10...	1130	3090	159	7.2	26.5	24.0	0.40	771	9.0	106

DATE	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 AD- SORP- TION RATIO (00932)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CAR- BONATE WATER DISIT FIELD MG/LAS CO3 (00452)	
NOV										
18...	39	K13	12	3.7	0.76	8.7	58	1	1.0	0
JAN										
12...	K12	K6	14	4.3	0.90	11	60	1	1.0	0
MAR										
31...	130	160	11	3.1	0.71	10	65	1	1.0	0
MAY										
11...	K19	K1	16	5.0	0.89	12	60	1	1.0	0
JUN										
17...	34	K3	21	6.4	1.1	17	63	2	1.1	0
AUG										
10...	K16	K6	25	7.8	1.3	21	63	2	1.7	0

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

MERRIMACK RIVER BASIN

01097000 ASSABET RIVER AT MAYNARD, MA

LOCATION.--Lat 42°25'55", long 71°27'01", Middlesex County, Hydrologic Unit 01070005, on right bank at Maynard, 150 ft 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	47	163	370	e190	e155	1900	326	110	35	31	16
2	52	50	145	365	e180	e150	1900	286	134	32	37	15
3	49	79	182	321	e170	e150	1670	254	134	32	45	15
4	49	121	224	296	e160	e150	1460	234	76	32	27	48
5	48	124	231	354	e155	e150	1220	219	81	31	17	69
6	44	141	199	477	e140	152	1070	219	109	28	16	45
7	34	166	168	537	e135	152	969	210	151	27	16	34
8	34	119	151	476	e130	158	876	198	99	33	16	49
9	31	99	132	400	e125	172	787	183	107	34	16	77
10	40	88	116	341	e125	194	736	168	76	30	94	103
11	80	82	142	298	e125	221	792	158	74	29	79	107
12	91	76	308	274	e150	213	836	150	69	29	45	82
13	88	92	329	265	e190	197	853	146	64	29	34	63
14	79	113	359	260	241	164	816	138	61	28	29	47
15	68	108	332	259	223	199	711	132	58	29	27	40
16	62	92	305	254	204	206	629	128	50	29	23	33
17	69	89	325	245	293	234	600	98	45	29	22	40
18	64	91	421	233	330	364	596	130	43	29	40	47
19	73	82	488	e200	306	385	562	131	42	29	50	49
20	65	71	496	198	e250	356	508	142	42	70	42	43
21	59	68	470	191	e230	321	423	137	46	e56	44	39
22	62	71	434	202	e200	299	351	133	51	e37	43	53
23	52	187	391	251	e180	308	338	135	45	e30	33	68
24	48	291	355	305	e170	339	339	111	42	e27	40	70
25	56	309	323	369	e165	348	320	108	35	e27	25	59
26	67	289	278	389	e160	413	297	81	35	e21	26	60
27	59	286	e230	350	e155	529	409	102	36	18	24	91
28	57	280	225	299	e155	682	510	67	38	24	23	169
29	60	243	209	264	---	995	468	76	40	30	22	168
30	53	194	249	226	---	1650	384	72	39	36	21	124
31	51	---	318	191	---	1880	---	68	---	33	16	---
TOTAL	1802	4148	8698	9460	5237	11886	23330	4740	2032	983	1023	1923
MEAN	58.1	138	281	305	187	383	778	153	67.7	31.7	33.0	64.1
MAX	91	309	496	537	330	1880	1900	326	151	70	94	169
MIN	31	47	116	191	125	150	297	67	35	18	16	15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1941	87.4	375	1956	9.92	1958
1942	152	542	1956	22.1	1950
1943	189	476	1987	35.6	1950
1944	212	670	1979	37.6	1966
1945	242	696	1970	72.5	1965
1946	400	776	1983	143	1989
1947	383	1052	1987	127	1966
1948	235	443	1954	114	1986
1949	152	788	1982	39.0	1949
1950	71.0	254	1959	11.6	1966
1951	61.7	561	1955	5.18	1966
1952	63.3	542	1954	5.00	1957

SUMMARY STATISTICS

	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1941 - 1993
ANNUAL TOTAL	60965	75262	
ANNUAL MEAN	167	206	187
HIGHEST ANNUAL MEAN			296
LOWEST ANNUAL MEAN			73.3
HIGHEST DAILY MEAN	496	1900	3650
LOWEST DAILY MEAN	31	15	.20
ANNUAL SEVEN-DAY MINIMUM	40	18	1.0
INSTANTANEOUS PEAK FLOW		1960	4250
INSTANTANEOUS PEAK STAGE		6.37	8.96
INSTANTANEOUS LOW FLOW		14	
10 PERCENT EXCEEDS	320	416	415
50 PERCENT EXCEEDS	147	130	125
90 PERCENT EXCEEDS	52	30	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 except those for estimated daily discharges, which are fair. Occasional regulation since 1967 by pond upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	e4.4	15	62	13	15	212	35	14	2.0	.86	e.06
2	2.3	e4.6	13	e48	14	15	210	31	14	1.7	.71	e.06
3	2.2	e7.0	21	34	13	14	140	27	9.3	1.5	.55	e.16
4	1.9	e12	33	26	14	15	112	25	7.3	1.6	.56	e.31
5	1.6	e14	25	46	13	15	100	23	6.8	1.7	.73	e.21
6	1.6	e13	18	77	13	16	100	22	13	1.3	.83	e.17
7	1.5	e12	15	65	9.8	15	96	20	16	1.1	.79	e.15
8	1.5	e9.5	12	47	9.0	15	88	19	11	2.5	.72	.24
9	1.4	e8.0	9.3	36	9.0	18	82	18	8.8	3.9	.55	.79
10	3.4	e7.0	7.8	e27	8.7	22	78	16	8.0	2.7	.52	1.5
11	6.1	e6.1	12	22	9.4	26	90	15	6.8	1.8	.49	1.8
12	5.7	e5.7	38	20	9.5	22	93	15	5.9	1.4	.45	1.2
13	6.1	7.5	42	21	16	18	120	15	5.3	1.2	.37	.76
14	4.6	10	51	20	21	18	98	14	5.8	1.2	.32	.57
15	3.9	7.1	47	22	26	18	77	13	6.4	.95	.19	.53
16	3.7	5.9	38	21	21	21	64	12	5.0	.74	.09	.56
17	3.9	5.3	40	21	33	24	64	12	4.2	.71	.10	.50
18	3.5	5.4	65	20	47	39	71	11	3.8	.61	.11	.60
19	3.3	5.5	71	17	39	e50	59	15	3.3	.49	.20	.76
20	3.6	5.0	58	16	26	e48	49	17	3.1	.50	.27	.79
21	4.0	4.6	51	15	20	e38	42	14	3.9	.60	.29	.73
22	4.2	5.3	43	18	19	32	38	12	4.4	.71	.28	.81
23	4.0	21	35	31	19	e35	39	16	4.0	.67	.26	2.2
24	3.8	44	e28	42	19	e32	42	12	3.1	.61	.26	1.9
25	4.9	41	e22	53	18	e30	36	11	2.6	.52	.26	1.3
26	5.5	40	e17	53	15	e39	32	9.5	2.5	.38	.24	1.2
27	5.1	44	e14	38	15	e38	63	8.6	2.2	.47	.21	3.9
28	4.8	41	e13	28	15	e64	77	7.8	2.3	1.0	.18	18
29	4.8	28	e15	22	---	e142	54	7.7	2.4	1.2	.16	14
30	4.6	18	27	e18	---	290	41	6.9	2.2	1.2	.08	5.6
31	e4.4	---	51	15	---	255	---	6.3	---	1.1	e.07	---
TOTAL	114.4	441.9	947.1	1001	504.4	1439	2467	486.8	187.4	38.06	11.70	61.36
MEAN	3.69	14.7	30.6	32.3	18.0	46.4	82.2	15.7	6.25	1.23	.38	2.05
MAX	6.1	44	71	77	47	290	212	35	16	3.9	.86	18
MIN	1.4	4.4	7.8	15	8.7	14	32	6.3	2.2	.38	.07	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1993, BY WATER YEAR (WY)

	MEAN	8.85	18.0	22.8	25.4	29.8	45.7	42.7	24.8	15.3	6.13	4.50	4.02
MAX	29.3	47.3	55.2	101	88.7	96.9	93.6	57.0	72.5	19.2	19.2	15.7	15.7
(WY)	1976	1976	1987	1979	1976	1977	1987	1978	1982	1982	1991	1991	1991
MIN	.63	1.20	2.34	2.58	6.30	15.1	12.7	8.59	2.96	.68	.17	.27	.27
(WY)	1969	1966	1966	1966	1980	1989	1966	1965	1964	1966	1966	1965	1965

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1963 - 1993

ANNUAL TOTAL	6259.0	7700.12	
ANNUAL MEAN	17.1	21.1	20.6
HIGHEST ANNUAL MEAN			36.1
LOWEST ANNUAL MEAN			7.09
HIGHEST DAILY MEAN	84	Mar 12	560
LOWEST DAILY MEAN	1.4	Oct 9	.05
ANNUAL SEVEN-DAY MINIMUM	1.7	Oct 3	.11
INSTANTANEOUS PEAK FLOW			314
INSTANTANEOUS PEAK STAGE			4.84
INSTANTANEOUS LOW FLOW			5.73
10 PERCENT EXCEEDS	42	51	50
50 PERCENT EXCEEDS	11	12	11
90 PERCENT EXCEEDS	2.9	.53	1.3

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	122	204	453	231	241	1440	313	84	12	9.2	53
2	19	120	190	425	206	236	1450	285	65	12	9.3	52
3	15	177	266	396	197	236	1360	260	52	19	9.4	55
4	12	167	260	386	181	235	1200	231	45	19	11	82
5	11	154	252	515	167	248	1030	213	39	14	14	63
6	9.9	172	232	584	163	249	949	221	58	12	8.2	54
7	9.0	158	214	563	153	242	891	212	53	11	7.7	53
8	8.6	152	198	530	148	248	825	205	46	12	8.1	123
9	15	147	185	482	145	263	758	197	41	14	7.4	120
10	77	137	207	e400	141	276	740	187	40	10	7.6	115
11	54	140	297	e350	140	293	784	180	34	9.9	7.8	94
12	77	136	715	e310	140	278	790	176	29	9.2	7.7	78
13	66	202	654	e290	327	288	860	143	27	9.0	7.6	72
14	50	195	612	e270	283	324	818	107	26	8.3	7.5	67
15	39	182	649	e260	240	283	728	107	26	8.9	7.1	63
16	38	178	680	e250	257	263	667	102	25	8.3	6.7	59
17	114	172	721	e240	490	330	643	99	24	8.3	32	75
18	124	171	826	e230	409	453	609	94	23	8.4	54	82
19	127	155	822	e220	419	406	565	126	25	8.3	37	67
20	129	106	814	e210	367	381	501	122	25	12	78	58
21	127	103	798	231	324	377	421	109	25	8.4	80	57
22	126	116	757	262	327	374	374	75	25	8.3	58	62
23	123	296	688	302	308	383	364	75	23	8.2	58	63
24	125	267	590	324	292	446	334	61	21	8.3	58	58
25	146	270	525	375	280	488	307	57	15	8.1	59	55
26	142	297	503	350	267	541	301	51	6.0	8.0	56	90
27	135	311	460	323	258	652	469	43	6.5	21	56	165
28	131	269	434	298	249	739	427	38	11	13	57	188
29	129	244	406	279	---	1010	395	37	8.4	9.8	57	108
30	128	223	423	249	---	1380	348	32	10	9.7	58	93
31	124	---	464	245	---	1450	---	29	---	9.0	56	---
TOTAL	2452.5	5539	15046	10602	7109	13613	21348	4187	937.9	337.4	990.3	2424
MEAN	79.1	185	485	342	254	439	712	135	31.3	10.9	31.9	80.8
MAX	146	311	826	584	490	1450	1450	313	84	21	80	188
MIN	8.6	103	185	210	140	235	301	29	6.0	8.0	6.7	52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1993, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	108	187	237	202	245	317	388	210	186	71.8	94.8	69.3		
MAX	346	385	485	471	480	757	920	340	739	146	192	147		
(WY)	1990	1990	1993	1982	1990	1983	1987	1990	1982	1984	1989	1989		
MIN	41.5	72.2	93.1	59.5	67.6	121	98.7	75.2	31.3	10.9	27.8	23.6		
(WY)	1987	1985	1983	1981	1980	1985	1985	1986	1993	1993	1983	1983		

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1980 - 1993

ANNUAL TOTAL	71377.5	84586.1	
ANNUAL MEAN	195	232	195
HIGHEST ANNUAL MEAN			253
LOWEST ANNUAL MEAN			96.6
HIGHEST DAILY MEAN	826	Dec 18	2250
LOWEST DAILY MEAN	8.6	Oct 8	6.0
ANNUAL SEVEN-DAY MINIMUM	11	Oct 3	7.4
INSTANTANEOUS PEAK FLOW			1510
INSTANTANEOUS PEAK STAGE			12.01
INSTANTANEOUS LOW FLOW			4.7
10 PERCENT EXCEEDS	366		586
50 PERCENT EXCEEDS	175		147
90 PERCENT EXCEEDS	29		9.9
			413
			131
			36

e Estimated

45

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, Winnipisaukee, Winnisquam, and other lakes and reservoirs upstream. Maximum discharge since 1735, that of Mar. 20, 1936. Telephone and satellite gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2750	3940	10900	9010	5330	3890	49200	15400	3870	1850	3620	1260
2	2840	3950	9750	9570	5710	3640	43000	13800	4850	1500	3290	1350
3	2670	3980	8860	8530	5550	4390	35200	12800	5390	1630	2520	1430
4	2640	5130	7810	8010	5970	4160	30500	11400	5270	1620	2400	1530
5	1900	5240	8360	8840	5630	4010	27900	11100	4290	1400	2400	1560
6	2410	5060	7650	11900	5740	3820	27100	10000	3980	1460	2940	1360
7	2310	6730	6850	13300	4800	4040	28000	9550	4370	1660	4070	1390
8	2150	6160	6570	13400	4500	3720	29000	7920	4810	1620	1610	1750
9	1980	5650	6120	12000	4950	4120	29400	8800	4500	1640	972	1640
10	2850	5070	5790	9520	4780	4100	29500	8280	4120	1610	1480	1740
11	3890	4650	5590	8800	4080	5090	31500	7670	4100	1410	1400	2150
12	4260	4590	5670	8220	3980	5150	38700	6990	3890	1260	1400	1670
13	4350	5500	6690	7780	4060	4680	44600	6020	3560	1220	922	2830
14	4330	7400	7260	7360	4310	4070	42700	4880	3150	1050	1050	1880
15	4230	9850	6730	6430	4470	4050	39600	6130	2890	1200	1030	1660
16	3970	9070	6770	6850	4580	4660	36500	5740	2760	1210	1160	1520
17	3840	7620	7710	6880	5610	5820	33500	5370	2690	1040	1280	1300
18	3660	6880	8920	6640	5360	6150	34000	4900	2250	998	1220	1520
19	2900	5000	9110	6020	5460	6320	38000	5140	2890	1120	1440	1750
20	2720	5200	9930	5510	4780	6350	35900	5700	2330	1260	2360	2070
21	3130	5550	9810	5620	4440	6280	31000	4270	2360	1080	2520	1430
22	3150	4930	9390	6110	4270	6140	28100	4560	2470	903	2320	1850
23	3470	6900	8460	7070	4540	5780	27300	4210	2870	730	3210	1800
24	3120	9370	8100	7900	4900	6430	26900	4330	3020	818	2250	2070
25	3610	13200	5850	8960	5740	6890	26200	4530	2940	820	1910	2150
26	4150	13700	6760	10300	4370	7450	23500	4240	2920	768	2280	2260
27	4100	14100	6640	9620	4280	8700	22800	3880	2550	1070	3000	2510
28	4120	15800	5740	9200	4240	10600	23300	3960	1780	1330	2610	4180
29	3670	15200	5770	8190	---	15300	21000	3390	1970	1150	1560	5180
30	3990	12500	6620	6620	---	29700	17900	3530	1990	1610	1330	5750
31	4060	---	8250	5890	---	45200	---	3200	---	3330	1540	---
TOTAL	103220	227920	234430	260050	136430	240700	951800	211690	100830	41367	63094	62540
MEAN	3330	7597	7562	8389	4872	7765	31730	6829	3361	1334	2035	2085
MAX	4350	15800	10900	13400	5970	45200	49200	15400	5390	3330	4070	5750
MIN	1900	3940	5590	5510	3980	3640	17900	3200	1780	730	922	1260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1993, BY WATER YEAR (WY)

	MEAN	4054	6490	7465	6911	7380	12820	19400	11620	6288	3325	2853	3009
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1923 - 1993

ANNUAL TOTAL	2561330	2634071	7632	
ANNUAL MEAN	6998	7217	12490	1984
HIGHEST ANNUAL MEAN			3068	1965
LOWEST ANNUAL MEAN			161000	Mar 20 1936
HIGHEST DAILY MEAN	23200	Mar 13	730	Sep 23 1923
LOWEST DAILY MEAN	1760	Sep 22	884	Jul 21
ANNUAL SEVEN-DAY MINIMUM	2090	Sep 16	50000	Apr 1
INSTANTANEOUS PEAK FLOW			52.31	Apr 1
INSTANTANEOUS PEAK STAGE			357	Jul 22
INSTANTANEOUS LOW FLOW			14500	16900
10 PERCENT EXCEEDS	12900		4530	5110
50 PERCENT EXCEEDS	5660		1430	1640
90 PERCENT EXCEEDS	2900			

MERRIMACK RIVER BASIN

47

01100600 SHAWSHEEN RIVER NEAR WILMINGTON, MA

LOCATION.--Lat 42°34'05", long 71°12'55", Middlesex County, Hydrologic Unit 01070002, on right bank at downstream side of bridge on State Highway 129, 1 mi 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 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	7.5	49	134	e35	e32	461	90	35	9.0	2.7	4.2
2	7.3	9.4	43	133	e35	e31	383	83	41	1.5	1.3	4.3
3	3.5	24	49	98	e33	32	332	71	35	.80	6.6	3.6
4	1.7	38	60	74	e31	34	255	65	23	5.2	7.0	10
5	4.9	43	70	78	e30	31	211	59	18	6.4	14	29
6	12	45	56	120	e28	36	195	54	26	5.6	16	25
7	10	40	44	137	e27	39	183	58	34	5.5	10	13
8	9.6	35	34	105	e26	40	167	62	31	7.2	8.4	19
9	10	29	e31	84	25	44	151	51	23	16	7.0	30
10	22	23	25	e73	26	57	144	46	19	19	6.2	26
11	29	21	25	e66	26	68	187	49	17	18	5.5	24
12	40	20	64	e62	19	e74	223	48	15	14	5.0	13
13	39	24	167	e58	48	57	291	43	13	10	5.3	9.6
14	38	32	243	e55	110	45	247	42	13	8.2	4.6	9.7
15	41	32	191	e52	e155	e58	182	39	13	6.5	4.2	7.9
16	35	27	137	e48	106	e50	149	36	9.3	5.7	3.8	7.9
17	24	24	114	e46	126	56	152	35	8.3	4.9	6.9	13
18	18	22	154	e43	e210	e110	189	32	8.3	4.3	24	20
19	16	22	196	e40	e165	e180	157	41	13	4.2	36	17
20	16	21	166	e37	e100	e160	128	44	14	7.2	20	12
21	18	20	135	e33	e75	106	107	40	16	8.7	22	10
22	12	21	120	e35	e54	92	94	34	17	3.8	23	14
23	6.3	47	98	e50	44	92	88	34	15	6.0	12	11
24	5.8	112	e80	e80	43	99	83	29	12	6.0	8.9	11
25	14	151	e72	e80	e41	110	81	27	10	5.0	7.4	9.3
26	18	125	65	e90	e38	128	76	29	9.5	4.8	6.1	12
27	16	105	e60	e74	e35	216	120	25	9.0	12	5.4	30
28	12	92	49	e60	e34	273	202	23	9.0	18	5.0	64
29	9.1	75	48	e50	---	391	144	23	9.0	12	4.6	80
30	7.6	60	62	e43	---	e700	106	22	9.0	7.4	3.8	64
31	7.9	---	93	e38	---	e600	---	20	---	9.3	4.1	---
TOTAL	516.7	1346.9	2800	2176	1725	4041	5488	1354	524.4	252.20	296.8	603.5
MEAN	16.7	44.9	90.3	70.2	61.6	130	183	43.7	17.5	8.14	9.57	20.1
MAX	41	151	243	137	210	700	461	90	41	19	36	80
MIN	1.7	7.5	25	33	19	31	76	20	8.3	.80	1.3	3.6
(†)	0	4.60	2.83	0	2.53	2.36	1.71	.81	1.96	1.70	0	3.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1993, BY WATER YEAR (WY)

	MEAN	30.5	55.3	66.9	71.6	83.0	117	104	62.7	48.1	24.9	23.3	20.7
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1964 - 1993	
ANNUAL TOTAL	16654.2		21124.50		59.0	
ANNUAL MEAN	45.5		57.9		107	
HIGHEST ANNUAL MEAN					1884	
LOWEST ANNUAL MEAN					28.2	
HIGHEST DAILY MEAN	243	Dec 14	700	Mar 30	1580	Jan 26 1979
LOWEST DAILY MEAN	1.7	Oct 4	.80	Jul 3	.80	Jul 3 1993
ANNUAL SEVEN-DAY MINIMUM	6.4	Sep 16	4.2	Aug 28	1.3	Aug 28 1966
INSTANTANEOUS PEAK FLOW			758	Mar 30	1660	Jan 26 1979
INSTANTANEOUS PEAK STAGE			7.53	Mar 30	9.85	Jan 26 1979
INSTANTANEOUS LOW FLOW			.72	Jul 3	.70	Aug 19 1983
10 PERCENT EXCEEDS	93		146		126	
50 PERCENT EXCEEDS	36		33		38	
90 PERCENT EXCEEDS	10		6.3		7.8	

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, and those below 0.5 ft³/s, which are poor. Occasional regulation by mill and ponds upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	5.3	39	54	33	36	456	93	18	2.4	.58	.07
2	2.5	5.1	36	e56	31	35	428	87	20	2.1	.48	.05
3	2.5	8.1	33	e51	29	34	377	80	20	1.9	.45	.05
4	2.5	11	31	52	27	33	330	75	18	1.7	.45	.26
5	2.8	14	29	63	26	31	293	69	15	1.6	.41	.28
6	2.4	16	26	69	25	30	267	64	17	1.4	.29	.18
7	2.3	16	24	71	22	32	248	59	19	1.4	.24	.07
8	2.2	16	21	69	21	33	229	55	18	1.3	.30	.25
9	2.2	15	17	66	20	34	212	51	16	1.1	.30	.27
10	4.1	12	15	e58	19	37	201	47	15	1.0	.26	.30
11	3.9	12	16	52	20	38	202	44	14	.94	.24	.22
12	6.3	11	29	47	19	38	214	41	13	.94	.22	.17
13	7.2	14	29	43	36	36	230	39	12	.88	.20	.17
14	9.2	14	33	39	39	31	226	37	14	.82	.20	.17
15	7.3	12	36	40	42	32	207	35	14	.77	.32	.20
16	6.0	11	39	38	44	35	187	33	12	.70	.75	.32
17	5.9	11	46	36	52	40	178	31	9.2	.66	.79	.46
18	6.6	11	55	34	56	43	167	29	7.2	.57	.93	.44
19	6.9	11	60	32	59	45	154	30	5.9	.41	.86	.26
20	6.1	10	68	30	60	45	141	31	5.0	.33	.85	.22
21	5.8	10	72	29	56	47	129	31	5.8	.37	.77	.20
22	5.5	11	71	31	52	48	118	30	5.5	.15	.74	.25
23	5.3	24	68	37	51	50	117	29	4.5	.15	.69	.24
24	5.4	33	e65	42	49	48	111	27	3.6	.16	.72	.21
25	6.6	42	e56	50	46	49	105	26	5.1	.14	.72	.20
26	7.3	47	50	53	42	59	100	23	4.0	.14	.67	.41
27	6.4	51	e44	52	40	71	104	21	3.0	.43	.62	.75
28	7.8	49	36	49	37	81	104	19	2.6	.55	.62	.55
29	7.9	47	34	46	---	135	102	17	2.7	.92	.59	.47
30	7.5	43	38	e41	---	352	98	15	2.5	.93	.45	.63
31	6.1	---	48	e36	---	463	---	14	---	.73	.28	---
TOTAL	163.2	592.5	1264	1466	1053	2121	6035	1282	321.6	27.59	15.99	8.32
MEAN	5.26	19.7	40.8	47.3	37.6	68.4	201	41.4	10.7	.89	.52	.28
MAX	9.2	51	72	71	60	463	456	93	20	2.4	.93	.75
MIN	2.2	5.1	15	29	19	30	98	14	2.5	.14	.20	.05
CFSM	.25	.93	1.91	2.22	1.77	3.21	9.44	1.94	.50	.04	.02	.01
IN.	.29	1.03	2.21	2.56	1.84	3.70	10.54	2.24	.56	.05	.03	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1993, BY WATER YEAR (WY)

	MEAN	13.7	29.8	40.9	42.1	50.6	85.2	84.4	49.3	27.6	8.73	5.89	6.08
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1946 - 1993	
ANNUAL TOTAL	10237.5		14350.20			
ANNUAL MEAN	28.0		39.3		36.8	
HIGHEST ANNUAL MEAN					64.8	
LOWEST ANNUAL MEAN					13.2	
HIGHEST DAILY MEAN	84		Mar 31		779	
LOWEST DAILY MEAN	2.1		Sep 25		.05	
ANNUAL SEVEN-DAY MINIMUM	2.4		Oct 3		.10	
INSTANTANEOUS PEAK FLOW			485		790	
INSTANTANEOUS PEAK STAGE			5.68		7.35	
INSTANTANEOUS LOW FLOW			.04			
ANNUAL RUNOFF (CFSM)	1.31		1.85		1.73	
ANNUAL RUNOFF (INCHES)	17.88		25.06		23.47	
10 PERCENT EXCEEDS	60		80		88	
50 PERCENT EXCEEDS	24		20		23	
90 PERCENT EXCEEDS	4.4		.30		1.7	

e Estimated

IPSWICH RIVER BASIN

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	17	82	147	e60	e58	668	156	38	3.0	1.1	.71
2	9.9	16	73	128	e55	e54	670	143	42	2.3	1.4	.73
3	9.0	26	74	e120	e52	53	595	130	32	2.5	1.0	.84
4	8.7	44	77	e120	e50	54	524	117	28	2.5	1.8	.94
5	7.8	39	72	164	e46	51	e470	108	25	2.0	2.8	.28
6	7.1	40	67	198	e43	49	e420	100	35	1.7	1.9	.40
7	6.9	41	62	175	e38	51	e390	94	38	1.4	1.4	.98
8	6.4	38	57	159	e34	57	e360	87	30	1.5	1.1	1.6
9	6.9	35	48	144	e31	68	e350	82	26	1.9	.91	1.7
10	15	31	42	120	e28	75	e330	77	29	2.0	.93	3.1
11	20	29	42	113	28	76	e350	74	48	1.6	1.1	2.3
12	28	28	104	98	74	81	e390	72	50	1.7	1.0	2.1
13	38	32	107	90	99	88	e430	69	40	1.3	.76	1.6
14	30	35	104	80	89	74	e425	65	31	1.1	.44	.92
15	27	31	108	81	87	e70	e365	61	22	1.1	.40	.64
16	25	28	115	e76	126	e69	e335	59	15	1.0	.46	.64
17	24	26	139	e70	156	76	e320	56	11	.45	1.0	.78
18	23	27	199	e67	157	97	e310	46	9.1	.44	.96	.61
19	20	27	223	e64	158	105	e300	38	8.0	.92	.86	.75
20	19	25	226	e58	e150	e101	e280	48	7.7	1.1	1.3	.64
21	17	23	224	e58	e130	e110	e250	56	8.0	.92	1.0	.56
22	17	24	203	e60	e110	e118	e225	51	8.2	1.0	.74	4.6
23	16	64	181	e67	e100	e120	e220	47	7.3	1.0	1.1	4.6
24	16	88	161	e79	e90	e118	e210	46	6.4	.45	1.4	e3.7
25	23	93	e150	e96	e84	e120	e200	43	5.9	.40	1.4	e3.0
26	26	102	118	e110	e76	e140	e195	39	5.0	.64	1.0	e4.3
27	23	115	e100	e120	e72	e170	e190	34	4.7	1.9	.63	e6.0
28	20	113	e88	e110	e65	e240	e190	30	4.3	1.6	.51	e8.0
29	19	100	e82	e97	---	e350	173	28	3.9	2.3	.29	e12
30	19	90	98	e82	---	e640	165	24	3.4	1.9	.64	e10
31	19	---	134	e70	---	658	---	21	---	1.3	.65	---
TOTAL	557.7	1427	3560	3221	2288	4191	10300	2101	621.9	44.92	31.98	79.02
MEAN	18.0	47.6	115	104	81.7	135	343	67.8	20.7	1.45	1.03	2.63
MAX	38	115	226	198	158	658	670	156	50	3.0	2.8	12
MIN	6.4	16	42	58	28	49	165	21	3.4	.40	.29	.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1993, BY WATER YEAR (WY)

	MEAN	27.5	50.6	67.5	68.6	83.7	150	142	80.6	45.9	19.0	13.2	14.8
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1938 - 1993
ANNUAL TOTAL	20998.0	28423.52	
ANNUAL MEAN	57.4	77.9	62.9
HIGHEST ANNUAL MEAN			121
LOWEST ANNUAL MEAN			18.6
HIGHEST DAILY MEAN	226	Dec 20	995
LOWEST DAILY MEAN	3.9	Jul 29	.10
ANNUAL SEVEN-DAY MINIMUM	5.2	Jul 24	.15
INSTANTANEOUS PEAK FLOW		670	Apr 1
INSTANTANEOUS PEAK STAGE		7.05	Apr 1
INSTANTANEOUS LOW FLOW		.27	Aug 28
10 PERCENT EXCEEDS	114	192	154
50 PERCENT EXCEEDS	45	41	37
90 PERCENT EXCEEDS	11	.99	2.2

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 except those for estimated daily discharges, which are fair. 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. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	63	262	267	184	199	2330	477	73	15	9.0	2.8
2	52	56	244	e280	180	192	2490	434	88	13	7.9	2.7
3	42	59	235	291	174	185	2320	399	95	12	6.7	2.6
4	36	72	224	289	167	182	2050	370	97	13	8.5	2.5
5	32	84	211	314	158	174	1760	347	89	12	22	2.5
6	29	97	199	335	151	162	1510	324	91	12	23	3.5
7	27	106	191	358	140	160	1350	300	98	10	24	5.1
8	25	107	177	380	133	164	1200	282	87	9.3	19	6.6
9	24	107	158	373	127	174	1060	264	94	9.2	13	10
10	30	103	135	e350	120	188	976	246	94	8.7	9.7	13
11	40	98	115	331	116	203	962	228	86	7.6	7.9	13
12	53	93	133	281	113	218	999	214	79	7.0	7.7	11
13	64	92	148	257	172	220	1100	201	77	6.9	6.8	9.7
14	72	91	192	210	242	195	1110	192	76	6.3	6.2	8.1
15	75	91	239	217	355	190	1060	182	76	5.8	5.9	7.0
16	77	90	286	215	366	192	947	172	70	5.7	5.4	6.4
17	76	88	337	203	399	204	906	164	56	9.9	5.0	6.6
18	72	85	384	193	437	226	912	156	43	10	4.7	7.2
19	64	84	444	187	445	242	862	152	34	7.1	5.0	7.2
20	57	80	448	164	411	259	784	152	32	7.2	5.4	6.7
21	53	77	512	153	359	272	687	153	33	8.5	5.7	6.4
22	51	75	480	155	313	287	603	151	33	7.7	5.7	12
23	52	101	437	170	286	308	590	145	29	7.1	5.8	20
24	48	128	401	195	268	299	568	139	26	6.4	5.7	20
25	51	167	e360	230	254	293	539	133	22	5.8	4.9	18
26	57	212	329	256	237	350	491	123	18	5.4	4.2	18
27	59	250	311	261	223	456	515	114	16	6.4	3.7	23
28	59	281	252	264	210	558	524	104	17	8.4	3.3	36
29	58	276	227	251	---	827	532	89	18	10	3.0	42
30	56	273	231	241	---	1440	519	73	17	11	2.8	45
31	60	---	248	202	---	1990	---	64	---	11	2.8	---
TOTAL	1614	3586	8550	7873	6740	11009	32256	6544	1764	275.4	250.4	374.6
MEAN	52.1	120	276	254	241	355	1075	211	58.8	8.88	8.08	12.5
MAX	77	281	512	380	445	1990	2490	477	98	15	24	45
MIN	24	56	115	153	113	160	491	64	16	5.4	2.8	2.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1993, BY WATER YEAR (WY)

	70.7	133	188	206	238	450	440	239	144	57.4	37.4	41.9
MEAN	70.7	133	188	206	238	450	440	239	144	57.4	37.4	41.9
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1930 - 1993	
ANNUAL TOTAL	57914		80836.4		187	
ANNUAL MEAN	158		221		351	
HIGHEST ANNUAL MEAN					57.7	
LOWEST ANNUAL MEAN					1984	
HIGHEST DAILY MEAN	512	Dec 21	2490	Apr 2	3520	Apr 8 1987
LOWEST DAILY MEAN	16	Jul 31	2.5	Sep 4	.59	Sep 21 1978
ANNUAL SEVEN-DAY MINIMUM	20	Jul 26	2.7	Aug 30	.94	Aug 21 1965
INSTANTANEOUS PEAK FLOW			2510	Apr 1	3550	Apr 8 1987
INSTANTANEOUS PEAK STAGE			8.16	Apr 1	9.43	Apr 8 1987
INSTANTANEOUS LOW FLOW			2.4	Sep 3	.34	Sep 20 1978
10 PERCENT EXCEEDS	290		478		443	
50 PERCENT EXCEEDS	148		115		113	
90 PERCENT EXCEEDS	38		6.7		12	

e Estimated

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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.

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1939 - 1993	
ANNUAL TOTAL	10186.4		12791.9			
ANNUAL MEAN	27.8		35.0		28.9	
HIGHEST ANNUAL MEAN					58.3	1984
LOWEST ANNUAL MEAN					8.23	1966
HIGHEST DAILY MEAN	162	Dec 12	442	Mar 30	951	Jan 26 1979
LOWEST DAILY MEAN	4.4	Aug 8	1.5	Aug 30	.25	Oct 10 1950
ANNUAL SEVEN-DAY MINIMUM	5.4	Oct 2	2.0	Aug 27	.31	Dec 6 1941
INSTANTANEOUS PEAK FLOW			501	Mar 29	1330	Jan 25 1979
INSTANTANEOUS PEAK STAGE			13.09	Mar 29	15.46	Jan 25 1979
INSTANTANEOUS LOW FLOW			1.4	Aug 30	.00	Oct 10 1950
10 PERCENT EXCEEDS	55		83		68	
50 PERCENT EXCEEDS	22		20		17	
90 PERCENT EXCEEDS	7.7		3.7		1.2	

CHARLES RIVER BASIN

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. Telephone and satellite gage-height telemeters at station.

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 1992 TO SEPTEMBER 1993

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	72	333	616	367	321	2000	681	147	43	28	12
2	92	69	287	618	338	307	2140	651	167	40	27	11
3	80	88	296	621	329	294	2090	609	177	50	25	11
4	71	114	306	602	308	288	2010	569	168	54	23	15
5	64	138	326	668	287	296	1880	532	153	53	27	16
6	60	157	326	726	271	277	1710	496	158	54	23	14
7	57	160	313	766	247	300	1530	457	161	51	20	12
8	53	156	288	809	232	302	1360	421	160	49	18	20
9	53	144	251	821	219	326	1200	383	150	51	17	35
10	72	130	212	795	214	366	1090	339	137	48	17	34
11	77	121	229	751	210	407	1050	304	126	45	16	35
12	112	112	575	701	208	417	999	284	113	42	15	35
13	126	135	547	658	342	412	1070	267	105	39	15	33
14	129	157	658	614	420	346	1060	248	93	36	14	31
15	121	172	751	583	476	434	1050	231	85	35	14	27
16	112	166	829	538	519	414	1020	217	78	34	13	24
17	101	150	937	509	664	441	1030	207	71	31	13	22
18	90	137	1100	472	655	525	1010	202	67	29	15	22
19	83	128	1130	451	680	539	958	216	65	27	14	22
20	81	125	1190	421	690	575	911	231	63	27	18	22
21	79	126	1210	386	676	602	852	246	62	27	29	23
22	78	132	1180	381	612	609	792	246	64	27	25	24
23	78	271	1120	411	584	611	747	237	59	26	22	26
24	80	346	1040	449	527	642	692	221	57	24	21	27
25	81	426	929	508	484	684	649	205	55	22	20	26
26	81	441	925	528	445	755	613	185	51	25	18	32
27	81	449	788	536	392	905	664	167	47	29	16	45
28	79	429	730	524	343	1080	665	153	47	40	16	70
29	79	405	640	502	---	1390	689	141	48	37	15	74
30	78	373	610	448	---	1720	695	129	46	31	13	77
31	75	---	614	392	---	1870	---	121	---	29	12	---
TOTAL	2612	6029	20670	17805	11739	18455	34226	9596	2980	1155	579	877
MEAN	84.3	201	667	574	419	595	1141	310	99.3	37.3	18.7	29.2
MAX	129	449	1210	821	690	1870	2140	681	177	54	29	77
MIN	53	69	212	381	208	277	613	121	46	22	12	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1993, BY WATER YEAR (WY)

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
MEAN	139	253	340	364	427	617	588	359	236	125	119	101
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1938 - 1993

ANNUAL TOTAL	96593	126723	
ANNUAL MEAN	264	347	305
HIGHEST ANNUAL MEAN			496
LOWEST ANNUAL MEAN			117
HIGHEST DAILY MEAN	1210	2140	3190
LOWEST DAILY MEAN	40	11	.90
ANNUAL SEVEN-DAY MINIMUM	47	13	4.5
INSTANTANEOUS PEAK FLOW		2150	3220
INSTANTANEOUS PEAK STAGE		7.03	9.24
INSTANTANEOUS LOW FLOW		11	.50
10 PERCENT EXCEEDS	498	838	689
50 PERCENT EXCEEDS	220	205	210
90 PERCENT EXCEEDS	61	23	43

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01103500 CHARLES RIVER AT DOVER, MA--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD. --

SPECIFIC CONDUCTANCE: October 1974 to September 1981.

WATER TEMPERATURES: November 1974 to September 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT										
08...	0845	51	217	--	--	13.0	--	--	--	--
NOV										
10...	1505	134	224	--	--	6.0	--	--	--	--
17...	1015	147	231	7.2	0.0	5.0	1.6	770	12.1	94
MAR										
02...	1030	303	252	6.5	3.0	1.0	0.90	760	13.8	97
03...	1425	294	242	--	--	1.0	--	--	--	--
MAY										
25...	0845	212	227	--	--	20.0	--	--	--	--
JUN										
16...	1030	80	236	6.6	23.0	24.0	2.6	765	8.6	102
JUL										
13...	0721	41	277	--	--	25.0	--	--	--	--
AUG										
11...	1015	16	286	6.7	22.5	22.5	1.2	771	6.4	73
27...	0729	16	280	--	--	23.0	--	--	--	--

DATE	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 AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	CARBONATE WATER DIS IT FIELD MG/LAS CO3 (00452)	
OCT 08...	--	--	--	--	--	--	--	--	--	
NOV 10...	--	--	--	--	--	--	--	--	--	
17... MAR	58	K40	42	12	3.0	24	53	2	3.0	0
02... 03...	K10 --	K4 --	38 --	11 --	2.6 --	31 --	62 --	2 --	1.9 --	0 --
MAY 25...	--	--	--	--	--	--	--	--	--	--
JUN 16...	K13	120	47	14	3.0	27	54	2	2.1	0
JUL 13...	--	--	--	--	--	--	--	--	--	--
AUG 11... 27...	40 --	150 --	54 --	16 --	3.4 --	35 --	56 --	2 --	3.7 --	0 --

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

	BICAR- BONATE WATER DIS IT FIELD	HY- DROXIDE WATER DIS IT FIELD	ALKA- LINITY WAT DIS TOT IT FIELD	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- OFGEN, NITRITE DIS- SOLVED (MG/L ASN)
DATE	MG/L AS HCO3 (00453)	MG/L AS OH (71834)	MG/L AS CACO3 (39086)					(70300)	(70301)	(00613)
OCT										
08...	--	--	--	--	--	--	--	--	--	--
NOV										
10...	--	--	--	--	--	--	--	--	--	--
17...	27	0	22	16	37	<0.10	7.9	127	120	0.050
MAR										
02...	21	0	18	13	47	<0.10	7.7	130	128	0.010
03...	--	--	--	--	--	--	--	--	--	--
MAY										
25...	--	--	--	--	--	--	--	--	--	--
JUN										
16...	35	0	28	12	45	<0.10	3.2	131	125	0.010
JUL										
13...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	65	0	54	16	50	0.20	2.5	165	161	<0.010
27...	--	--	--	--	--	--	--	--	--	--
	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										
08...	--	--	--	--	--	--	--	--	--	--
NOV										
10...	--	--	--	--	--	--	--	--	--	--
17...	0.880	0.020	0.60	0.040	0.030	0.020	30	22	<3	190
MAR										
02...	0.770	0.080	0.30	0.020	0.010	<0.010	40	22	<3	110
03...	--	--	--	--	--	--	--	--	--	--
MAY										
25...	--	--	--	--	--	--	--	--	--	--
JUN										
16...	0.250	0.020	0.50	0.040	0.020	<0.010	<10	22	<3	170
JUL										
13...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	0.460	0.040	0.60	0.070	0.020	0.010	<10	25	<3	54
27...	--	--	--	--	--	--	--	--	--	--
	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT										
08...	--	--	--	--	--	--	--	--	--	--
NOV										
10...	--	--	--	--	--	--	--	--	--	--
17...	<4	18	<10	<1	<1	<1.0	67	<6	3	99
MAR										
02...	<4	40	<10	<1	<1	<1.0	61	<6	1	80
03...	--	--	--	--	--	--	--	--	--	--
MAY										
25...	--	--	--	--	--	--	--	--	--	--
JUN										
16...	<4	14	<10	2	<1	<1.0	76	<6	7	87
JUL										
13...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	<4	30	<10	<1	<1	<1.0	86	<6	10	84
27...	--	--	--	--	--	--	--	--	--	--

CHARLES RIVER BASIN

55

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 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.29	36	116	24	17	510	148	13	1.7	.26	.29
2	.26	.56	26	107	18	14	561	141	11	1.1	.23	.33
3	.29	1.8	41	103	16	11	551	131	11	4.6	.27	.32
4	.40	.28	41	103	16	8.7	525	118	8.4	4.1	1.5	.91
5	.29	.48	39	132	14	9.6	487	106	5.2	1.9	.91	.19
6	.26	.56	38	157	11	11	442	91	5.8	1.2	.33	.19
7	.26	.32	31	156	6.0	6.4	405	73	3.9	2.7	.24	.37
8	.27	.32	26	165	6.2	6.9	372	55	2.6	3.5	.23	2.8
9	.58	.33	18	174	6.7	12	328	41	4.0	2.7	1.6	.34
10	1.6	.36	9.4	169	5.7	20	292	26	15	.96	.87	.54
11	.42	.45	19	159	5.5	35	277	20	13	.37	.23	.24
12	1.2	.47	196	139	6.5	48	259	20	8.0	.30	.23	.39
13	.50	1.1	164	125	53	55	276	27	4.6	.26	.23	.45
14	.68	.25	144	131	70	63	266	58	2.5	.36	.23	.51
15	.79	.30	140	104	77	38	255	51	2.1	.57	.25	.52
16	.89	.43	144	81	86	48	243	42	6.9	.45	.24	.61
17	.84	.90	184	68	167	60	251	38	5.9	.32	.34	.70
18	.77	.79	250	58	149	114	255	39	3.4	.26	.28	.67
19	.90	.76	268	35	139	95	232	43	3.4	.24	.22	.50
20	.49	.83	283	26	132	94	211	41	2.1	.46	2.6	.56
21	.66	.83	299	25	127	101	191	41	1.5	.25	.27	.67
22	.46	1.8	298	29	124	108	174	37	5.5	.28	.26	.69
23	.46	26	283	37	109	111	163	31	6.9	.32	.39	.56
24	.65	57	258	38	87	128	141	25	3.8	.51	.44	.66
25	.67	81	259	58	64	146	114	30	2.3	.56	.42	.86
26	.34	99	234	65	41	164	102	28	1.1	.64	.52	2.0
27	.39	106	193	70	30	215	149	32	.60	1.6	.59	1.3
28	.40	90	157	74	22	270	137	24	.42	.34	.72	.30
29	.40	74	140	71	---	356	160	20	.44	.77	.29	.35
30	.43	55	128	82	---	440	162	14	1.6	.53	.26	.47
31	.52	---	120	39	---	469	---	8.0	---	.26	.24	---
TOTAL	17.33	602.21	4466.4	2896	1612.6	3274.6	8491	1599.0	155.96	34.11	15.69	19.29
MEAN	.56	20.1	144	93.4	57.6	106	283	51.6	5.20	1.10	.51	.64
MAX	1.6	106	299	174	167	469	561	148	15	4.6	2.6	2.8
MIN	.26	.25	9.4	25	5.5	6.4	102	8.0	.42	.24	.22	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1993, BY WATER YEAR (WY)

	MEAN	26.4	58.1	85.7	97.5	114	178	162	89.7	55.2	22.2	22.7	20.5
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1932 - 1993

ANNUAL TOTAL	19944.86	23184.19	
ANNUAL MEAN	54.5	63.5	77.3
HIGHEST ANNUAL MEAN			149
LOWEST ANNUAL MEAN			20.6
HIGHEST DAILY MEAN	299	561	1010
LOWEST DAILY MEAN	.18	.19	.00
ANNUAL SEVEN-DAY MINIMUM	.19	.25	.00
INSTANTANEOUS PEAK FLOW		565	1040
INSTANTANEOUS PEAK STAGE		84.91	92.90
INSTANTANEOUS LOW FLOW		.19	.00
10 PERCENT EXCEEDS	139	192	204
50 PERCENT EXCEEDS	31	11	40
90 PERCENT EXCEEDS	.28	.29	1.5

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 except those for estimated daily discharges, which are poor. 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, Sept. 13, 14, 15, 1993, caused by closing of gates at dam at gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	85	359	642	362	365	1570	664	171	49	42	17
2	100	80	333	627	336	355	1730	660	179	38	26	16
3	90	89	345	582	337	348	1710	632	187	55	15	19
4	85	116	343	606	341	344	1660	590	189	72	25	34
5	77	138	340	665	326	333	1580	565	183	69	46	41
6	71	169	341	714	306	319	1490	534	189	47	43	34
7	65	173	335	715	255	341	1330	506	185	49	39	22
8	63	173	316	721	242	351	1220	477	185	64	34	48
9	60	170	297	731	238	370	1120	443	124	83	50	90
10	98	154	263	733	238	410	1060	414	132	69	87	74
11	94	134	293	697	238	412	1020	351	143	61	34	62
12	129	127	710	683	237	428	977	336	144	58	23	60
13	132	125	688	657	389	413	1020	225	136	31	26	e28
14	142	149	676	587	424	358	994	223	125	21	28	e25
15	148	171	702	584	437	409	968	236	78	34	27	e31
16	145	175	731	538	493	446	945	227	76	41	25	19
17	124	172	828	531	708	503	966	200	83	41	20	18
18	115	137	944	488	674	619	944	199	83	42	25	26
19	99	135	975	430	641	594	904	224	86	39	28	26
20	101	137	976	422	622	601	870	238	91	39	52	19
21	97	135	991	406	619	612	827	251	57	25	77	16
22	93	144	991	410	597	620	791	257	54	19	56	24
23	91	267	969	445	592	634	762	256	59	29	30	27
24	92	323	877	477	542	671	721	215	68	33	26	27
25	89	365	723	502	474	716	690	208	67	34	29	29
26	92	392	822	526	448	761	635	173	63	32	22	50
27	92	422	749	513	414	851	717	160	60	27	17	68
28	101	417	691	515	375	928	633	162	60	17	23	94
29	96	398	667	496	---	1120	638	150	37	42	29	56
30	90	378	655	422	---	1310	658	148	33	47	29	63
31	92	---	660	396	---	1440	---	149	---	42	27	---
TOTAL	3099	6050	19590	17461	11905	17982	31150	10073	3327	1349	1060	1163
MEAN	100	202	632	563	425	580	1038	325	111	43.5	34.2	38.8
MAX	148	422	991	733	708	1440	1730	664	189	83	87	94
MIN	60	80	263	396	237	319	633	148	33	17	15	16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1993, BY WATER YEAR (WY)

	148	245	324	331	392	544	550	335	234	110	106	91.3
MEAN	148	245	324	331	392	544	550	335	234	110	106	91.3
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 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1959 - 1993		
ANNUAL TOTAL	93915			124209					
ANNUAL MEAN	257			340			283		
HIGHEST ANNUAL MEAN							458		
LOWEST ANNUAL MEAN							108		
HIGHEST DAILY MEAN	991	Dec 21		1730	Apr 2		2330	Mar 22	1968
LOWEST DAILY MEAN	38	Aug 3		15	Aug 3		1.0	Aug 24	1965
ANNUAL SEVEN-DAY MINIMUM	45	Aug 3		21	Sep 16		4.1	Aug 20	1965
INSTANTANEOUS PEAK FLOW				1770	Apr 1		2410	Mar 21	1968
INSTANTANEOUS PEAK STAGE				5.52	Apr 1		6.20	Mar 21	1968
INSTANTANEOUS LOW FLOW				.00	Sep 13		.00	Sep 15	1959
10 PERCENT EXCEEDS	478			774			619		
50 PERCENT EXCEEDS	208			200			206		
90 PERCENT EXCEEDS	72			29			45		

e Estimated

CHARLES RIVER BASIN

57

01104500 CHARLES RIVER AT WALTHAM, MA

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

DRAINAGE AREA.--227 mi², excludes 23.6 mi² drained by Stony Brook, from which flow is diverted for municipal supply of Cambridge.

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

REVISED RECORDS.--WSP 781: 1933(M). WSP 851: Drainage area. WSP 971: 1942.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 20.02 ft above sea level. Prior to July 10, 1904, at dam 700 ft upstream and July 10, 1904, to Oct. 2, 1909, at dam 0.7 mi downstream at different datums; discharge computed from flow over dam and through wheels and gates of Boston Manufacturing Co. and Waltham Bleachery, respectively.

REMARKS.--Records good. Flow affected by diversion to Mother Brook (station 01104000), diversions to and from basin for municipal supplies, and at times by water released from Stony Brook Reservoir. Prior to 1960, some regulation by mills upstream. Low flow completely regulated by Boston Edison Co. powerplant prior to 1954. Maximum discharge since 1886 was that of Feb. 3, 1976, and was caused by release of water stored behind ice jam upstream. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	83	393	652	388	383	1990	685	191	55	40	23
2	126	79	364	622	366	373	2160	672	184	55	41	23
3	101	112	419	574	365	365	2070	641	190	54	37	22
4	97	124	384	598	366	368	1950	521	195	60	33	25
5	82	142	379	683	349	379	1800	556	192	65	31	26
6	75	179	373	739	327	369	1680	536	205	67	33	28
7	73	181	372	728	296	383	1510	508	198	59	34	29
8	68	179	356	721	284	393	1340	482	193	57	34	34
9	68	175	328	719	274	418	1240	450	170	61	34	64
10	121	164	296	713	269	459	1190	425	128	69	44	78
11	115	153	346	684	265	473	1190	394	136	68	51	66
12	154	172	873	664	265	457	1170	365	140	65	41	57
13	148	168	828	645	454	473	1240	314	136	60	36	53
14	144	152	746	589	460	409	1180	244	130	47	34	43
15	154	176	800	578	455	424	1110	260	115	41	31	40
16	149	191	758	543	502	470	1060	253	87	40	30	38
17	136	193	867	526	761	550	1130	238	85	39	39	36
18	122	175	1050	493	686	703	1100	219	87	40	35	38
19	110	152	1060	443	640	648	1030	257	87	42	30	37
20	106	153	1040	433	615	630	969	266	97	45	30	36
21	105	152	1030	426	608	639	905	277	94	46	44	33
22	95	162	1020	435	594	646	846	281	78	42	54	32
23	90	334	987	474	582	667	831	277	66	39	51	32
24	93	358	926	503	538	720	767	255	66	39	41	32
25	100	401	710	535	478	754	723	224	71	38	36	31
26	95	439	808	542	460	824	681	202	71	38	34	39
27	94	465	731	538	432	955	816	171	70	42	31	97
28	92	447	670	522	403	1070	750	171	69	39	28	132
29	89	427	647	510	---	1390	681	164	68	36	26	93
30	86	411	655	430	---	1690	688	152	58	37	24	65
31	85	---	675	429	---	1810	---	152	---	39	24	---
TOTAL	3320	6699	20891	17691	12482	20292	35797	10612	3657	1524	1111	1382
MEAN	107	223	674	571	446	655	1193	342	122	49.2	35.8	46.1
MAX	154	465	1060	739	761	1810	2160	685	205	69	54	132
MIN	68	79	296	426	265	365	681	152	58	36	24	22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1993, BY WATER YEAR (WY)

	146	252	332	360	402	622	610	358	236	127	118	113
MEAN	146	252	332	360	402	622	610	358	236	127	118	113
MAX	634	1031	834	1173	946	1398	1446	798	1346	915	873	616
(WY)	1956	1956	1984	1979	1970	1983	1987	1954	1982	1938	1955	1954
MIN	24.5	38.7	62.7	58.4	111	236	181	135	56.5	26.7	14.6	19.6
(WY)	1942	1932	1966	1981	1980	1985	1985	1932	1932	1949	1949	1957

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1931 - 1993
ANNUAL TOTAL	103160	135458	
ANNUAL MEAN	282	371	306
HIGHEST ANNUAL MEAN			558
LOWEST ANNUAL MEAN			129
HIGHEST DAILY MEAN	1060	Dec 19	2940
LOWEST DAILY MEAN	52	Aug 8	.20
ANNUAL SEVEN-DAY MINIMUM	60	Aug 3	1.6
INSTANTANEOUS PEAK FLOW		2180	4150
INSTANTANEOUS PEAK STAGE		5.05	6.54
INSTANTANEOUS LOW FLOW		22	.10
10 PERCENT EXCEEDS	492	837	672
50 PERCENT EXCEEDS	259	224	217
90 PERCENT EXCEEDS	82	37	43

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. Satellite gage-height telemeter at station.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	15	46	128	58	e57	340	109	38	7.8	14	5.7
2	19	15	42	111	54	e55	371	103	37	6.6	4.6	5.7
3	18	30	78	95	52	e51	321	91	30	11	4.6	5.3
4	16	35	81	92	50	e59	268	83	27	9.6	4.2	6.8
5	13	33	70	144	49	59	232	79	24	9.6	3.9	6.4
6	11	35	59	169	48	58	202	74	30	9.2	2.6	6.4
7	10	30	51	151	44	58	184	69	30	8.2	2.6	6.4
8	9.3	26	45	130	42	61	168	67	27	7.7	3.0	17
9	13	22	40	119	42	71	159	64	23	7.4	4.4	13
10	31	19	35	105	41	82	169	59	23	6.8	4.7	12
11	29	18	71	92	41	88	194	56	22	6.4	5.3	10
12	36	17	287	86	44	79	191	52	19	6.0	5.2	9.6
13	29	33	280	87	142	81	249	50	18	6.4	4.6	8.5
14	24	35	242	90	133	90	229	49	15	6.1	e4.3	7.2
15	20	29	209	84	101	86	191	47	15	5.3	4.2	6.4
16	18	24	183	79	e104	82	173	45	14	4.9	4.0	8.5
17	18	23	206	75	e166	111	206	48	13	4.5	5.3	8.1
18	16	23	273	71	e130	158	201	45	12	4.2	4.3	8.6
19	15	22	256	66	e105	134	170	55	11	5.3	4.0	8.6
20	16	21	222	61	e92	119	149	55	11	6.2	17	7.7
21	16	19	187	59	e85	112	136	49	11	4.6	18	7.3
22	16	27	161	76	e88	107	128	43	13	3.7	11	8.1
23	16	106	146	112	e88	114	125	40	11	3.7	8.4	7.8
24	15	100	133	118	e82	144	114	36	11	4.5	7.1	7.3
25	18	81	118	119	e76	168	104	33	9.5	4.2	6.4	7.3
26	18	73	110	104	e70	177	104	32	8.3	3.6	6.4	15
27	16	77	95	91	e64	218	161	29	7.3	5.6	6.4	20
28	15	68	87	82	e61	246	150	28	8.2	3.6	6.7	20
29	14	57	83	75	---	353	130	26	7.9	3.4	6.0	15
30	14	48	106	65	---	379	117	24	7.6	3.4	5.7	12
31	14	---	126	61	---	359	---	23	---	3.4	5.7	---
TOTAL	556.3	1161	4128	2997	2152	4016	5636	1663	533.8	182.9	194.6	287.7
MEAN	17.9	38.7	133	96.7	76.9	130	188	53.6	17.8	5.90	6.28	9.59
MAX	36	106	287	169	166	379	371	109	38	11	18	20
MIN	9.3	15	35	59	41	51	104	23	7.3	3.4	2.6	5.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	MEAN	27.3	47.4	62.2	68.4	77.0	110	101	62.6	40.3	20.7	24.2	21.5
	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	5.90	4.30	5.94
	(WY)	1958	1966	1966	1981	1980	1985	1966	1986	1981	1993	1981	1980

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1940 - 1993
ANNUAL TOTAL	18278.4	23508.3	
ANNUAL MEAN	49.9	64.4	55.1
HIGHEST ANNUAL MEAN			106
LOWEST ANNUAL MEAN			21.7
HIGHEST DAILY MEAN	287	Dec 12	1260
LOWEST DAILY MEAN	4.1	Aug 8	1.4
ANNUAL SEVEN-DAY MINIMUM	7.1	Jul 27	3.2
INSTANTANEOUS PEAK FLOW			1490
INSTANTANEOUS PEAK STAGE			14.65
INSTANTANEOUS LOW FLOW			2.6
10 PERCENT EXCEEDS	104	167	123
50 PERCENT EXCEEDS	35	37	37
90 PERCENT EXCEEDS	9.9	5.7	9.1

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 good. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	46	114	50	62	308	79	31	8.4	4.6	3.4
2	10	12	38	94	47	60	413	81	11	7.3	4.3	2.9
3	10	25	87	81	45	61	305	71	26	7.6	3.7	2.9
4	10	36	89	82	45	58	258	69	33	13	3.6	3.5
5	8.5	26	70	104	43	58	232	69	22	13	3.5	3.3
6	10	28	68	113	42	59	202	61	25	10	3.6	2.9
7	9.1	23	62	91	37	61	161	58	25	9.0	3.3	2.7
8	8.5	19	56	79	38	62	139	52	21	8.4	3.1	2.8
9	8.1	16	49	74	36	73	114	49	19	13	3.0	2.3
10	22	14	47	68	33	84	127	51	19	12	3.2	2.4
11	25	14	89	64	34	81	160	53	18	9.7	3.5	2.3
12	20	14	380	63	36	71	151	47	16	8.0	4.2	2.6
13	17	34	449	66	157	69	204	42	16	7.4	4.2	2.4
14	23	31	352	70	123	116	174	38	18	7.3	4.0	2.8
15	13	19	268	66	75	114	159	35	16	8.0	4.4	3.2
16	12	15	244	62	78	99	191	34	18	6.4	3.6	3.5
17	11	13	272	60	257	127	205	41	16	5.1	3.1	4.1
18	11	14	318	56	154	162	178	35	15	4.6	2.6	5.5
19	10	13	256	50	111	123	145	41	14	4.5	5.3	4.7
20	11	13	220	48	93	102	127	39	14	5.2	5.8	4.1
21	11	14	191	47	86	95	116	36	14	6.4	7.1	3.8
22	12	21	174	65	92	96	108	32	17	6.2	6.1	3.7
23	12	97	160	103	91	106	110	29	14	5.8	6.1	3.8
24	11	92	140	92	84	139	100	26	12	5.3	5.4	4.0
25	15	61	139	92	83	172	91	25	10	5.2	4.8	3.8
26	17	51	125	80	76	167	56	21	9.2	4.5	4.6	9.9
27	14	74	110	69	69	189	159	27	8.6	4.5	4.6	23
28	13	60	99	64	66	198	89	21	9.4	7.5	4.5	31
29	13	49	98	61	---	310	124	21	10	6.9	4.2	16
30	12	44	113	56	---	318	65	20	9.3	6.1	3.7	9.5
31	12	---	124	51	---	273	---	19	---	5.1	3.5	---
TOTAL	402.2	954	4933	2285	2181	3765	4971	1322	506.5	231.4	131.2	172.8
MEAN	13.0	31.8	159	73.7	77.9	121	166	42.6	16.9	7.46	4.23	5.76
MAX	25	97	449	114	257	318	413	81	33	13	7.1	31
MIN	8.1	12	38	47	33	58	56	19	8.6	4.5	2.6	2.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1993, BY WATER YEAR (WY)

	MEAN	29.6	49.1	64.4	67.4	71.5	92.4	87.2	53.5	35.1	17.6	22.7	21.3
MAX	100	161	159	177	132	177	210	142	154	55.8	203	76.2	
(WY)	1963	1956	1993	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	1980	1985	1966	1965	1964	1965	1957	1957	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1953 - 1993	
ANNUAL TOTAL	17062.7		21855.1			
ANNUAL MEAN	46.6		59.9		50.9	
HIGHEST ANNUAL MEAN					78.9	
LOWEST ANNUAL MEAN					18.6	
HIGHEST DAILY MEAN	449	Dec 13	449	Dec 13	1360	Aug 19 1955
LOWEST DAILY MEAN	5.9	Aug 8	2.3	Sep 9	.60	Jul 7 1957
ANNUAL SEVEN-DAY MINIMUM	6.8	Jul 22	2.5	Sep 7	2.5	Sep 7 1993
INSTANTANEOUS PEAK FLOW			472	Dec 12	1790	Aug 19 1955
INSTANTANEOUS PEAK STAGE			3.99	Dec 12	8.18	Aug 19 1955
INSTANTANEOUS LOW FLOW			2.3	Sep 8		
10 PERCENT EXCEEDS	91		158		109	
50 PERCENT EXCEEDS	35		33		37	
90 PERCENT EXCEEDS	10		4.1		8.2	

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. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.4	5.4	11	e5.1	5.7	62	10	8.1	.86	.32	.32
2	1.9	2.2	5.1	7.7	e5.0	5.5	101	9.3	5.2	.86	.32	.30
3	1.7	7.3	21	e6.2	e4.8	5.8	45	8.5	3.1	2.2	.29	.29
4	1.3	6.8	18	6.4	4.9	6.2	29	8.1	2.5	1.7	.32	.33
5	1.4	5.2	10	15	e4.7	6.4	22	7.5	2.4	1.0	.28	.31
6	1.3	6.0	8.1	15	e5.1	e6.8	18	7.5	7.4	.89	.28	.27
7	1.2	4.6	6.8	9.4	e4.7	6.7	15	7.0	5.7	.86	.27	.25
8	1.1	3.3	6.0	7.8	4.6	7.7	13	6.6	4.0	2.0	.25	4.1
9	1.1	2.7	5.3	7.0	e3.9	10	12	6.2	3.4	2.6	.30	1.7
10	6.2	2.2	4.7	6.2	3.6	12	15	6.0	3.2	1.1	.41	7.5
11	4.1	2.2	15	5.8	3.3	12	19	6.0	3.0	.79	.28	3.5
12	3.7	2.2	160	5.8	5.3	10	20	5.9	3.0	.66	.27	1.4
13	2.4	8.3	216	6.4	52	9.7	43	5.4	2.7	.61	.26	.96
14	1.6	6.0	61	6.8	22	27	26	5.4	2.4	.45	.80	.77
15	1.6	4.5	29	6.8	11	23	16	5.0	2.2	.41	.30	.65
16	1.6	3.3	20	6.3	20	16	14	4.8	1.8	.38	.23	1.5
17	1.6	2.8	23	5.9	73	27	37	7.6	1.6	.58	.27	1.2
18	1.6	3.0	30	5.6	24	33	36	5.6	1.4	.41	.72	1.1
19	1.7	2.8	19	e5.1	12	29	18	8.8	2.0	.38	.49	.96
20	2.2	2.4	15	4.9	e9.0	19	13	8.3	2.2	.63	7.0	.69
21	3.1	2.1	13	4.4	e7.5	13	11	7.6	2.2	.61	5.4	.60
22	3.4	5.1	11	9.1	8.6	13	15	6.0	2.4	.48	1.8	.65
23	3.1	30	10	19	8.3	16	16	5.2	1.6	.43	1.1	.66
24	2.6	22	9.3	14	7.6	25	12	4.7	1.2	.40	.85	.64
25	5.3	11	e7.5	15	e6.6	35	9.6	4.3	1.1	.32	.71	.48
26	5.0	9.7	6.8	9.3	e6.2	41	9.7	3.6	1.1	.31	.57	6.2
27	3.7	14	e6.2	7.2	e5.8	51	38	3.0	1.9	2.4	.49	7.0
28	2.9	8.6	5.8	6.6	5.4	49	25	2.7	1.5	.75	.43	7.0
29	2.7	6.7	6.0	6.2	---	94	14	2.7	1.1	.51	.42	3.2
30	2.7	5.9	10	e5.8	---	93	11	2.4	.97	.49	.36	1.8
31	2.4	---	15	e5.4	---	58	---	2.2	---	.41	.32	---
TOTAL	78.4	195.3	779.0	253.1	334.0	766.5	735.3	183.9	82.37	26.48	26.11	56.33
MEAN	2.53	6.51	25.1	8.16	11.9	24.7	24.5	5.93	2.75	.85	.84	1.88
MAX	6.2	30	216	19	73	94	101	10	8.1	2.6	7.0	7.5
MIN	1.1	2.1	4.7	4.4	3.3	5.5	9.6	2.2	.97	.31	.23	.25
CFSM	.56	1.45	5.58	1.81	2.65	5.49	5.45	1.32	.61	.19	.19	.42
IN.	.65	1.61	6.44	2.09	2.76	6.34	6.08	1.52	.68	.22	.22	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	MEAN	10.2	12.9	11.6	13.0	17.5	14.1	9.65	7.38	2.67	3.19	3.14
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1966 - 1993

ANNUAL TOTAL	2887.72	3516.79	
ANNUAL MEAN	7.89	9.64	9.14
HIGHEST ANNUAL MEAN			14.4
LOWEST ANNUAL MEAN			3.91
HIGHEST DAILY MEAN	216	216	361
LOWEST DAILY MEAN	.46	.23	.11
ANNUAL SEVEN-DAY MINIMUM	.61	.28	.13
INSTANTANEOUS PEAK FLOW		286	590
INSTANTANEOUS PEAK STAGE		5.01	5.35
INSTANTANEOUS LOW FLOW		.20	.11
ANNUAL RUNOFF (CFSM)	1.75	2.14	2.03
ANNUAL RUNOFF (INCHES)	23.87	29.07	27.61
10 PERCENT EXCEEDS	14	21	19
50 PERCENT EXCEEDS	5.3	5.1	5.5
90 PERCENT EXCEEDS	1.4	.44	.86

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 doubtful gage-height record, May 26 to Sept. 9, which are fair. Some regulation by mills and by Wampatuck, Indian Head, Maquan, and other ponds upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	13	48	108	44	58	349	99	38	7.1	5.8	4.7
2	19	12	44	81	42	56	509	88	39	6.3	5.2	4.0
3	20	24	99	66	42	55	400	78	29	7.3	4.6	3.8
4	14	40	142	63	42	57	270	73	25	10	4.2	3.5
5	13	33	102	95	43	70	203	69	23	8.1	4.0	3.2
6	13	34	80	132	43	73	166	66	26	5.9	3.5	3.5
7	12	31	65	102	41	68	143	62	29	4.7	3.1	4.7
8	11	26	57	84	41	71	126	59	25	5.6	2.6	6.7
9	10	23	47	75	39	91	114	55	22	7.1	2.9	7.7
10	17	20	41	66	38	107	111	51	22	7.4	3.3	10
11	23	19	56	61	37	113	137	50	20	6.1	3.7	23
12	19	19	470	59	42	101	132	48	19	5.0	3.8	16
13	17	33	948	63	220	103	209	46	18	4.7	3.8	11
14	14	40	777	79	214	142	200	43	16	3.9	3.6	8.1
15	11	31	399	74	133	181	153	39	15	3.4	2.7	5.8
16	11	26	227	69	116	131	127	35	13	2.9	2.4	4.8
17	11	24	179	63	351	141	171	44	12	2.6	4.5	5.6
18	10	23	209	57	284	242	230	39	11	2.6	4.7	5.4
19	10	23	180	50	170	204	168	51	12	2.6	3.5	5.9
20	11	22	153	45	115	151	130	60	14	2.8	1.1	5.7
21	7.0	20	135	44	91	135	107	61	14	2.8	1.1	5.3
22	7.3	27	114	52	87	123	106	47	14	5.9	4.2	5.2
23	11	149	94	101	87	134	141	40	11	4.5	7.3	5.0
24	12	173	87	108	80	171	112	36	9.5	5.2	6.4	4.9
25	17	115	72	110	69	236	92	34	8.4	6.8	4.6	4.9
26	23	85	66	91	63	243	83	31	8.0	6.2	4.3	13
27	20	89	60	72	59	287	207	29	7.7	14	4.2	21
28	16	78	54	62	58	308	210	26	7.7	14	4.1	20
29	14	63	54	56	---	445	148	26	7.6	11	9.6	16
30	13	54	79	50	---	518	116	25	7.4	8.7	8.7	10
31	13	---	111	46	---	410	---	23	---	6.7	6.1	---
TOTAL	435.3	1369	5249	2284	2691	5225	5370	1533	523.3	191.9	133.6	248.4
MEAN	14.0	45.6	169	73.7	96.1	169	179	49.5	17.4	6.19	4.31	8.28
MAX	23	173	948	132	351	518	509	99	39	14	9.6	23
MIN	7.0	12	41	44	37	55	83	23	7.4	2.6	1.1	3.2
CFSM	.46	1.51	5.59	2.43	3.17	5.56	5.91	1.63	.58	.20	.14	.27
IN.	.53	1.68	6.44	2.80	3.30	6.41	6.59	1.88	.64	.24	.16	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	MEAN	31.0	65.2	83.2	80.5	89.9	117	98.7	65.0	45.3	21.1	22.6	20.5
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1966 - 1993

ANNUAL TOTAL	19331.8	25253.5	
ANNUAL MEAN	52.8	69.2	61.6
HIGHEST ANNUAL MEAN			88.9
LOWEST ANNUAL MEAN			27.6
HIGHEST DAILY MEAN	948	Dec 13	1260
LOWEST DAILY MEAN	2.4	Jul 29	1.18
ANNUAL SEVEN-DAY MINIMUM	6.2	Jul 28	.38
INSTANTANEOUS PEAK FLOW			1390
INSTANTANEOUS PEAK STAGE			7.13
INSTANTANEOUS LOW FLOW			.14
ANNUAL RUNOFF (CFSM)	1.74	2.28	2.03
ANNUAL RUNOFF (INCHES)	23.73	31.00	27.61
10 PERCENT EXCEEDS	100	169	136
50 PERCENT EXCEEDS	38	38	41
90 PERCENT EXCEEDS	10	4.6	7.2

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	28	55	20	33	139	71	29	12	8.5	e5.0
2	15	20	26	48	19	45	162	61	33	11	8.5	e4.9
3	14	25	40	41	22	53	148	55	29	12	7.5	e4.8
4	11	27	57	39	26	62	126	54	26	12	7.5	e4.7
5	10	24	52	47	38	65	111	51	22	12	8.0	e4.6
6	9.6	25	45	52	45	69	98	47	23	11	8.0	e4.5
7	9.3	21	38	51	35	62	88	45	22	10	7.9	e4.5
8	8.0	18	33	46	34	60	80	41	20	9.2	7.5	e4.4
9	8.7	16	26	46	31	64	72	39	17	9.0	7.5	e4.3
10	10	14	23	38	31	66	62	37	19	8.0	7.5	6.0
11	12	14	e28	37	34	66	66	37	19	8.0	8.0	5.4
12	12	13	e115	36	38	61	70	46	17	8.0	6.8	4.9
13	11	16	e225	41	97	55	97	46	16	7.5	7.2	4.6
14	11	17	164	76	101	85	108	45	15	7.5	7.7	4.5
15	11	20	116	68	80	96	106	42	15	7.8	6.8	4.4
16	10	20	87	46	69	83	95	40	14	7.9	6.6	6.8
17	9.1	18	77	38	113	82	85	40	15	7.4	6.9	9.8
18	10	17	80	32	102	120	102	39	15	7.8	6.5	9.5
19	13	17	76	32	76	109	96	48	14	8.0	6.8	8.3
20	16	16	67	31	62	90	84	62	14	8.0	6.5	6.6
21	14	15	59	31	51	87	85	64	14	9.1	6.3	6.0
22	13	17	40	42	49	85	88	60	14	8.1	6.1	6.4
23	13	42	29	55	47	86	103	50	13	7.5	6.0	6.7
24	12	68	24	50	45	110	97	43	12	7.3	e6.0	6.8
25	16	56	34	51	43	150	83	38	11	7.2	e5.9	6.1
26	17	48	35	44	34	146	82	37	11	7.0	e5.8	9.8
27	17	48	30	38	33	140	124	37	11	9.1	e5.6	13
28	19	42	28	31	31	135	123	34	14	10	e5.4	10
29	18	36	29	23	---	149	103	32	14	9.2	e5.2	8.9
30	15	32	45	e23	---	158	88	28	14	9.1	e5.1	7.9
31	14	---	58	19	---	145	---	25	---	8.9	e5.0	---
TOTAL	397.7	781	1814	1307	1406	2817	2971	1394	522	276.6	210.6	194.1
MEAN	12.8	26.0	58.5	42.2	50.2	90.9	99.0	45.0	17.4	8.92	6.79	6.47
MAX	19	68	225	76	113	158	162	71	33	12	8.5	13
MIN	8.0	13	23	19	19	33	62	25	11	7.0	5.0	4.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, 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	1993
MEAN	17.6	30.1	34.2	36.0	43.9	56.0	48.9	37.6	26.3	17.3	16.6	16.4																
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1966 - 1993

ANNUAL TOTAL	10135.4																											
ANNUAL MEAN	27.7																											
HIGHEST ANNUAL MEAN																												
LOWEST ANNUAL MEAN																												
HIGHEST DAILY MEAN	225	Dec 13																										
LOWEST DAILY MEAN	7.1	Sep 20																										
ANNUAL SEVEN-DAY MINIMUM	8.4	Sep 18																										
INSTANTANEOUS PEAK FLOW																												
INSTANTANEOUS PEAK STAGE																												
INSTANTANEOUS LOW FLOW																												
10 PERCENT EXCEEDS	48																											
50 PERCENT EXCEEDS	23																											
90 PERCENT EXCEEDS	10																											

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 doubtful gage-height record, May 26 to Sept. 9, which are fair. Some regulation by mills and by Wampatuck, Indian Head, Maquan, and other ponds upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	13	48	108	44	58	349	99	38	7.1	5.8	4.7
2	19	12	44	81	42	56	509	88	39	6.3	5.2	4.0
3	20	24	99	66	42	55	400	78	29	7.3	4.6	3.8
4	14	40	142	63	42	57	270	73	25	10	4.2	3.5
5	13	33	102	95	43	70	203	69	23	8.1	4.0	3.2
6	13	34	80	132	43	73	166	66	26	5.9	3.5	3.5
7	12	31	65	102	41	68	143	62	29	4.7	3.1	4.7
8	11	26	57	84	41	71	126	59	25	5.6	2.6	6.7
9	10	23	47	75	39	91	114	55	22	7.1	2.9	7.7
10	17	20	41	66	38	107	111	51	22	7.4	3.3	10
11	23	19	56	61	37	113	137	50	20	6.1	3.7	23
12	19	19	470	59	42	101	132	48	19	5.0	3.8	16
13	17	33	948	63	220	103	209	46	18	4.7	3.8	11
14	14	40	777	79	214	142	200	43	16	3.9	3.6	8.1
15	11	31	399	74	133	181	153	39	15	3.4	2.7	5.8
16	11	26	227	69	116	131	127	35	13	2.9	2.4	4.8
17	11	24	179	63	351	141	171	44	12	2.6	4.5	5.6
18	10	23	209	57	284	242	230	39	11	2.6	4.7	5.4
19	10	23	180	50	170	204	168	51	12	2.6	3.5	5.9
20	11	22	153	45	115	151	130	60	14	2.8	1.1	5.7
21	7.0	20	135	44	91	135	107	61	14	2.8	1.1	5.3
22	7.3	27	114	52	87	123	106	47	14	5.9	4.2	5.2
23	11	149	94	101	87	134	141	40	11	4.5	7.3	5.0
24	12	173	87	108	80	171	112	36	9.5	5.2	6.4	4.9
25	17	115	72	110	69	236	92	34	8.4	6.8	4.6	4.9
26	23	85	66	91	63	243	83	31	8.0	6.2	4.3	13
27	20	89	60	72	59	287	207	29	7.7	14	4.2	21
28	16	78	54	62	58	308	210	26	7.7	14	4.1	20
29	14	63	54	56	---	445	148	26	7.6	11	9.6	16
30	13	54	79	50	---	518	116	25	7.4	8.7	8.7	10
31	13	---	111	46	---	410	---	23	---	6.7	6.1	---
TOTAL	435.3	1369	5249	2284	2691	5225	5370	1533	523.3	191.9	133.6	248.4
MEAN	14.0	45.6	169	73.7	96.1	169	179	49.5	17.4	6.19	4.31	8.28
MAX	23	173	948	132	351	518	509	99	39	14	9.6	23
MIN	7.0	12	41	44	37	55	83	23	7.4	2.6	1.1	3.2
CFSM	.46	1.51	5.59	2.43	3.17	5.56	5.91	1.63	.58	.20	.14	.27
IN.	.53	1.68	6.44	2.80	3.30	6.41	6.59	1.88	.64	.24	.16	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	MEAN	31.0	65.2	83.2	80.5	89.9	117	98.7	65.0	45.3	21.1	22.6	20.5
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 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1966 - 1993		
ANNUAL TOTAL	19331.8			25253.5					
ANNUAL MEAN	52.8			69.2			61.6		
HIGHEST ANNUAL MEAN							88.9		
LOWEST ANNUAL MEAN							27.6		
HIGHEST DAILY MEAN	948			948			1260		
LOWEST DAILY MEAN	2.4			1.1			.18		
ANNUAL SEVEN-DAY MINIMUM	6.2			2.8			.38		
INSTANTANEOUS PEAK FLOW				1000			1390		
INSTANTANEOUS PEAK STAGE				6.23			7.13		
INSTANTANEOUS LOW FLOW				.63			.14		
ANNUAL RUNOFF (CFSM)	1.74			2.28			2.03		
ANNUAL RUNOFF (INCHES)	23.73			31.00			27.61		
10 PERCENT EXCEEDS	100			169			136		
50 PERCENT EXCEEDS	38			38			41		
90 PERCENT EXCEEDS	10			4.6			7.2		

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	28	55	20	33	139	71	29	12	8.5	e5.0
2	15	20	26	48	19	45	162	61	33	11	8.5	e4.9
3	14	25	40	41	22	53	148	55	29	12	7.5	e4.8
4	11	27	57	39	26	62	126	54	26	12	7.5	e4.7
5	10	24	52	47	38	65	111	51	22	12	8.0	e4.6
6	9.6	25	45	52	45	69	98	47	23	11	8.0	e4.5
7	9.3	21	38	51	35	62	88	45	22	10	7.9	e4.5
8	8.0	18	33	46	34	60	80	41	20	9.2	7.5	e4.4
9	8.7	16	26	46	31	64	72	39	17	9.0	7.5	e4.3
10	10	14	23	38	31	66	62	37	19	8.0	7.5	6.0
11	12	14	e28	37	34	66	66	37	19	8.0	8.0	5.4
12	12	13	e115	36	38	61	70	46	17	8.0	6.8	4.9
13	11	16	e225	41	97	55	97	46	16	7.5	7.2	4.6
14	11	17	164	76	101	85	108	45	15	7.5	7.7	4.5
15	11	20	116	68	80	96	106	42	15	7.8	6.8	4.4
16	10	20	87	46	69	83	95	40	14	7.9	6.6	6.8
17	9.1	18	77	38	113	82	85	40	15	7.4	6.9	9.8
18	10	17	80	32	102	120	102	39	15	7.8	6.5	9.5
19	13	17	76	32	76	109	96	48	14	8.0	6.8	8.3
20	16	16	67	31	62	90	84	62	14	8.0	6.5	6.6
21	14	15	59	31	51	87	85	64	14	9.1	6.3	6.0
22	13	17	40	42	49	85	88	60	14	8.1	6.1	6.4
23	13	42	29	55	47	86	103	50	13	7.5	6.0	6.7
24	12	68	24	50	45	110	97	43	12	7.3	e6.0	6.8
25	16	56	34	51	43	150	83	38	11	7.2	e5.9	6.1
26	17	48	35	44	34	146	82	37	11	7.0	e5.8	9.8
27	17	48	30	38	33	140	124	37	11	9.1	e5.6	13
28	19	42	28	31	31	135	123	34	14	10	e5.4	10
29	18	36	29	23	---	149	103	32	14	9.2	e5.2	8.9
30	15	32	45	e23	---	158	88	28	14	9.1	e5.1	7.9
31	14	---	58	19	---	145	---	25	---	8.9	e5.0	---
TOTAL	397.7	781	1814	1307	1406	2817	2971	1394	522	276.6	210.6	194.1
MEAN	12.8	26.0	58.5	42.2	50.2	90.9	99.0	45.0	17.4	8.92	6.79	6.47
MAX	19	68	225	76	113	158	162	71	33	12	8.5	13
MIN	8.0	13	23	19	19	33	62	25	11	7.0	5.0	4.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

MEAN	17.6	30.1	34.2	36.0	43.9	56.0	48.9	37.6	26.3	17.3	16.6	16.4
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1966 - 1993

ANNUAL TOTAL	10135.4	14091.0	
ANNUAL MEAN	27.7	38.6	31.7
HIGHEST ANNUAL MEAN			54.6
LOWEST ANNUAL MEAN			14.9
HIGHEST DAILY MEAN	225	225	527
LOWEST DAILY MEAN	7.1	4.3	1.59
ANNUAL SEVEN-DAY MINIMUM	8.4	4.5	1.1
INSTANTANEOUS PEAK FLOW		238	575
INSTANTANEOUS PEAK STAGE		5.27	5.88
INSTANTANEOUS LOW FLOW		4.3	
10 PERCENT EXCEEDS	48	92	62
50 PERCENT EXCEEDS	23	26	24
90 PERCENT EXCEEDS	10	6.8	9.0

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.

REVISED RECORDS.--WDR MA-RI-92-1: 1990 (M), 1991.

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. Occasional backwater from tidal surge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	13	18	17	18	27	28	21	17	15	12
2	14	14	13	17	17	18	34	27	20	17	15	12
3	13	16	16	16	13	18	29	27	18	18	18	12
4	14	16	15	17	13	18	27	27	18	18	20	13
5	14	15	15	19	13	e20	26	26	18	19	19	13
6	13	15	14	27	14	20	26	29	19	18	16	13
7	13	15	13	24	15	18	26	27	19	16	16	12
8	13	15	13	21	16	18	26	25	19	16	15	13
9	13	15	11	19	16	18	26	25	19	16	15	13
10	14	15	12	18	19	18	26	26	19	15	14	14
11	13	14	e15	18	26	19	28	27	19	15	14	14
12	11	14	e27	18	23	18	28	28	18	16	14	13
13	11	17	e26	19	e25	e19	30	29	18	16	14	12
14	10	16	e21	21	21	e28	29	28	18	16	14	12
15	10	15	18	19	18	23	30	26	18	15	14	12
16	10	14	17	18	14	20	29	25	18	16	14	12
17	11	14	17	18	17	20	30	25	17	17	14	14
18	11	14	18	18	14	22	30	24	17	16	14	15
19	12	14	17	18	15	20	30	25	17	16	14	14
20	18	13	17	17	16	20	30	26	17	18	13	13
21	23	13	17	17	26	20	31	25	18	17	13	13
22	23	14	17	19	25	20	33	23	18	16	13	13
23	19	17	16	20	21	20	35	22	17	15	13	13
24	18	16	13	18	19	23	34	23	17	15	13	13
25	20	15	12	18	18	25	33	23	17	14	14	12
26	19	15	12	17	18	22	33	22	17	14	13	13
27	17	15	13	17	18	22	38	21	18	16	13	14
28	16	14	14	17	18	21	33	19	18	16	13	13
29	15	13	15	18	---	24	30	18	17	16	13	12
30	15	13	19	17	---	23	29	18	18	15	13	11
31	15	---	20	17	---	22	---	17	---	15	12	---
TOTAL	452	441	496	575	505	635	896	761	542	500	445	385
MEAN	14.6	14.7	16.0	18.5	18.0	20.5	29.9	24.5	18.1	16.1	14.4	12.8
MAX	23	17	27	27	26	28	38	29	21	19	20	15
MIN	10	13	11	16	13	18	26	17	17	14	12	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1993, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993
MEAN	12.5	13.8	12.6	13.7	13.4
MAX	14.6	14.9	16.0	18.5	18.0
(WY)	1993	1990	1993	1993	1993
MIN	11.2	12.3	11.1	11.1	11.4
(WY)	1989	1991	1992	1991	1989

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1989 - 1993
ANNUAL TOTAL	4885.0	6633	
ANNUAL MEAN	13.3	18.2	14.4
HIGHEST ANNUAL MEAN			18.2
LOWEST ANNUAL MEAN			12.7
HIGHEST DAILY MEAN	28 Aug 10	38 Apr 27	38 Jan 28 1989
LOWEST DAILY MEAN	8.0 Jan 16	10 Oct 14	7.0 Oct 28 1988
ANNUAL SEVEN-DAY MINIMUM	8.9 Jan 14	11 Oct 12	7.4 Feb 6 1989
INSTANTANEOUS PEAK FLOW		40 Apr 27	41 Aug 9 1992
INSTANTANEOUS PEAK STAGE		4.32 Mar 14	4.55 Aug 19 1991
INSTANTANEOUS LOW FLOW		10 Oct 14	6.7 Oct 29 1988
10 PERCENT EXCEEDS	17	27	19
50 PERCENT EXCEEDS	13	17	13
90 PERCENT EXCEEDS	11	13	11

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 fair. Flow regulated to some extent by Lake Mirimichi and other lakes and reservoirs upstream. Diversion upstream for municipal supply of Attleboro and small diversions to and from basin for other municipal supplies. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	11	77	178	77	e82	330	129	33	3.6	3.8	.60
2	18	11	70	153	e69	e77	480	120	41	3.1	3.1	.62
3	17	16	93	130	69	78	422	111	35	3.4	2.8	.66
4	15	27	122	129	67	78	334	103	29	3.6	2.4	.60
5	14	30	111	141	65	80	282	98	26	3.6	2.0	.60
6	13	30	100	176	64	79	253	90	27	3.3	1.8	.65
7	12	29	91	168	e63	89	224	86	29	3.2	1.7	.61
8	11	25	82	150	e59	91	202	81	25	5.8	1.5	.60
9	11	22	e69	136	e57	101	184	77	19	4.8	1.4	.68
10	16	21	65	123	e56	113	178	72	20	4.2	1.4	1.1
11	32	21	81	109	e56	120	201	69	19	3.4	1.2	2.9
12	31	20	414	102	e60	117	207	66	17	2.8	1.2	2.9
13	23	31	724	100	137	111	247	64	15	2.7	1.1	2.8
14	20	44	629	103	186	125	241	60	14	2.2	1.1	2.4
15	18	41	436	111	150	e165	214	55	12	2.1	2.1	2.0
16	16	35	359	102	141	e150	196	51	12	2.0	3.4	1.6
17	15	31	342	94	332	164	209	53	14	1.8	3.9	1.7
18	14	30	386	88	298	232	237	54	10	1.6	4.3	2.0
19	14	29	363	e79	e235	e250	207	56	8.6	3.1	3.8	2.5
20	14	27	315	e75	e210	e230	183	65	7.1	6.5	3.1	2.5
21	15	25	284	72	e190	e200	167	67	6.5	7.5	2.4	2.7
22	17	31	255	82	e165	e175	157	64	6.3	5.8	1.7	3.1
23	17	121	226	123	e150	169	155	57	6.4	4.3	1.3	2.9
24	15	199	206	134	e135	214	144	51	5.3	3.7	1.2	2.5
25	17	156	167	138	e120	301	130	48	4.6	3.3	.99	2.4
26	18	128	169	128	e110	290	121	47	3.9	3.1	.95	3.6
27	17	121	145	112	e98	309	165	42	3.8	4.5	.89	5.4
28	15	115	132	103	e87	312	177	34	3.8	5.8	.81	9.4
29	13	100	128	98	---	323	153	28	4.1	7.3	.71	9.6
30	12	87	148	84	---	356	139	26	4.1	6.1	.65	6.1
31	11	---	176	80	---	338	---	23	---	4.8	.60	---
TOTAL	512	1614	6965	3601	3506	5519	6539	2047	461.5	123.0	59.30	77.72
MEAN	16.5	53.8	225	116	125	178	218	66.0	15.4	3.97	1.91	2.59
MAX	32	199	724	178	332	356	480	129	41	7.5	4.3	9.6
MIN	11	11	65	72	56	77	121	23	3.8	1.6	.60	.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1993, BY WATER YEAR (WY)

	MEAN	30.5	61.6	91.7	99.0	106	154	136	82.9	51.7	24.1	22.4	21.2
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	1.91	1.76	
(WY)	1958	1958	1966	1981	1980	1985	1985	1965	1957	1957	1993	1930	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1925 - 1993

ANNUAL TOTAL	24744.5	31024.52	
ANNUAL MEAN	67.6	85.0	73.3
HIGHEST ANNUAL MEAN			123
LOWEST ANNUAL MEAN			28.8
HIGHEST DAILY MEAN	724	724	1280
LOWEST DAILY MEAN	3.9	.60	.30
ANNUAL SEVEN-DAY MINIMUM	4.6	.62	.62
INSTANTANEOUS PEAK FLOW		748	1460
INSTANTANEOUS PEAK STAGE		9.86	11.47
INSTANTANEOUS LOW FLOW		.60	.30
10 PERCENT EXCEEDS	127	214	168
50 PERCENT EXCEEDS	53	51	51
90 PERCENT EXCEEDS	9.2	2.0	6.9

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 fair. 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 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	e26	169	356	140	158	688	275	69	15	15	6.4
2	38	e26	148	347	122	148	859	252	84	13	13	5.7
3	36	e30	170	297	126	145	951	231	76	17	12	5.6
4	33	e40	198	270	127	145	805	212	68	16	11	5.9
5	30	e50	222	282	118	157	658	197	61	15	9.8	6.4
6	28	e54	215	307	115	165	560	187	58	13	9.4	5.9
7	27	e56	195	331	90	169	493	171	59	16	8.9	5.7
8	26	e54	174	325	119	178	431	157	58	26	7.7	7.6
9	26	e52	148	294	105	196	388	147	55	21	7.4	8.2
10	37	46	130	264	103	210	372	137	51	17	7.7	12
11	40	45	158	238	100	228	403	128	48	14	7.3	9.6
12	50	44	517	217	106	232	457	122	45	13	6.9	9.8
13	49	58	1210	206	254	236	547	114	40	13	11	9.6
14	43	72	1410	207	306	286	555	110	37	12	15	9.2
15	40	74	1170	207	338	301	504	101	34	11	9.8	8.8
16	37	71	896	207	330	356	448	94	31	10	8.7	12
17	35	65	758	198	556	383	457	99	29	9.6	9.2	11
18	33	62	759	179	701	480	499	100	28	8.8	11	13
19	32	59	754	146	586	482	486	102	28	7.9	11	10
20	32	56	702	144	437	462	422	113	29	15	11	9.3
21	33	53	620	148	369	414	385	120	16	17	10	9.6
22	35	60	555	155	336	367	359	117	19	17	9.7	9.9
23	e35	175	491	203	297	352	343	106	21	16	9.5	10
24	e34	250	437	241	274	430	321	94	20	13	8.7	11
25	e35	325	372	270	237	591	298	86	18	12	8.8	10
26	e37	303	341	269	200	646	269	81	17	10	8.5	22
27	e37	279	297	251	186	638	321	75	17	16	7.4	19
28	e34	243	275	222	173	645	355	67	17	17	7.4	24
29	e30	220	263	203	---	649	354	61	16	18	7.2	22
30	e28	192	283	179	---	681	309	56	16	16	6.9	18
31	e27	---	328	153	---	700	---	50	---	16	6.7	---
TOTAL	1081	3140	14365	7316	6951	11230	14297	3962	1165	451.3	293.6	327.2
MEAN	34.9	105	463	236	248	362	477	128	38.8	14.6	9.47	10.9
MAX	50	325	1410	356	701	700	951	275	84	26	15	24
MIN	26	26	130	144	90	145	269	50	16	7.9	6.7	5.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	MEAN	79.7	148	224	226	244	318	302	191	134	52.2	58.6	49.5
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	9.47	10.9
(WY)		1972	1972	1981	1981	1980	1985	1985	1981	1991	1991	1993	1993

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1966 - 1993

ANNUAL TOTAL	52345	64579.1	169	1984
ANNUAL MEAN	143	177	255	1981
HIGHEST ANNUAL MEAN			64.4	1981
LOWEST ANNUAL MEAN			2310	Mar 19 1968
HIGHEST DAILY MEAN	1410	Dec 14	5.6	Aug 27 1974
LOWEST DAILY MEAN	13	Aug 7	5.9	Sep 1 1993
ANNUAL SEVEN-DAY MINIMUM	16	Aug 2	5.9	Mar 19 1968
INSTANTANEOUS PEAK FLOW			2490	Mar 19 1968
INSTANTANEOUS PEAK STAGE			6.53	Dec 14
INSTANTANEOUS LOW FLOW			5.2	Sep 2
10 PERCENT EXCEEDS	273	469	382	
50 PERCENT EXCEEDS	114	90	114	
90 PERCENT EXCEEDS	26	9.7	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 February 1992, July 1992 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 except those below 1.0 ft³/s, which are fair. Occasional regulation by ponds upstream. Diversion upstream for Dighton Water District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	2.6	19	63	12	14	68	24	13	.20	.09	.00
2	3.1	2.5	15	42	11	15	189	20	17	.15	.08	.00
3	2.7	7.3	34	30	10	17	130	17	11	.15	.08	.00
4	2.0	14	53	25	11	19	72	16	7.3	.26	.06	.00
5	1.7	13	43	37	11	23	49	14	6.0	.27	.05	.00
6	1.7	16	33	57	11	28	37	14	6.4	.22	.04	.00
7	1.7	15	26	46	9.9	28	30	13	6.2	.18	.03	.00
8	1.6	11	21	33	10	33	25	8.6	5.2	.15	.02	.00
9	1.8	8.6	15	27	10	42	22	10	4.3	.10	.01	.00
10	3.2	7.4	11	22	9.8	43	24	9.7	4.2	.06	.00	.00
11	5.7	6.6	34	20	11	39	44	8.4	3.5	.04	.00	.00
12	4.6	6.3	328	18	12	34	53	7.3	3.0	.03	.00	.00
13	3.7	13	443	20	96	28	114	6.5	2.4	.03	.00	.00
14	3.1	18	276	25	104	59	85	5.8	2.1	.02	.00	.00
15	2.9	14	134	24	61	93	50	5.0	1.8	.02	.00	.00
16	2.6	9.8	82	22	50	74	36	4.5	1.8	.01	.00	.00
17	2.4	8.4	67	19	234	80	50	6.0	1.7	.00	.00	.00
18	2.1	8.1	111	17	157	168	74	6.5	1.5	.00	.00	.00
19	2.1	8.2	88	14	78	129	49	8.4	1.1	.00	.00	.00
20	2.1	6.6	64	12	52	73	34	13	.81	.02	.00	.00
21	2.6	6.0	52	11	38	49	27	14	.89	.03	.00	.00
22	3.7	10	41	20	30	46	23	16	.84	.03	.00	.00
23	3.7	73	34	44	29	52	23	41	.78	.03	.00	.00
24	3.5	99	28	47	27	109	23	25	.68	.02	.00	.00
25	5.9	56	25	43	24	189	19	15	.52	.01	.00	.00
26	7.1	36	22	36	19	122	17	11	.48	.00	.00	.00
27	5.8	57	18	27	15	91	68	8.1	.42	.05	.00	.27
28	4.6	44	15	21	14	73	72	6.8	.29	.13	.00	.63
29	4.2	32	17	18	---	74	43	5.8	.30	.20	.00	.58
30	3.7	24	37	16	---	75	30	5.0	.23	.20	.00	.34
31	3.4	---	65	12	---	58	---	4.2	---	.14	.00	---
TOTAL	103.0	633.4	2251	868	1156.7	1977	1580	369.6	105.74	2.75	0.46	1.82
MEAN	3.32	21.1	72.6	28.0	41.3	63.8	52.7	11.9	3.52	.089	.015	.061
MAX	7.1	99	443	63	234	189	189	41	17	.27	.09	.63
MIN	1.6	2.5	11	11	9.8	14	17	4.2	.23	.00	.00	.00
CFSM	.31	1.99	6.85	2.64	3.90	6.02	4.97	1.12	.33	.01	.00	.01
IN.	.36	2.22	7.90	3.05	4.06	6.94	5.54	1.30	.37	.01	.00	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)
1966	9.25	42.7	.38	1978	22.9	58.4	4.69	1981	32.8	74.7	3.70	1981
1967	33.1	110	3.34	1979	35.4	63.2	7.23	1980	44.6	83.7	20.2	1981
1968	37.8	106	9.55	1987	24.0	61.7	7.87	1981	24.0	64.3	1.51	1981
1969	37.8	106	9.55	1987	24.0	61.7	7.87	1981	14.8	24.9	.089	1993
1970	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.17	35.3	.015	1993
1971	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.48	21.5	.018	1980
1972	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1973	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1974	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1975	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1976	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1977	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1978	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1979	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1980	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1981	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1982	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1983	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1984	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1985	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1986	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1987	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1988	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1989	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1990	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1991	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1992	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980
1993	37.8	106	9.55	1987	24.0	61.7	7.87	1981	5.56	21.5	.018	1980

SUMMARY STATISTICS

FOR 1993 WATER YEAR

WATER YEARS 1966 - 1993

ANNUAL TOTAL	9049.47		
ANNUAL MEAN	24.8		
HIGHEST ANNUAL MEAN		22.5	
LOWEST ANNUAL MEAN		33.0	1984
HIGHEST DAILY MEAN	443	7.68	1981
LOWEST DAILY MEAN	.00	670	Mar 18 1968
ANNUAL SEVEN-DAY MINIMUM	.00	.00	Aug 13 1966
INSTANTANEOUS PEAK FLOW	471	.00	Aug 13 1966
INSTANTANEOUS PEAK STAGE	5.78	7.51	Mar 18 1968
INSTANTANEOUS LOW FLOW	.00	.00	Aug 13 1966
ANNUAL RUNOFF (CFSM)	2.34	2.12	
ANNUAL RUNOFF (INCHES)	31.76	28.85	
10 PERCENT EXCEEDS	67	50	
50 PERCENT EXCEEDS	10	13	
90 PERCENT EXCEEDS	.00	.59	

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 except those for estimated daily discharge, which are poor. Flow affected by regulation and diversions from reservoirs upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	29	115	256	96	95	435	138	83	24	19	e12
2	33	26	134	242	89	94	578	124	73	20	17	e11
3	32	56	170	210	86	95	553	105	61	26	17	e11
4	31	89	189	175	84	100	434	101	55	28	17	e12
5	28	77	157	160	81	124	365	101	49	23	17	e13
6	25	82	127	217	83	118	318	102	55	21	16	e12
7	25	70	109	263	77	111	280	99	52	22	16	e12
8	26	61	99	238	76	117	251	88	49	25	16	e14
9	26	55	88	202	75	137	227	87	50	32	16	e16
10	51	52	80	180	72	156	222	82	50	26	16	e24
11	73	49	122	157	72	177	271	82	44	22	16	e22
12	58	47	587	141	80	165	289	75	38	21	15	e21
13	48	83	926	135	261	173	325	72	34	22	15	e20
14	41	81	793	143	312	219	334	69	35	20	18	e19
15	37	62	601	159	224	210	266	63	35	20	21	e19
16	37	53	484	e145	204	193	237	62	36	17	17	e21
17	34	50	428	e135	510	224	278	75	33	16	18	19
18	29	50	501	e120	511	381	322	70	31	15	23	24
19	30	47	581	e105	328	355	260	78	29	15	22	25
20	30	45	489	97	246	281	221	81	27	24	e19	19
21	32	43	403	92	201	238	196	79	28	21	e18	19
22	35	60	345	123	190	220	184	72	31	18	e17	20
23	31	244	300	200	175	226	174	66	28	17	e16	23
24	31	299	263	207	159	341	154	60	23	16	e16	25
25	40	189	238	199	138	503	137	60	24	17	e16	21
26	35	148	209	174	119	459	139	58	23	14	e15	38
27	33	143	188	151	108	433	235	55	25	32	e14	51
28	32	120	167	129	99	432	232	50	25	36	e14	59
29	32	104	154	119	---	442	183	51	26	30	e13	39
30	32	93	170	107	---	458	156	46	25	25	e13	29
31	30	---	220	100	---	420	---	42	---	21	e12	---
TOTAL	1095	2607	9437	5081	4756	7697	8256	2393	1177	686	515	670
MEAN	35.3	86.9	304	164	170	248	275	77.2	39.2	22.1	16.6	22.3
MAX	73	299	926	263	511	503	578	138	83	36	23	59
MIN	25	26	80	92	72	94	137	42	23	14	12	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1993, BY WATER YEAR (WY)

	MEAN	70.9	114	153	129	142	156	198	114	58.3	38.3	58.9	52.4
MAX	171	223	304	201	261	248	407	188	103	65.4	119	94.4	
(WY)	1990	1990	1993	1987	1988	1993	1987	1989	1989	1989	1989	1987	
MIN	24.8	73.8	51.8	41.4	60.5	90.2	123	60.4	32.1	21.3	16.6	22.3	
(WY)	1989	1991	1989	1989	1989	1989	1989	1992	1991	1991	1993	1993	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1987 - 1993

ANNUAL TOTAL	36245	44370	
ANNUAL MEAN	99.0	122	107
HIGHEST ANNUAL MEAN			140
LOWEST ANNUAL MEAN			86.8
HIGHEST DAILY MEAN	926	Dec 13	1040
LOWEST DAILY MEAN	22	Aug 8	6.6
ANNUAL SEVEN-DAY MINIMUM	25	Aug 2	12
INSTANTANEOUS PEAK FLOW			1090
INSTANTANEOUS PEAK STAGE		7.66	Dec 13
INSTANTANEOUS LOW FLOW			5.0
10 PERCENT EXCEEDS	181	293	219
50 PERCENT EXCEEDS	69	72	83
90 PERCENT EXCEEDS	30	17	25

e Estimated

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e8.5	2.5	36	69	42	35	371	74	30	6.1	2.2	.59
2	e8.0	2.4	32	62	41	33	370	68	32	4.6	2.3	.53
3	e7.0	9.5	40	55	39	25	317	63	27	5.3	2.1	.42
4	e6.5	15	38	54	35	26	268	59	23	6.1	1.8	2.7
5	e6.0	16	30	81	33	32	226	57	20	5.0	1.7	5.2
6	e5.5	20	25	104	32	32	197	56	28	3.7	1.2	4.2
7	e5.0	18	28	96	31	30	175	53	28	5.9	.73	3.5
8	e5.0	16	26	86	31	29	158	50	24	19	.58	13
9	e5.5	14	23	77	29	31	126	47	21	18	.48	29
10	e10	13	21	68	26	32	107	28	22	14	.34	30
11	e20	12	30	61	26	36	136	3.6	19	13	.23	30
12	e21	12	77	57	28	34	140	5.2	15	9.5	.20	21
13	e19	21	73	58	40	37	149	9.2	13	7.9	.20	16
14	e18	23	64	60	41	51	138	13	13	5.8	.25	12
15	e17	20	55	55	37	42	123	15	11	4.8	.17	10
16	e16	19	51	52	38	36	110	18	11	3.6	.15	9.1
17	e14	17	61	49	69	44	118	20	9.6	2.7	1.7	9.0
18	e13	18	94	46	64	75	124	19	8.4	1.5	6.3	12
19	e12	16	89	41	56	68	109	26	8.3	1.1	5.1	12
20	e11	15	86	39	50	59	95	27	7.6	2.6	4.9	9.1
21	10	14	82	37	48	55	85	27	7.6	2.2	9.8	7.0
22	10	16	73	43	46	53	80	25	10	1.7	7.9	12
23	9.4	48	66	54	41	52	89	25	9.6	1.3	6.0	20
24	9.3	60	62	56	38	68	82	22	5.9	1.0	4.6	18
25	12	58	51	71	36	78	71	21	4.7	.78	3.8	14
26	12	59	51	66	36	83	71	21	3.9	.51	3.2	17
27	10	66	45	61	36	105	105	19	4.5	2.1	2.5	29
28	8.6	55	41	57	36	131	98	17	6.0	3.6	2.1	66
29	8.2	48	41	53	---	228	88	18	8.1	3.6	1.9	56
30	7.0	42	52	47	---	368	80	16	7.5	3.2	1.2	43
31	2.7	---	64	43	---	377	---	12	---	2.6	.88	---
TOTAL	327.2	765.4	1607	1858	1105	2385	4406	934.0	438.7	162.79	76.51	511.34
MEAN	10.6	25.5	51.8	59.9	39.5	76.9	147	30.1	14.6	5.25	2.47	17.0
MAX	21	66	94	104	69	377	371	74	32	19	9.8	66
MIN	2.7	2.4	21	37	26	25	71	3.6	3.9	.51	.15	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	MEAN	20.3	33.1	43.2	46.7	53.4	76.9	77.6	52.6	38.5	20.0	17.8	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	.84	
(WY)	1943	1942	1942	1981	1977	1989	1966	1965	1976	1965	1965	1980	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1940 - 1993

ANNUAL TOTAL	12226.2	14576.94	
ANNUAL MEAN	33.4	39.9	41.2
HIGHEST ANNUAL MEAN			68.4
LOWEST ANNUAL MEAN			16.5
HIGHEST DAILY MEAN	95	Mar 28	790
LOWEST DAILY MEAN	2.4	Nov 2	.00
ANNUAL SEVEN-DAY MINIMUM	5.8	Oct 3	.01
INSTANTANEOUS PEAK FLOW		400	820
INSTANTANEOUS PEAK STAGE		3.60	5.15
INSTANTANEOUS LOW FLOW		.11	.00
10 PERCENT EXCEEDS	62	84	87
50 PERCENT EXCEEDS	29	25	31
90 PERCENT EXCEEDS	11	2.6	5.8

e Estimated

BLACKSTONE RIVER BASIN

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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 1992 TO SEPTEMBER 1993

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 OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT											
06...	0900	138	325	6.1	10.5	11.5	--	--	768	9.0	82
NOV											
03...	1000	221	263	6.3	5.5	7.5	--	--	766	10.0	83
DEC											
08...	0930	493	242	7.1	0.0	2.0	--	1.4	763	14.0	101
JAN											
05...	0915	993	212	6.5	14.5	5.0	--	--	755	10.8	85
FEB											
09...	0845	384	281	6.8	-8.0	0.5	--	--	772	12.4	85
MAR											
09...	1035	435	565	6.5	6.0	4.0	25	2.4	752	12.0	93
APR											
06...	0915	2000	212	6.3	6.0	5.0	--	--	767	12.2	95
MAY											
04...	0900	655	251	6.6	11.5	15.0	--	--	772	8.0	78
JUN											
08...	1030	264	271	7.1	24.0	16.5	--	2.6	760	7.8	80
JUL											
13...	0830	120	373	6.7	23.0	23.0	--	--	759	6.0	70
AUG											
04...	0830	61	367	6.9	23.5	25.0	--	--	760	5.5	67
31...	0900	40	412	7.2	24.0	24.0	21	1.6	762	5.7	68

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											
06...	--	--	530	150	190	--	--	--	--	--	--
NOV											
03...	--	3.0	4900	K240	180	--	--	--	--	--	--
DEC											
08...	--	--	K9600	750	210	29	8.9	1.7	25	63	2
JAN											
05...	--	1.0	8800	K1400	250	--	--	--	--	--	--
FEB											
09...	--	--	13000	530	260	--	--	--	--	--	--
MAR											
09...	29	2.0	2500	90	32	44	14	2.1	83	79	5
APR											
06...	--	--	1100	68	K22	--	--	--	--	--	--
MAY											
04...	--	3.0	5400	2000	84	--	--	--	--	--	--
JUN											
08...	--	--	2600	68	K16	42	13	2.2	32	61	2
JUL											
13...	25	3.0	7500	1800	80	--	--	--	--	--	--
AUG											
04...	--	--	530	77	320	--	--	--	--	--	--
31...	32	3.0	3600	230	110	55	17	3.1	55	65	3

BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	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 SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
OCT 06...	--	30	0	25	0	--	--	--	--	--	--
NOV 03...	--	28	0	23	0	--	--	--	--	--	--
DEC 08...	2.5	25	0	21	0	13	40	0.10	6.0	133	114
JAN 05...	--	21	0	17	0	--	--	--	--	--	--
FEB 09...	--	30	0	25	0	--	--	--	--	--	--
MAR 09...	3.2	32	0	26	0	17	130	0.10	6.4	284	278
APR 06...	--	15	0	12	0	--	--	--	--	--	--
MAY 04...	--	20	0	16	0	--	--	--	--	--	--
JUN 08...	3.0	17	0	14	0	15	52	0.20	4.9	179	170
JUL 13...	--	32	0	26	0	--	--	--	--	--	--
AUG 04...	--	38	0	31	0	--	--	--	--	--	--
31...	7.7	42	0	34	0	34	75	0.40	5.4	236	231

DATE	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)	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)
OCT 06...	--	--	1.96	0.040	--	2.00	--	0.060	--	--	0.54
NOV 03...	--	--	1.31	0.090	--	1.40	--	0.440	--	--	0.46
DEC 08...	12	137	0.640	0.030	0.020	0.670	0.660	--	0.960	1.2	0.24
JAN 05...	--	--	0.590	--	0.040	--	0.630	--	0.560	0.72	0.34
FEB 09...	--	--	0.690	--	0.060	--	0.750	--	1.40	1.8	0.20
MAR 09...	<1	271	0.770	--	0.040	--	0.810	--	1.50	1.9	0.50
APR 06...	--	--	0.440	--	0.010	--	0.450	--	0.280	0.36	0.32
MAY 04...	--	--	0.680	--	0.030	--	0.710	--	1.50	1.9	1.0
JUN 08...	--	--	8.76	--	0.040	--	8.80	--	0.100	0.13	0.40
JUL 13...	6	230	1.38	--	0.020	--	1.40	--	0.050	0.06	0.45
AUG 04...	--	--	1.80	--	<0.010	--	1.80	--	0.050	0.06	1.5
31...	8	235	2.48	--	0.020	--	2.50	--	0.090	0.12	0.91

BLACKSTONE RIVER BASIN

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01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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 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)
OCT 06...	0.60	--	2.6	12	0.480	--	0.410	--	--	--	--
NOV 03...	0.90	--	2.3	10	0.360	--	0.290	--	--	--	--
DEC 08...	1.2	--	1.9	8.3	0.100	0.040	--	0.060	--	30	--
JAN 05...	0.90	--	1.5	--	0.090	--	--	0.030	--	--	--
FEB 09...	1.6	1.4	2.4	--	0.110	0.050	--	0.050	--	--	--
MAR 09...	2.0	--	2.8	--	0.120	0.050	--	0.040	--	30	--
APR 06...	0.60	--	1.0	--	0.060	--	--	0.020	--	--	--
MAY 04...	2.5	--	3.2	--	0.280	--	--	0.170	--	--	--
JUN 08...	0.50	--	9.3	--	0.150	0.090	--	0.090	160	<10	2
JUL 13...	0.50	--	1.9	--	0.210	--	--	0.150	--	--	--
AUG 04...	1.5	--	3.3	--	0.860	--	--	0.250	--	--	--
31...	1.0	--	3.5	--	0.470	0.360	--	0.360	--	10	--

DATE	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)	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)
OCT 06...	--	--	--	--	--	--	--	--	--	--	--
NOV 03...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	11	--	--	--	<3	--	--	190	--	<4	--
JAN 05...	--	--	--	--	--	--	--	--	--	--	--
FEB 09...	--	--	--	--	--	--	--	--	--	--	--
MAR 09...	16	--	--	--	<3	--	--	130	--	<4	--
APR 06...	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--	--
JUN 08...	12	70	<1	6	<3	12	840	190	6	<4	120
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
AUG 04...	--	--	--	--	--	--	--	--	--	--	--
31...	12	--	--	--	<3	--	--	23	--	<4	--

BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01062)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01060)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01065)	SELENIUM, TOTAL RECOVERABLE (UG/L AS SE) (01147)	SELENIUM, TOTAL RECOVERABLE (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01080)
OCT 06...	--	--	--	--	--	--	--	--	--	--	--
NOV 03...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	55	--	--	<10	--	4	--	<1	--	<1.0	56
JAN 05...	--	--	--	--	--	--	--	--	--	--	--
FEB 09...	--	--	--	--	--	--	--	--	--	--	--
MAR 09...	130	--	--	<10	--	5	--	<1	--	<1.0	82
APR 06...	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--	--
JUN 08...	81	<0.10	1	<10	6	5	<1	<1	<1	<1.0	74
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
AUG 04...	--	--	--	--	--	--	--	--	--	--	--
31...	19	--	--	20	--	16	--	<1	--	<1.0	89

DATE	VANADIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	PHENOLS TOTAL (UG/L) (32730)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG) (39251)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG) (39333)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG) (39343)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG) (39351)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG) (39363)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG) (39368)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG) (39373)	DI-ELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG) (39383)
OCT 06...	--	--	--	--	--	--	--	--	--	--	--
NOV 03...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	<6	--	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--	--	--
FEB 09...	--	--	--	--	--	--	--	--	--	--	--
MAR 09...	<6	--	2	--	--	--	--	--	--	--	--
APR 06...	--	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--	--
JUN 08...	<6	20	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
AUG 04...	--	--	--	--	--	--	--	--	--	--	--
31...	<6	--	<1	<1.0	<0.3	<0.1	3.0	3.5	1.7	0.6	3.6

BLACKSTONE RIVER BASIN

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01111230 BLACKSTONE RIVER AT MILLVILLE, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	ENDO-SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39389)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)	TOXA-PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	HEPTA-CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	METH-OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG) (39481)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39758)	PER-THANE IN BOT- TOM MA- TERIAL (UG/KG) (81886)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT											
06...	--	--	--	--	--	--	--	--	--	--	--
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
DEC											
08...	--	--	--	--	--	--	--	--	--	75	5
JAN											
05...	--	--	--	--	--	--	--	--	--	--	--
FEB											
09...	--	--	--	--	--	--	--	--	--	--	--
MAR											
09...	--	--	--	--	--	--	--	--	--	90	5
APR											
06...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
JUN											
08...	--	--	--	--	--	--	--	--	--	72	11
JUL											
13...	--	--	--	--	--	--	--	--	--	--	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
31...	<0.1	<0.1	<10	<0.3	<0.1	<3.0	45	<0.1	<1.00	73	15

BLACKSTONE RIVER BASIN

01111500 BRANCH RIVER AT FORESTDALE, RI

LOCATION.--Lat 41°59'47", long 71°33'47", Providence County, Hydrologic Unit 01090003, on left bank 20 ft 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 except those for period of backwater from tree, Mar. 2 to Sept. 30, which are good. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	69	189	514	193	154	1120	294	86	23	21	21
2	47	66	181	427	181	152	1360	265	103	23	20	23
3	38	94	235	346	176	154	939	213	77	31	17	20
4	38	128	270	310	175	157	726	189	65	33	16	19
5	46	118	229	488	170	179	569	186	58	31	17	19
6	42	124	205	868	170	165	497	187	60	28	15	18
7	37	123	184	631	154	159	449	170	63	28	14	16
8	35	108	174	483	158	162	352	156	60	42	16	19
9	47	104	154	399	154	180	317	151	55	43	25	23
10	74	93	126	333	150	185	327	146	52	43	19	28
11	99	92	220	297	150	187	503	139	47	37	15	29
12	98	90	1140	277	156	166	465	128	44	33	15	35
13	85	147	935	284	346	171	565	108	42	31	15	37
14	68	166	690	285	355	169	486	101	39	29	14	35
15	60	133	514	267	255	164	380	94	37	26	14	34
16	57	116	425	251	232	153	328	87	34	23	15	36
17	49	106	537	243	672	189	411	89	34	21	26	38
18	53	102	1090	221	523	371	488	86	33	21	57	40
19	78	88	928	200	357	309	371	98	31	20	80	34
20	86	81	737	196	257	244	305	111	31	23	57	30
21	86	79	697	186	230	214	269	109	32	24	41	28
22	86	95	571	213	231	202	245	99	37	21	33	32
23	82	356	477	322	214	217	242	92	33	19	28	31
24	81	455	414	334	197	408	229	80	31	20	25	29
25	85	301	345	408	180	638	239	73	29	19	22	27
26	84	258	329	373	170	581	248	67	28	18	21	36
27	80	300	289	298	165	785	577	62	25	22	20	51
28	77	273	268	262	160	984	552	58	28	26	19	82
29	75	225	272	238	---	1280	405	54	26	25	18	68
30	73	195	346	212	---	1620	333	50	24	25	17	50
31	71	---	475	201	---	1200	---	49	---	22	18	---
TOTAL	2076	4685	13646	10367	6531	11899	14297	3791	1344	830	750	988
MEAN	67.0	156	440	334	233	384	477	122	44.8	26.8	24.2	32.9
MAX	99	455	1140	868	672	1620	1360	294	103	43	80	82
MIN	35	66	126	186	150	152	229	49	24	18	14	16
CFSM	.73	1.71	4.83	3.67	2.56	4.21	5.23	1.34	.49	.29	.27	.36
IN.	.85	1.91	5.57	4.23	2.66	4.85	5.83	1.55	.55	.34	.31	.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	MEAN	197.0	160	213	223	240	338	318	202	132	57.9	62.1	63.6
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1940 - 1993

ANNUAL TOTAL	63042	71204	175
ANNUAL MEAN	172	195	175
HIGHEST ANNUAL MEAN			261
LOWEST ANNUAL MEAN			76.5
HIGHEST DAILY MEAN	1140	Dec 12	4020
LOWEST DAILY MEAN	25	Aug 8	5.2
ANNUAL SEVEN-DAY MINIMUM	30	Sep 16	7.7
INSTANTANEOUS PEAK FLOW			5470
INSTANTANEOUS PEAK STAGE			11.90
INSTANTANEOUS LOW FLOW			12
ANNUAL RUNOFF (CFSM)	1.89	2.14	1.92
ANNUAL RUNOFF (INCHES)	25.71	29.04	26.06
10 PERCENT EXCEEDS	339	479	378
50 PERCENT EXCEEDS	144	108	122
90 PERCENT EXCEEDS	38	22	27

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WATER-QUALITY RECORDS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

01111500 BRANCH RIVER AT FORESTDALE, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible][illegible]

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible]

BLACKSTONE RIVER BASIN

01112500 BLACKSTONE RIVER AT WOONSOCKET, RI

LOCATION.--Lat 42°00'22", long 71°30'13", Providence County, Hydrologic Unit 01090003, on right bank 50 ft 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 except those below 100 ft³/s, which are fair. Flow regulated by powerplants, by West Hill Reservoir since May 1961, and by other reservoirs upstream. Extremes and figures of daily discharge include flow diverted from Nashua River basin and, at times since January 1966, from Quabbin Reservoir for supply of Worcester, MA, and, prior to July 1964, flow diverted around station in Hamlet Trench. Maximum discharge since at least 1645, that of Aug. 19, 1955. Telephone gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	252	260	774	1960	812	587	4760	1320	481	156	112	89
2	210	275	745	1750	759	583	5310	1230	536	152	93	85
3	225	377	950	1460	744	602	4310	1110	431	150	84	61
4	221	657	1160	1340	725	616	3520	978	355	167	65	88
5	223	586	982	1900	698	668	2980	936	328	168	47	98
6	221	612	898	3220	718	656	2720	945	352	161	89	114
7	189	595	767	2580	613	660	2590	902	400	157	88	110
8	177	435	725	2200	643	657	2350	798	346	162	91	133
9	204	404	639	1840	608	740	2190	807	319	176	99	295
10	339	353	544	1550	581	829	2070	747	319	196	93	240
11	438	367	897	1350	572	859	2340	685	316	200	97	285
12	427	382	2850	1250	602	792	2340	617	306	190	93	205
13	401	593	2450	1240	1230	737	2580	586	299	182	92	145
14	323	693	2100	1230	1330	779	2550	539	274	172	69	153
15	287	483	1760	1170	1050	767	2180	463	249	156	79	144
16	278	491	1640	1110	988	707	1980	528	244	143	92	145
17	274	422	1820	1060	2090	859	2050	491	234	135	107	152
18	273	394	3200	989	1890	1740	2290	502	223	128	141	161
19	285	374	3050	882	1390	1510	1980	554	214	123	181	163
20	284	328	2510	860	1120	1260	1840	600	203	119	165	139
21	280	324	2450	797	917	1100	1650	572	206	120	147	133
22	264	388	2130	917	919	999	1410	543	198	122	129	209
23	256	1230	1860	1360	862	1040	1380	509	194	121	124	193
24	249	1730	1650	1490	793	1590	1370	486	191	117	123	166
25	295	1320	1350	1700	714	2200	1260	408	182	117	105	147
26	286	1100	1370	1690	637	1950	1200	371	173	132	105	191
27	268	1300	1200	1410	631	2900	2050	355	168	223	95	377
28	244	1150	1090	1210	608	3650	2160	324	164	138	79	762
29	234	952	1080	1090	---	4710	1780	320	160	151	67	572
30	242	839	1370	958	---	7060	1580	325	158	139	83	378
31	254	---	1770	872	---	5660	---	323	---	127	107	---
TOTAL	8403	19414	47781	44435	25244	49467	70770	19874	8223	4700	3141	6133
MEAN	271	647	1541	1433	902	1596	2359	641	274	152	101	204
MAX	438	1730	3200	3220	2090	7060	5310	1320	536	223	181	762
MIN	177	260	544	797	572	583	1200	320	158	117	47	61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1993, BY WATER YEAR (WY)

	MEAN	422	666	858	943	992	1499	1436	885	616	335	319	333
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	101	113	
(WY)	1932	1932	1966	1981	1980	1989	1966	1930	1930	1957	1993	1957	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1929 - 1993		
ANNUAL TOTAL	262699			307585					
ANNUAL MEAN	718			843			774		
HIGHEST ANNUAL MEAN							1162		
LOWEST ANNUAL MEAN							345		
HIGHEST DAILY MEAN	3200			7060			25900		
LOWEST DAILY MEAN	136			47			21		
ANNUAL SEVEN-DAY MINIMUM	177			80			80		
INSTANTANEOUS PEAK FLOW				7480			32900		
INSTANTANEOUS PEAK STAGE				9.67			21.80		
INSTANTANEOUS LOW FLOW				37					
10 PERCENT EXCEEDS	1390			2050			1660		
50 PERCENT EXCEEDS	598			544			534		
90 PERCENT EXCEEDS	222			122			165		

BLACKSTONE RIVER BASIN

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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 1992 TO SEPTEMBER 1993

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											
06...	1445	1970	313	6.5	15.0	14.0	--	--	769	9.8	95
NOV											
03...	1345	374	264	6.6	9.0	8.0	--	--	767	10.9	91
DEC											
08...	1300	742	213	7.7	-1.0	2.0	--	2.2	765	15.6	112
JAN											
05...	1430	2050	170	7.2	15.0	5.0	--	--	757	11.8	93
FEB											
09...	1200	620	244	7.0	-3.0	>1.0	--	--	775	13.3	92
MAR											
10...	0935	--	389	6.5	4.0	4.0	25	2.3	765	14.0	106
APR											
06...	1220	2740	187	6.8	10.0	6.0	--	--	771	12.8	102
MAY											
04...	1500	1010	235	6.7	22.5	16.0	--	--	774	11.1	111
JUN											
08...	1345	371	318	7.2	26.5	18.0	--	2.0	764	9.1	96
JUL											
13...	1315	214	338	6.6	31.0	26.5	--	--	763	8.2	102
AUG											
04...	1130	92	415	7.0	30.5	26.5	--	--	762	7.8	97
31...	1420	153	410	7.5	30.0	26.0	28	2.4	764	7.9	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 KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CAC03) (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 (00931)
OCT										
06...	--	--	310	51	92	--	--	--	--	--
NOV										
03...	--	3.0	2100	43	40	--	--	--	--	--
DEC										
08...	<10	--	970	53	K10	--	--	--	--	--
JAN										
05...	--	1.0	K8000	K1100	K1300	--	--	--	--	--
FEB										
09...	--	--	<6	<1	K6	--	--	--	--	--
MAR										
10...	15	1.0	560	130	20	32	10	1.8	53	76 4
APR										
06...	--	--	1100	45	26	--	--	--	--	--
MAY										
04...	--	2.0	11000	K220	K12	--	--	--	--	--
JUN										
08...	35	--	870	54	K13	--	--	--	--	--
JUL										
13...	--	3.0	10750	1000	K21	--	--	--	--	--
AUG										
04...	--	--	850	100	96	--	--	--	--	--
31...	37	4.0	1000	160	20	46	14	2.8	57	70 4

BLACKSTONE RIVER BASIN

01112900 BLACKSTONE RIVER AT MANVILLE, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	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)	SOLIDS, SUM OF CONSTI- TUENTS, 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)
OCT											
06...	--	31	0	25	0	--	--	--	--	--	--
NOV											
03...	--	27	0	22	0	--	--	--	--	--	--
DEC											
08...	--	19	0	16	0	--	--	--	--	6	126
JAN											
05...	--	17	0	14	0	--	--	--	--	--	--
FEB											
09...	--	26	0	21	0	--	--	--	--	--	--
MAR											
10...	2.6	24	0	20	0	15	91	<0.10	190	<1	208
APR											
06...	--	12	0	10	0	--	--	--	--	--	--
MAY											
04...	--	19	0	15	0	--	--	--	--	--	--
JUN											
08...	--	27	0	23	0	--	--	--	--	4	185
JUL											
13...	--	27	0	22	0	--	--	--	--	--	--
AUG											
04...	--	31	0	26	0	--	--	--	--	--	--
31...	6.1	31	0	25	0	32	78	0.40	221	5	246

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	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,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
OCT											
06...	1.55	0.050	--	1.60	--	0.720	--	--	0.78	1.5	--
NOV											
03...	1.26	0.040	--	1.30	--	0.700	--	--	0.70	1.4	--
DEC											
08...	0.540	0.040	--	0.580	--	0.720	--	--	0.48	1.2	--
JAN											
05...	0.500	--	0.030	--	0.530	--	0.490	0.63	0.61	1.1	--
FEB											
09...	0.620	--	0.050	--	0.670	--	1.10	1.4	0.30	1.4	1.2
MAR											
10...	0.650	--	0.020	--	0.670	--	1.10	1.4	0.40	1.5	--
APR											
06...	0.380	--	0.010	--	0.390	--	0.280	0.36	0.32	0.60	--
MAY											
04...	0.150	--	<0.010	--	0.150	--	0.060	0.08	--	<0.20	--
JUN											
08...	1.41	--	0.090	--	1.50	--	0.340	0.44	0.56	0.90	--
JUL											
13...	2.27	--	0.030	--	2.30	--	0.260	0.33	0.54	0.80	--
AUG											
04...	2.96	--	0.040	--	3.00	--	0.340	0.44	--	<0.20	--
31...	2.98	--	0.020	--	3.00	--	0.360	0.46	1.3	1.7	--

BLACKSTONE RIVER BASIN

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01112900 BLACKSTONE RIVER AT MANVILLE, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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 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)	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)
OCT 06...	3.1	14	0.400	--	0.300	--	--	--	--	--	--
NOV 03...	2.7	12	0.400	--	0.320	--	50	<1	50	<1	<1
DEC 08...	1.8	7.9	0.130	--	0.070	--	--	--	--	--	--
JAN 05...	1.6	--	0.140	--	--	0.030	170	<1	20	<1	2
FEB 09...	2.1	--	0.100	0.050	--	0.050	--	--	--	--	--
MAR 10...	2.2	--	0.140	--	--	0.090	100	<1	40	<1	<1
APR 06...	0.99	--	0.030	--	--	0.020	--	--	--	--	--
MAY 04...	--	--	<0.010	--	--	<0.010	130	1	30	<1	8
JUN 08...	2.4	--	0.290	--	--	0.220	--	--	--	--	--
JUL 13...	3.1	--	0.370	--	--	0.310	60	3	120	<1	2
AUG 04...	--	--	0.700	--	--	0.540	--	--	--	--	--
31...	4.7	--	0.770	--	--	0.610	80	3	140	<1	<1

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	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)
OCT 06...	--	--	--	--	--	--	--	--	--	--
NOV 03...	7	620	2	110	0.10	2	9	<1	<1	30
DEC 08...	--	--	--	--	--	--	--	--	--	--
JAN 05...	3	410	3	70	<0.10	<1	3	<1	<1	10
FEB 09...	--	--	--	--	--	--	--	--	--	--
MAR 10...	8	440	3	110	<0.10	<1	4	<1	<1	30
APR 06...	--	--	--	--	--	--	--	--	--	--
MAY 04...	8	660	3	100	<0.10	<1	6	<1	<1	10
JUN 08...	--	--	--	--	--	--	--	--	--	--
JUL 13...	8	380	3	200	<0.10	4	7	<1	<1	20
AUG 04...	--	--	--	--	--	--	--	--	--	--
31...	16	320	6	230	<0.10	3	9	<1	<1	20

BLACKSTONE RIVER BASIN

01112900 BLACKSTONE RIVER AT MANVILLE, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	PHENOLS TOTAL (UG/L) (32730)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39251)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39333)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39368)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39389)
OCT 06...	--	--	--	--	--	--	--	--	--	--
NOV 03...	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--	--
FEB 09...	--	--	--	--	--	--	--	--	--	--
MAR 10...	<1	--	--	--	--	--	--	--	--	--
APR 06...	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	--	--
JUN 08...	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--
AUG 04...	--	--	--	--	--	--	--	--	--	--
31...	<1	<1.0	<0.3	<0.1	5.0	4.4	2.3	0.3	8.5	<0.1

DATE	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG) (39481)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39758)	PER- THANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (81886)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT 06...	--	--	--	--	--	--	--	--	--	--
NOV 03...	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--	--
FEB 09...	--	--	--	--	--	--	--	--	95	41
MAR 10...	--	--	--	--	--	--	--	--	62	3
APR 06...	--	--	--	--	--	--	--	--	--	--
MAY 04...	--	--	--	--	--	--	--	--	88	4
JUN 08...	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	71	10
AUG 04...	--	--	--	--	--	--	--	--	59	--
31...	<0.4	10	<0.1	<0.2	<5.0	36	<0.1	<1.00	59	10

MOSHASSUCK RIVER BASIN

83

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 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	7.3	27	72	33	33	223	47	76	9.9	6.4	5.2
2	9.4	9.9	25	55	30	34	242	45	27	7.0	6.1	5.2
3	11	42	68	46	30	36	139	42	20	15	5.8	7.6
4	7.7	24	44	46	30	36	104	42	18	8.7	6.1	5.8
5	10	20	40	118	30	46	87	40	12	7.8	10	5.0
6	7.2	25	32	86	30	42	76	39	22	10	5.8	4.6
7	6.8	16	28	61	29	41	69	36	19	9.8	5.8	4.6
8	8.1	12	26	52	29	45	63	34	18	10	14	10
9	6.7	13	23	47	28	52	57	33	16	8.5	7.9	6.9
10	110	9.2	22	43	28	53	79	31	18	7.9	7.2	21
11	32	10	236	40	25	56	90	30	14	7.9	8.1	7.8
12	27	14	455	39	59	45	135	29	15	13	6.2	6.0
13	16	74	224	49	264	47	131	29	13	8.2	20	5.5
14	15	29	132	50	94	86	87	29	11	6.2	13	4.8
15	9.7	19	98	42	54	63	70	28	9.5	6.1	8.5	4.6
16	14	18	90	40	192	51	63	27	12	5.8	7.5	8.7
17	14	17	172	38	312	142	147	34	9.1	5.8	17	5.9
18	8.3	14	226	34	114	150	93	28	8.3	5.6	11	30
19	13	15	138	31	76	79	65	35	8.3	6.2	8.1	7.1
20	13	13	113	31	59	63	54	34	8.0	19	7.2	5.5
21	12	16	99	31	52	58	52	31	12	6.8	6.5	5.6
22	13	56	80	108	62	62	55	28	13	6.0	6.4	6.4
23	8.5	267	72	82	55	67	59	26	8.3	6.4	8.0	6.3
24	9.6	97	65	62	48	246	49	23	8.2	6.3	6.3	6.0
25	15	51	56	64	40	185	45	20	9.2	5.7	6.4	5.5
26	14	54	55	50	38	148	70	21	7.8	5.5	6.1	50
27	11	55	48	44	36	167	142	20	8.0	52	6.0	41
28	7.6	39	44	40	35	170	78	19	11	26	6.2	16
29	8.6	32	58	38	---	230	57	17	7.5	15	6.1	7.2
30	12	29	85	34	---	179	51	21	7.0	7.7	5.2	6.2
31	7.5	---	101	33	---	129	---	14	---	7.0	5.2	---
TOTAL	466.7	1097.4	2982	1606	1912	2841	2732	932	446.2	322.8	250.1	312.0
MEAN	15.1	36.6	96.2	51.8	68.3	91.6	91.1	30.1	14.9	10.4	8.07	10.4
MAX	110	267	455	118	312	246	242	47	76	52	20	50
MIN	6.7	7.3	22	31	25	33	45	14	7.0	5.5	5.2	4.6
CFSM	.65	1.58	4.16	2.24	2.96	3.97	3.94	1.30	.64	.45	.35	.45
IN.	.75	1.77	4.80	2.59	3.08	4.58	4.40	1.50	.72	.52	.40	.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1993, BY WATER YEAR (WY)

	MEAN	23.0	38.5	51.4	51.8	52.9	68.6	66.1	45.4	32.8	19.1	20.8	19.4
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	18.3	29.0	22.9	24.2	13.1	8.71	7.27	5.09	
(WY)	1966	1966	1966	1981	1980	1985	1966	1965	1991	1965	1970	1970	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1963 - 1993
ANNUAL TOTAL	13951.2	15900.2	
ANNUAL MEAN	38.1	43.6	40.8
HIGHEST ANNUAL MEAN			62.5
LOWEST ANNUAL MEAN			20.2
HIGHEST DAILY MEAN	455	Dec 12	1750
LOWEST DAILY MEAN	6.4	Aug 8	1.7
ANNUAL SEVEN-DAY MINIMUM	8.2	Oct 3	2.6
INSTANTANEOUS PEAK FLOW			2390
INSTANTANEOUS PEAK STAGE			4.81
INSTANTANEOUS LOW FLOW			4.6
ANNUAL RUNOFF (CFSM)	1.65	1.89	1.77
ANNUAL RUNOFF (INCHES)	22.47	25.61	23.98
10 PERCENT EXCEEDS	80	98	80
50 PERCENT EXCEEDS	27	28	28
90 PERCENT EXCEEDS	9.1	6.2	8.6

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 good except those for estimated daily discharges, which are poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	20	e68	187	e90	e80	409	113	43	17	e8.5	e7.4
2	49	20	e63	164	e86	e77	475	105	40	17	e7.8	e8.6
3	48	27	86	147	e81	76	373	97	36	20	e7.0	e8.3
4	47	24	85	142	e78	77	308	89	33	19	e6.1	e7.7
5	46	24	83	197	e76	87	263	84	32	17	e6.5	e7.4
6	64	26	77	207	e74	84	230	82	33	17	e6.1	e6.8
7	63	22	70	181	e73	83	207	76	31	16	e5.6	e6.4
8	54	21	63	164	e72	86	188	51	29	17	e7.4	e7.6
9	52	21	58	148	e71	97	174	42	29	17	e9.5	e8.8
10	84	17	54	134	e70	100	188	35	28	16	e6.8	e10
11	58	18	152	126	e68	105	223	43	26	15	e5.9	e12
12	56	e20	568	121	e67	98	230	48	24	16	e5.5	e13
13	52	e33	359	127	e120	103	254	50	23	16	e5.6	e15
14	51	e24	301	132	e160	132	208	49	21	15	e5.6	e14
15	41	e22	264	122	e135	114	181	47	20	14	e5.0	e14
16	39	e22	237	118	e110	106	165	45	20	12	e7.4	e15
17	49	e22	294	113	e280	148	217	48	19	11	e12	e16
18	49	e22	441	106	e220	219	202	45	19	9.8	e21	e17
19	43	e21	363	99	e140	167	177	51	19	8.1	e35	e15
20	39	e22	326	89	e115	147	160	53	19	9.3	e25	e14
21	39	e23	291	79	e110	137	148	51	20	e8.8	e18	e14
22	37	e30	251	e99	e105	134	142	52	20	e8.8	e14	e14
23	33	e150	219	e120	e98	142	143	50	18	e8.6	e12	e14
24	30	e75	193	e130	e95	266	131	46	17	e8.2	e10	13
25	31	e72	173	e125	e93	298	125	43	18	e7.8	e9.0	13
26	26	e79	164	e115	e90	297	118	38	18	e7.4	e7.8	20
27	21	e100	148	e110	e87	326	185	35	21	e8.4	e7.2	25
28	21	e90	139	e105	e84	337	156	31	19	e9.8	e7.0	24
29	21	e82	141	e100	---	416	137	30	19	e11	e6.8	19
30	21	e75	174	e96	---	432	124	27	18	e10	e6.4	16
31	20	---	204	e92	---	385	---	31	---	e9.2	e6.4	---
TOTAL	1336	1224	6109	3995	2948	5356	6241	1687	732	397.2	303.9	396.0
MEAN	43.1	40.8	197	129	105	173	208	54.4	24.4	12.8	9.80	13.2
MAX	84	150	568	207	280	432	475	113	43	20	35	25
MIN	20	17	54	79	67	76	118	27	17	7.4	5.0	6.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	39.0	59.1	84.1	92.1	103	140	132	86.6	56.1	31.3	29.6	30.1
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	12.8	9.21	6.99	
(WY)	1958	1958	1966	1966	1944	1944	1966	1986	1965	1993	1963	1980	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1941 - 1993

ANNUAL TOTAL	26468	30725.1	73.3
ANNUAL MEAN	72.3	84.2	119
HIGHEST ANNUAL MEAN			31.5
LOWEST ANNUAL MEAN			1984
HIGHEST DAILY MEAN	568	Dec 12	1250
LOWEST DAILY MEAN	11	Aug 8	2.1
ANNUAL SEVEN-DAY MINIMUM	14	Aug 8	3.1
INSTANTANEOUS PEAK FLOW		687	1440
INSTANTANEOUS PEAK STAGE		5.17	7.75
10 PERCENT EXCEEDS	138	205	151
50 PERCENT EXCEEDS	55	50	51
90 PERCENT EXCEEDS	20	8.8	18

e Estimated

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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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	e98	e220	230	208	209	481	176	88	68	56	47
2	39	e110	e223	224	206	208	706	87	83	68	55	47
3	38	e120	e225	224	204	214	682	85	82	72	55	47
4	41	e130	e232	223	198	217	537	85	79	70	56	46
5	93	e120	236	233	194	223	443	85	77	69	56	45
6	101	e110	232	231	194	218	375	89	78	68	56	43
7	101	e102	229	228	184	216	334	103	78	62	56	42
8	99	e98	228	225	134	216	304	113	77	61	56	42
9	98	e100	224	224	129	216	283	118	76	60	55	41
10	106	e113	222	224	129	216	276	117	76	61	55	37
11	102	e130	253	224	129	216	282	116	75	62	55	34
12	103	e150	306	224	134	213	294	112	74	66	55	33
13	101	e155	306	224	175	216	324	106	74	64	56	33
14	101	e150	339	224	157	228	323	103	72	62	56	33
15	98	e140	333	224	149	221	298	102	71	55	55	33
16	98	e125	330	217	163	217	278	97	71	53	53	33
17	97	e106	344	267	217	232	288	98	71	53	55	33
18	96	e88	457	269	188	242	295	95	71	53	55	20
19	96	e78	504	263	176	235	282	97	71	53	55	38
20	99	e74	441	259	180	230	267	103	69	59	55	39
21	98	e79	389	253	224	228	262	106	70	54	54	39
22	96	e160	347	229	226	228	263	100	71	54	52	40
23	e94	e185	321	225	224	228	263	95	68	55	50	39
24	e90	e192	306	223	222	252	259	88	68	55	49	38
25	e87	e180	298	224	219	196	255	84	68	55	50	38
26	e84	e178	294	221	216	189	252	80	67	54	49	47
27	e82	e180	290	220	215	227	276	76	68	62	48	47
28	e80	e190	285	219	212	294	262	73	69	59	48	45
29	e80	e200	285	216	---	477	256	72	69	60	48	41
30	e83	e210	289	214	---	576	251	71	69	58	47	40
31	e88	---	285	211	---	510	---	71	---	56	48	---
TOTAL	2708	4051	9273	7116	5206	7808	9951	3003	2200	1861	1649	1180
MEAN	87.4	135	299	230	186	252	332	96.9	73.3	60.0	53.2	39.3
MAX	106	210	504	269	226	576	706	176	88	72	56	47
MIN	38	74	220	211	129	189	251	71	67	53	47	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

MEAN	74.0	102	159	168	177	225	215	150	111	64.9	64.3	65.6
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1941 - 1993
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ANNUAL TOTAL	50343		56006				
ANNUAL MEAN	138		153			131	
HIGHEST ANNUAL MEAN						202	1973
LOWEST ANNUAL MEAN						56.9	1966
HIGHEST DAILY MEAN	504	Dec 19	706	Apr 2		1680	Jun 7 1982
LOWEST DAILY MEAN	38	Oct 3	20	Sep 18		2.8	Aug 27 1944
ANNUAL SEVEN-DAY MINIMUM	41	Sep 28	31	Sep 12		9.3	Jun 23 1980
INSTANTANEOUS PEAK FLOW			761	Apr 2		1980	Jun 6 1982
INSTANTANEOUS PEAK STAGE			3.35	Apr 2		5.30	Jun 6 1982
INSTANTANEOUS LOW FLOW			11	Sep 18			
10 PERCENT EXCEEDS	252		285			262	
50 PERCENT EXCEEDS	108		103			100	
90 PERCENT EXCEEDS	51		48			28	

e Estimated

PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, RI

LOCATION.--Lat 41°45'03", long 71°26'44", Providence County, Hydrologic Unit 01090004, on left bank at Cranston, 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 fair. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	135	471	1160	610	619	2210	725	293	137	121	126
2	151	134	464	1040	574	683	2860	469	221	138	123	117
3	113	238	594	919	547	653	2610	407	200	161	123	124
4	100	222	526	858	526	630	1980	373	194	147	123	124
5	134	193	531	1110	504	726	1560	353	187	138	121	123
6	194	229	493	1290	489	680	1330	342	190	133	117	117
7	159	185	461	1210	463	643	1180	343	187	132	116	118
8	154	169	442	1100	400	641	1060	339	187	131	119	122
9	153	160	420	995	367	663	953	330	194	126	124	124
10	258	162	406	896	358	654	956	317	193	140	125	153
11	195	157	765	820	352	670	1080	304	180	118	121	129
12	184	156	1690	787	399	628	1140	297	172	142	125	124
13	170	440	1290	917	1140	653	1300	284	160	143	146	114
14	156	278	1030	937	773	980	1230	280	159	129	177	105
15	152	210	972	856	612	844	1120	271	157	135	133	106
16	151	191	998	805	743	753	1010	262	155	122	135	98
17	147	183	1190	799	1810	946	1140	274	155	100	136	103
18	139	180	1700	805	1290	1250	1180	254	154	117	157	128
19	151	176	1720	757	1150	1000	1100	276	152	114	141	81
20	169	173	1760	739	994	916	975	284	153	159	127	119
21	160	173	1610	713	942	874	869	277	157	124	134	99
22	154	257	1420	837	947	859	814	261	160	115	121	132
23	145	1000	1280	877	881	875	824	248	150	111	139	110
24	143	763	1170	807	810	1310	757	235	146	109	113	99
25	172	573	1040	875	748	1430	692	228	146	107	128	90
26	156	576	960	847	689	1310	681	219	142	108	120	219
27	144	652	889	820	645	1460	1120	208	152	172	136	196
28	138	564	824	775	617	1670	1080	199	152	142	114	188
29	140	517	842	725	---	2200	973	204	140	159	130	132
30	142	494	1040	671	---	2550	844	176	141	135	121	125
31	138	---	1190	634	---	2430	---	178	---	124	123	---
TOTAL	4824	9540	30188	27381	20380	32200	36628	9217	5129	4068	3989	3745
MEAN	156	318	974	883	728	1039	1221	297	171	131	129	125
MAX	258	1000	1760	1290	1810	2550	2860	725	293	172	177	219
MIN	100	134	406	634	352	619	681	176	140	100	113	81
(†)	4341	4684	5339	5228	5216	5401	5330	5156	4856	4417	4090	3719
(††)	91.9	81.6	84.9	80.3	83.5	81.3	83.2	108	133	144	130	104

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	193	283	405	457	486	588	595	391	275	171	180	181
MEAN	667	1024	1344	1238	1085	1291	1788	803	1237	360	438	698
MAX	1956	1956	1973	1979	1970	1983	1983	1948	1982	1972	1955	1954
(WY)	70.5	82.6	94.0	100	158	239	140	160	93.0	74.9	82.4	83.2
MIN	1958	1966	1966	1966	1966	1981	1966	1965	1957	1957	1966	1981
(WY)												

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1940 - 1993
ANNUAL TOTAL	143216	187289	
ANNUAL MEAN	391	513	349
HIGHEST ANNUAL MEAN			595
LOWEST ANNUAL MEAN			126
HIGHEST DAILY MEAN	1760	2860	5170
LOWEST DAILY MEAN	100	81	22
ANNUAL SEVEN-DAY MINIMUM	116	104	48
INSTANTANEOUS PEAK FLOW		2920	5440
INSTANTANEOUS PEAK STAGE		10.67	14.50
INSTANTANEOUS LOW FLOW		67	
10 PERCENT EXCEEDS	778	1140	740
50 PERCENT EXCEEDS	272	261	244
90 PERCENT EXCEEDS	143	122	102

† Monthend contents, in millions of cubic feet (mcf), of Scituate Reservoir and five smaller reservoirs. Monthend contents on September 30, 1992, 4523 mcf.

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

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WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD, --

WATER TEMPERATURES: November 1961 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)	COLOR (PLAT- INUM- COBALT UNITS) (000080)	TUR- BID- ITY (NTU) (000076)	BARO- METRIC PRES- SURE (MM OF HG) (000025)	OXYGEN, DIS- SOLVED (MG/L) (000300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (000301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (000340)
OCT												
07...	0930	156	412	6.1	15.0	0.5	--	--	760	2.7	19	--
26...	0955	157	280	--	9.5	11.0	--	--	--	--	--	--
NOV												
04...	0930	220	297	6.3	10.0	9.0	--	--	767	5.5	47	--
DEC												
09...	0915	417	214	7.3	-7.0	2.0	--	2.0	774	13.5	96	17
JAN												
06...	0915	1290	124	6.3	2.5	5.0	--	--	774	12.8	99	--
FEB												
10...	1145	359	263	6.9	7.0	3.0	--	--	772	12.4	91	--
MAR												
11...	0830	670	248	6.6	2.0	4.0	30	1.1	756	11.9	92	19
APR												
07...	0845	1190	139	6.1	5.5	6.0	--	--	773	12.1	96	--
MAY												
05...	0900	349	250	6.4	16.5	16.0	--	--	774	9.2	92	--
JUN												
09...	0845	189	370	7.0	23.0	18.5	--	1.5	764	6.0	64	38
23...	1430	150	376	--	24.5	23.5	--	--	--	--	--	--
JUL												
14...	0915	121	364	6.4	25.5	24.0	--	--	767	3.6	43	--
23...	1527	113	361	--	24.0	23.5	--	--	--	--	--	--
AUG												
05...	0845	118	297	6.4	21.5	24.0	--	--	765	1.4	17	--
SEP												
01...	0930	121	393	6.5	26.0	24.0	54	0.50	765	1.7	20	32
21...	1419	86	479	--	14.5	16.5	--	--	--	--	--	--

	OXYGEN- DEMAND, BIO-CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, TOTAL, IMMED. (COLS.) PER (31501)	COLI-FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS.) PER (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	BICARBONATE WATER FIELD (MG/L AS HCO3) (00453)
OCT 07...	--	450	100	130	--	--	--	--	--	--	--	35
NOV 04...	3.0	380	52	46	--	--	--	--	--	--	--	26
DEC 09...	--	630	K16	K8	--	--	--	--	--	--	--	18
JAN 06...	1.0	1000	40	46	--	--	--	--	--	--	--	9
FEB 10...	--	140	<1	K2	--	--	--	--	--	--	--	20
MAR 11...	2.0	430	25	22	23	7.4	1.1	33	74	3	2.2	15
APR 07...	--	540	20	33	--	--	--	--	--	--	--	8
MAY 05...	3.0	4900	220	31	--	--	--	--	--	--	--	19
JUN 09...	--	21000	280	400	--	--	--	--	--	--	--	33
JUL 14...	2.0	750	190	88	--	--	--	--	--	--	--	30
AUG 05...	--	2900	--	210	--	--	--	--	--	--	--	26
SEP 01...	2.0	1500	88	54	41	14	1.5	56	71	4	6.3	28

PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

	CAR-BONATE WATER DIS IT FIELD	ALKA-LINITY WAT DIS IT FIELD	HY-DROXIDE WATER DIS IT FIELD	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
OCT 07... 26...	0 --	29 --	0 --	-- --	-- --	-- --	-- --	-- --	-- --	1.11 --	0.090 --
NOV 04...	0	21	0	--	--	--	--	--	--	0.720	0.040
DEC 09...	0	15	0	--	--	--	--	9	131	0.480	0.040
JAN 06...	0	7	0	--	--	--	--	--	--	0.320	--
FEB 10...	0	17	0	--	--	--	--	--	--	0.540	--
MAR 11...	0	12	0	18	49	0.10	121	<1	122	0.460	--
APR 07...	0	6	0	--	--	--	--	--	--	0.260	--
MAY 05...	0	15	0	--	--	--	--	--	--	0.710	--
JUN 09... 23...	0 --	27 --	0 --	-- --	-- --	-- --	-- --	2 --	211 --	0.690 --	-- --
JUL 14... 23...	0 --	24 --	0 --	-- --	-- --	-- --	-- --	-- --	-- --	1.06 --	-- --
AUG 05...	0	21	0	--	--	--	--	--	--	1.29	--
SEP 01... 21...	0 --	23 --	0 --	40 --	68 --	0.30 --	208 --	5 --	223 --	1.45 --	-- --

DATE	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, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)
OCT 07...	--	1.20	--	0.510	--	--	0.69	1.2	--	2.4	11
26...	--	--	--	--	--	--	--	--	--	--	--
NOV 04...	--	0.760	--	0.490	--	--	0.61	1.1	--	1.9	8.2
DEC 09...	--	0.520	--	0.630	--	--	0.47	1.1	--	1.6	7.2
JAN 06...	0.030	--	0.350	--	0.260	0.33	0.24	0.50	--	0.85	--
FEB 10...	0.050	--	0.590	--	1.00	1.3	0.40	1.4	1.2	2.0	--
MAR 11...	0.010	--	0.470	--	0.310	0.40	0.89	1.2	--	1.7	--
APR 07...	0.010	--	0.270	--	0.230	0.30	0.27	0.50	--	0.77	--
MAY 05...	0.070	--	0.780	--	0.350	0.45	0.35	0.70	--	1.5	--
JUN 09... 23...	0.060 --	-- --	0.750 --	-- --	0.860 --	1.1 --	0.44 --	1.3 --	-- --	2.1 --	-- --
JUL 14... 23...	0.240 --	-- --	1.30 --	-- --	0.450 --	0.58 --	0.45 --	0.90 --	-- --	2.2 --	-- --
AUG 05...	0.110	--	1.40	--	0.270	0.35	--	<0.20	--	--	--
SEP 01... 21...	0.150 --	-- --	1.60 --	-- --	0.400 --	0.52 --	0.50 --	0.90 --	-- --	2.5 --	-- --

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible][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 1992 TO SEPTEMBER 1993

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 07...	1130	232	442	6.2	17.0	13.0	--	--	760	2.1	20
NOV 04...	1300	299	310	6.4	12.0	10.0	--	--	765	4.2	37
DEC 09...	1115	405	237	7.2	5.0	2.0	--	2.8	775	12.9	92
JAN 06...	1255	1120	145	7.0	6.5	5.5	--	--	772	11.8	92
FEB 10...	0900	331	292	6.6	4.0	2.0	--	--	773	11.0	78
MAR 11...	1215	595	344	6.9	4.0	5.0	20	2.0	759	11.2	88
APR 07...	1130	1080	167	6.7	14.0	7.0	--	--	773	10.7	87
MAY 05...	1245	404	283	6.5	21.0	16.0	--	--	771	9.3	93
JUN 09...	1245	241	371	7.1	20.0	18.5	--	3.1	765	5.1	54
JUL 14...	1300	149	376	6.7	33.0	24.0	--	--	768	2.9	34
AUG 05...	1115	115	349	6.8	26.5	25.0	--	--	767	1.6	19
SEP 01...	1300	80	403	6.9	25.5	24.5	55	0.60	765	2.0	24

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 NA) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)
OCT 07...	--	--	240	130	120	--	--	--	--	--	--
NOV 04...	--	4.0	380	54	36	--	--	--	--	--	--
DEC 09...	19	--	310	K2	K8	--	--	--	--	--	--
JAN 06...	--	2.0	K5500	K140	54	--	--	--	--	--	--
FEB 10...	--	--	140	K6	K3	--	--	--	--	--	--
MAR 11...	21	2.0	210	K14	K10	29	9.4	1.4	49	77	4
APR 07...	--	--	800	K6	K8	--	--	--	--	--	--
MAY 05...	--	4.0	2400	55	K13	--	--	--	--	--	--
JUN 09...	30	--	2000	140	55	--	--	--	--	--	--
JUL 14...	--	3.0	820	190	96	--	--	--	--	--	--
AUG 05...	--	--	270	58	64	--	--	--	--	--	--
SEP 01...	31	1.0	K540	96	65	42	14	1.8	54	70	4

PAWTUXET RIVER BASIN

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01116617 PAWTUXET RIVER AT PAWTUXET, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	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)	SOLIDS, SUM OF CONSTI- TUENTS, 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)
OCT 07...	--	41	0	34	0	--	--	--	--	--	--
NOV 04...	--	28	0	23	0	--	--	--	--	--	--
DEC 09...	--	22	0	18	0	--	--	--	--	1	147
JAN 06...	--	14	0	12	0	--	--	--	--	--	--
FEB 10...	--	26	0	22	0	--	--	--	--	--	--
MAR 11...	2.7	25	0	21	0	19	73	0.20	172	<1	177
APR 07...	--	13	0	10	0	--	--	--	--	--	--
MAY 05...	--	29	0	24	0	--	--	--	--	--	--
JUN 09...	--	38	0	32	0	--	--	--	--	2	222
JUL 14...	--	13	0	11	0	--	--	--	--	--	--
AUG 05...	--	40	0	33	0	--	--	--	--	--	--
SEP 01...	7.1	44	0	36	0	37	64	0.40	217	2	236

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	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, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
OCT 07...	1.45	0.150	--	1.60	--	1.40	--	--	0.80	2.2	--
NOV 04...	1.03	0.070	--	1.10	--	0.770	--	--	0.63	1.4	--
DEC 09...	0.610	0.050	--	0.660	--	0.950	--	--	0.65	1.6	--
JAN 06...	0.420	--	0.040	--	0.460	--	0.580	0.75	0.32	0.90	--
FEB 10...	0.650	--	0.040	--	0.690	--	1.60	2.1	0.50	2.1	1.8
MAR 11...	0.550	--	0.010	--	0.560	--	1.50	1.9	0.40	1.9	--
APR 07...	0.330	--	0.020	--	0.350	--	0.590	0.76	0.31	0.90	--
MAY 05...	0.610	--	0.010	--	0.620	--	0.540	0.70	0.56	1.1	--
JUN 09...	0.830	--	0.110	--	0.940	--	1.70	2.2	0.80	2.5	--
JUL 14...	1.41	--	0.590	--	2.00	--	1.40	1.8	0.50	1.9	--
AUG 05...	1.60	--	0.300	--	1.90	--	2.90	3.7	0.30	3.2	--
SEP 01...	2.40	--	0.200	--	2.60	--	2.60	3.3	0.80	3.4	--

PAWTUXET RIVER BASIN

01116617 PAWTUXET RIVER AT PAWTUXET, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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 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)	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)
OCT 07...	3.8	17	0.620	--	0.520	--	--	--	--	--	--
NOV 04...	2.5	11	0.320	--	0.250	--	60	2	80	<1	1
DEC 09...	2.3	10	0.260	--	0.180	--	--	--	--	--	--
JAN 06...	1.4	--	0.150	--	--	0.080	590	1	30	<1	4
FEB 10...	2.8	--	0.320	0.250	--	0.220	--	--	--	--	--
MAR 11...	2.5	--	0.150	--	--	0.150	120	<1	40	<1	<1
APR 07...	1.2	--	0.100	--	--	0.060	--	--	--	--	--
MAY 05...	1.7	--	0.140	--	--	0.080	130	<1	40	<1	2
JUN 09...	3.4	--	0.370	--	--	0.250	--	--	--	--	--
JUL 14...	3.9	--	0.450	--	--	0.380	10	<1	60	<1	<1
AUG 05...	5.1	--	0.680	--	--	0.660	--	--	--	--	--
SEP 01...	6.0	--	0.730	--	--	0.690	30	<1	90	<1	<1

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	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)
OCT 07...	--	--	--	--	--	--	--	--	--	--
NOV 04...	10	500	3	60	<0.10	1	7	<1	<1	30
DEC 09...	--	--	--	--	--	--	--	--	--	--
JAN 06...	10	1100	16	90	<0.10	<1	4	<1	<1	50
FEB 10...	--	--	--	--	--	--	--	--	--	--
MAR 11...	5	430	2	130	<0.10	<1	5	<1	<1	20
APR 07...	--	--	--	--	--	--	--	--	--	--
MAY 05...	5	760	3	190	<0.10	<1	6	<1	<1	20
JUN 09...	--	--	--	--	--	--	--	--	--	--
JUL 14...	2	440	2	160	<0.10	1	5	<1	<1	10
AUG 05...	--	--	--	--	--	--	--	--	--	--
SEP 01...	6	220	1	80	<0.10	1	7	<1	<1	10

PAWTUXET RIVER BASIN

93

01116617 PAWTUXET RIVER AT PAWTUXET, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	PHENOLS TOTAL (UG/L) (32730)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39251)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39333)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39368)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39389)
OCT										
07...	--	--	--	--	--	--	--	--	--	--
NOV										
04...	--	--	--	--	--	--	--	--	--	--
DEC										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	--	--	--	--	--	--	--	--	--	--
FEB										
10...	--	--	--	--	--	--	--	--	--	--
MAR										
11...	1	--	--	--	--	--	--	--	--	--
APR										
07...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	--	--	--	--	--	--	--	--	--	--
JUN										
09...	--	--	--	--	--	--	--	--	--	--
JUL										
14...	--	--	--	--	--	--	--	--	--	--
AUG										
05...	--	--	--	--	--	--	--	--	--	--
SEP										
01...	10	<1.0	<0.2	0.1	10	4.9	2.2	1.4	2.7	<0.3

DATE	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG) (39481)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39758)	PER- THANE IN BOT- TOM MA- TERIAL (UG/KG) (81886)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT										
07...	--	--	--	--	--	--	--	--	--	--
NOV										
04...	--	--	--	--	--	--	--	--	92	6
DEC										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	--	--	--	--	--	--	--	--	48	13
FEB										
10...	--	--	--	--	--	--	--	--	--	--
MAR										
11...	--	--	--	--	--	--	--	--	77	5
APR										
07...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	--	--	--	--	--	--	--	--	58	13
JUN										
09...	--	--	--	--	--	--	--	--	--	--
JUL										
14...	--	--	--	--	--	--	--	--	62	9
AUG										
05...	--	--	--	--	--	--	--	--	--	--
SEP										
01...	<0.1	10	<0.1	<0.2	<20	46	<0.1	<1.00	53	10

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.

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

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).

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	14	44	105	49	e53	215	86	61	8.3	8.9	1.8
2	19	13	40	83	41	e52	371	81	52	7.9	7.0	1.6
3	17	26	65	69	43	e54	257	76	37	10	5.9	1.6
4	17	43	65	67	45	e62	191	75	30	13	4.9	1.6
5	15	33	63	101	43	111	160	72	27	11	4.1	1.8
6	10	36	57	127	43	104	142	70	31	9.0	3.5	1.8
7	10	32	48	100	e40	89	128	66	29	7.9	3.8	1.8
8	9.9	25	46	83	e40	89	120	64	25	6.1	4.3	1.9
9	13	21	40	74	e40	96	113	62	25	6.7	4.5	2.0
10	20	20	37	66	e40	91	117	58	27	6.6	4.0	4.0
11	17	18	79	62	e40	89	132	56	23	6.6	3.2	5.9
12	15	17	250	62	e45	83	133	54	20	7.5	2.9	4.3
13	13	51	246	71	e150	82	159	53	18	9.6	2.7	3.2
14	14	54	179	85	e130	164	133	49	16	7.5	2.7	2.5
15	12	39	135	74	e110	167	114	48	15	6.5	3.1	2.2
16	12	29	111	66	e100	118	104	46	14	5.6	3.3	2.2
17	12	24	114	61	e210	150	144	46	12	5.1	3.2	2.1
18	12	22	176	57	e180	253	146	43	11	5.2	3.7	3.5
19	12	21	144	52	e140	176	118	54	11	5.0	4.2	5.2
20	16	19	123	49	e110	132	102	56	12	8.8	3.3	3.8
21	17	19	110	49	e98	116	95	54	12	7.1	3.1	2.8
22	16	24	96	68	e88	113	93	49	13	6.0	3.0	5.6
23	13	103	88	97	e80	119	103	43	11	4.9	2.8	7.2
24	13	103	82	79	e75	205	92	37	9.4	4.1	2.4	5.7
25	21	67	73	81	e70	263	86	37	8.6	4.5	2.3	4.2
26	25	59	72	70	e64	210	83	34	8.3	4.0	2.2	21
27	20	97	65	62	e60	192	157	31	10	13	2.1	26
28	17	78	61	58	e56	175	134	28	13	14	2.0	24
29	14	60	66	56	---	184	105	31	10	20	2.0	11
30	13	50	99	52	---	183	91	29	9.1	17	2.0	7.2
31	13	---	120	49	---	153	---	25	---	12	1.9	---
TOTAL	470.9	1217	2994	2235	2230	4128	4138	1613	600.4	260.5	109.0	169.5
MEAN	15.2	40.6	96.6	72.1	79.6	133	138	52.0	20.0	8.40	3.52	5.65
MAX	25	103	250	127	210	263	371	86	61	20	8.9	26
MIN	9.9	13	37	49	40	52	83	25	8.3	4.0	1.9	1.6

MEAN	18.8	37.7	53.9	62.5	70.1	87.4	83.4	61.1	37.8	18.3	15.9	14.0
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

ANNUAL TOTAL	15978.3		20165.3						
ANNUAL MEAN	43.7		55.2			46.6			
HIGHEST ANNUAL MEAN						81.5			1984
LOWEST ANNUAL MEAN						17.7			1966
HIGHEST DAILY MEAN	258	Jan 24	371	Apr 2		861		Jun 6	1982
LOWEST DAILY MEAN	2.5	Aug 8	1.6	Sep 2		.00		Oct 25	1947
ANNUAL SEVEN-DAY MINIMUM	4.5	Aug 2	1.7	Sep 1		.10		Sep 13	1943
INSTANTANEOUS PEAK FLOW			416	Apr 2		1020		Jun 6	1982
INSTANTANEOUS PEAK STAGE			2.64	Apr 2		6.78		Aug 31	1954
INSTANTANEOUS LOW FLOW			1.6	Sep 2		.00		Oct 24	1947
10 PERCENT EXCEEDS	89		132			101			
50 PERCENT EXCEEDS	39		40			34			
90 PERCENT EXCEEDS	11		3.6			6.2			

e Estimated

PAWCATUCK RIVER BASIN

95

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 except those for estimated daily discharges and those below 2.0 ft³/s, which are poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	6.3	19	48	20	24	67	34	19	3.6	6.1	.98
2	15	6.0	17	43	19	23	108	32	21	2.9	4.4	.98
3	12	7.8	21	38	17	23	111	30	19	4.8	3.2	.98
4	9.4	13	24	35	17	25	90	28	17	5.5	2.6	1.0
5	7.2	14	26	39	17	41	76	27	17	e5.7	2.1	1.1
6	5.9	14	25	49	17	51	67	27	17	e4.9	1.7	1.1
7	5.2	12	23	48	17	46	61	26	16	e4.3	1.8	1.9
8	5.0	11	21	43	16	43	56	24	15	3.7	1.6	2.6
9	5.0	10	18	38	16	41	53	23	14	3.3	1.5	1.5
10	7.2	9.4	16	34	16	39	52	23	e13	3.3	1.4	1.5
11	8.7	8.8	23	31	16	38	53	22	e11	3.4	1.3	1.3
12	9.9	9.0	58	30	17	36	54	21	e11	4.6	1.3	1.2
13	8.7	11	80	31	52	40	55	20	e11	7.7	1.4	1.0
14	7.4	13	75	34	68	58	53	19	e11	7.5	2.2	.90
15	6.8	14	61	34	53	65	49	18	e9.8	6.3	1.6	.81
16	6.4	12	50	32	45	56	45	17	e8.4	4.7	1.1	.87
17	6.0	11	47	30	86	56	49	18	e7.4	e3.9	e1.1	.93
18	12	10	57	28	91	92	54	17	e7.8	e3.7	e1.2	1.1
19	9.8	9.8	59	25	68	85	51	20	e7.2	e3.7	1.2	1.1
20	8.5	9.6	54	23	52	66	45	22	e8.0	6.2	1.1	.99
21	6.4	9.4	48	23	43	56	42	23	e6.7	5.2	1.1	.98
22	5.7	9.8	44	26	41	52	41	22	e6.0	3.3	e.98	1.7
23	4.8	18	40	31	38	52	42	21	e4.6	2.6	e.94	1.8
24	4.9	26	38	31	35	63	41	19	3.8	2.0	e.90	1.6
25	5.9	25	35	31	32	89	38	18	3.6	1.6	e1.2	1.4
26	6.2	23	33	29	29	88	36	17	3.8	1.5	e1.0	2.1
27	6.3	30	31	27	27	79	41	16	4.3	4.3	e.92	2.5
28	6.3	31	30	25	25	72	43	15	4.4	5.2	e1.0	2.4
29	6.2	27	31	23	---	68	40	15	4.3	4.4	e1.2	3.0
30	6.2	22	39	22	---	65	37	15	3.6	5.6	e1.1	3.7
31	6.3	---	47	21	---	61	---	14	---	6.6	1.0	---
TOTAL	240.3	432.9	1190	1002	990	1693	1650	663	305.7	136.0	51.24	45.02
MEAN	7.75	14.4	38.4	32.3	35.4	54.6	55.0	21.4	10.2	4.39	1.65	1.50
MAX	19	31	80	49	91	92	111	34	21	7.7	6.1	3.7
MIN	4.8	6.0	16	21	16	23	36	14	3.6	1.5	.90	.81

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1993, BY WATER YEAR (WY)

	MEAN	10.0	15.8	23.1	28.6	29.3	34.9	34.9	27.1	21.3	13.7	11.2	9.58
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	1.65	1.50	
(WY)	1981	1977	1981	1981	1981	1981	1985	1981	1976	1976	1993	1993	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1958 - 1993

ANNUAL TOTAL	6527.8	8399.16	
ANNUAL MEAN	17.8	23.0	21.4
HIGHEST ANNUAL MEAN			32.8
LOWEST ANNUAL MEAN			6.89
HIGHEST DAILY MEAN	80	111	235
LOWEST DAILY MEAN	2.0	.81	.81
ANNUAL SEVEN-DAY MINIMUM	2.4	.96	.96
INSTANTANEOUS PEAK FLOW		119	250
INSTANTANEOUS PEAK STAGE		6.60	
INSTANTANEOUS LOW FLOW		.78	.78
10 PERCENT EXCEEDS	32	54	43
50 PERCENT EXCEEDS	17	17	17
90 PERCENT EXCEEDS	4.8	1.4	5.7

e Estimated

PAWCATUCK RIVER BASIN

01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI

LOCATION.--Lat 41°28'36", long 71°36'19", Washington County, Hydrologic Unit 01090005, on left bank at upstream side of Heaton Orchard Bridge on State Highway 2 in South Kingstown, 1.2 mi 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 except those for August and September, which are poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	29	73	167	75	93	242	118	65	22	19	12
2	31	28	69	149	71	91	445	110	70	20	16	8.3
3	29	36	85	129	70	91	443	104	55	25	15	7.9
4	27	55	101	118	69	93	330	100	48	28	12	8.8
5	26	50	100	125	68	123	260	97	45	25	12	11
6	25	48	96	175	68	143	227	95	45	21	12	13
7	24	47	86	175	62	134	207	91	45	19	12	12
8	23	42	78	150	66	124	191	87	42	21	12	8.2
9	23	38	71	133	64	125	180	84	39	19	13	8.5
10	30	36	66	121	61	127	174	81	41	17	12	18
11	33	36	83	112	62	125	178	77	38	17	11	17
12	32	36	195	106	64	119	184	76	35	22	10	6.8
13	30	51	301	107	131	113	196	73	34	37	12	2.5
14	28	66	272	118	180	136	194	71	33	26	13	1.1
15	26	56	216	121	156	187	174	68	33	20	13	2.1
16	26	47	182	111	131	172	160	66	31	15	14	3.0
17	27	43	169	102	276	167	161	67	29	15	16	4.5
18	26	41	218	96	342	266	185	64	28	14	19	6.8
19	25	40	236	90	254	277	174	69	28	13	20	8.6
20	28	39	212	83	183	213	155	73	27	20	19	5.7
21	29	38	192	82	153	173	141	73	28	19	19	4.2
22	29	39	173	89	144	160	133	66	29	16	17	17
23	29	69	158	112	140	159	135	61	28	13	14	16
24	28	99	147	118	132	195	136	56	25	11	15	10
25	32	96	135	115	121	309	127	55	23	12	15	6.6
26	38	81	128	111	106	323	120	52	24	8.9	18	16
27	35	104	122	99	102	291	136	49	26	24	14	30
28	32	118	114	91	97	270	162	47	28	31	12	29
29	30	103	112	86	---	255	149	47	25	25	17	20
30	29	82	131	81	---	247	131	45	23	29	13	14
31	29	---	160	77	---	230	---	43	---	22	13	---
TOTAL	892	1693	4481	3549	3448	5531	5830	2265	1070	626.9	449	328.6
MEAN	28.8	56.4	145	114	123	178	194	73.1	35.7	20.2	14.5	11.0
MAX	38	118	301	175	342	323	445	118	70	37	20	30
MIN	23	28	66	77	61	91	120	43	23	8.9	10	1.1
CFSM	.80	1.56	4.00	3.17	3.41	4.94	5.38	2.02	.99	.56	.40	.30
IN.	.92	1.74	4.62	3.66	3.55	5.70	6.01	2.33	1.10	.65	.46	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1993, BY WATER YEAR (WY)

MEAN	37.7	65.8	89.9	106	106	127	134	95.4	73.0	36.7	32.3	27.2
MAX	85.7	150	212	266	180	240	335	179	276	71.9	56.1	75.7
(WY)	1990	1990	1987	1979	1982	1983	1983	1978	1982	1984	1979	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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1958 - 1993

ANNUAL TOTAL	25037	30163.5	
ANNUAL MEAN	68.4	82.6	77.4
HIGHEST ANNUAL MEAN			110
LOWEST ANNUAL MEAN			30.6
HIGHEST DAILY MEAN	301	445	1020
LOWEST DAILY MEAN	14	1.1	1.1
ANNUAL SEVEN-DAY MINIMUM	17	3.8	3.8
INSTANTANEOUS PEAK FLOW		472	1060
INSTANTANEOUS PEAK STAGE		6.80	9.23
INSTANTANEOUS LOW FLOW		.43	.43
ANNUAL RUNOFF (CFSM)	1.89	2.29	2.14
ANNUAL RUNOFF (INCHES)	25.80	31.08	29.13
10 PERCENT EXCEEDS	122	182	159
50 PERCENT EXCEEDS	64	62	60
90 PERCENT EXCEEDS	25	13	19

PAWCATUCK RIVER BASIN

97

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	5.1	18	44	21	25	79	29	21	4.9	3.8	1.3
2	6.6	4.8	18	35	19	24	119	27	18	4.7	3.4	1.3
3	6.2	8.8	29	31	19	24	89	27	14	6.3	3.0	1.3
4	5.8	13	28	31	19	24	75	26	13	6.1	2.7	1.4
5	5.5	9.8	26	45	19	36	66	26	12	5.1	2.6	1.6
6	5.3	11	24	55	18	33	59	25	12	4.4	2.4	1.3
7	5.2	9.4	21	43	e18	29	55	24	12	4.2	2.3	1.2
8	5.0	8.0	19	37	18	29	51	23	11	4.7	2.4	2.0
9	4.8	7.4	18	34	17	30	48	22	11	4.2	2.5	2.1
10	7.0	6.9	e16	32	17	29	47	22	11	3.8	2.3	4.4
11	7.4	6.5	33	30	17	29	51	21	10	3.3	2.1	3.8
12	6.7	6.4	107	29	18	28	48	21	9.5	6.4	2.1	2.5
13	5.9	15	100	32	45	27	53	20	9.0	8.5	1.9	2.0
14	5.3	16	73	36	37	44	46	20	8.7	5.2	1.9	1.8
15	5.1	11	59	32	27	41	41	19	8.4	4.1	1.9	1.6
16	5.0	9.5	51	29	30	34	38	18	7.9	3.4	2.1	1.7
17	4.8	8.8	53	27	90	42	45	18	7.5	2.9	2.4	1.9
18	4.7	8.5	82	26	62	72	44	18	7.2	2.7	2.7	2.6
19	4.6	8.0	69	24	45	56	38	19	7.0	2.9	2.6	2.7
20	5.0	7.7	61	23	39	44	35	20	6.7	4.6	2.2	2.0
21	5.3	7.5	56	23	35	41	33	20	6.7	3.7	2.1	1.9
22	5.3	8.2	50	e27	35	41	33	17	7.3	3.1	1.9	5.4
23	5.2	26	46	e34	35	43	36	16	6.8	2.8	1.8	4.7
24	4.9	27	44	29	33	65	33	16	5.9	2.7	1.7	3.6
25	7.2	19	39	30	30	87	31	15	5.4	2.4	2.0	2.8
26	8.8	19	37	27	28	76	30	14	5.2	2.3	1.7	7.0
27	7.5	36	35	25	26	73	44	13	5.9	8.6	1.5	9.6
28	6.1	27	33	23	26	70	38	13	7.0	7.5	1.7	8.6
29	5.5	22	34	23	---	70	32	13	6.2	6.8	1.9	5.7
30	5.2	19	45	22	---	67	30	12	5.4	7.8	1.6	4.2
31	5.1	---	50	21	---	59	---	12	---	5.0	1.4	---
TOTAL	179.0	392.3	1374	959	843	1392	1467	606	278.7	145.1	68.6	94.0
MEAN	5.77	13.1	44.3	30.9	30.1	44.9	48.9	19.5	9.29	4.68	2.21	3.13
MAX	8.8	36	107	55	90	87	119	29	21	8.6	3.8	9.6
MIN	4.6	4.8	16	21	17	24	30	12	5.2	2.3	1.4	1.2
CFSM	.65	1.47	5.00	3.49	3.39	5.06	5.51	2.20	1.05	.53	.25	.35
IN.	.75	1.65	5.76	4.02	3.54	5.84	6.15	2.54	1.17	.61	.29	.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1993, BY WATER YEAR (WY)

	MEAN	9.51	18.5	26.2	29.4	28.2	35.1	37.8	28.0	21.9	10.3	8.68	7.18
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	9.29	4.68	2.21	1.90	
(WY)	1981	1981	1981	1981	1985	1981	1985	1981	1993	1993	1993	1980	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1975 - 1993	
ANNUAL TOTAL	6535.7		7798.7			
ANNUAL MEAN	17.9		21.4		21.7	
HIGHEST ANNUAL MEAN					30.4	
LOWEST ANNUAL MEAN					8.67	
HIGHEST DAILY MEAN	107		119		324	
LOWEST DAILY MEAN	3.0		1.2		1.2	
ANNUAL SEVEN-DAY MINIMUM	3.6		1.3		1.3	
INSTANTANEOUS PEAK FLOW			129		370	
INSTANTANEOUS PEAK STAGE			2.70		3.83	
INSTANTANEOUS LOW FLOW			1.1		1.1	
ANNUAL RUNOFF (CFSM)	2.01		2.41		2.45	
ANNUAL RUNOFF (INCHES)	27.41		32.71		33.31	
10 PERCENT EXCEEDS	32		48		44	
50 PERCENT EXCEEDS	16		16		17	
90 PERCENT EXCEEDS	5.1		2.3		4.4	

e Estimated

PAWCATUCK RIVER BASIN

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	78	209	440	191	242	645	306	145	58	49	24
2	112	76	194	413	178	237	839	282	162	55	44	23
3	106	102	217	365	180	234	902	264	153	60	41	23
4	100	135	229	344	177	235	873	252	134	67	38	22
5	95	138	244	362	175	308	796	243	124	63	36	24
6	91	137	239	426	174	349	706	237	121	56	34	23
7	88	127	226	459	163	355	629	230	119	49	35	22
8	86	117	211	441	167	345	566	223	115	48	30	24
9	88	107	191	395	165	337	516	213	110	49	32	27
10	98	100	178	350	164	326	487	206	107	48	32	32
11	102	97	211	309	164	332	478	198	104	47	31	38
12	102	96	403	289	171	319	470	191	97	53	30	35
13	96	118	628	287	283	311	489	186	92	69	30	31
14	89	137	690	305	352	366	489	181	88	64	30	28
15	85	142	665	302	356	412	468	177	89	e58	30	27
16	82	127	605	290	363	473	435	171	84	e50	30	26
17	81	115	556	272	571	527	437	169	80	e44	30	27
18	79	109	605	256	665	632	452	166	78	e42	32	30
19	78	104	624	231	668	668	446	173	75	e41	33	31
20	80	100	626	225	598	652	421	181	74	e46	32	30
21	82	98	591	214	495	593	384	184	73	e48	30	28
22	83	102	538	224	430	527	362	177	74	e43	30	38
23	81	161	490	251	413	489	357	166	72	e40	27	49
24	79	197	444	264	386	540	342	157	68	e38	25	44
25	90	213	377	272	338	667	329	151	64	e36	25	38
26	96	212	353	261	293	737	309	144	63	e35	26	45
27	96	242	318	247	268	743	350	137	66	e45	25	69
28	89	257	295	232	255	716	366	130	68	e58	24	77
29	84	253	292	223	---	688	366	126	65	e60	24	64
30	82	232	356	206	---	661	341	120	62	59	25	50
31	80	---	414	197	---	625	---	115	---	55	24	---
TOTAL	2805	4229	12219	9352	8803	14646	15050	5856	2826	1584	964	1049
MEAN	90.5	141	394	302	314	472	502	189	94.2	51.1	31.1	35.0
MAX	125	257	690	459	668	743	902	306	162	69	49	77
MIN	78	76	178	197	163	234	309	115	62	35	24	22
CFSM	.90	1.41	3.94	3.02	3.14	4.72	5.02	1.89	.94	.51	.31	.35
IN.	1.04	1.57	4.55	3.48	3.27	5.45	5.60	2.18	1.05	.59	.36	.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	89.9	149	213	247	272	343	333	253	183	101	87.3	80.2
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	31.1	29.5	
(WY)	1950	1966	1966	1981	1944	1981	1985	1981	1957	1957	1993	1980	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1941 - 1993
ANNUAL TOTAL	62834	79383	196
ANNUAL MEAN	172	217	311
HIGHEST ANNUAL MEAN			1884
LOWEST ANNUAL MEAN			84.4
HIGHEST DAILY MEAN	690	Dec 14	1830
LOWEST DAILY MEAN	46	Aug 7	15
ANNUAL SEVEN-DAY MINIMUM	50	Aug 2	23
INSTANTANEOUS PEAK FLOW			23
INSTANTANEOUS PEAK STAGE			1860
INSTANTANEOUS LOW FLOW			5.65
ANNUAL RUNOFF (CFSM)	1.72	2.17	8.75
ANNUAL RUNOFF (INCHES)	23.37	29.53	7.4
10 PERCENT EXCEEDS	274	520	1.96
50 PERCENT EXCEEDS	160	161	26.67
90 PERCENT EXCEEDS	75	31	395
			157
			51

e Estimated

PAWCATUCK RIVER BASIN

99

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 benchmark). Prior to Oct. 1, 1985, datum erroneously published as 137.97 ft above sea level.

REMARKS.--Records good except those below 10 ft³/s, which are fair.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	31	98	164	81	84	271	123	75	17	15	6.7
2	34	29	91	145	76	84	364	114	71	16	14	6.5
3	31	41	114	127	75	85	318	106	60	18	12	7.5
4	30	50	118	122	75	87	256	102	53	19	12	7.9
5	27	46	122	164	74	94	220	98	50	18	11	7.3
6	26	54	115	189	72	93	199	96	50	16	9.6	6.7
7	25	55	105	172	71	89	184	93	48	16	9.5	6.5
8	24	51	97	151	74	89	172	89	42	17	9.4	7.3
9	24	49	88	135	71	96	163	85	40	16	9.3	7.5
10	39	45	81	121	69	101	165	81	40	16	8.9	9.2
11	50	41	194	112	68	106	183	77	37	14	8.7	9.3
12	67	40	511	108	71	101	180	74	34	23	8.4	7.7
13	64	81	458	112	125	96	202	73	32	22	8.4	7.1
14	54	91	330	122	123	128	182	74	30	16	8.4	6.7
15	47	89	254	115	110	119	162	71	28	14	8.8	6.6
16	42	77	217	108	119	111	150	68	27	13	8.8	6.5
17	38	66	239	102	288	125	179	66	26	12	9.3	7.3
18	35	60	342	97	240	180	197	62	24	11	11	11
19	33	54	323	91	178	160	179	64	24	13	10	12
20	32	51	262	88	144	147	159	68	23	18	9.4	9.1
21	31	49	217	84	124	135	145	67	22	14	9.2	7.8
22	30	56	194	107	120	126	136	63	25	11	9.3	11
23	30	176	182	138	112	126	138	60	21	11	7.7	11
24	32	262	170	132	107	189	128	56	19	11	7.4	10
25	35	207	156	134	98	249	121	53	20	9.9	7.8	9.2
26	39	165	144	122	92	255	119	51	18	10	7.9	18
27	37	159	129	109	88	281	176	49	20	23	7.4	26
28	35	138	121	101	86	292	165	47	21	23	7.2	32
29	33	121	123	95	---	290	150	45	19	37	8.7	22
30	33	108	152	88	---	287	132	43	19	27	7.8	16
31	32	---	173	85	---	253	---	41	---	19	6.9	---
TOTAL	1126	2542	5920	3740	3031	4658	5495	2259	1018	520.9	289.2	319.4
MEAN	36.3	84.7	191	121	108	150	183	72.9	33.9	16.8	9.33	10.6
MAX	67	262	511	189	288	292	364	123	75	37	15	32
MIN	24	29	81	84	68	84	119	41	18	9.9	6.9	6.5
CFSM	1.03	2.41	5.43	3.43	3.08	4.27	5.20	2.07	.96	.48	.27	.30
IN.	1.19	2.69	6.26	3.95	3.20	4.92	5.81	2.39	1.08	.55	.31	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1993, BY WATER YEAR (WY)

	MEAN	37.8	69.5	101	102	108	134	134	93.1	60.3	33.3	31.4	24.0
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	9.33	7.05	
(WY)	1966	1966	1966	1966	1980	1985	1966	1986	1964	1991	1993	1980	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1964 - 1993
ANNUAL TOTAL	28698	30918.5	
ANNUAL MEAN	78.4	84.7	77.5
HIGHEST ANNUAL MEAN			114
LOWEST ANNUAL MEAN			33.3
HIGHEST DAILY MEAN	511	Dec 12	826
LOWEST DAILY MEAN	13	Aug 8	4.9
ANNUAL SEVEN-DAY MINIMUM	17	Aug 2	5.4
INSTANTANEOUS PEAK FLOW			535
INSTANTANEOUS PEAK STAGE			6.87
INSTANTANEOUS LOW FLOW			6.3
ANNUAL RUNOFF (CFSM)	2.23	2.41	2.20
ANNUAL RUNOFF (INCHES)	30.33	32.68	29.92
10 PERCENT EXCEEDS	138	182	158
50 PERCENT EXCEEDS	68	67	59
90 PERCENT EXCEEDS	26	9.3	16

PAWCATUCK RIVER BASIN

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 except those for estimated daily discharges, which are good. 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 1992 TO SEPTEMBER 1993

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	55	180	331	159	166	571	236	135	38	39	17
2	64	54	166	279	147	164	854	220	139	e35	34	17
3	61	70	227	245	144	165	723	206	115	e40	31	17
4	59	99	239	237	144	173	577	196	99	e42	29	17
5	54	94	232	321	140	217	497	190	92	e39	27	17
6	51	100	220	436	140	207	422	185	95	e36	25	17
7	49	98	196	358	127	192	375	177	90	e36	25	17
8	47	88	178	307	136	194	345	167	83	e38	24	17
9	46	80	158	274	132	210	323	160	77	35	24	18
10	61	77	145	247	128	216	320	153	77	33	24	21
11	78	72	285	229	129	220	363	149	71	31	23	23
12	98	70	1010	220	135	206	356	140	68	41	22	20
13	103	125	1030	230	276	210	404	134	63	53	22	19
14	87	175	758	258	285	297	367	136	60	39	23	18
15	76	148	575	239	224	283	320	127	58	33	25	18
16	69	129	468	219	242	247	293	123	56	29	30	18
17	65	114	462	206	694	301	329	122	52	28	28	18
18	59	105	673	195	580	492	376	115	48	26	25	21
19	56	99	650	181	411	383	333	122	47	27	26	24
20	56	94	553	170	310	329	294	130	46	36	24	22
21	57	90	463	165	272	300	269	130	45	32	23	20
22	57	92	389	196	265	282	256	118	49	28	22	28
23	56	240	352	278	248	285	262	114	44	26	21	29
24	56	413	325	258	232	442	246	112	40	26	20	25
25	66	351	290	262	208	632	232	104	39	24	20	22
26	72	289	273	241	189	581	226	98	38	24	20	36
27	69	318	249	215	181	598	351	93	42	49	19	53
28	63	268	232	198	173	597	342	86	47	53	19	60
29	60	227	233	188	---	585	286	85	43	63	18	49
30	58	200	299	173	---	574	255	80	41	76	18	38
31	57	---	353	164	---	511	---	77	---	51	17	---
TOTAL	1981	4434	11863	7520	6451	10259	11167	4285	1999	1167	747	736
MEAN	63.9	148	383	243	230	331	372	138	66.6	37.6	24.1	24.5
MAX	103	413	1030	436	694	632	854	236	139	76	39	60
MIN	46	54	145	164	127	164	226	77	38	24	17	17
CFSM	.88	2.04	5.29	3.35	3.18	4.57	5.14	1.91	.92	.52	.33	.34
IN.	1.02	2.28	6.10	3.86	3.31	5.27	5.74	2.20	1.03	.60	.38	.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1941	77.5	341	1956	22.6	1958
1942	134	386	1956	24.9	1966
1943	188	477	1987	35.1	1966
1944	200	666	1979	36.8	1981
1945	217	398	1970	87.6	1980
1946	275	465	1972	147	1981
1947	263	664	1983	89.4	1966
1948	192	365	1979	91.9	1986
1949	131	540	1982	48.3	1957
1950	70.9	168	1972	27.7	1957
1951	64.4	183	1979	20.5	1957
1952	60.6	311	1954	17.4	1957

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1941 - 1993

ANNUAL TOTAL	55298	62609	156	1973
ANNUAL MEAN	151	172	235	1966
HIGHEST ANNUAL MEAN			71.2	1982
LOWEST ANNUAL MEAN				1941
HIGHEST DAILY MEAN	1030	Dec 13	2200	Jun 6 1982
LOWEST DAILY MEAN	29	Aug 8	10	Oct 13 1941
ANNUAL SEVEN-DAY MINIMUM	34	Aug 2	14	Oct 2 1957
INSTANTANEOUS PEAK FLOW			2390	Jun 6 1982
INSTANTANEOUS PEAK STAGE		6.77	Dec 12	Jun 6 1982
INSTANTANEOUS LOW FLOW		17	Aug 31	Sep 9 1987
ANNUAL RUNOFF (CFSM)	2.09	2.37	4.0	2.16
ANNUAL RUNOFF (INCHES)	28.41	32.17	29.30	
10 PERCENT EXCEEDS	269	365	314	
50 PERCENT EXCEEDS	126	123	120	
90 PERCENT EXCEEDS	51	24	35	

e Estimated

PAWCATUCK RIVER BASIN

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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, 118 microsiemens, Feb. 12; minimum recorded, 52 microsiemens, Dec. 13, 14.

WATER TEMPERATURES: Maximum recorded, 28.0°C, July 10; minimum recorded, 0.0°C, Mar. 13, 15.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	76	75	75	78	77	77	64	62	63	66	65	66
2	77	75	76	78	77	77	64	63	63	67	65	65
3	76	75	76	80	77	78	65	62	63	68	66	67
4	77	75	76	79	74	76	64	62	63	68	67	68
5	79	75	77	77	75	76	65	63	64	69	65	67
6	79	77	78	78	76	77	64	62	63	65	62	63
7	80	78	78	77	74	75	65	63	64	63	62	62
8	81	78	79	76	74	75	65	63	64	65	62	64
9	81	80	80	76	74	75	66	64	65	66	65	65
10	83	79	81	75	73	74	68	66	67	68	66	67
11	79	75	77	76	74	75	69	61	67	69	67	68
12	75	69	72	76	75	76	62	55	59	73	68	70
13	72	69	70	77	72	75	55	52	53	80	69	74
14	72	71	71	73	69	71	54	52	53	76	70	72
15	72	70	71	71	69	70	55	53	54	78	70	72
16	73	71	72	69	68	69	56	54	55	72	71	71
17	75	72	73	69	68	68	60	56	58	74	72	73
18	76	74	75	70	69	70	60	57	58	74	73	74
19	76	75	76	71	70	70	57	55	56	76	73	75
20	77	75	76	72	70	71	58	56	57	77	75	76
21	77	75	76	72	71	71	60	58	59	77	76	77
22	78	75	77	72	71	72	61	59	60	89	76	80
23	78	76	77	72	64	68	62	60	61	77	72	74
24	78	77	77	64	57	61	63	61	62	80	72	72
25	79	77	78	58	56	57	65	63	64	80	71	73
26	78	76	77	59	57	58	66	65	66	71	70	71
27	78	76	77	61	58	60	68	66	67	72	70	71
28	78	76	77	63	60	62	69	67	68	80	71	73
29	79	77	78	62	61	61	71	68	69	74	72	73
30	79	78	78	63	62	62	71	67	69	76	73	74
31	79	77	78	---	---	---	68	66	67	76	74	75
MONTH	83	69	76	80	56	70	71	52	62	89	62	71

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	75	74	75	76	75	75	78	63	67	70	68	69
2	77	75	76	76	75	75	67	62	65	71	69	70
3	79	76	77	76	74	75	62	60	61	73	70	71
4	80	77	77	100	74	78	63	61	62	73	72	72
5	78	77	77	113	85	94	65	62	64	75	72	73
6	82	77	78	88	83	85	66	64	65	74	72	73
7	80	78	79	84	81	83	68	65	66	74	73	74
8	82	79	80	84	80	82	69	66	67	74	73	74
9	79	78	78	82	79	80	70	68	69	75	73	74
10	80	78	79	79	76	77	77	69	71	75	74	75
11	80	79	79	84	77	80	72	68	69	77	74	76
12	118	78	87	77	75	76	72	68	69	77	76	77
13	110	79	89	85	72	76	70	67	69	78	76	77
14	79	76	77	95	79	86	68	67	68	77	76	77
15	77	75	76	80	77	78	69	68	68	78	76	77
16	116	74	83	79	76	77	71	69	70	78	77	77
17	82	66	73	86	77	80	72	68	70	79	77	78
18	66	61	63	87	80	84	68	66	66	79	78	78
19	64	60	62	81	78	80	67	66	67	80	78	79
20	68	64	66	78	76	77	69	67	68	80	79	79
21	67	65	66	80	76	77	70	68	69	80	79	79
22	79	67	73	80	77	78	72	70	71	81	79	80
23	73	70	71	79	77	78	72	70	71	80	78	79
24	72	71	72	81	76	78	73	71	71	80	78	79
25	73	72	72	76	70	72	72	71	72	82	78	80
26	74	73	73	70	68	69	73	71	72	82	80	81
27	74	73	74	68	65	66	75	67	70	83	81	82
28	76	74	75	65	63	63	69	67	68	84	82	83
29	---	---	---	64	62	63	69	67	68	86	82	84
30	---	---	---	63	62	62	70	68	69	87	83	84
31	---	---	---	63	62	63	---	---	---	85	83	84
MONTH	118	60	75	113	62	76	78	60	68	87	68	77

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	87	79	83	91	89	91	---	---	---	---	---	---
2	80	78	79	93	91	92	---	---	---	---	---	---
3	82	79	80	94	91	92	---	---	---	---	---	---
4	81	77	79	94	92	93	---	---	---	---	---	---
5	80	77	78	93	91	92	---	---	---	---	---	---
6	80	77	78	92	90	91	---	---	---	---	---	---
7	79	77	78	92	90	91	---	---	---	---	---	---
8	79	77	78	93	91	92	---	---	---	---	---	---
9	80	78	79	92	90	91	---	---	---	---	---	---
10	82	80	80	92	90	91	---	---	---	---	---	---
11	83	80	81	93	90	91	---	---	---	---	---	---
12	83	81	82	97	88	91	---	---	---	---	---	---
13	84	81	83	97	90	92	---	---	---	---	---	---
14	85	83	84	92	89	90	---	---	---	---	---	---
15	84	83	83	93	89	92	---	---	---	---	---	---
16	85	83	84	95	92	94	---	---	---	---	---	---
17	87	84	85	96	93	94	---	---	---	---	---	---
18	88	86	87	96	94	95	---	---	---	---	---	---
19	88	86	87	96	94	95	---	---	---	---	---	---
20	88	86	87	96	93	95	---	---	---	---	---	---
21	89	87	88	96	92	94	---	---	---	104	101	102
22	89	87	88	93	91	92	---	---	---	111	98	101
23	89	86	87	93	90	91	---	---	---	111	102	106
24	92	89	90	95	92	93	---	---	---	102	100	101
25	91	88	89	96	93	94	---	---	---	101	99	100
26	90	88	89	98	94	96	---	---	---	112	98	102
27	91	88	89	107	90	97	---	---	---	109	97	101
28	92	88	91	103	95	97	---	---	---	99	93	95
29	91	87	88	96	86	92	---	---	---	94	92	93
30	92	88	90	---	---	---	---	---	---	95	93	94
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	92	77	84	107	86	93	---	---	---	112	92	100
YEAR	118	52	76									

PAWCATUCK RIVER BASIN

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01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

WATER-QUALITY RECORDS

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.5	11.5	12.5	---	---	---	---	---	---	4.5	3.0	4.0
2	13.0	10.5	11.6	---	---	---	---	---	---	3.0	1.5	2.5
3	14.0	11.0	12.5	---	---	---	---	---	---	2.0	1.5	1.5
4	14.0	12.5	13.0	---	---	---	---	---	---	4.5	2.0	3.5
5	13.0	11.5	12.5	---	---	---	---	---	---	6.5	4.5	6.0
6	13.0	10.5	11.5	---	---	---	---	---	---	6.5	4.5	5.5
7	13.0	10.0	11.5	---	---	---	---	---	---	4.5	4.0	4.5
8	12.5	10.0	11.5	---	---	---	---	---	---	4.0	4.0	4.0
9	12.5	10.5	11.5	---	---	---	2.0	1.5	2.0	4.0	2.5	3.5
10	14.0	12.5	13.0	---	---	---	2.0	1.0	1.5	2.5	1.5	2.0
11	15.0	13.0	14.0	---	---	---	2.5	2.0	2.0	1.5	1.0	1.5
12	15.5	14.0	14.5	---	---	---	2.5	2.0	2.0	2.5	1.5	2.0
13	15.0	13.5	14.5	---	---	---	2.0	1.5	2.0	3.0	2.5	2.5
14	13.5	12.0	13.0	---	---	---	2.5	2.0	2.5	2.5	1.5	2.0
15	14.0	12.5	13.0	---	---	---	3.0	2.5	3.0	2.0	1.5	1.5
16	13.5	12.5	13.0	---	---	---	4.0	3.0	3.5	2.0	1.0	1.5
17	14.0	12.5	13.0	---	---	---	5.5	4.0	5.0	2.0	1.5	1.5
18	13.0	11.0	12.0	---	---	---	5.5	4.5	5.5	2.0	1.5	1.5
19	12.0	10.5	11.0	---	---	---	4.5	3.5	4.0	1.5	1.0	1.0
20	10.5	9.5	10.0	---	---	---	5.0	4.0	4.5	2.0	1.0	1.5
21	10.0	9.5	10.0	---	---	---	4.5	3.0	4.0	2.0	1.0	1.5
22	---	---	---	---	---	---	3.0	2.5	3.0	3.0	2.0	2.5
23	---	---	---	---	---	---	3.0	2.5	3.0	3.5	3.0	3.5
24	---	---	---	---	---	---	3.0	1.5	2.5	4.0	2.5	3.5
25	---	---	---	---	---	---	1.5	1.0	1.5	4.5	3.5	4.0
26	---	---	---	---	---	---	2.0	1.5	2.0	3.5	2.0	3.0
27	---	---	---	---	---	---	2.0	1.0	1.5	2.5	2.0	2.0
28	---	---	---	---	---	---	2.0	1.5	1.5	2.5	2.0	2.0
29	---	---	---	---	---	---	4.0	2.0	3.0	3.5	2.0	2.5
30	---	---	---	---	---	---	4.5	4.0	4.0	2.5	1.0	2.0
31	---	---	---	---	---	---	4.5	4.0	4.0	1.5	1.0	1.0
MONTH	15.5	9.5	12.5	---	---	---	5.5	1.0	3.0	6.5	1.0	2.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.0	1.0	1.5	3.0	1.5	2.0	7.0	6.0	7.0	16.5	14.0	15.0
2	1.5	.5	1.0	4.0	2.0	3.0	6.0	4.5	5.5	18.5	15.5	16.5
3	1.5	.5	1.0	4.5	2.5	3.5	5.5	4.0	5.0	16.5	15.5	16.0
4	2.0	1.5	1.5	3.5	2.5	3.0	5.5	4.5	5.0	17.0	15.0	16.0
5	3.0	1.5	2.0	2.5	1.5	2.5	6.5	4.5	6.0	18.0	16.0	17.0
6	2.5	1.0	1.5	3.0	1.5	2.0	8.0	6.5	7.0	19.5	17.0	18.0
7	1.5	.5	1.0	4.5	2.5	3.5	9.0	7.0	8.0	19.0	17.0	18.0
8	2.0	1.0	1.5	5.0	3.5	4.0	10.0	8.0	9.0	19.0	16.5	17.5
9	2.5	1.0	1.5	5.0	4.0	4.5	10.5	9.0	10.0	20.0	16.0	17.5
10	3.0	1.5	2.0	5.0	3.5	4.0	11.0	10.0	10.5	19.5	17.0	18.0
11	3.0	2.0	2.5	5.0	3.5	4.0	11.5	11.0	11.0	20.5	17.0	18.5
12	2.5	2.0	2.0	4.5	3.0	3.5	11.5	10.0	11.0	21.0	18.0	19.5
13	2.5	2.0	2.5	3.0	.0	2.0	10.0	9.5	9.5	19.5	18.0	19.0
14	2.5	2.0	2.0	1.5	.5	1.0	10.5	9.5	10.0	18.0	16.0	17.5
15	3.0	1.5	2.0	1.5	.0	1.0	10.5	10.0	10.0	18.0	15.0	16.5
16	2.5	2.0	2.0	2.0	.5	1.5	12.0	10.0	11.0	18.0	15.5	17.0
17	2.5	2.0	2.5	3.0	1.5	2.5	12.5	12.0	12.5	19.0	16.5	17.5
18	2.0	1.0	1.5	2.5	1.5	1.5	12.0	11.0	11.5	18.0	16.0	17.0
19	1.5	.5	1.0	2.0	.5	1.5	12.0	10.0	11.0	16.0	14.5	15.5
20	1.5	.5	1.0	2.5	1.0	2.0	13.5	11.5	12.5	14.5	13.5	14.0
21	1.5	.5	1.0	3.0	2.5	2.5	15.0	13.0	14.0	16.0	13.0	14.5
22	1.5	1.0	1.5	4.0	2.5	3.0	14.5	13.5	14.0	16.5	14.0	15.0
23	3.0	1.5	2.0	5.0	3.5	4.0	13.5	11.5	12.5	17.5	14.5	16.0
24	3.0	1.5	2.0	4.5	3.0	4.0	12.5	10.5	11.5	16.5	15.0	16.0
25	2.0	1.0	1.5	3.0	2.5	3.0	14.5	12.0	13.0	18.5	15.5	16.5
26	2.0	1.0	1.5	5.5	3.0	4.0	15.5	14.0	14.5	18.5	16.5	17.5
27	2.0	1.0	1.5	6.5	5.0	5.5	14.0	11.5	12.5	19.0	16.0	17.5
28	2.0	1.0	1.5	6.5	6.0	6.0	12.5	11.0	12.0	18.0	15.5	16.5
29	---	---	---	6.5	6.0	6.5	13.5	11.5	12.5	18.0	16.0	16.5
30	---	---	---	6.5	6.0	6.0	15.5	12.5	13.5	18.5	15.0	16.5
31	---	---	---	7.0	6.0	6.5	---	---	---	18.0	15.0	16.5
MONTH	3.0	.5	1.5	7.0	.0	3.5	15.5	4.0	10.5	21.0	13.0	17.0

PAWCATUCK RIVER BASIN

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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 except those for estimated daily discharges, which are fair. Diurnal fluctuation at low flow prior to 1962 by mills upstream; regulation much greater prior to 1958. Diversion upstream for municipal supply of Westerly.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	343	210	734	1300	564	698	1970	935	e355	145	136	62
2	298	206	662	1200	510	651	2520	868	e465	144	120	64
3	272	247	788	1070	512	643	2550	812	e410	148	108	60
4	257	350	888	986	498	651	2430	766	e360	159	101	62
5	242	343	905	1070	496	873	2240	731	e330	156	95	63
6	228	338	898	1390	489	968	1990	714	e320	143	90	64
7	219	326	824	1400	450	934	1730	667	e310	132	89	62
8	214	304	744	1260	455	914	1550	648	e300	127	85	69
9	213	284	666	1150	464	899	1400	616	e285	128	84	68
10	226	269	604	1040	449	882	1340	588	e270	124	84	80
11	248	264	824	952	451	879	1310	571	e260	119	82	79
12	265	257	1870	884	462	871	1310	560	e250	123	80	73
13	268	298	2360	885	808	873	1330	537	e230	157	79	67
14	256	387	2370	956	1040	1090	1330	514	e215	161	81	64
15	241	421	2230	951	985	1180	1250	e490	e210	139	80	60
16	231	386	1990	890	970	1130	1190	e470	e200	124	80	57
17	221	346	1800	816	1830	1290	1160	e460	e195	111	80	68
18	213	318	2030	766	2010	1910	1220	e450	e190	107	88	69
19	205	301	2020	703	1880	1900	1210	e465	e180	107	98	71
20	205	294	1960	653	1620	1710	1140	e480	e175	116	88	75
21	203	289	1820	620	1380	1580	1070	e490	e170	121	86	71
22	208	302	1630	647	1220	1450	1010	e455	e180	109	80	89
23	211	488	1460	795	1100	1370	994	e430	176	105	78	100
24	205	792	1320	878	1040	1650	973	e405	167	100	71	85
25	219	865	1160	870	941	2120	926	e385	158	94	70	74
26	229	892	1050	846	837	2160	896	e360	153	88	69	87
27	229	1070	971	781	760	2070	1040	e340	159	100	68	124
28	228	1050	896	714	718	2020	1150	e325	170	156	64	163
29	219	927	873	665	---	2010	1100	e310	170	150	66	151
30	214	826	1030	619	---	1950	1010	e290	163	150	64	123
31	212	---	1250	582	---	1830	---	e280	---	158	64	---
TOTAL	7242	13650	40627	28339	24939	41156	42339	16412	7176	4001	2608	2404
MEAN	234	455	1311	914	891	1328	1411	529	239	129	84.1	80.1
MAX	343	1070	2370	1400	2010	2160	2550	935	465	161	136	163
MIN	203	206	604	582	449	643	896	280	153	88	64	57
CFSM	.79	1.54	4.44	3.10	3.02	4.50	4.78	1.79	.81	.44	.29	.27
IN.	.91	1.72	5.12	3.57	3.14	5.19	5.34	2.07	.90	.50	.33	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	264	465	666	752	812	1031	982	715	502	268	241	223
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1941 - 1993
ANNUAL TOTAL	198937	230893	
ANNUAL MEAN	544	633	579
HIGHEST ANNUAL MEAN			871
LOWEST ANNUAL MEAN			251
HIGHEST DAILY MEAN	2370	Dec 14	2550
LOWEST DAILY MEAN	143	Aug 8	57
ANNUAL SEVEN-DAY MINIMUM	165	Aug 2	62
INSTANTANEOUS PEAK FLOW			2420
INSTANTANEOUS PEAK STAGE			7.90
INSTANTANEOUS LOW FLOW			57
ANNUAL RUNOFF (CFSM)	1.84	2.14	1.96
ANNUAL RUNOFF (INCHES)	25.09	29.12	26.65
10 PERCENT EXCEEDS	937	1450	1200
50 PERCENT EXCEEDS	465	430	452
90 PERCENT EXCEEDS	213	80	130

e Estimated

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 June 1978 to September 1992.

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 are only for those values reported.

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 the winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	
		(00061)	(US/CM) (00095)	(00400)	(00020)	(00010)	(00080)	(00076)	(00300)	(00301)	(00340)	(31501)
NOV 12...	1230	255	105	6.8	6.0	5.5	--	1.2	11.8	93	--	180
JAN 19...	1120	702	87	6.5	0.0	0.5	--	0.80	13.6	93	--	130
MAR 23...	1010	1380	85	6.1	6.0	3.5	45	1.1	13.0	96	13	2100
MAY 05...	1200	731	86	6.7	20.0	17.0	--	1.8	9.4	96	--	5000
JUL 06...	1330	142	122	7.7	27.0	24.0	--	0.60	10.5	124	--	150
SEP 09...	1115	68	137	7.6	20.0	22.0	24	2.5	9.4	108	14	10100

DATE	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	ENTERO- COCCI ME,MF WATER TOTAL (COL / 100 ML) (31649)	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- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	
	NOV 12...	K15	20	24	20	17	4.3	1.4	13	1.4	0	12	10
	JAN 19...	38	K3	K6	33	14	3.5	1.2	8.5	1.0	0	5	4
	MAR 23...	K11	K18	180	--	12	3.2	1.0	9.8	0.90	0	4	3
MAY 05...	25	K4	K5	20	14	3.7	1.2	10	1.0	0	8	7	
JUL 06...	41	K9	28	38	21	5.6	1.7	14	1.2	0	14	11	
SEP 09...	56	116	60	--	--	--	--	--	--	0	22	18	

PAWCATUCK RIVER BASIN

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01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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, NITRATE TOTAL (MG/L AS N) (00620)	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)
NOV 12...	14	13	0.20	9.8	74	--	70	0.370	<0.010	0.010	0.380	0.370
JAN 19...	10	12	0.10	8.7	64	--	58	0.440	--	<0.010	--	0.440
MAR 23...	10	14	<0.10	--	--	<1	55	0.280	--	<0.010	--	0.280
MAY 05...	10	13	0.10	3.7	54	--	--	0.250	--	<0.010	--	0.250
JUL 06...	17	14	0.20	6.4	80	--	--	0.680	--	<0.010	--	0.680
SEP 09...	--	--	--	--	101	--	--	0.740	--	<0.010	--	0.740

DATE	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, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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, 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)
NOV 12...	0.030	0.040	0.27	0.30	--	0.68	0.020	<0.010	<0.010	0.010	--	140
JAN 19...	--	0.050	0.15	0.20	--	0.64	0.020	0.010	--	<0.010	--	90
MAR 23...	--	0.030	--	--	<0.20	--	0.010	0.010	--	<0.010	90	--
MAY 05...	--	0.030	0.27	0.30	--	0.55	0.020	0.020	--	<0.010	--	90
JUL 06...	--	0.020	0.28	0.30	--	0.98	0.060	0.030	--	0.010	--	130
SEP 09...	--	0.030	0.27	0.30	0.20	1.0	0.040	0.030	--	0.010	--	90

DATE	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	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 12...	--	--	10	--	--	--	<1.0	--	<1	<3	--	2
JAN 19...	--	--	10	--	--	--	<1.0	--	<1	<3	--	1
MAR 23...	--	<1	--	--	<10	<1	--	7	--	--	3	--
MAY 05...	--	--	12	--	--	--	--	--	--	<3	--	--
JUL 06...	--	--	9	--	--	--	--	--	--	<3	--	--
SEP 09...	<1	--	12	<1	--	--	<1.0	--	<1	<1	--	1

PAWCATUCK RIVER BASIN

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)
NOV 12...	--	390	--	<1	<4	--	44	--	--	<10	--	<1
JAN 19...	--	180	--	<1	<4	--	42	--	--	<10	--	<1
MAR 23...	140	--	<1	--	--	30	--	<0.10	<1	--	<1	--
MAY 05...	--	260	--	--	<4	--	44	--	--	<10	--	<1
JUL 06...	--	440	--	--	<4	--	21	--	--	<10	--	<1
SEP 09...	--	--	--	<1	--	--	4	--	--	<1	--	<1

DATE	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)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	PHENOLS TOTAL (UG/L) (32730)
NOV 12...	--	<1	--	<1.0	32	<6	--	<10	--	8.9	--
JAN 19...	--	<1	--	<1.0	27	<6	--	<10	--	4.8	--
MAR 23...	<1	--	<1	--	--	--	<10	--	--	4.5	3
MAY 05...	--	<1	--	<1.0	29	<6	--	--	--	6.4	--
JUL 06...	--	<1	--	<1.0	39	<6	--	--	--	3.7	--
SEP 09...	--	--	--	<1.0	--	--	--	6	<1.0	3.5	4

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39519)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39251)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39333)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39351)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39363)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39368)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)
SEP 09...	1115	<1	<1.0	<0.1	<1.0	<0.1	0.2	<0.1	<0.1

DATE	TIME	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39389)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)	HEPTA- CHLOR EPOXIDE TOT. IN BOT- TOM MA- TERIAL (UG/KG) (39423)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39481)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39758)	PER- THANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (81886)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)
SEP 09...		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 12...	1230	255	2	1.4	76
JAN 19...	1120	702	2	3.8	76
MAY 05...	1200	731	6	12	68
JUL 06...	1330	142	3	1.2	74

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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 to September 1969.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

WATER TEMPERATURE: Maximum, 30.5°C July 16, 1969; minimum, 0.0°C on many days during December to March.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT												
20...	1410	11	141	7.4	11.0	11.0	1.2	10.0	91	260	25	26
DEC												
15...	1115	470	118	7.0	10.0	1.0	1.6	14.7	104	340	156	21
FEB												
10...	1000	155	120	7.1	3.0	0.5	1.8	14.3	99	420	132	23
APR												
07...	0900	1540	78	6.7	12.0	3.5	6.5	13.2	99	150	20	13
JUN												
08...	0945	122	132	7.4	24.5	17.5	3.0	9.7	102	180	29	25
JUL												
15...	1130	24	194	8.1	28.0	26.5	0.70	8.9	113	160	30	34
AUG												
06...	1315	9.6	215	7.9	25.0	23.0	2.1	8.3	98	260	90	40
SEP												
01...	0915	21	232	7.5	31.0	24.0	2.2	7.7	92	520	300	42

DATE	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)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT												
20...	7.2	2.0	14	2.1	0	22	18	8.7	24	<0.10	6.5	92
DEC												
15...	5.5	1.7	14	1.4	0	11	9	9.0	22	<0.10	7.4	86
FEB												
10...	6.1	1.9	14	1.3	0	33	27	10	21	0.10	9.8	71
APR												
07...	3.3	1.1	8.3	0.90	0	4	3	7.3	14	0.10	6.0	44
JUN												
08...	6.9	1.9	16	1.3	0	16	13	8.8	34	<0.10	3.8	87
JUL												
15...	10	2.3	21	2.3	0	22	18	13	35	0.20	3.9	117
AUG												
06...	12	2.5	23	2.9	0	32	26	15	35	0.20	4.6	116
SEP												
01...	12	2.8	26	2.8	0	29	24	16	43	0.20	1.4	129

THAMES RIVER BASIN

111

01124000 QUINEBAUG RIVER AT QUINEBAUG, CT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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, 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, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
OCT 20...	96	0.320	<0.010	--	0.320	--	0.020	--	0.28	0.30	--
DEC 15...	75	0.260	0.070	--	0.330	--	0.050	--	0.25	0.30	--
FEB 10...	73	0.320	--	0.020	--	0.340	--	0.120	--	--	<0.20
APR 07...	62	0.180	--	<0.010	--	0.180	--	0.030	--	--	<0.20
JUN 08...	82	0.370	--	<0.010	--	0.370	--	0.030	0.27	0.30	0.20
JUL 15...	118	0.670	--	<0.010	--	0.670	--	0.030	0.37	0.40	0.30
AUG 06...	136	0.940	--	0.020	--	0.960	--	0.180	0.42	0.60	0.40
SEP 01...	124	0.700	--	0.010	--	0.710	--	0.060	0.24	0.30	0.40

DATE	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, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
OCT 20...	0.62	0.040	0.020	0.030	--	--	--	--	--	<1.0	<1
DEC 15...	0.63	0.030	<0.010	<0.010	--	--	--	--	--	<1.0	<1
FEB 10...	--	0.030	0.020	--	0.020	--	--	--	--	<1.0	<1
APR 07...	--	0.070	<0.010	--	<0.010	--	--	--	--	<1.0	<1
JUN 08...	0.67	0.040	0.040	--	0.010	20	<1	8	<1	<1.0	<1
JUL 15...	1.1	0.090	0.030	--	0.010	20	<1	6	<1	<1.0	<1
AUG 06...	1.6	0.070	0.030	--	0.040	20	<1	14	<1	<1.0	<1
SEP 01...	1.0	0.030	0.040	--	0.020	6	<1	16	<1	<1.0	<1

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 20...	--	2	240	<1	22	--	1	--	5	--	4.7
DEC 15...	--	1	170	<1	34	--	<1	--	7	--	4.8
FEB 10...	--	1	140	<1	40	--	<1	--	14	--	3.0
APR 07...	--	<1	75	<1	35	--	<1	--	17	--	3.3
JUN 08...	<1	2	360	<1	33	<1	<1	<1.0	3	<1.0	4.8
JUL 15...	<1	2	180	<1	51	<1	2	<1.0	4	<1.0	4.0
AUG 06...	<1	1	370	<1	88	<1	1	<1.0	2	<1.0	4.6
SEP 01...	<1	3	87	<1	40	<1	1	<1.0	3	<1.0	7.2

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 Monomonac and other reservoirs upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	56	144	291	e84	e36	1160	221	54	20	e15	e5.2
2	122	51	121	e260	e75	37	1420	136	64	17	e12	e5.2
3	132	96	130	e240	e66	47	1320	115	60	15	e20	e5.0
4	111	116	128	213	61	46	1080	106	51	14	e27	e5.8
5	85	100	119	382	57	49	812	96	43	11	e23	e7.0
6	71	108	104	527	51	57	615	96	50	10	e28	e9.0
7	57	92	98	533	44	58	527	98	53	9.5	e16	e7.4
8	45	77	94	453	45	54	505	93	49	9.4	e13	e7.0
9	39	68	88	370	41	54	521	85	45	9.1	e12	e9.0
10	54	74	81	311	38	55	567	80	42	9.0	e10	e13
11	56	85	83	271	38	55	750	72	34	8.6	e9.6	e13
12	55	86	125	234	37	53	927	70	30	8.5	e9.0	e11
13	47	179	102	216	45	48	1050	66	26	8.9	e8.2	e9.8
14	41	181	90	214	49	72	1000	60	23	8.3	e7.6	e7.0
15	37	147	86	198	45	89	848	53	21	8.4	e7.0	e5.6
16	40	126	80	178	42	74	682	47	20	8.4	e7.2	e4.9
17	54	121	111	158	62	81	742	45	18	8.2	e8.8	e6.0
18	57	114	229	e150	62	115	873	44	17	8.4	e21	e10
19	54	100	250	e130	56	110	752	56	16	8.3	e30	e14
20	53	87	264	e120	46	97	575	62	18	11	e25	e12
21	52	83	262	88	40	94	440	61	19	9.8	e20	e10
22	47	108	248	94	42	89	385	57	20	e9.0	e16	e9.0
23	42	235	212	120	44	81	373	52	18	e8.6	e12	e27
24	43	266	e190	133	40	111	348	47	17	e8.2	e10	e21
25	70	286	e180	232	35	101	313	48	15	e8.0	e9.2	e17
26	69	284	e170	214	e37	103	289	43	14	e7.6	e8.0	e25
27	60	303	e150	186	e38	133	360	38	13	e8.2	e7.2	e40
28	55	268	141	154	e37	195	348	34	15	e9.0	e6.8	64
29	51	218	129	129	---	360	314	32	20	e10	e6.2	62
30	54	171	155	e110	---	658	272	28	23	e19	e5.8	52
31	60	---	253	e92	---	911	---	25	---	e18	e5.4	---
TOTAL	1910	4286	4617	7001	1357	4123	20168	2166	908	326.4	416.0	493.9
MEAN	61.6	143	149	226	48.5	133	672	69.9	30.3	10.5	13.4	16.5
MAX	132	303	264	533	84	911	1420	221	64	20	30	64
MIN	37	51	80	88	35	36	272	25	13	7.6	5.4	4.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1993, BY WATER YEAR (WY)

MEAN	90.9	116	137	136	134	260	376	182	114	62.0	53.4	67.2
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	9.75
(WY)	1948	1979	1979	1981	1980	1965	1985	1965	1964	1965	1965	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1916 - 1993

ANNUAL TOTAL	41331		47772.3				
ANNUAL MEAN	113		131		144		
HIGHEST ANNUAL MEAN					231		1956
LOWEST ANNUAL MEAN					38.5		1965
HIGHEST DAILY MEAN	390	Mar 12	1420	Apr 2	6130		Sep 22 1938
LOWEST DAILY MEAN	24	Sep 10	4.9	Sep 16	3.1		Oct 4 1930
ANNUAL SEVEN-DAY MINIMUM	30	Sep 10	5.5	Aug 29	4.5		Sep 24 1939
INSTANTANEOUS PEAK FLOW			1490	Apr 2	8500		Sep 22 1938
INSTANTANEOUS PEAK STAGE			9.25	Apr 2	21.55		Sep 22 1938
INSTANTANEOUS LOW FLOW			3.6	Sep 16	.00		Sep 20 1918
10 PERCENT EXCEEDS	243		312		331		
50 PERCENT EXCEEDS	86		56		88		
90 PERCENT EXCEEDS	37		9.0		19		

e Estimated

CONNECTICUT RIVER BASIN

113

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. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	12	53	66	22	e10	285	56	16	2.0	3.4	1.2
2	4.8	11	46	64	20	e10	212	47	21	1.9	2.8	1.1
3	4.4	17	48	51	20	10	161	40	15	2.0	7.2	1.1
4	4.0	34	46	46	19	10	131	35	11	1.9	5.7	1.3
5	3.8	35	39	71	18	10	116	31	8.2	1.8	6.0	1.8
6	3.5	31	34	141	16	10	110	28	9.4	1.6	4.4	1.7
7	3.4	28	31	137	14	10	114	26	11	1.6	3.2	1.7
8	3.3	24	28	105	e13	10	124	24	8.7	1.5	2.8	1.7
9	3.3	21	23	82	e12	11	142	21	7.5	1.4	2.5	2.4
10	7.7	18	20	e56	e11	12	167	19	6.4	1.3	2.2	2.6
11	12	17	20	49	e11	12	247	17	5.6	1.2	2.0	2.8
12	13	17	22	42	e11	12	272	19	6.1	1.1	1.7	2.5
13	13	30	23	39	e12	11	265	15	5.8	3.1	1.7	2.2
14	12	48	23	36	e12	12	219	14	6.0	8.0	1.7	1.9
15	10	41	23	34	e12	13	178	12	5.2	4.9	1.7	1.7
16	10	33	22	33	e12	16	148	11	4.3	2.8	1.5	1.6
17	11	28	25	31	e14	16	195	11	3.8	2.1	1.6	2.1
18	15	26	45	29	e13	20	252	9.5	3.3	1.7	2.9	2.7
19	15	23	55	24	e12	25	185	11	3.1	1.5	8.5	2.7
20	15	18	55	23	e11	24	138	13	3.1	1.6	5.9	2.5
21	15	15	59	22	e11	22	107	11	4.0	1.6	4.5	2.0
22	13	21	53	24	e11	20	89	9.6	5.1	1.3	3.5	3.5
23	12	41	47	33	e11	18	89	8.7	4.5	1.1	2.9	5.6
24	11	73	42	38	e11	19	91	8.8	3.6	1.1	2.4	4.6
25	16	77	33	57	e10	20	81	9.3	3.1	1.0	2.2	3.5
26	18	82	30	62	e10	24	70	8.9	2.8	.94	2.0	3.8
27	17	92	25	52	e10	34	84	7.8	2.7	1.1	1.7	6.2
28	15	90	22	43	e10	48	96	6.8	2.6	1.3	1.6	13
29	14	76	22	36	---	78	82	6.7	2.6	1.7	1.5	12
30	13	63	29	30	---	213	67	6.2	2.2	3.4	1.3	8.6
31	13	---	49	24	---	319	---	5.6	---	4.2	1.2	---
TOTAL	326.9	1142	1092	1580	369	1079	4517	548.9	193.7	63.74	94.2	102.1
MEAN	10.5	38.1	35.2	51.0	13.2	34.8	151	17.7	6.46	2.06	3.04	3.40
MAX	18	92	59	141	22	319	285	56	21	8.0	8.5	13
MIN	3.3	11	20	22	10	10	67	5.6	2.2	.94	1.2	1.1
CFSM	.54	1.96	1.82	2.63	.68	1.79	7.76	.91	.33	.11	.16	.18
IN.	.63	2.19	2.09	3.03	.71	2.07	8.66	1.05	.37	.12	.18	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1993, BY WATER YEAR (WY)

	MEAN	28.6	33.4	29.4	27.4	63.2	93.3	43.0	25.0	12.3	10.3	12.5
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1916 - 1993

ANNUAL TOTAL	9872.6	11108.54	
ANNUAL MEAN	27.0	30.4	32.7
HIGHEST ANNUAL MEAN			55.0
LOWEST ANNUAL MEAN			8.19
HIGHEST DAILY MEAN	193	Mar 12	2280
LOWEST DAILY MEAN	3.3	Oct 8	.10
ANNUAL SEVEN-DAY MINIMUM	3.7	Oct 3	.19
INSTANTANEOUS PEAK FLOW			3000
INSTANTANEOUS PEAK STAGE			9.90
INSTANTANEOUS LOW FLOW			.08
ANNUAL RUNOFF (CFSM)	1.39		1.69
ANNUAL RUNOFF (INCHES)	18.93		22.93
10 PERCENT EXCEEDS	63		80
50 PERCENT EXCEEDS	18		17
90 PERCENT EXCEEDS	6.2		2.5

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	20	68	117	41	28	442	89	49	8.9	14	13
2	15	18	61	128	e40	27	351	78	58	7.8	13	12
3	15	38	72	100	38	26	272	68	43	7.6	29	9.9
4	14	61	82	71	37	27	223	63	31	8.7	26	16
5	15	52	75	149	35	29	191	58	26	8.1	21	17
6	17	51	64	239	33	34	184	60	34	7.3	16	13
7	17	44	54	204	e32	31	194	58	37	6.7	13	9.8
8	17	35	47	152	28	30	205	52	31	8.7	12	9.3
9	17	29	40	113	28	33	220	47	27	19	11	12
10	37	26	33	e84	27	35	238	41	24	24	11	12
11	40	26	32	72	27	36	292	39	21	18	9.9	12
12	35	26	45	66	26	34	313	40	19	13	9.0	12
13	32	65	46	64	34	30	327	38	16	11	8.7	10
14	28	74	44	e66	32	71	303	33	17	9.5	9.6	10
15	27	52	43	63	31	63	250	31	15	8.5	9.3	9.3
16	30	40	42	61	30	48	213	28	15	8.2	7.9	9.4
17	30	34	55	57	44	57	239	26	13	7.5	9.0	9.5
18	28	32	108	56	e48	106	281	26	12	7.3	22	12
19	24	29	116	e53	e39	e84	231	34	11	5.9	39	12
20	25	26	111	e48	e36	e76	187	43	12	7.7	35	10
21	24	24	111	45	e33	64	155	38	13	8.5	26	9.6
22	22	43	98	53	31	59	137	33	14	7.3	19	23
23	20	105	79	73	31	60	146	32	14	7.1	14	40
24	21	144	e66	77	33	59	140	28	11	6.7	13	35
25	35	134	e63	125	e32	60	119	30	10	6.8	12	25
26	30	121	51	123	e30	70	104	26	9.6	5.6	11	22
27	25	141	e47	88	e28	98	150	23	9.9	7.5	9.7	29
28	21	137	39	68	29	128	162	21	9.0	8.8	12	60
29	20	108	41	55	---	208	133	19	9.1	9.9	13	56
30	21	83	68	e50	---	405	106	18	9.0	12	11	40
31	21	---	101	e48	---	465	---	17	---	16	12	---
TOTAL	738	1818	2002	2768	933	2581	6508	1237	619.6	299.6	478.1	569.8
MEAN	23.8	60.6	64.6	89.3	33.3	83.3	217	39.9	20.7	9.66	15.4	19.0
MAX	40	144	116	239	48	465	442	89	58	24	39	60
MIN	14	18	32	45	26	26	104	17	9.0	5.6	7.9	9.3
CFSM	.70	1.78	1.89	2.62	.98	2.44	6.36	1.17	.61	.28	.45	.56
IN.	.81	1.98	2.18	3.02	1.02	2.82	7.10	1.35	.68	.33	.52	.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1993, BY WATER YEAR (WY)

	MEAN	40.2	58.3	65.6	58.9	65.5	108	127	74.6	52.9	27.1	27.0	25.7
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1965 - 1993
ANNUAL TOTAL	18599	20552.1	
ANNUAL MEAN	50.8	56.3	62.0
HIGHEST ANNUAL MEAN			90.0
LOWEST ANNUAL MEAN			30.2
HIGHEST DAILY MEAN	265	Mar 28	883
LOWEST DAILY MEAN	13	Sep 18	3.3
ANNUAL SEVEN-DAY MINIMUM	15	Sep 16	3.7
INSTANTANEOUS PEAK FLOW			948
INSTANTANEOUS PEAK STAGE			5.02
INSTANTANEOUS LOW FLOW			2.2
ANNUAL RUNOFF (CFSM)	1.49	1.65	1.82
ANNUAL RUNOFF (INCHES)	20.29	22.42	24.70
10 PERCENT EXCEEDS	103	135	134
50 PERCENT EXCEEDS	40	32	41
90 PERCENT EXCEEDS	18	9.6	11

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189	e300	e840	906	e420	e250	1830	1110	315	85	167	57
2	206	e300	e760	839	e400	e250	1540	956	474	83	139	60
3	e210	e330	e760	808	e370	e250	3030	814	407	74	313	59
4	e210	e510	e740	830	e360	262	2880	656	264	81	234	74
5	e200	e580	e720	1170	e340	300	2860	602	230	77	172	81
6	e180	e540	e630	1580	e320	266	3220	576	257	73	136	83
7	e165	e500	e580	1640	e290	e270	3010	581	299	66	113	83
8	e150	e430	e540	1680	e280	e275	2910	557	277	83	103	61
9	e140	e380	e500	1300	e270	e280	3090	532	237	110	114	104
10	e160	e340	e460	1050	e260	e300	3180	496	208	80	80	97
11	e220	e340	e420	890	e260	e310	3390	449	172	86	86	96
12	e270	e370	e410	784	e250	e320	3240	457	174	90	71	87
13	e280	e450	e420	691	e250	346	3280	416	144	73	72	81
14	e260	e700	e490	e640	e270	e360	3030	372	131	68	80	75
15	e240	e720	e460	e580	e250	e400	3310	345	136	66	91	68
16	e220	e620	457	e500	e270	e370	3470	356	131	64	98	74
17	e240	e500	513	e470	e300	388	3220	305	116	63	127	91
18	e260	475	760	e430	e300	471	3090	301	101	73	128	86
19	e270	468	862	e400	e290	549	3040	327	98	53	155	92
20	e265	e370	872	e420	e260	563	3040	350	107	72	155	81
21	e260	e350	882	e460	e260	483	3110	380	152	68	126	60
22	e250	e400	883	e470	e275	431	2240	369	134	67	124	104
23	e230	e500	837	e500	e300	e400	2180	342	129	64	108	164
24	e220	e790	681	e580	e280	415	2370	302	104	66	100	163
25	e270	e960	476	913	e260	438	2040	246	100	54	104	123
26	e355	e1100	634	1020	e260	429	1780	300	88	55	75	144
27	e380	e1200	535	1040	e260	576	1850	230	112	61	76	176
28	e350	e1200	497	825	e260	738	1670	206	76	79	60	268
29	e320	e1100	475	655	---	1360	1430	179	94	83	65	290
30	e310	e1000	562	e460	---	2420	1280	204	88	174	68	236
31	e315	---	775	e430	---	3280	---	191	---	224	58	---
TOTAL	7595	17823	19431	24961	8165	17750	79610	13507	5355	2515	3598	3318
MEAN	245	594	627	805	292	573	2654	436	178	81.1	116	111
MAX	380	1200	883	1680	420	3280	3470	1110	474	224	313	290
MIN	140	300	410	400	250	250	1280	179	76	53	58	57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1993, BY WATER YEAR (WY)

	MEAN	342	519	634	603	598	1166	1597	839	527	287	235	271
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1916 - 1993
ANNUAL TOTAL	181392	203628	
ANNUAL MEAN	496	558	634
HIGHEST ANNUAL MEAN			1044
LOWEST ANNUAL MEAN			196
HIGHEST DAILY MEAN	2210	Mar 12	22000
LOWEST DAILY MEAN	80	Sep 22	8.0
ANNUAL SEVEN-DAY MINIMUM	112	Sep 16	35
INSTANTANEOUS PEAK FLOW		3770	29000
INSTANTANEOUS PEAK STAGE		6.01	13.37
INSTANTANEOUS LOW FLOW		50	
10 PERCENT EXCEEDS	976	1290	1480
50 PERCENT EXCEEDS	409	300	400
90 PERCENT EXCEEDS	161	77	105

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. Flow regulated by Somerset and Harriman Reservoirs and by several powerplants upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	569	231	729	1070	970	974	1280	1400	140	111	187	955
2	519	561	793	1050	919	970	862	1420	211	206	108	581
3	355	802	669	1090	943	981	1150	1320	187	112	152	188
4	166	663	434	1050	980	964	1070	1260	179	108	169	192
5	487	644	601	2570	965	953	1020	1260	186	109	194	191
6	533	752	624	2590	952	943	1040	1100	218	301	196	135
7	486	635	612	2080	1070	959	1220	941	194	301	195	360
8	460	531	594	2010	965	893	1180	954	412	299	191	133
9	482	522	648	1840	911	976	1350	915	517	306	109	108
10	260	449	719	1590	866	923	1840	611	478	216	112	110
11	227	301	624	897	954	1080	2260	807	395	265	112	112
12	316	654	371	1010	704	645	1520	444	164	108	187	109
13	292	868	570	1020	675	756	1540	612	163	108	199	127
14	285	454	756	921	681	637	1410	395	256	200	201	107
15	255	310	629	924	620	629	1730	515	149	195	196	190
16	291	429	693	1080	674	477	2810	277	150	203	163	387
17	173	571	748	866	613	523	5060	340	206	206	210	355
18	177	580	729	1030	572	621	3100	408	401	201	201	384
19	253	532	457	967	713	585	2580	470	89	108	216	200
20	225	546	786	963	681	569	2720	691	164	107	190	247
21	275	687	828	962	620	481	2790	406	400	189	192	310
22	443	821	1120	1100	681	475	3300	422	357	181	192	565
23	378	711	1020	982	884	487	5580	267	207	193	224	564
24	344	383	869	977	994	486	3360	546	197	196	293	567
25	485	742	875	1070	1000	474	2580	499	215	196	121	381
26	560	579	967	1020	917	581	2490	483	289	107	225	619
27	539	708	958	993	950	473	2580	331	348	111	301	698
28	451	1100	948	966	964	593	2430	211	88	109	209	777
29	429	989	966	990	---	1020	2240	169	88	112	191	602
30	485	915	958	1020	---	1870	1840	174	101	110	144	579
31	182	---	990	1000	---	1600	---	90	---	186	801	---
TOTAL	11382	18670	23285	37698	23438	24598	65932	19738	7149	5460	6381	10833
MEAN	367	622	751	1216	837	793	2198	637	238	176	206	361
MAX	569	1100	1120	2590	1070	1870	5580	1420	517	306	801	955
MIN	166	231	371	866	572	473	862	90	88	107	108	107

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1993, BY WATER YEAR (WY)

	MEAN	653	732	828	896	887	1027	1126	845	522	391	479	463
MAX	1238	1233	1252	1502	1694	1993	2198	1934	1290	696	1630	957	
(WY)	1978	1976	1976	1978	1981	1990	1993	1984	1989	1989	1976	1974	
MIN	127	215	466	472	495	659	354	212	186	152	206	229	
(WY)	1983	1981	1977	1977	1992	1980	1985	1987	1991	1991	1993	1982	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1974 - 1993	
ANNUAL TOTAL	211196		254564		735	
ANNUAL MEAN	577		697		471	
HIGHEST ANNUAL MEAN					1001	
LOWEST ANNUAL MEAN					471	
HIGHEST DAILY MEAN	1920	Mar 11	5580	Apr 23	12000	May 30 1984
LOWEST DAILY MEAN	50	Jun 21	88	Jun 28	28	Nov 14 1981
ANNUAL SEVEN-DAY MINIMUM	97	May 24	115	Sep 8	86	Oct 14 1982
INSTANTANEOUS PEAK FLOW			7660	Apr 23	20900	May 29 1984
INSTANTANEOUS PEAK STAGE			10.21	Apr 23	14.79	Aug 10 1976
INSTANTANEOUS LOW FLOW			67	Mar 15		
10 PERCENT EXCEEDS	1050		1240		1280	
50 PERCENT EXCEEDS	487		564		642	
90 PERCENT EXCEEDS	185		159		144	

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. Flow regulated by Somerset Reservoir, since 1924 by Harriman Reservoir, and by several powerplants upstream. Telephone gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	511	255	814	1710	994	936	2470	1650	263	124	192	864
2	487	572	863	1300	991	921	1560	1660	309	213	124	606
3	299	813	975	1230	1010	931	1560	1580	244	128	177	287
4	218	937	552	1190	999	922	1400	1460	225	123	176	197
5	388	759	644	3320	987	916	1310	1440	234	117	196	188
6	490	756	719	3330	950	901	1430	1350	373	293	193	114
7	456	752	630	2320	1070	911	1600	1110	301	299	203	348
8	428	619	653	2100	973	858	1760	1080	445	301	191	139
9	424	582	662	1930	914	934	2080	1110	544	325	110	132
10	418	587	725	1700	886	882	3320	805	499	225	112	171
11	278	379	746	1070	937	1060	5020	880	432	260	112	145
12	330	554	417	1050	711	641	2900	633	219	119	183	121
13	327	1280	609	1140	701	741	2640	667	201	111	201	129
14	274	801	765	1030	691	728	2350	547	283	196	211	110
15	293	387	677	998	680	660	2510	494	188	194	208	186
16	364	566	733	1110	683	600	3700	485	189	200	143	357
17	241	665	903	1050	621	585	8160	424	228	202	233	353
18	227	608	1190	942	647	702	4200	468	401	201	246	379
19	257	584	659	1010	660	669	3160	575	134	114	201	211
20	323	602	1020	1010	697	630	3270	678	138	136	220	241
21	319	612	922	990	721	519	3300	631	430	192	199	297
22	446	1100	1220	1120	651	513	4560	504	403	179	194	429
23	403	1260	1110	1130	867	522	8320	293	305	187	214	530
24	379	717	953	1000	931	562	4200	612	215	190	284	532
25	453	1040	1010	1200	1010	500	3060	534	227	190	125	456
26	612	1110	1010	1090	903	652	2900	529	294	109	218	472
27	536	944	1030	1040	920	644	3210	440	360	118	279	723
28	467	1270	962	1010	931	1020	2780	279	128	127	205	760
29	447	1150	1030	1000	---	2790	2570	226	107	126	186	663
30	523	1030	1150	1050	---	4520	2260	221	106	160	122	531
31	220	---	1700	987	---	3090	---	145	---	200	561	---
TOTAL	11838	23291	27053	42157	23736	31460	93560	23510	8425	5659	6219	10671
MEAN	382	776	873	1360	848	1015	3119	758	281	183	201	356
MAX	612	1280	1700	3330	1070	4520	8320	1660	544	325	561	864
MIN	218	255	417	942	621	500	1310	145	106	109	110	110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1993, BY WATER YEAR (WY)

	MEAN	605	835	980	973	978	1377	1865	1132	653	445	457	492
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1913 - 1993
ANNUAL TOTAL	256940	307579	
ANNUAL MEAN	702	843	899
HIGHEST ANNUAL MEAN			1364
LOWEST ANNUAL MEAN			455
HIGHEST DAILY MEAN	3740	Mar 11	31100
LOWEST DAILY MEAN	115	Jun 17	5.0
ANNUAL SEVEN-DAY MINIMUM	178	May 24	34
INSTANTANEOUS PEAK FLOW		13000	56300
INSTANTANEOUS PEAK STAGE		9.43	20.17
INSTANTANEOUS LOW FLOW		96	
10 PERCENT EXCEEDS	1220	1650	1680
50 PERCENT EXCEEDS	569	608	680
90 PERCENT EXCEEDS	230	178	183

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. Telephone and satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	49	144	479	e100	e62	1090	274	161	24	29	e6.1
2	37	47	133	281	e96	e62	653	239	99	23	27	e6.5
3	36	181	193	200	e93	64	478	213	71	23	39	e12
4	34	187	176	198	e90	65	388	196	60	25	24	18
5	32	126	150	928	e87	64	367	181	57	23	20	16
6	31	139	e120	553	e84	65	439	194	167	21	17	14
7	30	108	129	318	e81	65	501	173	116	20	17	13
8	30	88	e100	249	e78	65	618	155	82	21	17	13
9	32	75	e96	193	e78	74	825	138	69	25	19	29
10	150	70	e87	e150	e77	74	1420	125	62	19	17	48
11	81	74	109	140	78	72	2590	119	53	18	16	52
12	61	82	112	149	e72	e62	1630	156	49	18	16	28
13	52	316	117	148	81	e65	1390	117	46	17	15	21
14	47	186	e105	141	e78	e70	1130	103	43	17	16	19
15	44	128	e100	138	e75	e80	979	95	40	16	18	17
16	61	105	103	136	74	e90	1170	109	49	15	17	18
17	71	95	155	132	e76	101	2800	94	44	14	24	22
18	58	92	322	126	e75	e150	1090	84	37	13	41	33
19	60	83	199	e120	e70	e135	708	107	35	13	32	27
20	75	73	186	e120	e72	e115	674	117	40	37	23	23
21	64	88	e160	e115	e70	94	616	117	74	27	22	19
22	61	237	156	157	72	89	978	95	57	20	19	19
23	55	394	143	213	e70	e87	2250	82	45	17	16	20
24	59	251	114	166	e65	87	714	75	35	16	15	20
25	80	372	86	233	e60	93	524	76	31	15	15	19
26	67	344	e140	e170	e62	128	486	68	29	14	15	20
27	57	334	e130	e150	e60	208	640	63	36	16	15	44
28	52	224	e115	132	e58	359	467	61	30	21	17	111
29	51	181	119	119	---	e1600	363	59	28	30	13	54
30	54	159	173	e105	---	2500	312	54	26	40	e12	35
31	52	---	481	e105	---	1540	---	53	---	48	e6.5	---
TOTAL	1712	4888	4653	6564	2132	8385	28290	3792	1771	666	609.5	796.6
MEAN	55.2	163	150	212	76.1	270	943	122	59.0	21.5	19.7	26.6
MAX	150	394	481	928	100	2500	2800	274	167	48	41	111
MIN	30	47	86	105	58	62	312	53	26	13	6.5	6.1
CFSM	.62	1.83	1.69	2.38	.86	3.04	10.6	1.37	.66	.24	.22	.30
IN.	.72	2.04	1.94	2.74	.89	3.50	11.82	1.58	.74	.28	.25	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	MEAN	99.1	170	176	141	158	335	572	276	138	66.6	50.2	55.3
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1940 - 1993

ANNUAL TOTAL	60090	64259.1	
ANNUAL MEAN	164	176	186
HIGHEST ANNUAL MEAN			299
LOWEST ANNUAL MEAN			79.9
HIGHEST DAILY MEAN	2730	2800	8740
LOWEST DAILY MEAN	29	6.1	5.1
ANNUAL SEVEN-DAY MINIMUM	32	10	6.3
INSTANTANEOUS PEAK FLOW		4610	14200
INSTANTANEOUS PEAK STAGE		7.62	11.19
INSTANTANEOUS LOW FLOW		5.7	
ANNUAL RUNOFF (CFSM)	1.84	1.98	2.09
ANNUAL RUNOFF (INCHES)	25.12	26.86	28.42
10 PERCENT EXCEEDS	318	369	427
50 PERCENT EXCEEDS	100	75	91
90 PERCENT EXCEEDS	43	17	20

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	13	33	e50	e24	e15	321	84	43	7.0	8.7	2.7
2	17	13	32	e43	e23	e15	219	75	26	6.6	7.9	3.2
3	15	60	72	e38	e21	e15	165	69	20	7.2	12	3.7
4	14	40	56	e45	e20	e15	143	65	18	7.5	7.7	5.4
5	12	27	44	e80	e19	e15	142	62	18	7.0	6.2	4.9
6	11	30	37	e68	e19	e15	164	76	27	5.8	5.4	3.6
7	10	23	e32	e54	e19	e15	186	60	22	5.7	5.2	3.6
8	9.1	20	e29	e45	e18	e15	222	54	18	5.9	5.1	3.9
9	9.5	18	e27	e40	e18	e15	266	49	17	7.4	4.9	6.5
10	76	17	e27	e37	e18	e14	421	44	16	5.8	6.1	6.5
11	22	18	e26	e35	e18	e14	598	41	14	4.6	5.1	6.1
12	18	19	e27	e34	e18	e14	413	38	14	4.4	4.9	4.4
13	15	84	e28	e34	e17	e14	393	35	13	4.5	8.9	3.6
14	13	38	e27	e33	e17	e14	308	33	12	3.9	7.7	3.6
15	11	28	e27	e32	e17	e14	265	31	12	3.9	5.7	3.5
16	14	24	e30	e32	e17	e14	303	30	12	3.6	6.1	3.3
17	19	22	e37	e31	e17	e14	593	27	11	3.6	9.0	6.1
18	15	22	e60	e31	e16	e14	249	26	10	3.5	11	8.3
19	15	21	e47	e31	e16	e15	184	40	9.7	4.0	9.6	5.8
20	17	22	e42	e31	e16	e16	163	36	12	8.5	7.1	4.8
21	14	22	e39	e31	e16	e20	135	35	14	5.7	7.0	4.4
22	14	39	e37	e31	e16	e25	302	29	14	4.4	5.6	5.7
23	13	87	e35	e32	e16	e30	416	26	10	3.7	5.0	6.8
24	16	52	e35	e40	e16	e40	167	24	8.8	3.6	4.9	5.6
25	29	78	e33	e50	e16	e50	131	24	8.1	3.6	4.8	4.8
26	18	71	e31	e39	e15	e80	152	21	7.7	3.4	3.8	6.4
27	15	61	e30	e35	e15	e180	230	21	12	7.1	3.8	10
28	14	45	e32	e30	e15	e200	133	20	9.2	8.5	3.7	15
29	13	39	e40	e28	---	e650	108	19	7.9	14	3.6	8.0
30	14	36	e56	e26	---	758	94	18	7.4	30	3.3	6.6
31	14	---	e70	e25	---	408	---	18	---	14	3.2	---
TOTAL	523.6	1089	1178	1191	493	2733	7586	1230	443.8	208.4	193.0	166.8
MEAN	16.9	36.3	38.0	38.4	17.6	88.2	253	39.7	14.8	6.72	6.23	5.56
MAX	76	87	72	80	24	758	598	84	43	30	12	15
MIN	9.1	13	26	25	15	14	94	18	7.4	3.4	3.2	2.7
CFSM	.70	1.51	1.58	1.59	.73	3.66	10.5	1.65	.61	.28	.26	.23
IN.	.81	1.68	1.82	1.84	.76	4.22	11.71	1.90	.69	.32	.30	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	MEAN	28.0	47.9	52.0	43.6	52.5	94.9	132	73.0	46.5	21.0	18.0	16.3
MAX	85.5	109	142	116	163	179	253	171	144	60.0	57.0	65.1	
(WY)	1976	1978	1974	1978	1981	1979	1993	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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1966 - 1993
ANNUAL TOTAL	14579.1	17035.6	
ANNUAL MEAN	39.8	46.7	52.1
HIGHEST ANNUAL MEAN			76.9
LOWEST ANNUAL MEAN			21.5
HIGHEST DAILY MEAN	537	758	1570
LOWEST DAILY MEAN	6.0	2.7	2.5
ANNUAL SEVEN-DAY MINIMUM	7.1	3.3	2.8
INSTANTANEOUS PEAK FLOW		e1400	5750
INSTANTANEOUS PEAK STAGE		6.47	10.16
INSTANTANEOUS LOW FLOW		2.7	2.5
ANNUAL RUNOFF (CFSM)	1.65	1.94	2.16
ANNUAL RUNOFF (INCHES)	22.50	26.30	29.40
10 PERCENT EXCEEDS	74	85	110
50 PERCENT EXCEEDS	29	18	29
90 PERCENT EXCEEDS	12	4.9	7.3

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. WDR MA-RI-92-1: 1991.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	676	323	1030	2960	1530	1330	5620	2340	704	177	263	940
2	635	639	1410	1940	1440	1230	3380	2260	502	176	196	726
3	460	1300	1790	1940	1470	1320	2890	2150	339	177	310	430
4	373	1560	1030	1850	1450	1360	2530	1940	386	176	195	251
5	503	1080	1010	4670	1420	1210	2350	1920	374	167	318	213
6	589	1120	1110	5120	1320	1350	2600	1910	752	245	166	172
7	581	1100	1060	3320	1380	1210	2890	1520	462	356	229	271
8	553	904	1050	2880	1620	1110	3430	1600	556	300	232	251
9	611	770	904	2550	1240	1160	3970	1600	688	428	206	195
10	928	846	1030	2270	1360	1090	6400	1090	613	269	132	263
11	474	720	1050	1650	1150	1300	10500	1060	621	246	149	248
12	539	784	953	1410	1130	977	6660	1080	366	225	202	167
13	458	1920	941	1500	1030	943	5980	789	345	215	246	159
14	400	1370	1090	1610	1040	877	4950	997	303	162	244	149
15	410	627	1200	1420	978	963	4770	720	317	161	268	199
16	515	947	884	1480	958	895	6060	766	252	219	246	277
17	423	948	1350	1550	959	939	13100	640	356	219	286	485
18	369	830	2090	1210	827	1140	7240	707	407	273	320	457
19	434	789	1260	1410	934	1150	4990	789	296	181	299	331
20	489	877	1470	1520	988	1030	4980	790	215	186	272	265
21	603	882	1410	1450	1050	881	4900	1130	522	234	268	325
22	545	1830	1580	1590	921	760	5650	717	511	211	220	419
23	602	2040	1720	1870	1210	753	12800	581	417	195	252	638
24	676	1450	1330	1510	1190	835	6300	666	278	241	252	566
25	657	1720	1270	1760	1460	815	4540	726	306	221	279	547
26	712	2040	1580	1620	1210	1100	4140	782	342	142	221	661
27	783	1750	1350	1470	1350	1310	5150	582	516	160	253	732
28	702	1750	1590	1450	1230	1900	4100	452	283	180	325	1090
29	617	1800	1620	1400	---	5790	3520	314	176	196	209	806
30	673	1600	1640	1490	---	10500	3200	325	169	430	187	622
31	396	---	2670	1430	---	6990	---	274	---	265	457	---
TOTAL	17386	36316	41472	61300	33845	54218	159590	33217	12374	7033	7702	12855
MEAN	561	1211	1338	1977	1209	1749	5320	1072	412	227	248	428
MAX	928	2040	2670	5120	1620	10500	13100	2340	752	430	457	1090
MIN	369	323	884	1210	827	753	2350	274	169	142	132	149

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1993, BY WATER YEAR (WY)

	MEAN	835	1196	1413	1364	1420	2117	2944	1715	954	561	562	622
MAX	4632	3302	2967	2801	3890	4771	5320	4094	2600	1658	2142	2112	
(WY)	1956	1956	1974	1978	1981	1953	1993	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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1904 - 1993
ANNUAL TOTAL	420690	477308	
ANNUAL MEAN	1149	1308	1305
HIGHEST ANNUAL MEAN			1795
LOWEST ANNUAL MEAN			629
HIGHEST DAILY MEAN	8520	13100	38300
LOWEST DAILY MEAN	251	132	28
ANNUAL SEVEN-DAY MINIMUM	276	174	39
INSTANTANEOUS PEAK FLOW		19600	61700
INSTANTANEOUS PEAK STAGE		9.35	17.71
INSTANTANEOUS LOW FLOW		30	
10 PERCENT EXCEEDS	2030	2630	2640
50 PERCENT EXCEEDS	908	877	956
90 PERCENT EXCEEDS	383	219	264

CONNECTICUT RIVER BASIN

121

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.

WATER DISCHARGE RECORDS

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	18	65	e200	e45	e28	580	144	79	14	13	5.3
2	13	17	59	103	e44	e28	375	128	51	13	15	5.3
3	13	61	84	73	e41	e28	260	116	39	13	18	7.1
4	13	72	83	99	e40	e28	209	108	34	14	11	9.2
5	12	48	69	333	e38	e28	179	101	33	13	9.6	8.0
6	11	48	53	224	e37	e28	206	103	77	12	8.6	7.5
7	11	42	60	137	e36	e28	230	100	56	11	8.3	12
8	11	35	51	110	e35	e28	265	88	43	11	8.3	9.0
9	12	29	e43	81	e35	e29	346	77	39	10	13	17
10	65	28	e40	e68	e35	e30	480	70	35	9.6	9.6	22
11	31	28	e42	e62	e35	e30	1030	73	31	8.9	8.5	18
12	24	28	e50	e66	e35	e29	733	83	29	8.3	8.2	12
13	19	115	e52	e64	e36	e25	589	64	27	8.2	8.3	9.6
14	18	73	e52	e62	e35	e27	527	59	25	7.6	9.3	9.4
15	17	51	e48	e60	e34	e28	504	56	24	7.5	9.2	8.2
16	22	41	e50	e59	e34	e30	475	59	29	7.0	8.5	8.1
17	25	37	e76	e56	e34	e50	1010	52	25	6.9	13	11
18	23	37	e145	e55	e34	e68	671	48	21	6.4	22	14
19	20	33	98	e53	e33	e60	374	56	20	6.8	18	12
20	26	31	77	e52	e33	e47	336	61	28	20	13	10
21	27	38	75	e52	e34	e44	307	60	38	13	12	8.7
22	22	78	e70	e76	e34	e40	284	54	32	9.4	9.6	8.8
23	21	150	e66	e86	e31	e39	806	49	24	8.5	8.5	9.0
24	20	119	57	e74	e29	e41	414	43	20	7.7	8.2	9.0
25	26	135	e41	e92	e28	e47	273	43	18	7.6	9.7	8.6
26	26	148	e52	e72	e38	e55	224	39	18	7.0	8.3	12
27	23	153	e61	e66	e27	e64	299	36	19	9.8	6.5	24
28	19	104	e54	e58	e28	e88	270	34	17	12	6.7	44
29	19	81	e54	e52	---	e260	189	34	16	14	6.1	23
30	19	73	e96	e48	---	1090	164	32	15	21	5.6	15
31	19	---	e170	e46	---	805	---	32	---	21	5.4	---
TOTAL	641	1951	2093	2739	978	3250	12609	2102	962	339.2	319.0	376.8
MEAN	20.7	65.0	67.5	88.4	34.9	105	420	67.8	32.1	10.9	10.3	12.6
MAX	65	153	170	333	45	1090	1030	144	79	21	22	44
MIN	11	17	40	46	27	25	164	32	15	6.4	5.4	5.3
CFSM	.50	1.57	1.63	2.13	.84	2.53	10.2	1.64	.77	.26	.25	.30
IN.	.58	1.75	1.88	2.46	.88	2.92	11.33	1.89	.86	.30	.29	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1993, BY WATER YEAR (WY)

	MEAN	49.8	83.1	86.1	69.6	83.0	164	257	133	73.9	37.3	27.3	24.4
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	10.9	9.62	6.55	
(WY)	1983	1979	1983	1981	1980	1971	1981	1986	1985	1993	1968	1983	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1968 - 1993

ANNUAL TOTAL	26134.1	28360.0	
ANNUAL MEAN	71.4	77.7	90.5
HIGHEST ANNUAL MEAN			136
LOWEST ANNUAL MEAN			44.4
HIGHEST DAILY MEAN	790	Mar 27	2420
LOWEST DAILY MEAN	9.1	Sep 21	3.3
ANNUAL SEVEN-DAY MINIMUM	11	Sep 15	3.6
INSTANTANEOUS PEAK FLOW			4560
INSTANTANEOUS PEAK STAGE			8.87
INSTANTANEOUS LOW FLOW			1.9
ANNUAL RUNOFF (CFSM)	1.72	1.88	2.19
ANNUAL RUNOFF (INCHES)	23.48	25.48	29.71
10 PERCENT EXCEEDS	145	166	208
50 PERCENT EXCEEDS	48	34	49
90 PERCENT EXCEEDS	17	8.8	12

e Estimated

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION) (00301)	HARD- NESS TOTAL AS CACO3) (00900)
JAN										
04...	1255	106	--	--	--	1.0	--	--	--	--
FEB										
10...	1426	35	--	--	--	0.0	--	--	--	--
MAR										
17...	0830	31	--	--	--	7.0	--	--	--	--
25...	1030	47	101	6.5	11.0	0.0	762	14.6	100	35
APR										
08...	1000	265	76	7.6	8.0	-1.0	756	14.6	98	27
22...	1000	284	66	7.1	8.0	4.0	747	12.7	99	24
28...	1650	270	--	--	--	9.0	--	--	--	--
29...	1030	189	81	7.6	18.0	2.0	758	14.2	103	27
MAY										
20...	1030	61	101	7.5	12.0	7.0	744	11.9	100	37
JUN										
10...	1117	35	--	--	--	17.5	--	--	--	--
24...	1030	20	110	7.1	22.0	13.0	762	9.6	91	46
30...	1100	16	96	7.2	24.0	23.5	749	7.8	94	--
JUL										
15...	1000	7.5	113	6.8	27.0	21.0	748	8.2	94	54
AUG										
04...	0830	11	111	7.7	26.0	20.0	753	9.0	101	52
25...	0830	9.7	112	8.1	24.0	20.0	750	8.2	92	49
SEP										
13...	0830	9.6	108	7.7	24.0	15.0	755	9.8	98	10

DATE	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)
JAN										
04...	--	--	--	--	--	--	--	--	--	--
FEB										
10...	--	--	--	--	--	--	--	--	--	--
MAR										
17...	--	--	--	--	--	--	--	--	--	--
25...	13	0.2	0	69	0.8	0.1	4.2	56	0.90	7.4
APR										
08...	13	0.2	0	38	1.2	--	3.6	47	0.80	7.3
22...	12	0.1	0	33	1.7	0.2	2.2	34	0.60	7.1
28...	--	--	--	--	--	--	--	--	--	--
29...	11	0.1	0	47	1.2	0.1	2.7	57	0.70	7.5
MAY										
20...	10	0.1	0	34	1.3	0.2	2.7	50	1.0	7.4
JUN										
10...	--	--	--	--	--	--	--	--	--	--
24...	10	0.2	--	43	1.1	0.2	3.0	57	1.2	7.7
30...	--	--	--	--	--	--	--	--	--	--
JUL										
15...	9	0.1	0	55	0.9	0.1	2.5	73	1.5	7.7
AUG										
04...	8	0.1	0	67	1.7	0.1	2.1	72	1.4	8.1
25...	9	0.1	0	63	1.2	0.7	2.3	66	1.4	8.1
SEP										
13...	43	0.5	--	61	1.3	0.1	4.4	32	0.50	6.5

CONNECTICUT RIVER BASIN

123

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	ALKALINITY LAB (MG/L AS CACO3) (90410)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
JAN 04...	76	--	--	--	--	--	--	--	--
FEB 10...	104	--	--	--	--	--	--	--	--
MAR 17...	179	--	--	--	--	--	--	--	--
25...	94	33	20	1	12	1.3	6.3	2.5	7.0
APR 08...	73	24	12	3	9.3	0.98	5.0	2.0	6.3
22...	60	21	27	3	8.1	0.87	4.9	1.6	7.3
28...	93	--	--	--	--	--	--	--	--
29...	68	23	17	2	9.4	0.96	5.1	1.6	6.5
MAY 20...	89	34	19	2	13	1.2	5.6	2.0	6.4
JUN 10...	104	--	--	--	--	--	--	--	--
24...	106	40	7	2	16	1.5	5.6	2.4	6.7
30...	--	--	--	--	--	--	--	--	--
JUL 15...	125	50	5	3	19	1.6	5.3	2.4	7.5
AUG 04...	119	47	8	1	18	1.6	4.9	2.2	7.6
25...	115	45	7	<1	17	1.6	5.8	2.3	7.5
SEP 13...	42	10	82	14	2.9	0.59	8.3	3.6	4.1

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)
JAN 04...	--	--	--	--	--	--	--	--	--
FEB 10...	--	--	--	--	--	--	--	--	--
MAR 17...	--	--	--	--	--	--	--	--	--
25...	<0.10	<0.010	<0.010	0.220	0.010	<0.010	<0.20	0.30	<0.010
APR 08...	<0.10	<0.010	<0.010	0.130	0.010	<0.010	<0.20	<0.20	<0.010
22...	<0.10	<0.010	<0.010	0.095	0.010	0.010	<0.20	<0.20	0.040
28...	--	--	--	--	--	--	--	--	--
29...	<0.10	<0.010	<0.010	0.110	0.020	<0.010	<0.20	<0.20	<0.010
MAY 20...	0.10	<0.010	<0.010	0.070	<0.010	0.020	<0.20	0.20	<0.010
JUN 10...	--	--	--	--	--	--	--	--	--
24...	<0.10	<0.010	<0.010	0.088	0.030	<0.010	<0.20	<0.20	<0.010
30...	--	--	--	--	--	--	--	--	--
JUL 15...	<0.10	<0.010	<0.010	0.110	0.020	<0.010	<0.20	<0.20	<0.010
AUG 04...	<0.10	<0.010	<0.010	0.120	0.020	<0.010	<0.20	<0.20	<0.010
25...	0.10	<0.010	<0.010	0.078	0.020	<0.010	<0.20	<0.20	<0.010
SEP 13...	0.30	<0.010	<0.010	0.050	0.020	<0.010	<0.20	<0.20	<0.010

CONNECTICUT RIVER BASIN

01170500 CONNECTICUT RIVER AT MONTAGUE CITY, MA

LOCATION.--Lat 42°34'43" (revised), 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.

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. Telephone and satellite gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8340	8460	19100	17500	7230	6810	69700	27500	9050	5520	6440	7690
2	5440	7780	16500	18200	8970	7100	54700	19000	9590	4140	6790	4700
3	4200	10200	18000	11300	9480	7040	46900	23200	11500	3450	7170	3840
4	4070	12000	16900	11800	9440	6370	46400	21700	10200	2580	7340	3310
5	5060	14600	12100	15800	8280	7060	46500	19500	6950	2290	5830	3880
6	5150	12200	12000	26600	7060	5690	41400	16000	6530	3180	3930	3190
7	5300	10700	10500	26200	5480	3830	37900	17500	8680	4290	2650	3470
8	5440	11100	9130	18500	8090	6550	40800	17300	10400	4760	2290	3520
9	5840	11000	8890	18800	8260	7210	44000	14900	10200	4480	2730	3480
10	8470	13400	8840	15700	7890	7030	57900	11700	9190	3910	2830	3670
11	6650	10900	9460	14900	6770	7880	77600	13300	9380	3660	2620	5480
12	6090	10500	8610	12500	5970	7810	78200	11400	7200	4290	2840	5910
13	6790	13000	9450	11100	6440	6560	74300	12500	6270	3090	2920	4300
14	5450	15400	9380	10800	5870	4270	69300	11200	9020	3760	2890	3990
15	6440	16600	9940	12200	6740	7880	65800	10800	8200	3610	2720	6430
16	5680	15700	7010	9440	7700	7250	66400	8950	7630	3670	2580	5150
17	4940	17200	9460	8940	6910	8320	74100	10300	8230	3070	2620	5060
18	4140	13500	11100	8850	6910	9970	78400	8960	8020	3060	4240	4200
19	7010	12000	13500	9500	7980	11100	73800	9480	6110	2880	4440	3330
20	8100	11800	7520	10100	4880	9100	66500	10900	3920	2840	3630	3320
21	8990	6560	11900	9870	3870	9350	61600	10800	8220	3090	3360	4800
22	9110	8740	12600	12400	6540	8310	57900	9760	9330	3330	3010	4910
23	5570	16500	12600	11500	6850	9120	67800	7640	10700	2940	5660	5650
24	4330	23500	9210	8540	7840	11000	61500	8100	10400	2250	5550	5160
25	6740	28400	8070	13700	8300	5150	48700	9060	10900	2760	5940	4630
26	10400	23600	7030	13000	7610	5570	47600	9020	6280	2960	7780	5060
27	10700	27600	5640	11400	4630	12700	50900	9430	3840	2750	8230	9070
28	9800	25500	7790	13000	4390	14500	45200	7100	7720	2300	7010	10300
29	10000	23000	8760	12500	---	26900	38300	6330	6940	2460	4370	11600
30	9970	19600	10600	6200	---	66900	31900	6180	5910	5800	6350	10800
31	10500	---	15900	6080	---	78000	---	5500	---	7880	8570	---
TOTAL	214710	451040	337490	406920	196380	392330	1722000	385010	246510	111050	145330	159900
MEAN	6926	15030	10890	13130	7014	12660	57400	12420	8217	3582	4688	5330
MAX	10700	28400	19100	26600	9480	78000	78400	27500	11500	7880	8570	11600
MIN	4070	6560	5640	6080	3870	3830	31900	5500	3840	2250	2290	3190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1993, BY WATER YEAR (WY)

	MEAN	8499	12300	12360	10710	10330	20710	38930	23410	11380	6518	5533	5951
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1904 - 1993
ANNUAL TOTAL	4563640	4768670	
ANNUAL MEAN	12470	13060	13880
HIGHEST ANNUAL MEAN			20680
LOWEST ANNUAL MEAN			6768
HIGHEST DAILY MEAN	62800	Apr 26	233000
LOWEST DAILY MEAN	2550	Aug 16	215
ANNUAL SEVEN-DAY MINIMUM	4010	Jul 25	1300
INSTANTANEOUS PEAK FLOW			236000
INSTANTANEOUS PEAK STAGE		29.13	49.20
INSTANTANEOUS LOW FLOW		Jul 29	
10 PERCENT EXCEEDS	22200		31700
50 PERCENT EXCEEDS	9160		8890
90 PERCENT EXCEEDS	4590		3020

CONNECTICUT RIVER BASIN

125

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 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	27	47	135	e39	e28	498	76	65	11	14	4.8
2	15	27	43	100	e35	27	404	68	49	10	14	5.0
3	15	54	92	e67	35	27	265	61	31	11	25	5.2
4	15	59	109	60	36	28	225	57	26	12	13	12
5	14	43	80	137	36	28	200	55	24	10	11	8.7
6	14	43	57	163	e35	30	216	61	31	9.1	9.1	6.5
7	15	36	47	106	e31	29	217	57	29	8.8	8.8	5.9
8	15	31	41	79	e30	30	210	50	25	14	8.7	7.0
9	16	26	e33	63	e30	e31	206	45	23	18	8.6	9.7
10	32	24	28	e48	30	e35	216	42	22	14	8.9	9.7
11	31	25	63	43	e29	e36	291	40	19	9.7	8.1	8.9
12	28	27	176	43	e29	e33	241	38	18	8.4	7.5	6.8
13	25	87	121	43	e30	31	239	35	17	8.4	7.7	6.0
14	24	67	84	41	e30	e37	174	33	16	7.5	7.5	5.5
15	21	44	63	40	e30	e34	135	31	15	7.2	6.9	5.2
16	23	32	54	e40	e30	e31	116	30	15	6.7	7.1	6.1
17	27	28	e90	e40	e42	54	284	30	15	6.8	9.9	9.4
18	22	28	e130	e39	e51	108	275	28	14	6.7	20	11
19	21	28	e150	e38	e45	87	176	39	14	6.8	13	8.2
20	24	25	e87	e35	e40	69	128	40	15	13	10	6.8
21	23	24	e90	e35	e35	58	103	35	17	10	10	6.4
22	22	39	e76	60	32	58	125	31	21	8.2	8.2	38
23	23	140	e60	99	33	60	211	30	16	7.7	7.4	28
24	21	142	e48	97	e31	88	145	27	13	7.1	7.2	13
25	36	109	e43	190	e30	109	106	28	12	7.0	6.7	9.4
26	33	95	41	122	e30	171	99	25	12	6.8	6.2	10
27	29	118	e34	88	e29	264	222	24	16	11	5.9	15
28	26	89	31	60	29	316	156	23	17	14	5.5	24
29	24	67	35	50	---	642	108	23	18	11	5.5	15
30	29	54	75	e46	---	834	86	21	15	18	5.1	10
31	29	---	162	41	---	533	---	20	---	24	4.7	---
TOTAL	708	1638	2290	2248	942	3946	6077	1203	640	323.9	291.2	317.2
MEAN	22.8	54.6	73.9	72.5	33.6	127	203	38.8	21.3	10.4	9.39	10.6
MAX	36	142	176	190	51	834	498	76	65	24	25	38
MIN	14	24	28	35	29	27	86	20	12	6.7	4.7	4.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1966	41.1	136	1970	6.94	1981
1967	54.2	124	1971	9.68	1979
1968	68.5	132	1972	13.3	1981
1969	66.6	149	1973	5.80	1981
1970	76.4	184	1974	21.2	1980
1971	123	212	1975	43.6	1989
1972	119	220	1976	34.6	1985
1973	79.4	192	1977	27.4	1986
1974	48.9	152	1978	14.3	1988
1975	25.8	74.8	1979	10.4	1993
1976	28.1	86.7	1980	4.40	1966
1977	24.5	106	1981	5.75	1978

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1966 - 1993
ANNUAL TOTAL	19969	20624.3	
ANNUAL MEAN	54.6	56.5	63.0
HIGHEST ANNUAL MEAN			89.0
LOWEST ANNUAL MEAN			29.5
HIGHEST DAILY MEAN	349	834	1580
LOWEST DAILY MEAN	10	4.7	2.1
ANNUAL SEVEN-DAY MINIMUM	13	5.1	3.1
INSTANTANEOUS PEAK FLOW		1130	2100
INSTANTANEOUS PEAK STAGE		7.11	9.94
INSTANTANEOUS LOW FLOW		4.4	1.9
10 PERCENT EXCEEDS	102	135	133
50 PERCENT EXCEEDS	44	30	38
90 PERCENT EXCEEDS	19	7.7	10

e Estimated

CONNECTICUT RIVER BASIN

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 fair. Prior to 1956, flow regulated by mill upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	34	87	217	e92	e48	796	187	125	12	11	7.1
2	20	31	82	134	e87	e48	614	165	68	12	25	7.0
3	19	130	265	113	e84	48	423	148	47	13	49	9.4
4	18	105	202	130	e80	48	351	137	39	13	20	20
5	17	68	139	305	e76	48	336	124	37	11	14	12
6	16	69	107	238	72	e49	412	149	49	9.8	12	8.7
7	16	55	102	165	e69	50	446	121	45	10	11	8.5
8	16	45	89	143	e66	50	469	105	38	13	11	14
9	18	41	73	122	e62	56	508	95	35	18	10	15
10	115	39	77	96	61	57	679	83	33	14	10	18
11	56	44	104	99	56	57	982	78	28	11	10	15
12	38	53	123	105	e54	52	644	71	26	11	9.7	11
13	33	231	105	109	e60	e50	641	63	24	10	9.8	9.6
14	44	115	93	106	e60	e60	481	60	23	8.6	9.5	9.0
15	44	75	86	97	e56	e75	412	57	22	7.5	8.6	8.6
16	47	62	82	e92	55	e72	409	55	22	7.0	22	9.1
17	52	58	154	e82	75	e80	785	53	19	6.4	41	15
18	47	56	248	e76	67	e150	446	51	17	6.8	31	15
19	48	52	154	e70	e63	e90	321	77	16	8.9	25	12
20	51	48	140	e80	e60	83	271	78	16	17	18	10
21	44	48	135	e78	e58	67	237	72	23	12	17	9.8
22	28	84	113	126	e56	67	494	58	25	8.9	14	26
23	25	228	108	159	e55	67	890	52	18	7.7	12	21
24	29	140	91	134	e54	104	374	47	15	7.0	11	16
25	52	166	80	189	e52	120	282	48	14	6.8	9.9	13
26	36	172	97	125	e51	165	293	41	13	6.7	9.5	16
27	30	177	96	111	e50	231	563	38	15	17	9.1	26
28	e31	121	112	97	e49	304	321	37	15	23	8.6	41
29	32	104	95	86	---	1300	250	37	15	16	7.9	25
30	40	95	156	73	---	1430	216	34	14	15	7.7	18
31	38	---	289	95	---	916	---	34	---	12	7.4	---
TOTAL	1120	2746	3884	3852	1780	6042	14346	2455	896	352.1	471.7	445.8
MEAN	36.1	91.5	125	124	63.6	195	478	79.2	29.9	11.4	15.2	14.9
MAX	115	231	289	305	92	1430	982	187	125	23	49	41
MIN	16	31	73	70	49	48	216	34	13	6.4	7.4	7.0
CFSM	.67	1.70	2.32	2.30	1.18	3.61	8.86	1.47	.55	.21	.28	.28
IN.	.77	1.89	2.68	2.65	1.23	4.16	9.88	1.69	.62	.24	.32	.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1993, BY WATER YEAR (WY)

	MEAN	53.3	85.8	96.7	87.1	102	192	236	132	76.9	37.8	35.6	32.9
MAX	456	334	227	287	338	475	478	326	300	125	254	150	
(WY)	1956	1956	1974	1978	1981	1953	1993	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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1939 - 1993

ANNUAL TOTAL	34196	38390.6	
ANNUAL MEAN	93.4	105	97.1
HIGHEST ANNUAL MEAN			152
LOWEST ANNUAL MEAN			39.1
HIGHEST DAILY MEAN	892	Mar 11	1430
LOWEST DAILY MEAN	16	Sep 21	6.4
ANNUAL SEVEN-DAY MINIMUM	17	Oct 3	7.8
INSTANTANEOUS PEAK FLOW			2000
INSTANTANEOUS PEAK STAGE			6.14
INSTANTANEOUS LOW FLOW			6.0
ANNUAL RUNOFF (CFSM)	1.73		1.95
ANNUAL RUNOFF (INCHES)	23.56		26.45
10 PERCENT EXCEEDS	176		242
50 PERCENT EXCEEDS	69		53
90 PERCENT EXCEEDS	31		10
			14

e Estimated

CONNECTICUT RIVER BASIN

127

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 47 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3280	7030	15400	11500	e5900	5080	82000	25900	6690	6050	6270	7390
2	4130	4010	11200	e13000	5550	6030	64900	18300	4270	4310	5240	4750
3	2280	7280	13100	e8500	7530	6240	49000	18300	7210	3520	5900	3650
4	2480	9460	12900	e7520	7980	5820	45200	16600	5230	2920	6480	3790
5	2600	9370	10400	e8120	8230	5920	45300	18000	5010	2640	4750	2450
6	2650	7000	9140	e14400	6590	5910	41100	16100	6430	2430	4490	3310
7	2620	7750	9140	22700	e5500	4190	35900	15200	7630	2960	2730	2840
8	2530	9140	8290	e15400	e5650	4080	35800	14100	8970	4150	1990	3770
9	2750	6500	4560	13300	7290	6240	40500	12200	7990	4840	1930	2500
10	3900	7580	4700	e10600	7160	6510	49800	10300	6800	3250	1910	2850
11	5350	8950	5660	e8500	7260	6810	74700	9600	7630	3550	1910	3600
12	4170	7850	7780	e8500	5730	7290	82500	8660	8030	3410	1910	4780
13	3810	7620	8520	8820	4510	6340	79800	7680	5910	3310	2430	4710
14	4520	9280	8520	e7500	6110	5010	74200	7340	8080	3010	2250	3330
15	3010	11300	8660	e7000	6250	4770	68100	8300	7840	2880	2120	4610
16	3040	11000	6260	e7000	6460	7510	66400	6740	7820	3190	2170	4950
17	2550	11000	4900	e6500	6960	6740	71900	6480	7940	2890	2220	4440
18	2690	10100	5940	e5500	6110	8620	81900	6850	7710	2480	2930	3730
19	2600	8810	8840	e5500	7000	8500	79700	5200	6960	2430	3580	3150
20	3320	8770	7910	e6000	5930	8780	69800	5470	4840	2130	2920	3020
21	4630	7960	7960	e7000	3990	8510	62800	5720	5910	2110	2860	2390
22	6150	6010	7460	7880	3670	7410	58500	5980	8760	2270	2490	3280
23	5100	9550	8250	9260	6710	7980	66400	5510	9750	2530	3200	3570
24	2900	14800	8320	8390	6530	9130	65800	4440	8890	2230	4930	4030
25	3420	22000	6610	7930	7450	7290	52700	4550	9120	1990	4440	3510
26	7430	20100	5780	9310	7020	5590	44000	4800	8140	2110	5180	4170
27	8990	20700	4730	8610	5500	9100	48400	4160	4040	2320	6450	5530
28	7310	22300	5840	8890	4170	10400	46900	4470	5840	2480	5950	6540
29	6260	18400	7060	9040	---	19700	35400	4320	7170	2200	4640	8770
30	6680	15400	8530	e7400	---	63700	29500	4260	5830	3030	4580	8580
31	8490	---	9590	e4250	---	83400	---	6710	---	5740	4970	---
TOTAL	131640	327020	251950	283820	174740	358600	1748900	292240	212440	95360	115820	127990
MEAN	4246	10900	8127	9155	6241	11570	58300	9427	7081	3076	3736	4266
MAX	8990	22300	15400	22700	8230	83400	82500	25900	9750	6050	6480	8770
MIN	2280	4010	4560	4250	3670	4080	29500	4160	4040	1990	1910	2390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1993, BY WATER YEAR (WY)

MEAN	9477	11930	10380	8003	9435	18010	33210	16420	10680	5436	5815	4965
MAX	16340	16810	20720	12880	21890	34660	58300	31900	31100	8595	14780	8601
(WY)	1991	1991	1991	1991	1984	1990	1993	1989	1984	1984	1990	1987
MIN	1512	3540	5787	4760	4250	9579	15650	7366	4088	2578	2718	1378
(WY)	1985	1985	1985	1989	1987	1989	1985	1987	1988	1991	1985	1984

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1984 - 1993
ANNUAL TOTAL	3559900	4120520	
ANNUAL MEAN	9727	11290	11510
HIGHEST ANNUAL MEAN			15310
LOWEST ANNUAL MEAN			6580
HIGHEST DAILY MEAN	62600	Apr 26	145000
LOWEST DAILY MEAN	2250	Sep 4	519
ANNUAL SEVEN-DAY MINIMUM	2560	Oct 3	707
INSTANTANEOUS PEAK FLOW			153000
INSTANTANEOUS PEAK STAGE		17.55	Apr 1
INSTANTANEOUS LOW FLOW		199	Dec 9
10 PERCENT EXCEEDS	18100	21200	25500
50 PERCENT EXCEEDS	7040	6510	7720
90 PERCENT EXCEEDS	3270	2670	2920

e Estimated

CONNECTICUT RIVER BASIN

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 below 10 ft³/s, which are fair, and those above 200 ft³/s, which are poor. 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. Telephone gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	106	e87	e87	51	417	140	52	7.7	6.7	3.6
2	9.9	13	90	e88	e69	51	517	125	70	6.3	5.9	3.5
3	9.0	e30	100	e90	e60	50	666	112	67	6.3	5.9	3.3
4	7.6	50	115	e151	e60	42	692	104	56	6.8	5.4	7.2
5	6.7	52	113	e208	e61	40	689	98	61	6.0	7.6	10
6	7.6	61	96	e283	e61	41	672	97	58	4.9	6.2	7.1
7	7.1	56	79	e464	e61	41	655	91	56	5.2	6.2	5.2
8	7.3	46	69	e477	e61	41	652	83	46	12	6.3	7.0
9	7.2	40	52	e350	e60	47	651	76	39	48	6.5	15
10	24	34	44	e312	e60	49	328	70	35	35	4.6	13
11	31	31	45	e200	e59	49	219	64	30	21	3.3	11
12	31	31	48	e128	e52	49	313	66	30	14	2.9	8.5
13	30	51	49	e120	e49	50	411	59	27	11	3.2	6.4
14	26	68	56	e120	e50	50	531	60	23	8.2	5.5	6.0
15	23	60	76	e96	e56	49	604	55	20	6.6	4.1	5.0
16	19	49	83	e79	e51	72	563	49	17	5.1	3.5	4.7
17	17	42	83	e81	e51	78	450	45	15	4.0	4.6	5.8
18	15	38	100	e82	e57	92	448	42	13	3.9	29	7.3
19	15	34	121	84	e72	142	520	50	11	3.9	36	7.0
20	19	32	128	98	e75	151	584	57	11	5.8	29	6.2
21	18	30	149	141	e74	143	375	57	12	5.4	24	5.8
22	17	42	177	116	e73	136	208	52	15	3.9	16	34
23	15	122	199	96	e73	113	227	50	13	3.2	11	37
24	14	217	205	98	e70	105	218	49	11	3.0	8.4	27
25	18	195	199	e127	e66	91	187	46	8.8	3.0	6.8	21
26	18	174	168	e170	e54	117	162	41	8.0	2.6	5.4	20
27	17	229	145	e177	e50	148	103	37	8.2	4.1	4.7	33
28	15	230	109	e199	e51	118	234	33	9.4	5.8	4.6	86
29	14	170	66	e160	---	58	292	31	12	4.9	4.7	81
30	13	129	70	e79	---	19	221	28	9.4	5.2	4.4	59
31	13	---	e84	e80	---	222	---	25	---	6.9	3.8	---
TOTAL	495.4	2370	3224	5041	1723	2505	12809	1992	843.8	269.7	276.2	546.6
MEAN	16.0	79.0	104	163	61.5	80.8	427	64.3	28.1	8.70	8.91	18.2
MAX	31	230	205	477	87	222	692	140	70	48	36	86
MIN	6.7	13	44	79	49	19	103	25	8.0	2.6	2.9	3.3
(†)	2.4	4.4	42.5	27.6	23.7	216.1	7.8	2.9	2.2	2.2	2.0	3.4
MEAN‡	16.0	79.8	118	157	59.9	153	347	62.4	27.9	8.70	8.84	18.8
CFMS‡	.29	1.45	2.14	2.85	1.09	2.78	6.30	1.13	.51	.16	.16	.34
IN.‡	.33	1.62	2.47	3.29	1.13	3.19	7.02	1.31	.56	.18	.18	.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1993, BY WATER YEAR (WY)

	MEAN	52.6	84.0	100	99.5	107	176	234	124	76.0	31.6	30.4	27.2
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1946 - 1993

ANNUAL TOTAL	27922.6	32095.7	
ANNUAL MEAN	76.3	87.9	95.0
ANNUAL MEAN‡	76.3	88.0	95.0
HIGHEST ANNUAL MEAN			157
LOWEST ANNUAL MEAN			29.5
HIGHEST DAILY MEAN	319	Apr 1	692
LOWEST DAILY MEAN	6.7	Oct 5	2.6
ANNUAL SEVEN-DAY MINIMUM	7.5	Oct 3	3.6
INSTANTANEOUS PEAK FLOW			708
INSTANTANEOUS PEAK STAGE			5.00
INSTANTANEOUS LOW FLOW			2.3
ANNUAL RUNOFF (CFMS)‡	1.38	1.60	1.72
ANNUAL RUNOFF (INCHES)‡	18.84	21.68	23.41
10 PERCENT EXCEEDS	171	208	219
50 PERCENT EXCEEDS	59	49	60
90 PERCENT EXCEEDS	17	5.7	7.6

e Estimated

† Monthend contents, in millions of cubic feet, in Barre Falls Reservoir; records furnished by U.S. Army Corps of Engineers. Monthend contents on September 30, 1992, 2.4 millions of cubic feet.

‡ Adjusted for change in contents in Barre Falls Reservoir.

Note.--Except as footnoted, all statistics are based on unadjusted daily and monthly mean discharges.

CONNECTICUT RIVER BASIN

129

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 fair Oct. 1 to June 17; good thereafter. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	34	210	224	151	112	929	274	124	22	22	12
2	31	33	186	205	142	97	925	245	132	19	20	11
3	25	74	221	191	136	96	964	226	120	19	22	13
4	22	92	231	274	116	86	988	213	103	20	22	26
5	46	117	207	537	125	84	975	203	107	19	16	24
6	35	108	174	570	120	86	1010	201	110	22	12	18
7	26	94	163	681	114	87	956	189	105	21	11	15
8	25	76	144	648	119	89	980	176	88	47	12	24
9	30	72	131	517	115	99	958	162	76	116	11	33
10	65	74	107	478	115	99	650	150	68	74	12	28
11	61	62	122	309	116	99	613	141	59	49	11	23
12	57	62	132	239	108	97	673	141	56	36	11	20
13	51	125	133	214	109	93	788	140	51	58	11	16
14	47	131	130	233	108	99	848	125	46	29	12	15
15	100	120	133	198	108	99	880	114	35	20	15	14
16	48	99	141	177	111	125	790	110	23	18	17	15
17	37	87	208	177	125	126	805	99	30	16	14	16
18	33	79	275	154	124	186	753	96	28	15	51	18
19	34	73	253	153	126	230	771	119	27	14	68	17
20	40	64	253	177	129	242	794	123	26	17	58	16
21	39	71	281	235	126	220	557	118	31	18	45	20
22	36	112	298	229	126	210	393	111	35	15	34	83
23	28	319	303	212	125	191	438	106	30	15	26	68
24	36	376	288	224	122	183	390	98	26	14	21	48
25	41	339	285	301	113	169	333	90	22	14	19	38
26	27	351	257	305	102	208	336	83	20	13	16	39
27	38	457	264	297	97	273	307	74	20	14	15	91
28	35	376	229	299	97	285	432	69	25	17	14	151
29	33	275	151	239	---	360	455	64	27	17	15	117
30	33	247	186	158	---	533	347	56	24	20	13	89
31	34	---	229	156	---	835	---	56	---	24	12	---
TOTAL	1230	4599	6325	9011	3325	5798	21038	4172	1674	832	658	1118
MEAN	39.7	153	204	291	119	187	701	135	55.8	26.8	21.2	37.3
MAX	100	457	303	681	151	835	1010	274	132	116	68	151
MIN	22	33	107	153	97	84	307	56	20	13	11	11
MEAN†	39.7	154	218	285	117	259	621	133	55.5	26.8	21.2	37.8
CFSM†	.41	1.60	2.26	2.96	1.21	2.69	6.45	1.38	.58	.28	.22	.39
IN.†	.48	1.79	2.61	3.41	1.27	3.10	7.20	1.59	.64	.32	.25	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	MEAN	87.3	136	166	173	175	323	409	220	140	68.3	55.5	67.1
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1928 - 1993
ANNUAL TOTAL	48828	59780	
ANNUAL MEAN	133	164	168
ANNUAL MEAN†	133	164	168
HIGHEST ANNUAL MEAN			277
LOWEST ANNUAL MEAN			56.4
HIGHEST DAILY MEAN	457	Nov 27	1010
LOWEST DAILY MEAN	17	Sep 20	11
ANNUAL SEVEN-DAY MINIMUM	21	Sep 16	11
INSTANTANEOUS PEAK FLOW			14000
INSTANTANEOUS PEAK STAGE			664.28
ANNUAL RUNOFF (CFSM)†	1.38	1.70	1.74
ANNUAL RUNOFF (INCHES)†	18.86	23.10	23.69
10 PERCENT EXCEEDS	278	376	381
50 PERCENT EXCEEDS	124	99	109
90 PERCENT EXCEEDS	32	16	20

† Adjusted for change in contents in Barre Falls Reservoir.

Note.--Except as footnoted, all statistics are based on unadjusted daily and monthly mean data.

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. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--18 years, (water years 1913-30) prior to diversions in 1931, 313 ft³/s, 21.36 in/vr.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	84	482	782	e290	e210	1830	685	195	55	71	46
2	72	85	404	e540	e260	e220	1510	567	291	60	62	28
3	74	150	470	e430	e290	e210	1200	506	241	62	59	9.1
4	64	228	545	487	e290	186	1190	450	219	62	55	22
5	57	206	499	1070	e250	198	1090	443	174	60	17	51
6	78	256	423	1560	e220	211	1090	443	181	49	65	50
7	72	230	364	1220	e190	e200	1060	435	243	42	55	43
8	60	192	319	1270	e200	e190	1030	378	185	53	40	23
9	61	142	e250	1110	e220	216	1020	357	147	87	14	77
10	181	144	e240	e810	e200	e230	1420	297	144	164	13	74
11	175	132	303	e770	211	244	1500	322	140	108	49	56
12	166	135	458	595	201	e240	1420	310	124	116	35	52
13	151	214	416	483	214	e290	1490	251	108	88	14	51
14	134	326	377	454	218	e290	1480	266	79	65	14	38
15	104	268	327	470	e190	e300	1450	246	90	65	14	22
16	156	223	313	e400	e190	e270	1450	215	88	72	62	29
17	119	189	466	e390	e280	e350	1540	233	77	63	61	64
18	108	159	1060	e360	e330	e700	1620	173	57	41	71	58
19	95	161	883	e350	e240	e760	1400	228	59	16	62	56
20	91	142	786	e320	e200	e680	1340	225	60	23	72	44
21	91	135	818	e340	e200	592	1290	e230	65	23	119	21
22	97	175	701	458	220	531	978	e240	103	50	66	e56
23	90	682	670	532	233	e520	935	e250	84	24	55	e180
24	88	1050	e630	563	e270	589	909	e200	49	57	55	e100
25	105	910	e500	914	e250	592	788	189	58	57	55	87
26	102	822	e420	829	e220	733	701	156	66	35	53	64
27	101	1180	e370	666	e220	1140	1010	149	68	24	35	95
28	90	1050	e370	592	e200	1470	886	141	67	31	12	296
29	101	809	386	586	---	2330	915	140	57	58	9.8	222
30	92	602	472	e400	---	2960	863	138	28	63	32	199
31	74	---	725	e320	---	2270	---	126	---	23	49	---
TOTAL	3134	11081	15447	20071	6497	19922	36405	8989	3547	1796	1445.8	2213.1
MEAN	101	369	498	647	232	643	1213	290	118	57.9	46.6	73.8
MAX	181	1180	1060	1560	330	2960	1830	685	291	164	119	296
MIN	57	84	240	320	190	186	701	126	28	16	9.8	9.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1993, BY WATER YEAR (WY)

MEAN	165	249	286	311	313	497	577	371	251	140	123	141
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1931 - 1993
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ANNUAL TOTAL	113822		130547.9			
ANNUAL MEAN	311		358		285	
HIGHEST ANNUAL MEAN					581	1938
LOWEST ANNUAL MEAN					107	1965
HIGHEST DAILY MEAN	1210	Mar 12	2960	Mar 30	16700	Sep 21 1938
LOWEST DAILY MEAN	29	Sep 16	9.1	Sep 3	7.0	Sep 12 1953
ANNUAL SEVEN-DAY MINIMUM	64	Sep 16	22	Aug 9	9.4	Sep 8 1953
INSTANTANEOUS PEAK FLOW			3370	Mar 29	22700	Sep 21 1938
INSTANTANEOUS PEAK STAGE			6.64	Mar 29	18.20	Sep 21 1938
INSTANTANEOUS LOW FLOW			8.3	Aug 29	5.0	Oct 26 1914
10 PERCENT EXCEEDS	654		991		588	
50 PERCENT EXCEEDS	261		201		212	
90 PERCENT EXCEEDS	89		49		48	

e Estimated

CONNECTICUT RIVER BASIN

131

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. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	24	97	176	72	41	593	130	64	10	15	.93
2	12	22	80	154	67	38	478	120	81	9.1	14	.76
3	11	37	82	121	63	38	350	108	72	8.9	20	.45
4	11	63	90	111	62	38	280	100	60	8.9	21	2.0
5	9.8	65	90	188	62	42	241	96	50	8.0	21	3.0
6	8.8	65	79	339	62	48	252	100	58	6.4	18	3.1
7	8.0	61	78	255	58	44	274	99	57	6.2	16	2.9
8	7.7	55	78	186	52	43	283	90	52	7.4	13	3.4
9	8.5	47	78	149	52	43	284	85	47	11	12	4.9
10	20	39	78	118	50	46	294	78	42	15	11	5.3
11	29	35	78	103	49	49	405	72	37	13	10	5.4
12	33	36	76	99	51	47	396	70	34	11	9.4	4.6
13	31	64	75	99	58	53	372	65	30	9.0	8.8	4.0
14	27	92	75	101	55	64	314	62	27	6.9	7.9	3.4
15	24	82	75	95	51	54	253	55	24	5.7	7.7	3.0
16	22	68	75	89	54	48	213	52	22	4.5	8.0	3.7
17	20	59	84	86	72	58	294	52	21	3.3	10	4.3
18	19	53	184	81	73	87	352	51	20	2.2	10	4.9
19	19	46	200	73	68	97	265	56	18	1.7	11	4.9
20	19	41	172	70	59	102	211	64	18	3.7	11	4.4
21	21	37	167	69	53	93	182	65	18	3.7	13	3.7
22	21	54	147	78	57	79	172	62	20	3.4	11	15
23	20	138	128	108	55	73	188	56	18	2.8	9.7	34
24	21	206	114	123	52	85	182	49	15	2.6	8.1	37
25	29	171	92	174	49	80	158	48	13	2.3	6.9	30
26	31	159	87	180	47	82	146	47	11	1.7	6.3	27
27	30	227	79	142	46	115	203	42	11	3.4	5.3	27
28	27	194	73	117	45	173	217	39	11	4.9	4.5	37
29	25	142	73	100	---	335	178	35	13	5.4	3.7	39
30	26	117	95	82	---	661	146	32	12	10	2.6	33
31	26	---	145	75	---	642	---	29	---	14	1.5	---
TOTAL	630.8	2499	3124	3941	1594	3498	8176	2109	976	206.1	327.4	352.04
MEAN	20.3	83.3	101	127	56.9	113	273	68.0	32.5	6.65	10.6	11.7
MAX	33	227	200	339	73	661	593	130	81	15	21	39
MIN	7.7	22	73	69	45	38	146	29	11	1.7	1.5	.45
CFSM	.47	1.91	2.31	2.91	1.30	2.58	6.24	1.56	.74	.15	.24	.27
IN.	.54	2.13	2.66	3.35	1.36	2.98	6.96	1.80	.83	.18	.28	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1993, BY WATER YEAR (WY)

	MEAN	37.8	62.5	73.7	75.7	77.8	132	161	91.9	59.0	28.5	22.5	26.6
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1937 - 1993

ANNUAL TOTAL	25542.8	27433.34	
ANNUAL MEAN	69.8	75.2	70.5
HIGHEST ANNUAL MEAN			123
LOWEST ANNUAL MEAN			22.8
HIGHEST DAILY MEAN	427	Mar 12	661
LOWEST DAILY MEAN	7.7	Oct 8	.45
ANNUAL SEVEN-DAY MINIMUM	9.3	Oct 3	1.6
INSTANTANEOUS PEAK FLOW			705
INSTANTANEOUS PEAK STAGE			20.74
INSTANTANEOUS LOW FLOW			.30
ANNUAL RUNOFF (CFSM)	1.60		1.72
ANNUAL RUNOFF (INCHES)	21.74		23.35
10 PERCENT EXCEEDS	141		182
50 PERCENT EXCEEDS	61		50
90 PERCENT EXCEEDS	18		5.1
			7.0

CONNECTICUT RIVER BASIN

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 estimated daily discharges, which are poor. No flow at times in several water years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	e.25	1.2	4.4	.73	e.47	10	1.2	1.7	.01	.01	.00
2	.11	e.23	1.1	2.6	.66	e.47	6.3	1.0	.66	.01	.01	.00
3	.09	e1.5	2.1	1.7	.65	e.46	4.1	.90	.37	.01	.01	.00
4	.04	e1.1	2.5	1.5	.63	e.46	3.6	.86	.28	.01	.00	.01
5	.04	e.65	1.8	5.3	.61	e.46	3.5	.86	.28	.01	.01	.01
6	.04	e.90	1.4	4.2	.57	e.46	4.2	1.1	.61	.01	.00	.01
7	.03	e.65	1.2	2.5	.55	e.48	3.9	.89	.39	.01	.00	.01
8	.03	e.50	1.0	1.9	.54	e.50	3.5	.67	.27	.02	.00	.01
9	.07	e.44	.85	1.5	.53	.48	3.3	.64	.23	.01	.00	.01
10	1.1	e.40	.74	1.2	.51	.46	4.1	.56	.17	.01	.00	.01
11	.37	e.48	.85	1.0	.49	.45	6.6	.52	.14	.01	.00	.01
12	.40	e.51	1.2	.98	.48	.44	4.3	.52	.12	.01	.00	.01
13	.33	3.1	1.1	.99	.47	.44	3.8	.48	.09	.01	.00	.01
14	.22	1.8	.94	.97	.46	.44	2.6	.48	.08	.01	.00	.01
15	.18	1.1	.87	.91	.46	.44	2.1	.42	.06	.00	.00	.01
16	.18	.81	.83	.86	.52	.44	1.9	.37	.06	.00	.00	.01
17	.20	.66	3.0	.83	e1.2	.96	8.4	.35	.05	.00	.01	.01
18	.17	.62	5.8	.80	e.90	2.2	4.7	.35	.04	.00	.01	.01
19	.22	.56	3.3	.72	e.70	e1.5	2.9	.80	.03	.01	.00	.01
20	.32	.52	2.9	.70	e.64	e1.0	2.2	.70	.03	.01	.01	.01
21	.27	.52	3.0	.69	e.60	e.80	1.7	.59	.05	.01	.01	.01
22	.23	1.4	2.1	1.6	e.56	.73	2.0	.47	.07	.01	.00	.81
23	.21	6.8	1.7	2.4	e.52	.71	3.3	.39	.03	.01	.00	.44
24	.24	3.9	1.4	2.3	e.50	.80	2.1	.32	.02	.01	.00	.24
25	.46	2.8	1.1	5.2	e.49	.97	1.6	.30	.02	.01	.00	.15
26	e.36	3.4	.97	2.4	e.48	2.0	1.5	.26	.02	.00	.00	.13
27	e.28	4.7	.83	1.6	e.47	3.9	3.5	.21	.02	.01	.00	.17
28	e.24	2.5	.72	1.3	e.47	5.9	2.2	.21	.02	.01	.00	.54
29	e.22	1.8	.82	1.1	---	23	1.6	.20	.02	.01	.00	.28
30	e.30	1.4	2.6	.91	---	20	1.3	.17	.01	.02	.00	.15
31	e.27	---	5.4	.71	---	13	---	.18	---	.01	.00	---
TOTAL	7.30	46.00	55.32	55.77	16.39	84.82	106.8	16.97	5.94	0.28	0.08	3.09
MEAN	.24	1.53	1.78	1.80	.59	2.74	3.56	.55	.20	.009	.003	.10
MAX	1.1	6.8	5.8	5.3	1.2	23	10	1.2	1.7	.02	.01	.81
MIN	.03	.23	.72	.69	.46	.44	1.3	.17	.01	.00	.00	.00
CFSM	.39	2.56	2.97	3.00	.98	4.56	5.93	.91	.33	.02	.00	.17
IN.	.45	2.85	3.43	3.46	1.02	5.26	6.62	1.05	.37	.02	.00	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1993, BY WATER YEAR (WY)

	MEAN	1.14	1.34	1.27	1.35	2.48	2.27	1.51	.82	.30	.32	.32
MAX	2.94	2.55	2.72	3.41	3.47	4.73	3.97	4.59	3.43	1.34	1.73	2.11
(WY)	1976	1976	1974	1979	1984	1977	1983	1984	1972	1975	1969	1975
MIN	.010	.050	.28	.086	.23	.88	.75	.36	.050	.009	.002	.000
(WY)	1965	1965	1981	1981	1980	1989	1985	1986	1964	1993	1966	1964

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1961 - 1993
ANNUAL TOTAL	340.73	398.76	
ANNUAL MEAN	.93	1.09	1.15
HIGHEST ANNUAL MEAN			1.78
LOWEST ANNUAL MEAN			.39
HIGHEST DAILY MEAN	11	23	37
LOWEST DAILY MEAN	.02	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.03	.00	.00
INSTANTANEOUS PEAK FLOW		35	65
INSTANTANEOUS PEAK STAGE		4.89	5.29
INSTANTANEOUS LOW FLOW		.00	.00
ANNUAL RUNOFF (CFSM)	1.55	1.82	1.92
ANNUAL RUNOFF (INCHES)	21.13	24.72	26.12
10 PERCENT EXCEEDS	2.1	2.9	2.6
50 PERCENT EXCEEDS	.63	.47	.61
90 PERCENT EXCEEDS	.07	.01	.03

e Estimated

CONNECTICUT RIVER BASIN

133

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 good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.57	1.2	6.1	15	3.6	1.8	44	6.4	6.3	.24	.21	.10
2	.51	1.2	5.5	11	3.6	1.8	30	5.8	3.2	.21	.17	.09
3	.50	7.2	12	8.6	3.5	1.9	20	5.2	2.0	.29	.18	.09
4	.42	5.3	9.8	7.1	3.2	1.9	18	5.0	1.6	.33	.15	.30
5	.36	3.2	7.5	19	2.9	1.9	17	4.9	1.4	.22	.14	.18
6	.34	4.6	6.0	13	2.6	2.0	19	5.3	3.0	.19	.12	.11
7	.35	3.0	5.4	9.0	2.1	1.9	17	5.3	2.0	.18	.13	.10
8	.33	2.4	4.7	7.4	2.1	2.0	15	5.0	1.4	.53	e.13	.14
9	.90	2.1	4.2	6.2	1.9	2.6	14	4.5	1.3	.86	e.12	.21
10	5.6	1.9	4.0	5.9	2.0	2.6	14	4.0	1.1	.33	e.11	.28
11	2.0	2.4	6.3	5.4	2.3	2.5	24	3.6	.90	.21	e.11	.20
12	2.4	2.4	8.2	4.9	2.2	2.2	18	3.5	.80	.18	e.11	.14
13	1.6	12	6.1	4.9	2.4	2.2	16	3.2	.72	.17	.11	.12
14	1.2	6.3	5.4	4.7	2.3	2.7	12	3.0	.65	.14	.10	.11
15	1.1	4.3	4.9	4.5	2.2	2.1	10	2.7	.57	.13	.10	.10
16	1.1	3.4	4.7	4.2	2.6	2.0	9.3	2.5	.63	.12	.10	.12
17	1.1	3.1	15	4.1	5.7	4.3	21	2.3	.53	.12	.14	.34
18	.95	2.9	21	3.6	3.4	10	20	2.2	.46	.12	.17	.32
19	1.3	2.7	11	3.7	2.8	5.9	13	3.1	.42	.14	.14	.21
20	1.4	2.4	12	3.6	2.7	4.3	10	3.7	.49	.35	.15	.15
21	1.3	2.8	11	3.3	2.5	3.8	9.0	3.4	.68	.21	.25	.15
22	1.1	6.7	8.1	7.0	2.4	3.6	8.7	2.9	.86	.14	.13	7.1
23	1.0	29	7.0	9.1	2.2	3.8	11	2.3	.49	.12	.11	1.8
24	1.5	16	5.8	8.7	2.1	5.2	10	2.0	.37	.12	.11	.89
25	2.7	13	5.9	17	2.0	5.8	8.5	1.8	.31	.12	.10	.59
26	1.7	16	4.8	8.6	1.9	11	7.6	1.6	.28	.11	.10	.74
27	1.3	21	4.0	6.8	1.9	21	11	1.4	.35	.21	.10	1.6
28	1.2	11	4.2	5.5	1.8	28	11	1.3	.33	.33	.11	1.9
29	1.1	8.4	4.5	4.5	---	90	8.2	1.2	.43	.21	.12	.93
30	1.5	7.0	11	4.1	---	73	7.1	1.1	.29	.39	.12	.65
31	1.3	---	21	3.7	---	48	---	1.0	---	.40	.12	---
TOTAL	39.73	204.9	247.1	224.1	72.9	351.8	453.4	101.2	33.86	7.42	4.06	19.76
MEAN	1.28	6.83	7.97	7.23	2.60	11.3	15.1	3.26	1.13	.24	.13	.66
MAX	5.6	29	21	19	5.7	90	44	6.4	6.3	.86	.25	7.1
MIN	.33	1.2	4.0	3.3	1.8	1.8	7.1	1.0	.28	.11	.10	.09
CFSM	.50	2.68	3.13	2.83	1.02	4.45	5.93	1.28	.44	.09	.05	.26
IN.	.58	2.99	3.60	3.27	1.06	5.13	6.61	1.48	.49	.11	.06	.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1993, BY WATER YEAR (WY)

	3.33	4.72	5.71	5.46	5.92	10.7	9.96	6.45	3.66	1.48	1.54	1.60
MEAN	3.33	4.72	5.71	5.46	5.92	10.7	9.96	6.45	3.66	1.48	1.54	1.60
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	.24	.13	.11
(WY)	1965	1965	1981	1981	1980	1989	1966	1986	1964	1993	1993	1964

SUMMARY STATISTICS FOR 1992 CALENDAR YEAR FOR 1993 WATER YEAR WATER YEARS 1961 - 1993

ANNUAL TOTAL	1629.59	1760.23	
ANNUAL MEAN	4.45	4.82	5.04
HIGHEST ANNUAL MEAN			7.58
LOWEST ANNUAL MEAN			1.85
HIGHEST DAILY MEAN	38	Mar 11	181
LOWEST DAILY MEAN	.15	Sep 21	.07
ANNUAL SEVEN-DAY MINIMUM	.21	Sep 16	.08
INSTANTANEOUS PEAK FLOW			283
INSTANTANEOUS PEAK STAGE			6.85
INSTANTANEOUS LOW FLOW			.07
ANNUAL RUNOFF (CFSM)	1.75	1.89	1.98
ANNUAL RUNOFF (INCHES)	23.77	25.68	26.86
10 PERCENT EXCEEDS	9.9	12	11
50 PERCENT EXCEEDS	3.4	2.2	2.9
90 PERCENT EXCEEDS	.48	.13	.34

e Estimated

CONNECTICUT RIVER BASIN

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 1992 TO SEPTEMBER 1993

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	32	34	e35	e32	37	170	526	38	32	111	32
2	41	32	34	e35	e32	37	269	519	35	32	77	32
3	40	34	37	e35	31	37	281	506	35	33	35	32
4	40	32	35	e35	31	37	295	496	35	32	34	34
5	71	32	35	e38	31	37	305	491	35	32	34	32
6	101	33	34	e35	e31	38	319	491	36	74	34	32
7	105	33	34	e35	e31	38	333	491	36	109	35	73
8	105	33	34	e34	31	38	346	483	36	68	35	111
9	105	33	33	e34	31	38	359	476	36	33	63	111
10	106	33	33	e34	30	38	373	472	35	32	107	110
11	105	33	38	e34	33	38	391	465	36	32	110	111
12	106	33	38	e34	36	38	405	461	36	32	111	111
13	62	35	35	e34	36	39	418	458	36	32	111	68
14	31	33	35	33	36	39	427	360	35	65	111	32
15	33	33	35	33	36	37	433	220	35	70	111	31
16	33	33	e34	33	37	37	435	220	34	52	111	31
17	32	33	e41	33	38	41	466	220	34	68	111	32
18	32	33	e37	33	37	40	481	220	34	68	112	31
19	33	33	e36	33	37	38	486	221	33	90	67	31
20	32	33	e37	33	37	38	488	220	33	107	29	65
21	32	34	e36	33	36	38	491	220	33	108	29	126
22	32	34	e36	34	36	38	501	220	33	108	29	76
23	32	39	e36	34	36	38	517	220	33	109	68	33
24	32	35	e35	34	36	41	510	148	33	111	66	33
25	32	35	e35	36	36	40	503	39	33	111	32	33
26	32	36	e35	33	36	43	520	36	32	111	35	33
27	32	36	e34	33	36	45	564	35	32	112	36	34
28	32	35	e35	33	37	45	555	35	33	112	32	33
29	32	34	e36	33	---	68	548	35	33	112	32	33
30	32	34	e37	32	---	54	539	35	32	112	32	33
31	32	---	e37	32	---	52	---	35	---	112	32	---
TOTAL	1627	1011	1101	1050	963	1262	12728	9074	1030	2311	1972	1609
MEAN	52.5	33.7	35.5	33.9	34.4	40.7	424	293	34.3	74.5	63.6	53.6
MAX	106	39	41	38	38	68	564	526	38	112	112	126
MIN	31	32	33	32	30	37	170	35	32	32	29	31
(†)	50882	51062	51915	52797	52249	53350	55165	54857	53978	55249	50842	49889

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	MEAN	72.6	80.2	67.1	68.2	76.5	82.3	171	155	123	75.9	79.8	77.9
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1940 - 1993

ANNUAL TOTAL	36650	35738	
ANNUAL MEAN	100	97.9	94.0
HIGHEST ANNUAL MEAN			347
LOWEST ANNUAL MEAN			30.7
HIGHEST DAILY MEAN	255	Apr 3	3040
LOWEST DAILY MEAN	27	Aug 21	9.1
ANNUAL SEVEN-DAY MINIMUM	32	Oct 20	27
INSTANTANEOUS PEAK FLOW			3070
INSTANTANEOUS PEAK STAGE			11.58
INSTANTANEOUS LOW FLOW			
10 PERCENT EXCEEDS	197	351	142
50 PERCENT EXCEEDS	74	36	46
90 PERCENT EXCEEDS	33	32	32

e Estimated

† Monthend contents, in millions of cubic feet (mcf), in Quabbin Reservoir; records furnished by Metropolitan District Commission, Division of Watershed Management. Monthend contents on September 30, 1992, 51985 mcf.

CONNECTICUT RIVER BASIN

135

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.0	19	e41	e14	7.7	145	23	12	1.0	.54	.20
2	2.4	2.7	20	e30	e13	7.4	113	22	7.4	.96	.49	.22
3	2.6	6.3	25	e24	e13	7.2	82	19	7.1	1.6	.40	.24
4	2.3	5.8	23	26	13	7.2	65	17	6.6	1.7	.34	1.6
5	1.7	5.6	23	96	13	e8.0	59	17	6.3	1.2	.34	.78
6	1.5	7.2	e20	89	e12	e9.0	60	17	8.2	.88	.34	.51
7	1.6	7.0	18	65	e11	8.4	61	16	6.1	1.2	.34	.51
8	1.6	6.0	17	53	10	8.7	59	15	5.5	3.1	.34	1.7
9	2.0	5.0	e15	43	9.9	e10	58	14	5.4	2.5	.34	1.9
10	7.6	4.7	e14	e31	9.6	e9.5	58	12	5.3	1.9	.34	1.8
11	3.9	4.9	17	27	9.6	e9.5	65	10	5.4	1.8	.34	1.4
12	5.7	4.4	31	25	11	e9.2	60	10	4.8	1.3	.32	e1.2
13	5.1	9.7	27	26	e13	e10	61	9.8	4.4	.94	.39	e.96
14	4.3	6.6	22	25	e10	e15	54	9.3	3.8	.82	.81	e.80
15	4.0	6.6	e19	23	e9.4	e12	47	9.4	3.0	.82	.38	e.66
16	4.3	6.3	19	e21	e10	e10	42	8.6	2.6	.75	.30	e1.0
17	4.3	6.1	29	e19	e17	e20	55	7.5	2.3	.61	.29	e1.5
18	3.6	5.7	62	e19	e14	e30	52	7.2	2.6	.60	.70	e1.4
19	3.4	5.3	e45	e18	e12	e26	44	9.4	2.3	.60	.81	e1.1
20	3.7	5.0	44	e17	e11	e22	38	8.8	2.0	.60	.60	e1.0
21	3.6	5.1	e43	e16	e10	e19	31	7.9	1.8	.58	.74	e.90
22	3.4	6.9	e33	18	e11	e17	29	8.4	2.1	.49	.77	e1.5
23	3.0	32	29	23	e10	e16	36	7.9	1.6	.44	.57	e2.5
24	3.5	25	e25	25	e9.3	20	32	6.7	1.3	.43	.43	e2.0
25	4.1	28	e21	44	e8.7	21	29	6.9	1.3	.42	.43	e1.6
26	3.3	28	e19	e30	e8.7	27	26	6.2	1.6	.37	.41	e1.7
27	3.2	35	e18	25	9.6	47	38	5.4	1.8	.56	.31	e5.4
28	3.1	29	e17	e21	8.3	71	33	4.9	1.4	.93	.32	e7.6
29	2.9	24	17	19	---	161	29	5.2	1.6	.66	.29	e6.6
30	3.0	21	28	e16	---	197	24	4.2	1.2	.61	.22	e5.6
31	3.2	---	42	e15	---	159	---	4.3	---	.55	.21	---
TOTAL	104.2	347.9	801	970	311.1	1001.8	1585	330.0	118.8	30.92	13.45	55.88
MEAN	3.36	11.6	25.8	31.3	11.1	32.3	52.8	10.6	3.96	1.00	.43	1.86
MAX	7.6	35	62	96	17	197	145	23	12	3.1	.81	7.6
MIN	1.5	2.7	14	15	8.3	7.2	24	4.2	1.2	.37	.21	.20
CFSM	.39	1.34	2.98	3.60	1.28	3.72	6.09	1.23	.46	.11	.05	.21
IN.	.45	1.49	3.43	4.16	1.33	4.29	6.79	1.41	.51	.13	.06	.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1993, BY WATER YEAR (WY)

	MEAN	7.82	12.4	17.0	16.8	18.2	30.3	32.0	18.6	12.4	4.78	4.06	3.87
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	
(WY)	1976	1976	1984	1979	1970	1983	1987	1967	1982	1972	1979	1975	
MIN	.79	1.41	3.56	2.75	3.87	12.9	11.2	6.00	2.78	.80	.39	.32	
(WY)	1964	1965	1966	1981	1977	1967	1985	1982	1964	1965	1966	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1961 - 1993

ANNUAL TOTAL	4809.4	5670.05	
ANNUAL MEAN	13.1	15.5	14.8
HIGHEST ANNUAL MEAN			22.1
LOWEST ANNUAL MEAN			5.40
HIGHEST DAILY MEAN	82	Mar 27	284
LOWEST DAILY MEAN	1.5	Oct 6	.13
ANNUAL SEVEN-DAY MINIMUM	1.9	Oct 3	.19
INSTANTANEOUS PEAK FLOW			228
INSTANTANEOUS PEAK STAGE			11.94
INSTANTANEOUS LOW FLOW			.17
ANNUAL RUNOFF (CFSM)	1.51	1.79	1.71
ANNUAL RUNOFF (INCHES)	20.61	24.30	23.21
10 PERCENT EXCEEDS	26	39	34
50 PERCENT EXCEEDS	11	7.5	9.3
90 PERCENT EXCEEDS	3.3	.57	1.1

e Estimated

CONNECTICUT RIVER BASIN

01176000 QUABOAG RIVER AT WEST BRIMFIELD, MA

LOCATION.--Lat 42°10'56", long 72°15'51", Hampden County, Hydrologic Unit 01080204, on right bank 10 ft upstream from abandoned highway bridge site at West Brimfield, 0.9 mi upstream from Blodgett Mill Brook, 3.5 mi northeast of Palmer, and 9.9 mi upstream from mouth.

DRAINAGE AREA.--150 mi².

PERIOD OF RECORD.--Discharge: August 1909 to July 1912 (twice-daily gage heights and corresponding discharges), August 1912 to current year.

Water-quality records: Water years 1953, 1967, 1969-70, 1972-74.

REVISED RECORDS.--WSP 451: 1916. WSP 1301: 1918(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 390 ft above sea level, from topographic map. Prior to Aug. 19, 1912, nonrecording gage, and Aug. 19, 1912, to Oct. 31, 1955, water-stage recorder, at several sites 0.5 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Slight diurnal fluctuation at low flow caused by mill upstream prior to 1956; regulation much greater prior to 1938. High flow slightly affected by retarding reservoirs since 1965. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	97	326	e450	e310	e140	1750	512	150	42	23	18
2	69	93	313	e400	e250	e135	1720	480	145	40	23	18
3	73	127	350	e430	e270	e130	1600	453	143	40	21	18
4	78	131	344	e410	e260	e135	1450	420	137	41	20	28
5	83	127	339	e500	e240	e140	1310	393	133	37	20	31
6	87	144	315	651	e240	e115	1200	377	140	35	16	29
7	90	141	e290	681	e240	e130	1100	357	132	35	16	28
8	91	136	e240	672	e220	e150	1020	338	125	37	16	32
9	97	131	e220	e600	e210	e160	955	313	121	45	16	38
10	132	125	e240	e560	e190	176	913	291	109	42	16	40
11	130	126	e260	e520	e185	178	929	259	97	38	16	40
12	147	126	e300	e470	e180	e165	894	238	94	35	15	36
13	149	168	356	e440	e175	e140	877	221	88	34	15	37
14	156	161	e360	e400	e165	e110	844	209	82	30	14	35
15	151	157	e340	e370	e170	e150	805	194	75	29	14	32
16	150	150	e350	e350	e175	e200	763	181	69	25	16	33
17	140	147	438	e320	e180	e210	802	166	63	22	21	37
18	137	142	545	e300	e190	e250	774	163	60	20	30	42
19	134	136	535	e290	e190	e300	751	174	55	21	31	41
20	127	129	556	e280	e190	e320	718	165	53	26	26	35
21	127	126	554	e290	e185	e320	674	147	56	23	26	35
22	123	145	553	e320	e180	316	647	144	58	21	22	42
23	120	298	531	e370	e170	315	626	138	47	18	21	43
24	120	295	e350	417	e170	365	596	133	44	17	20	41
25	121	315	e290	493	e170	391	578	131	44	17	20	39
26	110	341	e350	485	e160	461	562	120	41	17	18	43
27	110	381	e350	472	e155	583	630	111	43	21	17	62
28	111	362	e340	445	e150	715	598	109	49	30	17	98
29	108	349	e330	e400	---	1260	572	99	53	29	17	109
30	105	337	e400	e320	---	1570	543	91	45	27	15	113
31	102	---	484	e360	---	1650	---	95	---	25	17	---
TOTAL	3546	5643	11549	13466	5570	11380	27201	7222	2551	919	595	1273
MEAN	114	188	373	434	199	367	907	233	85.0	29.6	19.2	42.4
MAX	156	381	556	681	310	1650	1750	512	150	45	31	113
MIN	68	93	220	280	150	110	543	91	41	17	14	18
CFSM	.76	1.25	2.48	2.90	1.33	2.45	6.04	1.55	.57	.20	.13	.28
IN.	.88	1.40	2.86	3.34	1.38	2.82	6.75	1.79	.63	.23	.15	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1993, BY WATER YEAR (WY)

	MEAN	128	185	246	267	276	482	545	316	193	104	107	108
MAX	607	693	600	821	748	1399	1352	573	789	524	1440	1369	
(WY)	1956	1956	1928	1979	1970	1936	1940	1943	1984	1938	1955	1938	
MIN	11.9	26.9	48.5	46.6	65.2	169	173	108	46.6	17.6	12.8	12.0	
(WY)	1958	1950	1931	1981	1977	1989	1915	1930	1964	1965	1957	1957	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1912 - 1993

ANNUAL TOTAL	79053	90915	
ANNUAL MEAN	216	249	
HIGHEST ANNUAL MEAN			246
LOWEST ANNUAL MEAN			430
HIGHEST DAILY MEAN	556	Dec 20	1750
LOWEST DAILY MEAN	57	Jul 28	14
ANNUAL SEVEN-DAY MINIMUM	62	Jul 25	15
INSTANTANEOUS PEAK FLOW			1810
INSTANTANEOUS PEAK STAGE			7.23
INSTANTANEOUS LOW FLOW			14
ANNUAL RUNOFF (CFSM)	1.44		1.66
ANNUAL RUNOFF (INCHES)	19.61		22.55
10 PERCENT EXCEEDS	413		547
50 PERCENT EXCEEDS	180		145
90 PERCENT EXCEEDS	75		22
			41

e Estimated

CONNECTICUT RIVER BASIN

137

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 below 600 ft³/s, 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. Telephone and satellite gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	416	390	1110	1790	805	627	5410	2140	721	226	256	128
2	369	380	909	1530	877	649	5140	1950	823	175	251	98
3	360	550	1260	1400	714	643	4270	1830	672	213	200	116
4	327	631	1410	1300	757	521	3860	1740	579	213	166	164
5	336	587	1280	1630	888	697	3480	1670	550	194	161	192
6	428	681	1090	2770	862	618	3300	1610	589	210	145	165
7	432	764	955	2470	612	631	3080	1720	600	268	146	169
8	428	609	956	2260	707	645	2950	1610	533	265	144	236
9	471	617	771	2160	737	700	2840	1500	471	207	138	280
10	646	413	749	1790	740	730	2950	1380	476	269	199	481
11	618	554	1140	1710	668	733	3410	1380	437	277	246	311
12	720	583	1450	1570	765	695	3320	1250	386	268	196	294
13	704	777	1380	1470	757	648	3250	1190	371	211	251	181
14	636	785	1230	1360	766	658	3180	1150	321	201	209	168
15	523	818	1130	1300	689	550	3090	1010	297	260	186	148
16	546	576	1030	1200	714	763	2970	891	295	170	231	165
17	546	718	1310	1130	1020	821	3370	748	271	222	265	130
18	494	588	2180	1060	838	1550	3510	749	267	196	276	257
19	482	611	2100	864	760	1530	3170	1070	244	202	272	207
20	468	556	1870	746	782	1350	2930	884	234	266	201	180
21	467	538	1910	1010	791	1220	2800	769	240	264	207	253
22	442	618	1730	1250	837	1120	2580	763	339	215	202	359
23	427	1140	1630	1400	703	1100	2530	821	288	248	174	347
24	474	1830	1550	1410	720	1360	2420	962	207	221	239	329
25	502	1600	1230	1770	638	1500	2260	552	213	256	150	253
26	479	1490	1320	1820	605	1530	2140	489	210	236	161	234
27	372	1760	1120	1600	621	2290	2700	478	183	258	122	319
28	467	1810	1080	1490	632	2940	2610	441	195	271	124	526
29	417	1550	1120	1270	---	4800	2410	431	318	289	133	678
30	486	1350	1240	950	---	7170	2320	382	217	248	178	479
31	393	---	1510	935	---	5880	---	331	---	294	116	---
TOTAL	14876	25874	40750	46415	21005	46669	94250	33891	11547	7313	5945	7847
MEAN	480	862	1315	1497	750	1505	3142	1093	385	236	192	262
MAX	720	1830	2180	2770	1020	7170	5410	2140	823	294	276	678
MIN	327	380	749	746	605	521	2140	331	183	170	116	98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	MEAN	527	726	870	944	984	1567	1813	1180	814	477	450	491
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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1928 - 1993

ANNUAL TOTAL	324313	356382	
ANNUAL MEAN	886	976	902
HIGHEST ANNUAL MEAN			1952
LOWEST ANNUAL MEAN			376
HIGHEST DAILY MEAN	2710	Mar 12	37000
LOWEST DAILY MEAN	234	Jul 26	16
ANNUAL SEVEN-DAY MINIMUM	339	Jul 20	96
INSTANTANEOUS PEAK FLOW			45200
INSTANTANEOUS PEAK STAGE			28
INSTANTANEOUS LOW FLOW			10.74
10 PERCENT EXCEEDS	1590	2260	1830
50 PERCENT EXCEEDS	776	648	650
90 PERCENT EXCEEDS	391	200	218

01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA

LOCATION.--Lat 42°14'14", long 72°53'46", Hampshire County, Hydrologic Unit 01080206, on left bank at Huntington, 0.4 mi downstream from Roaring Brook, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--94.0 mi².

PERIOD OF RECORD.--Discharge: September 1935 to current year.
Water-quality records: Water years 1957, 1967-74.

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

GAGE.--Water-stage recorder. Datum of gage is 383.60 ft above sea level. Prior to Oct. 1, 1989, at datum 5.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to 1950, some diurnal fluctuation at low flow caused by small mill upstream. Telephone and satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	42	218	893	127	e74	1660	349	120	21	32	14
2	27	39	197	487	100	72	1140	301	87	19	28	13
3	26	257	277	339	136	69	756	264	64	19	63	13
4	24	242	252	367	128	70	592	239	55	20	32	27
5	22	151	227	2020	e120	71	576	226	51	19	21	27
6	21	155	191	1130	107	75	715	300	65	17	17	19
7	20	123	186	626	107	70	825	252	72	17	16	16
8	20	99	157	462	103	69	998	208	61	40	15	15
9	20	84	133	359	e96	78	1220	183	53	37	14	18
10	216	77	129	260	93	78	1920	159	49	27	13	31
11	104	125	168	248	87	74	2700	142	42	20	12	47
12	65	178	197	247	81	75	1620	127	39	17	12	29
13	52	706	210	239	93	62	1430	113	36	16	13	22
14	42	358	173	225	93	93	1130	103	35	15	17	19
15	38	233	168	e205	e87	112	1030	95	32	14	16	17
16	45	185	163	e195	82	104	1290	101	31	13	16	16
17	62	165	273	e185	114	115	2900	95	29	12	48	19
18	55	158	706	e170	e105	226	1330	84	27	12	97	27
19	49	142	432	e165	e100	224	869	122	26	12	46	24
20	53	127	427	e160	e96	157	785	121	25	15	31	20
21	45	128	420	e160	e92	114	690	129	28	16	26	18
22	41	374	320	e209	84	109	1640	111	39	14	21	40
23	38	992	279	261	83	109	2470	85	33	12	17	35
24	40	552	232	208	e82	164	992	74	27	12	16	28
25	81	585	183	377	e80	193	702	74	28	11	15	24
26	58	527	198	243	e78	268	628	69	26	11	14	26
27	46	506	152	210	e77	433	1100	65	24	13	13	36
28	39	355	174	172	e76	620	663	60	32	27	15	92
29	36	291	199	160	---	2680	495	56	26	24	36	51
30	49	250	422	131	---	3180	406	52	23	20	20	38
31	48	---	1030	136	---	1990	---	49	---	42	15	---
TOTAL	1511	8206	8493	11249	2707	11828	35272	4408	1285	584	767	821
MEAN	48.7	274	274	363	96.7	382	1176	142	42.8	18.8	24.7	27.4
MAX	216	992	1030	2020	136	3180	2900	349	120	42	97	92
MIN	20	39	129	131	76	62	406	49	23	11	12	13
CFSM	.52	2.91	2.91	3.86	1.03	4.06	12.5	1.51	.46	.20	.26	.29
IN.	.60	3.25	3.36	4.45	1.07	4.68	13.96	1.74	.51	.23	.30	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1993, BY WATER YEAR (WY)

MEAN	103	177	197	173	185	371	504	258	138	64.2	59.3	63.6
MAX	1041	544	664	448	712	1098	1176	761	684	307	632	579
(WY)	1956	1956	1974	1978	1981	1936	1993	1984	1972	1972	1955	1938
MIN	13.4	24.7	39.8	24.3	35.3	112	116	75.6	27.1	8.85	8.46	8.93
(WY)	1958	1965	1947	1981	1980	1941	1985	1986	1964	1991	1957	1953

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1935 - 1993

ANNUAL TOTAL	66995		87131				
ANNUAL MEAN	183		239			191	
HIGHEST ANNUAL MEAN						296	1972
LOWEST ANNUAL MEAN						73.6	1965
HIGHEST DAILY MEAN	2130	Jun 6	3180	Mar 30	10500		Aug 19 1955
LOWEST DAILY MEAN	20	Oct 7	11	Jul 25		3.3	Aug 9 1955
ANNUAL SEVEN-DAY MINIMUM	22	Oct 3	13	Jul 21		3.8	Aug 4 1955
INSTANTANEOUS PEAK FLOW			4540	Mar 29	26100		Aug 19 1955
INSTANTANEOUS PEAK STAGE			8.71	Mar 29		15.27	Aug 19 1955
INSTANTANEOUS LOW FLOW			11	Jul 18		3.3	Aug 9 1955
ANNUAL RUNOFF (CFSM)	1.95		2.54			2.03	
ANNUAL RUNOFF (INCHES)	26.51		34.48			27.60	
10 PERCENT EXCEEDS	378		627			436	
50 PERCENT EXCEEDS	108		85			95	
90 PERCENT EXCEEDS	46		17			18	

e Estimated

CONNECTICUT RIVER BASIN

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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 1992 TO SEPTEMBER 1993

	Mean	Per square mile	Runoff, in inches	Monthend contents
	(a)	(a)	(a)	(b)
September	--	--	--	2941.0
October				2854.7
November				3055.7
December				3241.9
Calendar year 1992				
January				3041.1
February				2860.1
March				2651.5
April				2983.6
May				2937.9
June				2798.5
July				2592.6
August				2393.9
September				2263.2
Water year 1993				

a. Data for the period October 1992 to September 1993 provided by the Springfield Board of Water Commissioners could not be obtained in time for this report. It will be published in the next report.

b. The monthend contents of Borden Brook and Cobble Mountain Reservoirs were obtained by telephone on the last day of each month, and should be considered provisional until the complete table is published in the next report.

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 fair. 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. Telephone and satellite gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	280	366	903	2510	671	478	4230	1680	623	176	233	96
2	274	340	831	1980	603	487	3990	1450	636	169	182	92
3	250	621	1230	1670	683	525	5130	1280	463	181	245	90
4	251	1220	1300	1680	678	536	5170	1180	390	139	337	133
5	238	863	1040	3290	637	620	5320	1120	365	158	301	144
6	226	761	869	3290	613	579	6010	1200	388	171	275	130
7	224	706	828	3650	537	440	4940	1190	497	144	318	113
8	223	596	768	3610	529	541	e4300	1020	417	165	203	111
9	237	526	615	2200	544	648	e4000	921	380	207	158	123
10	719	485	529	1670	515	749	e4700	846	386	184	129	137
11	774	480	726	1290	552	545	e5400	769	312	158	117	181
12	547	667	869	1230	647	492	e4500	703	289	142	110	172
13	436	1700	798	1260	625	374	4430	651	276	131	110	153
14	377	1670	761	1240	594	426	5590	614	273	123	112	178
15	337	1030	855	999	579	499	6400	585	231	117	109	131
16	338	821	773	1030	559	475	5560	566	244	121	87	127
17	391	724	863	854	682	572	6390	563	222	110	110	148
18	425	684	1750	861	618	730	5300	524	231	106	240	163
19	385	634	1780	836	637	804	6080	632	223	118	223	172
20	383	588	1560	766	468	811	6370	654	211	141	182	147
21	382	570	1570	858	455	778	6000	660	203	126	158	141
22	358	935	1280	1100	454	789	5620	615	275	128	139	336
23	352	2190	1120	1320	449	857	7010	537	247	116	127	243
24	337	2200	950	1130	507	1240	6470	492	216	108	116	193
25	482	1820	754	1550	581	1530	5740	477	228	105	112	165
26	508	1890	763	1460	572	1970	5480	464	187	104	105	174
27	441	1950	690	1280	513	2740	5910	389	194	121	99	203
28	382	1480	661	1140	456	2680	5910	374	216	151	99	303
29	357	1170	742	1050	---	5590	2780	374	225	201	111	314
30	373	1010	1070	742	---	7870	2020	373	194	184	118	243
31	397	---	2340	677	---	6440	---	350	---	263	101	---
TOTAL	11684	30697	31588	48223	15958	43815	156750	23253	9242	4568	5066	5056
MEAN	377	1023	1019	1556	570	1413	5225	750	308	147	163	169
MAX	774	2200	2340	3650	683	7870	7010	1680	636	263	337	336
MIN	223	340	529	677	449	374	2020	350	187	104	87	90

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1993, BY WATER YEAR (WY)

MEAN	513	819	891	859	883	1675	2331	1224	738	401	394	400
MAX	4587	3344	2446	2635	2663	5064	5225	2630	2792	1738	3237	2938
(WY)	1956	1928	1974	1949	1984	1936	1993	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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1914 - 1993

ANNUAL TOTAL	315076		385900				
ANNUAL MEAN	861		1057		927		
HIGHEST ANNUAL MEAN					1594		1928
LOWEST ANNUAL MEAN					368		1965
HIGHEST DAILY MEAN	5100	Jun 6	7870	Mar 30	37400	Aug 19	1955
LOWEST DAILY MEAN	207	Sep 21	87	Aug 16	40	Dec 28	1914
ANNUAL SEVEN-DAY MINIMUM	236	Oct 3	101	Aug 28	59	Dec 23	1914
INSTANTANEOUS PEAK FLOW			9920	Mar 29	70300	Aug 19	1955
INSTANTANEOUS PEAK STAGE			12.22	Mar 29	34.20	Aug 19	1955
INSTANTANEOUS LOW FLOW			81	Aug 16	9.0	Oct 2	1921
10 PERCENT EXCEEDS	1790		2760		2120		
50 PERCENT EXCEEDS	618		537		537		
90 PERCENT EXCEEDS	341		129		160		

e Estimated

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a From flood marks.
e Estimated.

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956, 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1955 to September 1956, October 1973 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1973.

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 and current year are for those values reported.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 443 microsiemens Feb. 15, 1992; minimum, 46 microsiemens April 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, 200 microsiemens March 12; minimum, 66 microsiemens April 22.

WATER TEMPERATURES: Maximum, 29.0°C June 26, 27; minimum, 0.5°C on many days during winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	COLIFORM, FECCAL, 0.45 UM-MF (COLS./100 ML) (31616)	ENTEROCOCCI ME, MF WATER TOTAL (COL /100 ML) (31649)	STREPTOCOCCI FECCAL, KF AGAR (COLS. PER 100 ML) (31673)	
NOV													
16...	1120	18600	138	7.5	6.0	5.0	3.2	12.5	97	530	31	44	
JAN													
20...	1145	12900	106	7.3	2.0	0.0	1.9	14.3	97	2000	100	100	
MAR													
29...	1220	29000	116	7.3	9.5	3.0	8.6	13.2	98	5500	500	--	
APR													
02...	1045	85700	83	7.0	1.0	0.0	--	14.2	98	--	--	--	
13...	0950	95900	72	7.5	11.0	3.0	--	14.0	104	--	--	--	
MAY													
04...	1030	26700	118	7.5	17.0	11.0	--	10.2	93	--	--	--	
27...	1115	12000	118	7.6	23.0	17.0	1.9	9.2	95	180	K17	K4	
JUN													
23...	1330	12200	134	7.9	24.0	26.0	1.3	7.7	95	150	K6	--	
JUL													
08...	1053	5160	147	7.2	35.0	28.5	0.30	5.6	72	4600	80	--	
26...	1220	3620	141	7.7	22.0	27.0	--	6.0	75	--	--	--	
AUG													
10...	1020	3090	145	7.3	30.0	25.0	0.50	6.0	72	26	K5	--	
25...	0900	6240	137	7.9	27.0	26.0	--	7.0	86	--	--	--	
SEP													
16...	1040	7340	159	7.6	19.0	21.0	1.1	8.0	89	440	24	--	
DATE		COLIFORM, FECCAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARDNESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	CARBONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKALINITY WAT DIS TOT IT FIELD (MG/L AS CAC03) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV													
16...	550		34	11	1.5	6.5	1.3	0	34	28	8.1	9.7	0.10
JAN													
20...	2500		29	9.2	1.4	7.2	1.2	0	26	21	8.8	11	<0.10
MAR													
29...	--		28	8.9	1.5	9.3	1.3	0	25	20	7.6	18	<0.10
APR													
02...	--		21	6.9	1.0	5.5	1.1	0	18	15	6.5	9.1	<0.10
13...	--		22	7.3	0.99	4.2	0.90	0	20	16	6.3	6.5	<0.10
MAY													
04...	--		26	8.4	1.2	5.7	0.90	0	34	28	7.3	8.8	0.20
27...	190		40	13	1.7	7.3	1.3	0	36	30	8.7	12	<0.10
JUN													
23...	--		37	12	1.6	7.2	1.3	0	37	30	9.0	11	<0.10
JUL													
08...	4000		41	13	2.0	10	1.9	0	37	30	11	14	<0.10
26...	--		38	12	1.9	12	1.8	--	--	--	12	15	0.10
AUG													
10...	--		41	13	2.0	12	1.8	0	39	32	12	15	0.10
25...	--		40	13	1.9	10	1.4	0	37	30	11	14	0.10
SEP													
16...	--		45	15	1.9	11	1.8	0	44	36	11	14	0.10

CONNECTICUT RIVER BASIN

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01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued
 WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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 (MG/L AS N) (00620)	NITRO- GEN, NITRITE (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, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV												
16...	5.6	60	65	0.220	0.030	0.020	0.250	0.240	0.060	0.070	0.14	0.20
JAN												
20...	6.5	61	56	0.350	--	0.010	--	0.360	--	0.110	0.19	0.30
MAR												
29...	6.1	75	107	0.410	--	<0.010	--	0.410	--	0.150	0.35	0.50
APR												
02...	4.7	54	--	0.250	--	0.010	--	0.260	--	0.110	0.19	0.30
13...	4.8	42	--	0.220	--	<0.010	--	0.220	--	0.050	0.35	0.40
MAY												
04...	4.8	61	--	0.230	--	<0.010	--	0.230	--	0.070	0.23	0.30
27...	4.8	72	--	0.300	--	<0.010	--	0.300	--	0.090	0.11	0.20
JUN												
23...	4.8	73	76	0.300	--	0.010	--	0.310	--	0.140	0.16	0.30
JUL												
08...	4.3	85	--	0.420	--	0.010	--	0.430	--	0.190	0.41	0.60
26...	3.1	75	--	0.360	--	0.020	--	0.380	--	0.130	0.27	0.40
AUG												
10...	3.6	84	94	0.350	--	0.020	--	0.370	--	0.220	0.18	0.40
25...	3.2	79	--	0.280	--	0.020	--	0.300	--	0.180	0.32	0.50
SEP												
16...	3.8	82	88	0.250	--	0.020	--	0.270	--	0.210	0.19	0.40

DATE	NITRO- GEN, AM- MONIA + ORGANIC DIS- (MG/L AS N) (00623)	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, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADIUM DIS- SOLVED (UG/L AS CD) (01025)
NOV												
16...	--	0.45	0.040	0.020	0.010	<0.010	20	--	11	--	<1	<1.0
JAN												
20...	--	0.66	0.030	0.020	--	0.020	40	--	12	--	<1	<1.0
MAR												
29...	0.30	0.91	0.070	<0.010	--	0.020	--	--	--	--	<1	<1.0
APR												
02...	<0.20	0.56	0.030	0.030	--	<0.010	--	--	--	--	--	--
13...	0.30	0.62	0.140	0.030	--	<0.010	--	--	--	--	--	--
MAY												
04...	0.30	0.53	0.020	<0.010	--	0.010	--	--	--	--	--	--
27...	--	0.50	0.020	<0.010	--	<0.010	20	--	13	--	<1	--
JUN												
23...	0.20	0.61	0.040	<0.010	--	0.030	10	<1	14	<1	<1	<1.0
JUL												
08...	--	1.0	0.130	0.090	--	0.090	<10	--	15	--	<1	--
26...	0.30	0.78	0.040	0.060	--	0.020	--	--	--	--	--	--
AUG												
10...	0.40	0.77	0.030	0.020	--	0.040	9	<1	14	<1	--	<1.0
25...	0.40	0.80	0.060	0.020	--	0.030	--	--	--	--	--	--
SEP												
16...	0.40	0.67	0.080	0.080	--	0.080	10	<1	13	<1	<1	<1.0

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	CORALT, 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)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)
NOV												
16...	<1	<1	<3	7	3	490	91	14	2	<4	15	<10
JAN												
20...	2	<1	<3	3	2	250	100	<1	<1	<4	24	<10
MAR												
29...	<1	<1	--	3	2	1200	89	8	<1	--	36	--
APR												
02...	--	--	--	--	--	--	78	--	--	--	27	--
13...	--	--	--	--	--	--	74	--	--	--	10	--
MAY												
04...	--	--	--	--	--	--	79	--	--	--	22	--
27...	4	--	<3	6	--	260	69	2	--	<4	9	<10
JUN												
23...	<1	<1	<1	2	2	190	46	<1	<1	--	16	<1
JUL												
08...	<1	--	<3	3	--	120	22	1	--	<4	5	<10
26...	--	--	--	--	--	--	12	--	--	--	13	--
AUG												
10...	--	<1	<1	--	2	--	23	--	<1	--	27	<1
25...	--	--	--	--	--	--	30	--	--	--	4	--
SEP												
16...	<1	<1	<1	2	2	110	33	2	3	--	22	<1

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued
WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)
NOV 16...	1	<1	<1	<1.0	54	<6	20	<10	0.10	4.7	--	--
JAN 20...	2	<1	<1	<1.0	49	<6	10	<10	--	3.5	--	--
MAR 29...	2	1	--	--	--	--	10	6	--	--	2.9	1.3
APR 02...	--	--	--	--	--	--	--	--	--	--	3.1	1.9
13...	--	--	--	--	--	--	--	--	--	--	3.1	3.2
MAY 04...	--	--	--	--	--	--	--	--	--	--	3.1	0.6
27...	3	<1	<1	<1.0	64	<6	<10	--	--	--	3.2	0.4
JUN 23...	2	1	--	<1.0	--	--	<10	1	<1.0	--	3.2	0.3
JUL 08...	1	1	<1	<1.0	72	<6	<10	--	0.03	--	3.7	0.4
26...	--	--	--	--	--	--	--	--	--	--	2.9	0.2
AUG 10...	--	1	--	<1.0	--	--	--	3	<1.0	--	3.5	0.2
25...	--	--	--	--	--	--	--	--	--	--	3.2	--
SEP 16...	<1	1	--	<1.0	--	--	<10	6	<1.0	--	3.5	0.2

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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 AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
NOV 16...	1120	<0.6	<0.6	1.8	<0.6	1.7	<0.6	0.35	0.10
JUL 08...	1053	<0.6	<0.6	2.0	0.6	1.7	0.6	0.04	0.03

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- SOLVED (MG/L) (80154)	SEDI- MENT, DIS- SOLVED (MG/L) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 16...	1120	18600		8	402	92
JAN 20...	1145	12900		1	35	100
MAY 27...	1115	12000		4	130	93
JUL 08...	1053	5160		4	56	55

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 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	132	128	129	124	118	121	89	84	87	93	85	89
2	132	130	131	122	120	120	89	89	89	94	85	90
3	132	130	131	130	120	125	93	89	91	94	90	92
4	136	130	133	126	104	115	95	87	91	102	90	95
5	136	130	133	104	102	103	91	87	88	106	94	100
6	136	132	133	104	99	101	93	91	92	94	81	85
7	134	130	133	103	99	101	98	93	96	83	79	81
8	136	130	132	103	101	102	102	98	100	79	73	75
9	136	124	133	105	99	102	105	102	104	84	75	80
10	144	124	138	105	101	104	115	105	112	88	78	84
11	136	114	125	107	101	103	127	109	113	94	84	89
12	118	114	115	109	103	106	138	125	134	104	94	97
13	118	114	116	109	95	105	140	124	132	113	104	110
14	122	116	120	95	79	84	126	116	121	117	111	113
15	126	122	124	89	79	85	116	112	114	121	109	114
16	134	124	131	95	87	91	113	110	111	123	113	121
17	132	128	130	99	93	96	123	113	119	122	112	116
18	130	126	128	99	97	98	121	103	114	122	108	115
19	128	124	126	100	96	98	103	95	97	124	107	118
20	130	124	127	100	96	98	98	94	96	116	111	114
21	128	126	127	100	96	98	98	94	96	117	113	115
22	132	128	130	108	100	103	102	98	100	138	114	122
23	128	124	125	110	84	96	105	100	103	155	117	132
24	126	122	124	84	74	76	105	103	103	122	114	118
25	134	124	131	86	76	83	113	83	104	122	105	115
26	128	120	125	84	78	80	115	105	110	113	96	103
27	120	116	118	80	78	79	120	108	115	110	100	106
28	122	118	119	80	78	78	122	96	111	109	96	106
29	124	122	122	80	78	80	122	116	120	---	---	---
30	122	120	122	86	80	83	129	120	126	---	---	---
31	124	122	122	---	---	---	125	93	109	---	---	---
MONTH	144	114	127	130	74	97	140	83	106	155	73	103

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	86	78	83	---	---	---
2	---	---	---	---	---	---	86	80	84	---	---	---
3	---	---	---	---	---	---	80	74	77	---	---	---
4	---	---	---	159	150	155	77	74	75	---	---	---
5	---	---	---	162	149	154	78	72	75	---	---	---
6	---	---	---	184	162	177	76	71	73	---	---	---
7	---	---	---	188	166	180	77	72	74	---	---	---
8	---	---	---	185	175	180	79	76	77	96	93	94
9	---	---	---	186	170	178	82	78	80	98	96	97
10	---	---	---	175	146	159	82	78	80	103	97	100
11	---	---	---	171	139	152	82	72	76	107	99	103
12	---	---	---	200	171	186	73	69	71	108	103	105
13	---	---	---	177	152	164	74	70	72	109	106	107
14	---	---	---	164	147	155	74	70	72	114	107	110
15	---	---	---	156	142	150	76	68	72	117	111	113
16	---	---	---	162	154	157	76	72	74	125	112	118
17	---	---	---	178	157	166	83	68	75	133	122	127
18	---	---	---	189	176	182	70	68	69	134	125	129
19	---	---	---	198	173	180	70	68	70	140	133	136
20	---	---	---	173	151	159	75	68	71	145	140	142
21	---	---	---	168	149	152	79	69	74	150	145	147
22	---	---	---	180	166	172	78	66	70	150	122	136
23	---	---	---	169	148	158	---	---	---	133	119	125
24	---	---	---	160	142	150	---	---	---	133	126	128
25	---	---	---	150	130	137	---	---	---	158	133	141
26	---	---	---	137	121	129	---	---	---	173	150	160
27	---	---	---	131	114	119	---	---	---	175	156	165
28	---	---	---	120	112	115	---	---	---	162	131	139
29	---	---	---	115	87	105	---	---	---	133	123	128
30	---	---	---	87	78	81	---	---	---	129	123	127
31	---	---	---	85	77	81	---	---	---	135	124	131
MONTH	---	---	---	200	77	151	86	66	75	175	93	125

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993--Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	132	124	127	---	---	---	131	125	128	---	---	---
2	126	118	121	---	---	---	125	122	124	---	---	---
3	121	115	118	---	---	---	126	121	124	---	---	---
4	119	114	116	---	---	---	128	125	126	---	---	---
5	121	116	118	---	---	---	127	124	126	---	---	---
6	127	121	124	---	---	---	128	124	127	---	---	---
7	122	120	121	---	---	---	128	126	127	---	---	---
8	122	116	119	---	---	---	130	126	128	---	---	---
9	120	116	118	---	---	---	131	127	129	---	---	---
10	122	115	118	---	---	---	134	130	132	---	---	---
11	120	115	118	---	---	---	136	133	134	---	---	---
12	120	115	118	---	---	---	138	124	132	---	---	---
13	118	114	116	---	---	---	139	136	138	---	---	---
14	120	115	118	---	---	---	139	135	138	---	---	---
15	122	115	118	---	---	---	140	135	137	---	---	---
16	124	100	118	---	---	---	140	135	136	---	---	---
17	124	120	122	---	---	---	---	---	---	---	---	---
18	125	120	123	---	---	---	---	---	---	---	---	---
19	127	119	123	---	---	---	---	---	---	---	---	---
20	122	117	120	---	---	---	---	---	---	---	---	---
21	122	118	120	---	---	---	---	---	---	---	---	---
22	128	119	124	---	---	---	---	---	---	---	---	---
23	122	118	120	---	---	---	---	---	---	---	---	---
24	121	116	118	---	---	---	---	---	---	---	---	---
25	120	116	118	---	---	---	---	---	---	---	---	---
26	121	118	119	---	---	---	---	---	---	---	---	---
27	121	117	119	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	134	130	133	---	---	---	---	---	---
MONTH	132	100	120	134	130	133	140	121	130	---	---	---
YEAR	200	66	115									

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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

CONNECTICUT RIVER BASIN

01185500 WEST BRANCH FARMINGTON RIVER NEAR NEW BOSTON, MA

LOCATION.--Lat 42°04'45", long 73°04'24", Berkshire County, Hydrologic Unit 01080207, on left bank 5 ft 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. High flow slightly affected by retarding reservoirs since 1966. Telephone gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	262	226	634	e110	e71	1380	260	104	13	9.0	9.5
2	53	253	228	e420	e100	e69	1080	223	72	11	8.7	9.0
3	46	381	259	e310	e130	e68	817	194	71	12	26	9.1
4	34	406	259	346	e120	e66	686	173	53	14	15	19
5	27	363	267	1200	e120	e69	658	166	e43	12	12	18
6	25	345	246	1140	e110	e70	675	200	e59	13	9.1	13
7	24	313	238	729	e100	e68	668	165	e59	17	8.1	10
8	24	292	221	574	e100	e66	728	139	e46	17	7.7	11
9	27	274	e210	e440	e92	e70	839	122	e39	25	7.9	12
10	149	263	e200	e370	e88	e75	1190	109	47	19	7.5	16
11	119	298	e220	e310	e82	e73	1720	99	35	15	6.6	20
12	94	320	282	e270	e78	e70	1430	89	29	12	6.3	14
13	77	631	286	e220	e86	e80	1250	81	25	10	7.2	12
14	65	490	263	e210	e92	e100	1050	75	23	e8.5	10	12
15	64	402	240	e200	e86	e110	965	70	21	e9.5	8.4	10
16	70	352	216	e190	e80	e100	1050	71	19	e8.0	7.7	12
17	183	248	290	e180	e110	e110	2110	72	17	e7.0	60	21
18	184	156	450	e160	e105	e210	1420	70	16	e6.5	108	25
19	102	138	375	e140	e100	e210	992	91	15	e6.4	70	19
20	101	124	366	e150	e94	e180	806	89	15	e7.8	53	15
21	94	122	e320	e160	e89	e160	684	93	17	e7.6	44	14
22	91	274	e260	e190	e84	e140	975	80	27	e6.9	30	61
23	136	775	e220	237	e82	e130	1150	70	23	e6.1	37	51
24	295	516	e190	214	e80	240	739	62	16	e5.5	27	48
25	313	445	e170	318	e78	227	542	61	13	e5.2	19	34
26	286	416	e155	251	e77	320	497	55	14	e4.9	13	36
27	278	404	e180	213	e76	390	715	52	15	7.9	11	54
28	266	327	e180	166	e72	494	505	50	17	18	12	95
29	259	279	e200	e140	---	1070	386	48	20	10	14	64
30	279	248	e290	e110	---	1820	311	44	15	11	11	48
31	274	---	683	e115	---	1550	---	49	---	10	10	---
TOTAL	4086	10117	8190	10307	2621	8476	28018	3222	985	336.8	676.2	791.6
MEAN	132	337	264	332	93.6	273	934	104	32.8	10.9	21.8	26.4
MAX	313	775	683	1200	130	1820	2110	260	104	25	108	95
MIN	24	122	155	110	72	66	311	44	13	4.9	6.3	9.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1993, BY WATER YEAR (WY)

	138	202	193	174	163	300	411	217	131	78.0	90.0	91.7
MEAN	138	202	193	174	163	300	411	217	131	78.0	90.0	91.7
MAX	774	817	556	430	608	947	934	627	479	290	1002	644
(WY)	1956	1928	1974	1978	1981	1936	1993	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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1913 - 1993
ANNUAL TOTAL	61970	77826.6	
ANNUAL MEAN	169	213	182
HIGHEST ANNUAL MEAN			341
LOWEST ANNUAL MEAN			66.1
HIGHEST DAILY MEAN	1070	2110	16100
LOWEST DAILY MEAN	24	4.9	2.4
ANNUAL SEVEN-DAY MINIMUM	30	6.3	3.1
INSTANTANEOUS PEAK FLOW		2590	34300
INSTANTANEOUS PEAK STAGE		6.96	14.06
INSTANTANEOUS LOW FLOW		4.3	
10 PERCENT EXCEEDS	346	555	395
50 PERCENT EXCEEDS	121	94	113
90 PERCENT EXCEEDS	46	11	27

e Estimated

HOUSATONIC RIVER BASIN

149

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. Satellite gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	40	127	420	70	35	792	200	59	23	23	16
2	28	38	107	253	61	36	539	149	50	22	33	15
3	26	135	117	170	70	37	375	130	42	21	55	18
4	25	195	114	156	70	35	288	109	37	22	34	19
5	25	128	109	750	68	37	263	104	36	20	26	17
6	26	118	94	761	52	37	311	125	66	20	22	14
7	26	99	101	377	40	36	372	126	62	24	19	15
8	26	82	91	260	46	37	449	95	47	24	17	22
9	25	71	79	205	41	40	547	79	40	25	17	28
10	70	53	81	161	42	40	773	71	37	21	18	30
11	61	82	85	157	43	39	1300	67	32	18	17	31
12	41	124	81	161	41	37	845	62	29	18	19	25
13	37	272	94	136	44	32	578	56	29	18	18	21
14	33	220	100	121	42	35	495	52	29	19	20	20
15	32	124	102	115	40	35	474	48	28	17	22	20
16	40	92	102	109	41	37	605	47	33	16	21	20
17	50	82	155	104	46	52	1390	46	30	16	23	27
18	43	79	288	91	44	63	792	46	27	15	28	25
19	44	71	243	80	40	61	436	60	25	16	27	22
20	47	62	231	72	38	60	389	66	29	19	22	21
21	53	73	212	73	37	60	363	69	33	17	21	20
22	68	259	168	105	40	65	613	55	34	16	17	42
23	68	421	135	138	41	70	1610	46	30	15	18	41
24	83	320	e110	124	38	85	632	42	25	16	18	24
25	156	291	e97	188	36	87	385	47	22	15	18	20
26	108	256	87	145	36	109	343	43	29	15	17	21
27	83	226	e68	111	35	157	572	42	56	22	17	33
28	73	190	72	98	35	213	391	40	37	23	15	56
29	59	165	89	90	---	627	293	39	31	32	15	40
30	49	149	213	66	---	1210	247	34	26	47	15	31
31	46	---	461	70	---	981	---	34	---	25	16	---
TOTAL	1581	4517	4213	5867	1277	4485	17462	2229	1090	637	668	754
MEAN	51.0	151	136	189	45.6	145	582	71.9	36.3	20.5	21.5	25.1
MAX	156	421	461	761	70	1210	1610	200	66	47	55	56
MIN	25	38	68	66	35	32	247	34	22	15	15	14
CFSM	.89	2.61	2.36	3.29	.79	2.51	10.1	1.25	.63	.36	.37	.44
IN.	1.02	2.92	2.72	3.79	.82	2.90	11.28	1.44	.70	.41	.43	.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1993, BY WATER YEAR (WY)

	MEAN	68.9	96.5	100	92.5	95.8	174	264	141	82.2	53.0	48.0	54.6
MAX	318	279	321	252	274	417	582	366	326	220	188	326	326
(WY)	1956	1956	1974	1949	1984	1979	1993	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 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1936 - 1993

ANNUAL TOTAL	33009	44780	
ANNUAL MEAN	90.2	123	106
HIGHEST ANNUAL MEAN			155
LOWEST ANNUAL MEAN			42.6
HIGHEST DAILY MEAN	833	Mar 27	4460
LOWEST DAILY MEAN	21	Sep 20	4.4
ANNUAL SEVEN-DAY MINIMUM	23	Sep 15	9.5
INSTANTANEOUS PEAK FLOW			6400
INSTANTANEOUS PEAK STAGE			10.80
INSTANTANEOUS LOW FLOW			13
ANNUAL RUNOFF (CFSM)	1.57	2.13	1.84
ANNUAL RUNOFF (INCHES)	21.32	28.92	25.01
10 PERCENT EXCEEDS	191	300	230
50 PERCENT EXCEEDS	60	47	60
90 PERCENT EXCEEDS	27	19	24

e Estimated

HOUSATONIC RIVER BASIN

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 period of doubtful gage-height record, Oct. 1 to Apr. 28, which are poor. Regulation at low flow by powerplants upstream. High flow slightly affected by retarding reservoir since 1973. Telephone and satellite gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142	298	677	1980	393	e200	4260	1130	241	132	143	75
2	134	282	619	1560	362	215	3870	956	278	122	120	78
3	126	382	652	1140	342	181	3010	819	231	118	161	81
4	122	544	674	947	318	181	2280	715	209	117	185	104
5	104	524	641	1600	e300	178	1780	636	199	115	125	112
6	117	473	563	2540	e280	182	1590	660	235	106	120	95
7	111	431	535	2420	287	177	1600	657	300	103	104	87
8	117	377	511	1770	258	180	1700	585	268	114	102	86
9	122	336	e420	1300	e190	187	1870	515	233	143	96	104
10	158	308	e390	990	165	191	2150	465	208	137	88	164
11	227	338	424	848	164	194	2770	428	188	111	86	184
12	232	452	505	783	165	180	3550	400	166	102	86	156
13	206	673	505	760	173	167	3180	376	159	96	92	118
14	196	882	e460	720	e170	143	2580	349	156	92	88	109
15	189	745	e460	668	e170	e180	2150	332	159	93	99	102
16	208	574	453	620	173	e210	1950	327	141	83	111	103
17	246	486	536	564	204	222	2310	328	151	82	108	105
18	250	486	1050	525	e210	e320	2820	306	138	83	218	143
19	239	481	1140	e460	e280	e330	2550	330	125	87	191	133
20	238	440	1070	e450	e300	e290	1890	354	125	92	137	117
21	253	421	1070	e400	e260	255	1480	431	138	102	124	109
22	272	613	903	433	256	240	1560	377	166	86	111	113
23	274	1140	819	562	247	237	2340	324	158	84	99	129
24	276	1390	748	572	e230	366	2920	290	141	77	91	141
25	350	1120	e560	759	e210	485	2610	272	127	76	118	128
26	380	1140	585	728	e210	596	1990	265	120	75	76	122
27	355	1080	e500	614	e210	784	2110	245	210	81	67	139
28	348	962	483	528	e200	1070	2050	231	227	133	74	309
29	327	832	477	485	---	1810	1700	215	177	117	93	311
30	320	746	667	411	---	3720	1370	203	155	116	82	225
31	310	---	1510	408	---	4330	---	184	---	174	75	---
TOTAL	6949	18956	20607	28545	6727	18001	69990	13705	5529	3249	3470	3982
MEAN	224	632	665	921	240	581	2333	442	184	105	112	133
MAX	380	1390	1510	2540	393	4330	4260	1130	300	174	218	311
MIN	104	282	390	400	164	143	1370	184	120	75	67	75
CFSM	.79	2.24	2.36	3.27	.85	2.06	8.27	1.57	.65	.37	.40	.47
IN.	.92	2.50	2.72	3.77	.89	2.37	9.23	1.81	.73	.43	.46	.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1993, BY WATER YEAR (WY)

	301	463	518	499	493	905	1243	689	414	273	242	259
MEAN	301	463	518	499	493	905	1243	689	414	273	242	259
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1913 - 1993
ANNUAL TOTAL	151939	199710	
ANNUAL MEAN	415	547	525
HIGHEST ANNUAL MEAN			962
LOWEST ANNUAL MEAN			211
HIGHEST DAILY MEAN	1680	4330	11100
LOWEST DAILY MEAN	104	67	1.0
ANNUAL SEVEN-DAY MINIMUM	114	77	40
INSTANTANEOUS PEAK FLOW		4340	12200
INSTANTANEOUS PEAK STAGE		7.64	12.08
INSTANTANEOUS LOW FLOW		64	
ANNUAL RUNOFF (CFSM)	1.47	1.94	1.86
ANNUAL RUNOFF (INCHES)	20.04	26.34	25.30
10 PERCENT EXCEEDS	843	1560	1150
50 PERCENT EXCEEDS	327	265	331
90 PERCENT EXCEEDS	148	102	126

e Estimated

HUDSON RIVER BASIN

151

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 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	34	100	285	68	31	443	176	81	27	24	13
2	26	32	92	179	64	30	326	160	55	25	26	13
3	26	102	99	142	64	30	262	145	43	25	28	18
4	24	90	98	159	63	30	227	113	43	25	23	19
5	22	66	85	514	63	30	219	107	41	24	21	18
6	21	69	57	349	62	32	243	115	92	23	18	17
7	22	57	63	226	57	33	265	105	117	22	20	15
8	21	48	56	187	60	34	292	96	53	31	29	17
9	22	44	47	156	57	41	341	90	41	52	18	22
10	62	44	48	126	49	38	453	83	38	36	17	47
11	43	61	55	125	34	39	576	77	35	32	16	30
12	35	72	61	123	33	38	422	70	34	28	16	22
13	31	225	64	117	34	46	346	65	33	26	17	20
14	29	133	62	113	34	73	309	62	32	23	17	19
15	29	91	79	105	32	44	308	61	32	22	17	19
16	32	76	82	99	32	41	404	66	45	20	19	19
17	37	70	130	94	33	55	591	59	34	18	22	23
18	35	69	242	80	32	73	350	56	30	18	21	27
19	33	62	167	73	31	66	272	62	29	18	19	24
20	35	54	158	74	29	54	258	55	40	25	18	21
21	36	80	148	70	29	52	237	67	45	22	19	20
22	39	198	123	89	31	50	388	52	52	20	16	20
23	37	312	112	105	30	47	550	48	37	19	16	20
24	48	233	96	95	29	52	332	44	32	19	16	20
25	76	247	78	139	29	112	295	63	30	18	16	19
26	51	175	84	89	29	134	283	48	29	17	15	22
27	43	154	71	84	30	131	347	51	35	19	17	47
28	38	127	73	75	30	186	259	42	32	26	15	82
29	36	125	84	73	---	473	218	42	31	26	13	43
30	36	110	209	62	---	689	195	38	29	29	14	34
31	36	---	354	66	---	520	---	39	---	27	14	---
TOTAL	1088	3260	3277	4273	1168	3304	10011	2357	1300	762	577	750
MEAN	35.1	109	106	138	41.7	107	334	76.0	43.3	24.6	18.6	25.0
MAX	76	312	354	514	68	689	591	176	117	52	29	82
MIN	21	32	47	62	29	30	195	38	29	17	13	13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1993, BY WATER YEAR (WY)

	MEAN	52.3	78.6	85.4	84.8	84.1	150	219	119	69.8	49.2	41.3	46.0
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 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1932 - 1993
ANNUAL TOTAL	26754	32127	
ANNUAL MEAN	73.1	88.0	89.8
HIGHEST ANNUAL MEAN			130
LOWEST ANNUAL MEAN			41.2
HIGHEST DAILY MEAN	428	Mar 11	2410
LOWEST DAILY MEAN	20	Jul 3	8.0
ANNUAL SEVEN-DAY MINIMUM	23	Oct 3	8.8
INSTANTANEOUS PEAK FLOW		771	5080
INSTANTANEOUS PEAK STAGE		7.68	9.25
INSTANTANEOUS LOW FLOW		13	
10 PERCENT EXCEEDS	136	235	191
50 PERCENT EXCEEDS	57	47	56
90 PERCENT EXCEEDS	28	19	22

HUDSON RIVER BASIN

01332500 HOOSIC RIVER NEAR WILLIAMSTOWN. MA

LOCATION.--Lat 42°42'01", long 73°09'34", Berkshire County, Hydrologic Unit 02020003, on left bank 0.3 mi downstream from Sherman Brook and 2.7 mi east of junction of U.S. Highway 7 and State Highway 2 in Williamstown.

DRAINAGE AREA.--126 mi².

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

Water-quality records: Water years 1953-54, 1957-58, 1967-69.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 616.11 ft above sea level, (U.S. Army Corps of Engineers benchmark). Prior to June 6, 1979, at site 1.2 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Prior to 1966, slight diurnal fluctuation at low flow caused by mills upstream. Some regulation by Cheshire Reservoir 16 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	119	269	994	e170	e70	1470	444	197	77	69	49
2	73	109	248	537	e160	e70	924	388	144	69	76	49
3	72	295	274	399	e150	e70	679	345	116	70	94	64
4	67	315	255	401	e140	e70	555	300	108	69	75	76
5	63	237	235	1800	e130	e71	534	279	107	66	66	70
6	59	266	176	1210	e120	e74	624	308	209	65	64	61
7	57	221	199	663	e130	e76	708	280	218	62	63	52
8	57	186	171	512	e140	e82	829	252	151	70	70	60
9	60	164	142	403	e140	e90	1050	230	115	102	55	95
10	144	147	151	297	e120	e86	1510	214	109	80	52	208
11	106	169	175	300	e90	e86	2400	200	102	69	52	130
12	93	204	176	297	e88	e82	1440	195	99	66	61	90
13	80	741	178	286	e90	e80	1020	174	93	65	63	79
14	76	425	174	279	e88	e85	904	168	90	60	60	69
15	76	290	186	254	e86	e100	940	160	89	55	93	69
16	94	237	186	245	e84	e120	1370	174	127	52	135	72
17	97	211	342	228	e82	e150	2340	156	104	52	144	111
18	93	203	661	196	e78	e190	1200	150	87	51	101	131
19	95	183	416	182	e75	e180	806	161	85	56	85	115
20	114	165	410	190	e72	149	784	169	111	87	75	87
21	103	201	378	184	e72	133	747	216	133	67	81	82
22	116	538	310	249	e74	130	1210	163	129	62	69	79
23	114	845	286	304	e72	129	2410	142	101	60	66	79
24	149	580	247	264	e70	137	1130	130	87	55	66	82
25	276	627	197	440	e72	205	955	151	85	52	70	78
26	178	525	225	271	e70	290	874	132	80	53	70	96
27	145	492	191	244	e70	393	1110	131	89	65	65	255
28	133	376	209	215	e70	657	751	117	88	79	52	447
29	124	338	216	205	---	1780	597	114	88	79	51	197
30	133	294	513	169	---	2540	506	106	83	86	49	140
31	124	---	1180	173	---	1800	---	108	---	72	49	---
TOTAL	3244	9703	8976	12391	2803	10175	32377	6257	3424	2073	2241	3272
MEAN	105	323	290	400	100	328	1079	202	114	66.9	72.3	109
MAX	276	845	1180	1800	170	2540	2410	444	218	102	144	447
MIN	57	109	142	169	70	70	506	106	80	51	49	49
CFSM	.83	2.57	2.30	3.17	.79	2.60	8.57	1.60	.91	.53	.57	.87
IN.	.96	2.86	2.65	3.66	.83	3.00	9.56	1.85	1.01	.61	.66	.97

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

MEAN	172	259	271	240	244	447	679	374	216	133	117	123
MAX	618	544	714	591	765	1038	1178	872	636	393	416	454
(WY)	1978	1956	1974	1949	1981	1979	1969	1943	1972	1945	1976	1960
MIN	41.0	46.5	118	60.8	75.3	139	253	144	81.0	60.4	48.2	34.5
(WY)	1965	1965	1962	1981	1980	1965	1946	1987	1965	1962	1980	1980

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1940 - 1993
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ANNUAL TOTAL	77330		96936			
ANNUAL MEAN	211		266		273	
HIGHEST ANNUAL MEAN					368	1975
LOWEST ANNUAL MEAN					135	1965
HIGHEST DAILY MEAN	1700	Mar 11	2540	Mar 30	10400	Dec 31 1948
LOWEST DAILY MEAN	49	Sep 18	49	Aug 30	24	Sep 9 1980
ANNUAL SEVEN-DAY MINIMUM	55	Sep 15	52	Aug 28	25	Sep 9 1980
INSTANTANEOUS PEAK FLOW			3530	Apr 23	13000	Dec 31 1948
INSTANTANEOUS PEAK STAGE			9.04	Apr 23	14.85	Dec 31 1948
INSTANTANEOUS LOW FLOW			46	Aug 31	5.8	Aug 30 1940
ANNUAL RUNOFF (CFSM)	1.68		2.11		2.16	
ANNUAL RUNOFF (INCHES)	22.83		28.62		29.41	
10 PERCENT EXCEEDS	409		659		580	
50 PERCENT EXCEEDS	154		133		165	
90 PERCENT EXCEEDS	70		65		67	

e Estimated

HUDSON RIVER BASIN

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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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	19	80	355	e48	e21	617	174	38	12	6.9	3.5
2	11	19	73	222	e46	e21	422	149	29	11	8.3	3.5
3	10	61	82	168	e43	e21	293	129	26	12	9.0	5.6
4	9.9	51	71	161	e41	e21	227	116	25	11	6.6	7.3
5	9.3	47	68	485	e40	e20	224	106	26	10	6.7	5.7
6	9.2	55	59	339	e38	e20	241	103	40	9.2	5.8	4.4
7	9.2	45	59	232	e35	e21	251	91	33	8.9	5.5	4.1
8	9.2	40	52	182	e32	e22	269	80	29	11	5.4	5.9
9	9.7	37	47	148	e30	e23	312	72	27	13	4.9	8.4
10	19	34	e42	112	e28	e26	426	66	25	9.2	4.6	30
11	13	42	e45	e98	e27	e24	587	60	23	7.9	4.3	15
12	12	44	e50	e88	e26	e23	418	55	22	7.7	5.3	8.7
13	11	179	52	e80	e25	e22	315	50	21	7.3	5.3	6.7
14	10	104	51	e74	e24	e25	253	48	19	6.6	5.1	5.7
15	11	79	53	e68	e24	e27	231	46	19	6.5	4.7	5.8
16	15	67	50	e60	e24	e31	291	48	28	6.0	7.6	6.8
17	13	61	142	e54	e23	e35	477	43	21	5.7	11	14
18	12	56	193	e50	e22	e40	303	41	18	5.7	7.1	14
19	15	50	126	e42	e22	e47	230	43	17	6.5	6.0	10
20	16	46	185	e48	e22	e42	200	44	26	11	5.8	7.7
21	15	61	138	e52	e22	37	183	48	24	7.3	6.7	7.0
22	16	112	115	e70	e22	36	459	41	22	6.6	5.3	7.3
23	14	231	104	e80	e22	e33	694	38	17	6.0	4.6	7.2
24	19	154	86	e76	e22	40	434	36	16	6.4	4.4	7.0
25	31	168	e68	e120	e22	58	350	38	14	5.7	5.2	6.0
26	26	142	e64	e74	e21	99	347	33	14	5.3	4.6	7.0
27	23	136	e58	e66	e21	165	394	32	19	6.6	4.0	33
28	22	114	e70	e54	e21	292	299	30	15	8.0	3.9	52
29	21	103	96	e49	---	975	244	28	17	8.2	3.9	25
30	23	91	218	e47	---	1220	206	27	13	10	3.7	18
31	21	---	445	e48	---	667	---	28	---	9.1	3.6	---
TOTAL	466.5	2448	3042	3802	793	4154	10197	1943	683	257.4	175.8	342.3
MEAN	15.0	81.6	98.1	123	28.3	134	340	62.7	22.8	8.30	5.67	11.4
MAX	31	231	445	485	48	1220	694	174	40	13	11	52
MIN	9.2	19	42	42	21	20	183	27	13	5.3	3.6	3.5
CFSM	.35	1.92	2.30	2.88	.66	3.15	7.98	1.47	.53	.19	.13	.27
IN.	.41	2.14	2.66	3.32	.69	3.63	8.90	1.70	.60	.22	.15	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1993, BY WATER YEAR (WY)

	45.7	77.7	92.5	77.8	82.4	144	207	111	62.3	30.6	27.0	28.8
MEAN	45.7	77.7	92.5	77.8	82.4	144	207	111	62.3	30.6	27.0	28.8
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	8.30	5.61	4.09
(WY)	1965	1965	1965	1981	1980	1965	1985	1987	1965	1993	1964	1964

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1949 - 1993
ANNUAL TOTAL	20297.3	28304.0	
ANNUAL MEAN	55.5	77.5	82.2
HIGHEST ANNUAL MEAN			126
LOWEST ANNUAL MEAN			31.7
HIGHEST DAILY MEAN	445	1220	2200
LOWEST DAILY MEAN	7.3	3.5	3.2
ANNUAL SEVEN-DAY MINIMUM	8.4	3.7	3.4
INSTANTANEOUS PEAK FLOW		1720	4060
INSTANTANEOUS PEAK STAGE		4.66	6.35
INSTANTANEOUS LOW FLOW		3.5	3.1
ANNUAL RUNOFF (CFSM)	1.30	1.82	1.93
ANNUAL RUNOFF (INCHES)	17.72	24.72	26.21
10 PERCENT EXCEEDS	118	225	183
50 PERCENT EXCEEDS	44	28	48
90 PERCENT EXCEEDS	12	6.0	11

e Estimated

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in a table of discharge measurements at low-flow partial-record stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a second table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1993

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	1991-93	7- 2-93 7- 8-93 7-19-93	0.29 .19 0
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 northeast of Westminister.	21.6	1973-74, 1991-93	7- 2-93 7- 9-93 7-23-93	3.17 2.88 1.23
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, 1991-93	7- 1-93 7- 8-93 7-23-93	2.90 2.73 .53
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, 1991-93	7- 1-93 7- 8-93 7-23-93	.52 .79 .11
01095928	Trapfall Brook near Ashby, MA	Lat 42°40'24", long 71°46'39", Middlesex County at bridge on unmarked road off State Highway 119, 2.2 mi east of Ashby.	--	1993	7- 1-93 7- 9-93 7-19-93	.53 .74 .08
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, 1991-93	7- 1-93 7- 9-93 7-19-93	.70 .68 .35
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, 1991-93	7- 1-93 7- 9-93 7-19-93	4.13 .94 .63
01096515	Salmon Brook at Main Street, at Dunstable, MA	Lat 42°40'14", long 71°29'37", Middlesex County, at culvert on Main Street, at Dunstable.	--	1975-78, 1993	7- 1-93 7- 9-93 7-19-93	8.06 7.19 3.38
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	1991-93	7- 2-93 7- 9-93 7-19-93	1.38 1.01 .57
IPSWICH RIVER BASIN						
01101740	Fish Brook at Lockwood Lane near Boxford, MA	Lat 42°38'39", long 70°59'20", Essex County, at bridge on Lockwood Lane, 1.3 mi south of Boxford.	--	1993	7- 2-93 7- 9-93 7-19-93	0.96 .49 .02

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at low-flow partial-record stations during water year 1993--Continued

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
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, 1992-93	7- 2-93 7- 9-93 7-19-93	0.42 3.82 .17
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.	--	1992-93	7- 1-93 7-22-93 8-25-93	0.31 .18 .12
JONES RIVER BASIN						
01105861	Jones River Brook near Kingston, MA	Lat 41°59'47", long 70°47'18", Plymouth County, at culvert on West Street, 1.2 mi northeast of North Plympton, MA.	4.75	1983, 1987, 1993	6-28-93 7- 1-93 7-23-93 8-25-93	2.62 1.59 1.35 .23
HERRING RIVER BASIN						
01105839 (revised)	Herring River at Bournedale, MA	Lat 41°46'21", long 70°33'46", Barnstable County, at mouth, at Bournedale.	7.74	1969-71, 1986, 1992-93	7- 1-93 7-23-93 8-25-93	9.14 6.30 4.58
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, 1992-93	7- 1-93 7-23-93 8-25-93	0.08 .05 .02
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	1991-93	10- 8-92 10- 8-92 7- 1-93 7-23-93 8-25-93	5.93 5.98 .65 .60 .44
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, 1991-93	7- 1-93 7-23-93 8-25-93	1.04 .61 .36
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, 1991-93	7- 1-93 7-23-93 8-25-93	0.46 .08 0
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.	--	1992-93	7- 1-93 7-22-93 8-25-93	0.03 0 0

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1993--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.	--	1992-93	7- 2-93	0.45
					7-19-93	.32
					8-25-93	.25
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	1991-93	7- 2-93	6.18
					7- 8-93	17.8
					7-19-93	1.53
01111225	Emerson Brook near Uxbridge, MA	Lat 42°02'40", long 71°37'21", Worcester County, at culvert on State Highway 146-A, 2.1 mi south of Uxbridge.	--	1993	6-28-93	1.71
					7- 2-93	.99
					7- 8-93	2.44
					7-19-93	1.32
THAMES RIVER BASIN						
01123140	Mill Brook at Brimfield, MA	Lat 42°06'55", long 72°11'51", Hampden County, at bridge on Pace Hill Road, 0.5 mi south of Brimfield.	--	1993	7- 2-93	3.31
					8-25-93	1.67
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 northeast of Sandersdale.	9.4	1980-82	7- 2-93	.07
					7- 8-93	.21
				1991-93	7-19-93	.20
					8-25-93	.30
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,	7- 2-93	.25
					7- 8-93	.16
				1991-93	7-19-93	.07
					8-25-93	.77
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 Highway 12, 0.3 mi west of Old North Ashburnham Station, 3.7 mi southeast of Winchendon.	23.7	1965-66,	7- 1-93	1.05
					7- 8-93	.83
				1991-93	7-23-93	.29
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,	7- 1-93	.73
					7-26-93	.26
				1991-93	8-26-93	1.50
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,	7- 1-93	1.93
					7-26-93	0
				1992-93	8-26-93	0
01166400	Keyup Brook at Erving, MA	Lat 42°36'08", long 72°24'00", Franklin County, at bridge on Church Street, 0.2 mi north of State Highway 2 at Erving.	--	1993	7- 2-93	.52
					7-26-93	.20
					8-25-93	.65
01167200	Fall River at Bernardston, MA	Lat 42°41'15", long 72°32'43", Franklin County, at bridge on Burke Falls Road, 1.0 mi northeast of Bernardston.	25.6	1971-74,	7- 2-93	2.82
					7-26-93	1.31
				1993	8-25-93	1.24
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,	7- 1-93	4.92
					7- 8-93	3.25
				1965,	8-16-93	2.73
					1979-81,	8-24-93
				1983, 1991-93		
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 Charlemont.	27.1	1967-69,	7- 1-93	8.72
					7- 8-93	7.18
				1991-93	8-11-93	5.18
					8-24-93	5.46
				8-30-93	4.02	

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at low-flow partial-record stations during water year 1993--Continued

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
CONNECTICUT RIVER BASIN--Continued						
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 northwest of Shelburne Falls.	18.2	1967-69, 1991-93	7- 1-93 7-26-93 7-26-93 8- 6-93 8-24-93 8-25-93 8-30-93	3.77 3.74 4.20 5.23 4.14 3.73 3.18
01169600	Bear River near Conway, MA	Lat 42°32'45", long 72°43'15", Franklin County, at bridge on Shelburne Falls Road, 2.7 mi northeast of Conway.	10.5	1967-69, 1993	7- 2-93 7-26-93 8-25-93	1.61 1.03 1.45
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.	--	1992-93	7- 2-93 7-26-93 8-25-93	4.56 4.79 4.26
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	1991-93	7- 2-93 7-26-93 8-25-93	0 0 0
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.	--	1991-93	7- 2-93 8-26-93	4.20 2.29
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.	--	1992-93	7- 1-93 7- 8-93 7-23-93 8-26-93	2.24 4.19 1.64 3.55
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	1991-93	7- 1-93 8-25-93	5.87 2.32
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	1991-93	7- 1-93 7- 8-93 7-19-93	3.03 3.51 .48
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.	--	1992-93	7- 2-93 8-25-93	7.47 2.77
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.	--	1991-93	7- 2-93 8-26-93	6.82 2.96
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, 1991-93	7- 1-93 8-26-93	1.15 .99
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, 1991-93	7- 1-93 8-26-93	2.78 2.57
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.	--	1992-93	7- 1-93 8-26-93	4.14 1.16
01180650	Shaker Mill Brook at Becket, MA	Lat 42°19'56", long 73°05'09", Berkshire County, at bridge on State Highway 8 in center of Becket.	--	1993	7- 1-93 7-19-93 10- 7-93	1.15 .49 1.54
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	1991-93	7- 1-93 8-25-93	13.0 3.69
01184277	Scantic River near Hampden, MA	Lat 42°02'54", long 72°27'16", Hampden County, at bridge on Mill Road, 2.4 mi southwest of Hampden.	--	1993	7- 2-93 8-26-93	7.09 1.57
01184282	Watchaug Brook near Longmeadow, MA	Lat 42°04'44", long 72°28'25", Hampden County, at bridge on State Highway 83, 2.1 mi southeast of East Longmeadow.	--	1993	7- 2-93 8-26-93	.57 .11

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1993--Continued

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
CONNECTICUT RIVER BASIN--Continued						
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	1991-93	7- 1-93 7-26-93 8-25-93	7.48 2.59 9.21
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 ^a , 1965, 1984, 1991-93	7- 1-93 7-26-93 8-25-93	12.8 2.04 3.30
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, 1992-93	7- 1-93 7-26-93 8-25-93	.98 .51 1.66
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 downstream from Smith Brook, at Pittsfield.	20.4	1963-65, 1991-93	7- 1-93 8-26-93	5.16 1.54
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, 1991-93	7- 1-93 7- 19-93	3.06 2.61
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, 1991-93	7- 1-93 7-26-93	2.80 1.46
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 ^b , 1973, 1980-81, 1983, 1991-93	7- 1-93 7-26-93 8-25-93	13.1 4.81 6.49
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, 1992-93	7- 1-93 7-26-93 8-25-93	.13 0 0
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, 1991-93	7- 1-93 7-26-93 8-25-93	23.6 5.11 19.4
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.	--	1992-93	7- 1-93 8-26-93	4.48 3.20

^a Peak flow.^b 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 1993

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
WEYMOUTH FORE RIVER BASIN						
01105585 Town Brook	Town River Bay	Lat 42°14'52", long 70°59'52", Norfolk County, on left bank, 200 ft down- stream from Miller Stile Road at Quincy, MA, and 0.8 mi upstream from mouth.	4.22	1972-86*	10- 6-86 5- 3-88 8-24-93	2.14 3.36 1.35
SANTUIT RIVER BASIN						
0110588338 Santuit River	Nantucket Sound	Lat 41°38'47", long 70°27'15", Barnstable County, at outlet of Santuit Pond, 0.6 mi north of Santuit, MA.	--	--	3-22-93	4.17
0110588339 Santuit River	do.	Lat 41°38'16", long 70°27'11", Barnstable County, 100 ft below culvert at State Highway 28, 0.1 mi southwest of Santuit, MA.	--	--	3-22-93	5.99
0110588340 Santuit River	do.	Lat 41°37'39", long 70°27'04", Barnstable County, at culvert on Kings Road, 0.7 mi south of Santuit, MA.	--	--	3-22-93	8.74
MASHPEE RIVER BASIN						
0110588357 Mashpee River	Nantucket Sound	Lat 41°39'06", long 70°29'10", Barnstable County, at outlet of Mashpee Pond, 0.4 mi northwest of Mashpee, MA.	--	--	3-22-93	11.8
0110588358 Mashpee River	do.	Lat 41°358'56", long 70°29'10", Barnstable County, at culvert on State Highway 131, 0.2 mi northwest of Mashpee, MA.	--	--	3-22-93	14.6
0110588359 Mashpee River	do.	Lat 41°38'40", long 70°28'56", Barnstable County, at outlet of Washburn Pond, 0.3 mi southwest of Mashpee, MA.	--	--	3-22-93	10.2
0110588360 Mashpee River	do.	Lat 41°37'18", long 70°28'51", Barnstable County, at bridge on State Highway 28, 1.8 mi south of Waquoit Village, MA.	1.07/ 3.36	1978	3-22-93	22.9
QUASHNET RIVER BASIN						
0110588363 Quashnet River	Nantucket Sound	Lat 41°38'08", long 70°30'49", Barnstable County, 300 ft northeast of weir at Johns Pond, 1.3 mi north of State Highway 151, 3.2 mi north of Waquoit Village, MA.	2.05	1989, 1990	3-23-93	0.04
0110588365 Quashnet River	do.	Lat 41°37'28", long 70°30'06", Barnstable County, 1.2 mi downstream of outlet from Johns Pond, at intersection with Old Barnstable Road, 2.6 mi northeast of Waquoit Village, MA.	3.54	1989	3-23-93	9.20
0110588367 Quashnet River	do.	Lat 41°36'30", long 70°30'09", Barnstable County, on downstream side of fish ladder, 0.6 mi downstream from State Highway 151, 1.6 mi northeast of Waquoit Village, MA.	4.25	1989, 1990	3-23-93	12.3

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1993--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
CHILDS RIVER BASIN						
01105883717 Childs River	Nantucket Sound	Lat 41°36'56", long 70°31'17", Barnstable County, at culvert on State Highway 151, 0.5 mi east of the Mashpee/Falmouth town line, at Mashpee, MA.	--	--	3-23-93 6-18-93	4.11 4.73
01105883718 Childs River	do.	Lat 41°36'43", long 70°31'15", Barnstable County, at Old Barnstable Road, 1,200 ft south of State Highway 151, 1.6 mi north of Waquoit Village, MA.	2.15	1989	3-24-93 6-17-93	4.32 6.63
01105883719 Childs River	do.	Lat 41°35'51", long 70°31'32", Barnstable County, at bogs east of Falmough Beagle Club, 1,700 ft north of Carriage Shop Road, 0.7 mi north of Waquoit Village, MA.	2.67	1989	3-24-93 6-16-93	8.36 10.1
01105883720 Childs River	do.	Lat 41°35'07", long 70°31'37", Barnstable County, 2,200 ft north of State Highway 28, 0.6 mi south of Waquoit Village, MA.	3.03	1978, 1989	3-24-93 6-16-93	12.9 8.23
BOURNES RIVER BASIN						
0110588373 Bournes River	Nantucket Sound	Lat 41°34'43", long 70°33'07", Barnstable County, near end of Currier Valley, at second cranberry bog 900 ft north of State Highway 28, 0.6 mi northwest of East Falmouth, MA.	1.98	1989	3-24-93 6-16-93	4.15 1.46
BACKUS RIVER BASIN						
0110588374 Backus River	Nanatucket Sound	Lat 41°34'41", long 70°33'50", Barnstable County, near end of Ashumet Valley, at State Highway 28, 0.2 mi northwest of East Falmouth, MA.	1.83	1980, 1989	3-24-93 6-16-93	7.00 1.56
COONAMESSETT RIVER BASIN						
01105883753 Coonamessett River	Nantucket Sound	Lat 41°37'07", long 70°34'22", Barnstable County, below weir at Coonamessett Pond, 2,500 ft north of Hatchville Road, 2.9 mi northwest of East Falmouth, MA.	1.21	1980, 1989	3-24-93 6-17-93	.23 .71
01105883754 Coonamessett River	do.	Lat 41°36'52", long 70°34'24", Barnstable County, at culvert 800 ft north of Hatchville Road, 2.6 mi northwest of East Falmouth, MA.	1.28	1989	3-24-93 6-17-93	.48 .72
01105883757 Coonamessett River	do.	Lat 41°35'55", long 70°34'20", Barnstable County, at Sandwich Road, 1.5 mi north-west of East Falmouth, MA.	1.80	1980, 1989	3-24-93 6-17-93	11.7 7.04
01105883758 Coonamessett River	do.	Lat 41°35'55", long 70°34'20", Barnstable County, at John Parker Road, 3,300 ft south of Sandwich Road, 1.0 mi north-west of East Falmouth, MA.	2.15	1989	3-24-93 6-17-93	14.5 5.47
01105883759 Coonamessett River	do.	Lat 41°34'52", long 70°34'26", Barnstable County, at outlet of last set of bogs, 1,250 ft north of State Highway 28, 0.8 mi northwest of East Falmouth, MA.	2.59	1978, 1980, 1989	3-24-93 6-17-93	16.8 10.1
01105883760 Coonamessett River	do.	Lat 41°34'41", long 70°34'26", Barnstable County, at culvert on State Highway 28, 0.7 mi west of East Falmouth, MA.	--	--	3-24-93 6-17-93	16.6 11.7

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at miscellaneous sites during water year 1993--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SLOCUMS RIVER BASIN						
011059302 Paskamanset River	Slocums River	Lat 41°40'13", long 70°58'21", Bristol County, 0.8 mi west of airport tower at intersection of airport boundary fence and New Bedford water main line, 1.4 mi northwest of New Bedford, MA.	8.45	--	10- 8-92	5.98
					10- 8-92	5.97
TENMILE RIVER BASIN						
01109345 Tenmile River	Narragansett Bay	Lat 42°00'24", long 71°20'27", Bristol County, 0.25 mi north of bridge on Bacon Street, 0.45 mi northwest of Plainville, MA.	--	--	7- 1-93	1.14
					7- 9-93	1.80
					7-28-93	1.02
					8-27-93	0.42
01109360 Bungay River	Tenmile River	Lat 41°59'28", long 71°17'02", Bristol County, at bridge on Mansfield Street, in North Attleborough, MA.	--	--	7- 2-93	1.81
					8- 4-93	1.10
					8-25-93	1.18
01109369 Bungay River	do.	Lat 41°57'13", long 71°16'48", Bristol County, at bridge on Holden Street, in Attleboro, MA.	--	--	6-28-93	4.04
					7- 2-93	2.17
					8- 4-93	2.02
					8-27-93	1.50
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.	--	1992	11-23-92	323
					12-18-92	274
					5- 3-93	114
					6-21-93	14.1
01109830 Blackstone River	do.	Lat 42°10'50", long 71°43'51", Worcester County, at bridge on Chase Road, 20 ft downstream from Singing Dam at Wilkinsonville, MA.	--	--	11-23-92	676
					12-18-92	645
					5- 3-93	244
					6-21-93	59.1
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 ^a , 1978-92	10-20-92	208
					11-27-92	1080
					12- 4-92	528
					3-29-93	2110
					3-29-93	3060
					3-31-93	2340
01111049 Mumford River	Blackstone River	Lat 42°04'35", long 71°37'43", Worcester County, at bridge on State Highway 16, at Uxbridge, MA.	--	--	11-23-92	205
					12-18-92	502
					5- 3-93	116
					6-21-93	21.5
					01111200 West River	do.
3-14-91	61.0					
7-17-91	6.33					
10-12-91	24.7					
1- 8-92	70.1					
3-31-92	100					
5-21-92	28.1					
7-31-92	8.52					
4-12-93	201					
01111212 Blackstone River	Narragansett Bay (Atlantic Ocean)	Lat 42°03'17", long 71°37'01", Worcester County, at bridge on State Highway 122, 1.7 mi south of Uxbridge, MA.	--	--	6- 1-93	32.3
					11-23-92	690
					12-18-92	1540
					5- 3-93	625
					5- 4-93	581
01111261 Clear River	Branch River	Lat 41°58'01", long 71°42'33", Providence County, at North Road, at Laurel Hill, RI.	--	--	6-21-93	106
					7- 9-93	5.00
					7-16-93	*0.82
					8-11-93	*0.27
					8-23-93	*3.12
					9-29-93	8.08

Discharge measurements made at miscellaneous sites during water year 1993--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
BLACKSTONE RIVER BASIN--Continued						
01111262 Brandy Brook	Burlingame Reservoir	Lat 41°55'16", long 71°44'07", Providence County, at State Highway 44, 3.5 mi west of Chepachet, RI.	--	--	7- 8-93	*0.35
					7-16-93	*0.03
					8-12-93	*0.03
					8-23-93	*0.05
					9-22-93	2.10
01111300 Nipmuc River	Pascoag River	Lat 41°58'52", long 71°41'11", Providence County, 1 mi upstream from mouth and 1.2 mi northwest of Harrisville, RI.	16.0	1963-91 ^a	10-21-91	15.3
					12-11-91	47.2
					1-31-92	28.7
					3- 2-92	24.6
					4- 9-92	27.1
					5-21-92	12.8
					6-18-92	6.91
					9-17-92	3.19
					12- 2-92	20.1
					4-22-93	43.9
01111330 Clear River	Branch River	Lat 41°57'24", long 71°38'59", Providence County, at Old Victory Highway, at Oakland, RI.	--	--	7- 9-93	0.75
					7-16-93	*5.48
					8- 2-93	*3.32
					8-10-93	*2.20
					8-23-93	*8.15
01112382 Peters River	Blackstone River	Lat 42°00'55", long 71°29'36", Providence County, at bridge on State Highway 114, at Woonsocket, RI.	--	--	9-29-93	31.5
					11-23-92	52.9
					12-18-92	110
					5- 3-93	22.3
01113650 Blackstone River	Narragansett Bay (Atlantic Ocean)	Lat 41°54'40", long 71°24'12", Providence County, at bridge on Lonsdale Avenue, at Lonsdale, RI.	441	1986-88, 1991-92	6-21-93	2.95
					11-23-92	1350
					12-18-92	3430
					5- 3-93	1220
01111410 Chepachet River	Branch River	Lat 41°56'27", long 71°38'55", Providence County, at Gazza Road, at Gazzaville, RI.	--	--	6-21-93	236
					7-16-93	*8.48
					8-12-93	*4.27
					8-23-93	*2.40
					9- 1-93	*1.31
01111470 Tarkiln Brook	Slatersville Reservoir	Lat 41°58'07", long 71°36'03", Providence County, at Douglas Turnpike, at Oak Valley, RI.	--	--	9-29-93	13.5
					6-24-93	3.33
					7-16-93	*1.28
					8- 2-93	*1.75
					8-10-93	*1.53
01113670 Burnt Swamp Brook	Diamond Hill Reservoir	Lat 42°00'50", long 71°23'25", Providence County, at Sumner Brown Road, 1.5 mi east of Grants Mills, RI.	--	1986	8-23-93	*2.08
					9-29-93	5.72
					6-24-93	0.25
					7-16-93	0
01113695 Catamint Brook	Arnolds Mills Reservoir	Lat 41°59'06", long 71°24'51", Providence County, at South Thomas Leighton Boulevard, 0.3 mi south of Diamond Hill, RI.	--	--	8- 2-93	*0
01113710 Ash Swamp Brook	do.	Lat 41°58'57", long 71°24'45", Providence County, at State Highway 120, 1.0 mi west of Arnolds Mills, RI.	--	--	9-29-93	*0
					6-24-93	0.81
					7-16-93	*0.52
					8-12-93	*0.33
					8-24-93	*0.47
9- 1-93	*0.36					
9-29-93	*0.95					

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Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
WOONASQUATUCKET RIVER BASIN						
01114400	Stillwater Reservoir	Lat 41°53'06", long 71°32'01", Providence County, at State Highway 5, 0.4 mi south of Spragueville, RI.	--	--	6-24-93 7- 9-93 7-16-93 8-10-93 8-24-93	3.07 2.13 *2.38 *2.69 *2.24
PAWTUXET RIVER BASIN						
01115098	Regulating Peeptoad Brook	Lat 41°51'08", long 71°23'35", Providence County, at Elmdale Road, 1.8 mi northwest of North Scituate, RI.	--	--	7-28-93 9-28-93	0.47 2.75
01115110	do.	Lat 41°50'48", long 71°36'44", Providence County, at Elmdale Road, 1.6 mi northwest of North Scituate, RI.	--	--	7-19-93 7-23-93 8-11-93 8-23-93	*0 *0 *0 *0.05
01115178	Scituate Pine Swamp Brook	Lat 41°49'43", long 71°24'45", Providence County, at State Highway 116, 0.25 mi south of North Scituate, RI.	--	--	7-26-93 8- 2-93 9-28-93	*0 *0.01 0.31
01115180	do.	Lat 41°49'10", long 71°35'11", Providence County, at State Highway 116, 0.9 mi south of North Scituate, RI.	--	--	7-19-93 8- 2-93 8-11-93 8-24-93 9-22-93 9-27-93	*0.29 *0.21 *0.14 *0.34 *0.29 *0.83
01115182	do.	Lat 41°48'27", long 71°24'51", Providence County, at State Highway 116, 1.7 mi south of North Scituate, RI.	--	--	7-26-93 8- 2-93	*0 *0
01115185	Ponaganset Winsor Brook	Lat 41°50'10", long 71°43'23", Providence County, at Windsor Road, 1.3 mi northwest of South Foster, RI.	--	--	7-28-93 8-11-93 8-31-93	0.02 *0 *0
01115187	Barden Ponaganset River	Lat 41°49'08", long 71°32'40", Providence County, at Rams Tail Road, 0.25 mi south of South Foster, RI.	--	--	7-28-93 8-10-93 9-27-93	0.93 1.57 6.39
01115190	do.	Lat 41°49'20", long 71°42'03", Providence County, at Old Danielson Pike, at South Foster, RI.	--	--	7-19-93 8-11-93 8-31-93 9-22-93 9-27-93	*0.12 *0.05 *0.13 0.55 0.86
01115193	Scituate Quonapaug Brook	Lat 41°47'51", long 71°24'53", Providence County, at State Highway 116, 2.4 mi south of North Scituate, RI.	--	--	7-19-93 7-26-93 8- 2-93 9-27-93	*0 *0 *0 0.61
01115270	Barden Hemlock Brook	Lat 41°47'29", long 71°40'58", Providence County, at Hemlock Road, 1.0 mi north of Clayville, RI.	--	--	8-11-93 8-24-93 8-31-93	*0.32 *0.44 *0.36
01115278	Scituate Coventry Brook	Lat 41°46'56", long 71°39'17", Providence County, at State Highway 12, 1.2 mi east of Clayville, RI.	--	--	7-26-93 9-28-93	0.12 0.19
01115280	do.	Lat 41°48'14", long 71°39'01", Providence County, at Rockland Scituate Road, 0.8 mi north-east of Crazy Corners, RI.	--	--	7-19-93 8- 2-93 8-11-93 8-24-93	*0 *0 *0 *0
01115297	do.	Lat 41°45'53", long 71°38'10", Providence County, at Old Plainfield Pike, 2.2 mi southeast of Rockland, RI.	--	--	8-17-93 8-24-93 8-31-93 9-22-93 9-28-93	*0.08 *0.28 0.24 *0.47 5.87

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1993--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
PAWTUXET RIVER BASIN--Continued						
01115400 Kent Brook	Scituate Reservoir	Lat 41°46'46", long 71°34'12", Providence County, at State Highway 116, 0.6 mi southeast of Waterman Four Corners, RI.	--	--	8-11-93	*0.05
					8-24-93	*0.11
					8-31-93	*0.06
					9-20-93	0.05
THAMES RIVER BASIN						
01123360 Quinebaug River	Thames River	Lat 42°06'31", long 72°07'27", Worcester County, on right bank at Fiskdale, MA, 750 ft downstream from East Brimfield Dam and 2.4 mi upstream from Cedar Pond outlet.	67.4	1973-90 ^d	11-14-90	154
					2-12-91	165
					3-12-91	187
					6- 3-91	74.8
					10-22-91	128
					12- 2-91	181
					3- 4-92	10.3
					4-23-92	186
					6- 8-92	163
					7-15-92	32.0
					8- 5-92	54.2
					8- 6-92	43.9
					9-14-92	41.8
					10-22-92	92.8
					12-10-92	99.3
					1-19-93	129
					5-24-93	71.0
5-24-93	75.2					
7- 2-93	14.0					
8-12-93	7.70					
9-24-93	25.4					
01123600 Quinebaug River	do.	Lat 42°04'58", long 72°03'27", Worcester County, on right bank, 200 ft down- stream from Westville Dam, 1.0 mi upstream from Mckinstry Brook, and 1.3 mi west of Southbridge, MA.	99.0	1963-90 ^d	11-14-90	218
					12-21-90	163
					3-12-91	254
					4-22-91	293
					7-16-91	19.9
					9- 4-91	37.9
					10-22-91	200
					12- 2-91	309
					3- 4-92	191
					4-23-92	341
					6- 8-92	218
					8- 5-92	49.8
					8- 5-92	59.4
					9-14-92	61.5
					10-22-92	110
					12-10-92	143
					1-19-93	196
5-24-93	99.1					
8-12-93	10.1					
9-24-93	32.6					
01124350 French River	Quinebaug River	Lat 42°07'06", long 71°52'54", Worcester County, on right bank at Hodges Village, MA, 240 ft downstream from Hodges Village Dam, 0.8 mi west of Oxford, and 1.2 mi upstream from Little River.	31.2	1962-90 ^d	11- 6-90	37.3
					3-13-91	70.3
					9- 3-91	7.12
					10-16-91	50.6
					1- 7-92	65.2
					3-26-92	57.9
					5-14-92	44.8
					6-25-92	28.0
					8- 4-92	14.9
					10-19-92	16.3
					4- 6-93	472
					4- 6-93	471
					4- 8-93	565
					4-13-93	230

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Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
THAMES RIVER BASIN--Continued						
01124500 Little River	French River	Lat 42°06'57", long 71°53'26", Worcester County, on left bank, 0.6 mi upstream from mouth, 1.1 mi downstream from Buffumville Dam, and 1.5 mi west of Oxford, MA.	26.0	1939-90 ^d	11- 7-90	75.3
					11- 8-90	70.8
					12- 7-90	158
					1-17-91	75.2
					5- 1-91	91.6
					6- 3-91	28.9
					7-16-91	2.59
					9- 3-91	9.60
					9- 3-91	8.52
					10-16-91	39.9
					11-21-91	47.1
					11-21-91	47.0
					1- 7-92	65.9
					2-18-92	65.4
					3-26-92	48.0
					5-15-92	2.97
					6-24-92	11.4
					6-26-92	22.4
					8- 4-92	15.4
					8- 4-92	16.5
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 ^c , 1982-92	12- 2-92	219
					3-27-93	407
					4- 1-93	1030
					7-13-93	2.47
01126224 Moosup River	do.	Lat 41°41'27", long 71°46'14", Kent County, at the old railroad grade, 1.2 mi south of Fairbanks Corner, RI.	--	--	6-22-93	*6.60
					8-12-93	*0
					8-23-93	*0
					8-31-93	*0
CONNECTICUT RIVER BASIN						
01164000 Millers River	Connecticut River	Lat 42°37'47", long 72°09'03", Worcester County, on right bank, 500 ft downstream from bridge in South Royalston, MA, 0.4 mi downstream from Beaver Brook, 1.7 mi downstream from Birch Hill Dam, and at mile 25.5.	189	1939-90 ^d	10-26-90	700
					12- 6-90	747
					3- 7-91	1310
					7-24-91	51.5
					8-27-91	509
					10- 8-91	645
					1- 2-92	457
					5- 6-92	668
					6-17-92	126
					9-28-92	96.8
					5-25-93	160
01165000 East Branch Tully River	Millers River	Lat 42°38'32", long 72°13'34", Worcester County, on right bank, 300 ft downstream from Tully Dam, 1.3 mi downstream from Lawrence Brook, 3.5 mi north of Athol, MA, and 4.9 mi upstream from mouth.	50.5	1916-90 ^d	11- 5-90	48.8
					4-26-91	95.1
					11	

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1993--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
CONNECTICUT RIVER BASIN--Continued						
01168335 Chickley River	Deerfield River	Lat 42°34'45", long 72°58'07", Franklin County, at bridge on Savoy Road, 1.3 mi west of West Hawley, MA.	--	--	7- 8-93	1.89
					8-11-93	1.18
					8-24-93	1.00
					8-30-93	.78
01168350 King Brook	Chickley River	Lat 42°34'40", long 72°56'48", Franklin County, 200 ft upstream from mouth at West Hawley, MA.	5.24	1967-1969	7- 8-93	1.06
					8-11-93	.85
					8-24-93	.82
					8-30-93	.52
01168490 Mill Brook	Deerfield River	Lat 42°37'54", long 72°52'09", Franklin County, at bridge on State Highway 8A, 0.2 mi north of Charlemont, MA.	11.9	1938*, 1965	7- 8-93	3.58
					8-16-93	3.45
					8-24-93	2.53
01168540 Clesson Brook	do.	Lat 42°35'00", long 72°50'12", Franklin County, at bridge on Cemetery Road, 2.5 mi northwest of Buckland Four Corners, MA.	4.51	--	7-19-93	1.58
					7-26-93	1.28
					8- 6-93	1.25
					8-24-93	.98
					8-30-93	.85
01168760 East Branch North River	North River	Lat 42°44'22", long 72°43'40", Windham County, at bridge on private road, 50 ft west of State Highway 112, 5.2 mi north of Colrain, MA.	--	--	7- 7-93	6.00
					7-26-93	4.02
					8-23-93	4.90
					8-31-93	3.38
01168782 East Branch North River	do.	Lat 42°40'26", long 72°41'55", Franklin County, 700 ft downstream from bridge on State Highway 112 at Colrain, MA.	--	--	7- 7-93	8.79
					7-26-93	6.16
					8-23-93	6.88
					8-31-93	4.54
01168899 West Branch North River	do.	Lat 42°42'13", long 72°47'01", Franklin County, 50 ft upstream from mouth of Sanders Brook, 2.2 mi east on Colrain Road of North Heath, MA.	--	--	7- 7-93	2.34
					7-26-93	1.34
					8-23-93	1.99
					8-31-93	1.20
01168900 Sanders Brook	West Branch North River	Lat 42°42'14", long 72°47'00", Franklin County, at culvert on Colrain Road, 100 ft upstream from mouth, and 2.2 mi east of North Heath, MA.	3.99	1967-69	7- 7-93	1.27
					7-26-93	.91
					8-23-93	.86
					8-31-93	.59
01168950 West Branch North River	North River	Lat 42°40'15", long 72°43'43", Franklin County, at bridge on private road, 50 ft southwest of Adamsville Road, 0.8 mi upstream from mouth, and .6 mi west of Lyonsville, MA.	29.8	1967-69	7- 7-93	6.92
					7-26-93	4.13
					8-23-93	5.78
					8-31-93	3.34
01169800 Poland Brook	South River	Lat 42°29'16", long 72°44'47", Franklin County, at bridge on Poland Road, 2.8 mi southwest of Conway, MA.	4.02	1967-70	7-19-93	.26
					8- 6-93	.55
					8-24-93	.27
					8-31-93	.19
01169801 South River	Deerfield River	Lat 42°43'15", long 72°44'37", Franklin County, 100 ft downstream from mouth of Poland Brook near North Poland Road, 2.6 mi west of Conway, MA.	15.6	--	7-19-93	2.68
					8- 6-93	3.36
					8-24-93	2.94
					8-31-93	2.34
01170120 Strafford Brook	Green River	Lat 42°40'47", long 72°39'15", Franklin County, at culvert on Green River Road, 200 ft upstream from mouth and 2.3 mi east of Colrain, MA.	2.38	1967-69	7- 7-93	.22
					7-26-93	.10
					8-23-93	.12
					8-31-93	.09

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at miscellaneous sites during water year 1993--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
CONNECTICUT RIVER BASIN--Continued						
01179500 Westfield River	Connecticut River	Lat 42°17'16", long 72°51'53", Hampshire County, on left bank at Knightville, MA, 0.2 mi downstream from Knightville Dam, 0.2 mi upstream from Sykes Brook, 2.4 mi upstream from Middle Branch, 3.5 mi north of Huntington, and at mile 29.7.	161	1909-90 ^d	11-15-90	392
					3-20-91	847
					6- 5-91	114
					9- 9-91	43.4
					10-28-91	186
					2-25-92	194
					5-29-92	140
					7-14-92	121
					8-17-92	267
					9-23-92	331
					1-21-93	221
					1-22-93	248
					3- 3-93	124
					3- 3-93	116
					3-31-93	1620
					5-19-93	197
					7- 8-93	28.1
					7-12-93	28.1
8-11-93	25.6					
9-23-93	42.7					
01180500 Middle Branch Westfield River	Westfield River	Lat 42°15'31", long 72°52'23", Hampshire County, on right bank at upstream side at highway bridge at Goss Heights, MA, 0.3 mi upstream from mouth, 0.7 mi downstream from Littleville Dam, and 1.7 mi north of Huntington.	52.7	1910-90 ^d	11-14-90	202
					12-19-90	213
					2- 6-91	172
					2- 6-91	195
					3-19-91	230
					4-24-91	272
					6- 6-91	30.0
					7-18-91	4.74
					9- 9-91	6.11
					10-28-91	51.5
					1-16-92	134
					1-17-92	97.9
					2-25-92	48.0
					4-14-92	174
					5-26-92	34.7
					8-19-92	198
					9-23-92	33.3
					9-24-92	45.4
11-19-92	86.1					
1-22-93	84.8					
4- 8-93	661					
8-11-93	2.24					
01197015 Town Brook	Pontoosuc Lake (head of West Branch Housatonic River)	Lat 42°31'12", long 73°13'48", Berkshire County, on right bank, 20 ft upstream from Bridge Street bridge at Lanesborough, MA, and 1.3 mi upstream from Pontoosuc Lake.	10.6	1980-83 ^e	12-28-92	15.9
					12-29-92	19.5
					3-15-93	6.01
					3-30-93	245
					3-31-93	137
					4-26-93	58.2
					6- 7-93	9.22
					7-19-93	1.26
					8-30-93	.71

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1993--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
HUDSON RIVER BASIN						
01333300 Hoosic River	Hudson River	Lat 42°44'28", long 73°12'47", Berkshire County, 0.3 mi upstream from Massachusetts-Vermont State line, and 2 mi northwest of Williamstown, MA.	204	(f)	8- 9-93	56.7

- a Operated as a continuous-record gaging station 1972-86; since 1986 an unpublished continuous stage record has been collected.
- b Revised station identification number, superseding that published in the report for 1990.
- c Operated as a continuous-record gaging station.
- d Operated as a continuous-record gaging station prior to 1991; since 1991 an unpublished continuous stage record has been collected.
- e Peak flow.
- f Operated as a continuous-record surface-water-quality station 1969-75, 1977-81.

SUPPLEMENTAL WATER-QUALITY DATA

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DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)
---	---	--	--	---	---	--	--

MERRIMACK RIVER BASIN

01094400 NORTH NASHUA RIVER AT FITCHBURG, MA (LAT 42 34 34N LONG 071 47 19W)

NOV 1992	MAY 1993
19... 49 -- 199 --	03... 114 14.5 -- 148
DEC 16... 81 2.5 144 --	JUN 10... 35 21.0 -- 269
JAN 1993 21... 78 0.0 278 --	JUL 27... 23 20.0 -- 230
MAR 03... 41 1.0 246 --	SEP 08... 11 20.0 -- 327

01094500 NORTH NASHUA RIVER NEAR LEOMINSTER, MA (LAT 42 30 06N LONG 071 43 23W)

NOV 1992	JUL 1993
19... 83 -- 328 --	28... 37 20.0 -- 437
JAN 1993 15... 202 0.5 102 --	SEP 08... 24 20.0 -- 454
JUN 10... 66 18.0 -- 349	

01096000 SQUANNAHOOK RIVER NEAR WEST GROTON, MA (LAT 42 38 03N LONG 071 39 30W)

NOV 1992	JUN 1993
20... 42 -- 115 --	10... 41 18.0 -- 119
JAN 1993 08... 188 -- 41 --	JUL 28... 14 23.0 -- 145
APR 29... 251 12.0 -- 82	SEP 09... 15 20.0 -- 143

01096500 NASHUA RIVER AT EAST PEPPERELL, MA (LAT 42 40 03N LONG 071 34 32W)

NOV 1992	SEP 1993
20... 305 -- 180 --	09... 209 22.0 -- 293
JUN 1993 10... 319 18.0 -- 224	30... 264 16.0 199 200
JUL 28... 51 23.0 -- 299	

01097000 ASSABET RIVER AT MAYNARD, MA (LAT 42 25 55N LONG 071 27 01W)

OCT 1992	FEB 1993
21... 59 10.0 327 --	25... 169 0.0 -- 223
DEC 04... 210 2.0 -- 250	JUL 26... 26 23.0 -- 432
JAN 1993 14... 210 1.0 -- 249	

01097300 NASHOBA BROOK NEAR ACTON, MA (LAT 42 31 19N LONG 071 24 15W)

NOV 1992	JUN 1993
12... 5.5 4.0 -- 243	07... 17 10.0 -- 218
DEC 29... 14 0.0 -- 200	JUL 26... 0.31 22.0 -- 210
MAR 1993 12... 20 0.0 -- 280	SEP 30... 0.12 21.0 -- 187

DATE	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	DATE	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)

MERRIMACK RIVER BASIN--Continued

01098530		SUDBURY RIVER AT SAXONVILLE, MA (LAT 42 19 31N LONG 071 23 53W)							
OCT 1992					JUN 1993				
21...	121	10.5	219	--	01...	87	17.0	--	310
DEC					JUL				
08...	187	2.0	--	207	20...	14	20.5	--	384
JAN 1993					AUG				
15...	267	1.0	--	201	30...	56	22.0	--	265
FEB									
25...	278	2.0	--	197					

01099500		CONCORD R BELOW R MEADOW BROOK, AT LOWELL, MA (LAT 42 38 12N LONG 071 18 09W)						
NOV 1992					AUG 1993			
17...	359	4.5	--	246	02...	76	24.0	-- 397
JUN 1993								
07...	410	17.0	--	297				

01100000										MERRIMACK RIVER BL CONCORD RIVER AT LOWELL, MA (LAT 42 38 45N LONG 071 17 56W)									
JUN 1993										AUG 1993									
08...	4280	17.0	--	299	02...	2780	23.5	--	309										

01100600		SHAWSHEEN RIVER NEAR WILMINGTON, MA (LAT 42 34 05N LONG 071 12 55W)							
NOV 1992						JUN 1993			
12...	23	5.0	--	326		07...	36	13.0	-- 312
DEC						JUL			
29...	50	0.0	--	315		30...	7.0	23.0	-- 302
MAR 1993						SEP			
15...	60	0.5	--	645		07...	12	23.0	-- 302
APR									
27...	104	9.0	--	292					

PARKER RIVER BASIN

01101000		PARKER RIVER AT BYFIELD, MA (LAT 42 45 10N LONG 070 56 46W)						
NOV 1992						JUN 1993		
17...	11	1.5	--	182		08...	16	17.0 -- 184
MAR 1993						JUL		
16...	33	0.5	--	197		29...	0.89	21.0 -- 257
APR						SEP		
27...	119	12.0	--	144		09...	0.10	20.0 -- 344

IPSWICH RIVER BASIN

01101500		IPSWICH RIVER AT SOUTH MIDDLETON, MA (LAT 42 34 10N LONG 071 01 39W)							
NOV 1992					JUL 1993				
18...	28	2.0	--	226	29...	1.5	23.5	--	314
MAR 1993					SEP				
17...	70	0.5	--	338	10...	3.1	21.0	--	281
JUN									
09...	26	17.0	--	245					

SUPPLEMENTAL WATER-QUALITY DATA--Continued

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DATE	DIS-			SPE-			DIS-			SPE-		
	CHARGE,			CIFIC			CHARGE,			CIFIC		
	INST.			CON-			INST.			CON-		
	CUBIC	TEMPER-	CON-	DUCT-			CUBIC	TEMPER-	CON-	DUCT-		
	FEET	ATURE	DUCT-	ANCE			FEET	ATURE	DUCT-	ANCE		
	PER	WATER	ANCE	LAB			PER	WATER	ANCE	LAB		
	SECOND	(DEG C)	(US/CM)	(US/CM)	DATE		SECOND	(DEG C)	(US/CM)	(US/CM)	DATE	
	(00061)	(00010)	(00095)	(90095)			(00061)	(00010)	(00095)	(90095)		

IPSWICH RIVER BASIN--Continued

01102000		IPSWICH RIVER NEAR IPSWICH, MA (LAT 42 39 35N LONG 070 53 39W)										
NOV 1992						JUL 1993						
18...	82	2.0	--	215		29...	10	23.5	--	318		
JUN 1993												
09...	87	17.0	--	249								

MYSTIC RIVER BASIN

01102500		ABERJONA RIVER AT WINCHESTER, MA (LAT 42 26 50N LONG 071 08 22W)										
NOV 1992						JUN 1993						
16...	14	5.0	--	429		11...	9.1	19.0	--	574		
DEC						JUL						
30...	55	3.0	--	274		30...	5.4	23.0	--	563		
MAR 1993						SEP						
17...	64	3.5	--	892		13...	3.7	18.0	--	491		
APR												
28...	83	12.0	--	415								

CHARLES RIVER BASIN

01104000		MOTHER BROOK AT DEDHAM, MA (LAT 42 15 18N LONG 071 09 53W)										
OCT 1992						MAY 1993						
06...	0.17	9.0	--	717		24...	37	17.0	--	231		
MAR 1993						25...	29	20.0	--	208		
03...	12	2.0	--	323		JUL						
						13...	0.07	22.0	--	626		

01104200 CHARLES RIVER AT WELLESLEY, MA (LAT 42 18 59N LONG 071 13 42W)

NOV 1992						JUL 1993						
10...	160	3.0	--	240		13...	12	25.0	--	306		

01104500 CHARLES RIVER AT WALTHAM, MA (LAT 42 22 20N LONG 071 14 03W)

NOV 1992						JUL 1993						
16...	188	5.0	--	254		20...	46	23.5	--	337		
DEC						AUG						
21...	1030	5.0	--	89		27...	30	22.0	--	323		

NEPONSET RIVER BASIN

01105000		NEPONSET RIVER AT NORWOOD, MA (LAT 42 10 39N LONG 071 12 05W)										
OCT 1992						JUL 1993						
07...	10	10.5	--	186		12...	5.8	25.0	--	296		
NOV						AUG						
12...	16	6.0	--	213		23...	8.0	23.5	--	254		

SUPPLEMENTAL WATER-QUALITY DATA--Continued

DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE

NEPONSET RIVER BASIN--Continued

01105500 EAST BRANCH NEPONSET RIVER AT CANTON, MA (LAT 42 09 16N LONG 071 08 47W)

OCT 1992					MAY 1993				
07...	9.3	12.0	--	182	24...	27	16.0	--	199
NOV					JUL				
12...	14	6.0	--	184	12...	7.9	26.0	--	216
MAR 1993					AUG				
04...	56	2.0	--	216	23...	6.3	24.0	--	223

WEYMOUTH BACK RIVER BASIN

01105600 OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MA (LAT 42 11 25N LONG 070 56 43W)

OCT 1992					MAR 1993				
07...	1.1	8.0	--	234	03...	5.6	2.0	--	269
NOV					MAY				
10...	2.1	3.0	--	216	26...	3.3	16.0	--	260
DEC					AUG				
16...	21	3.0	--	64	24...	0.84	19.0	--	350

NORTH RIVER BASIN

01105730 INDIAN HEAD RIVER AT HANOVER, MA (LAT 42 06 02N LONG 070 49 23W)

OCT 1992					JUL 1993				
06...	12	12.0	--	236	14...	4.0	28.0	--	359
NOV					AUG				
10...	19	3.0	--	256	24...	6.1	24.0	--	402
MAY 1993									
26...	32	20.0	--	269					

JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MA (LAT 41 59 27N LONG 070 44 03W)

OCT 1992					MAY 1993				
06...	9.2	10.5	--	108	27...	37	18.0	--	115
NOV					JUL				
01...	13	4.0	--	100	14...	7.4	22.0	--	128
DEC					AUG				
16...	86	4.0	--	68	31...	5.0	22.0	--	131

QUASHNET RIVER BASIN

011058837 QUASHNET RIVER AT WAQUOIT VILLAGE, MA (LAT 41 35 32N LONG 070 30 30W)

OCT 1992					JUL 1993				
05...	13	10.0	--	67	15...	15	21.0	--	77
NOV					AUG				
09...	15	23.0	--	--	31...	12	23.0	--	77
JUN 1993									
07...	19	18.0	--	102					

SUPPLEMENTAL WATER-QUALITY DATA--Continued

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DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)
---	--	--	--	---	--	--	--

SLOCUMS RIVER BASIN

011059302 PASKAMANSET R AT AIRPORT FENCE NR NEW BEDFORD, MA (LAT 41 40 13N LONG 070 58 21W)

OCT 1992	08...	6.0	17.5	97	97	OCT 1992	08...	6.0	9.5	97	97
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TAUNTON RIVER BASIN

01109000 WADING RIVER NEAR NORTON, MA (LAT 41 56 51N LONG 071 10 38W)

OCT 1992	08...	11	12.0	--	212	JUL 1993	16...	1.9	22.5	--	215
NOV	12...	18	6.0	--	170	AUG	26...	0.92	22.0	--	265
MAY 1993	28...	30	17.0	--	197						

01109060 THREEMILE RIVER AT NORTH DIGHTON, MA (LAT 41 51 58N LONG 071 07 24W)

OCT 1992	05...	28	13.0	--	196	MAY 1993	28...	74	17.0	--	210
NOV	09...	49	4.0	--	163	JUL	16...	11	24.0	--	260
MAR 1993	02...	155	1.0	--	201	AUG	26...	9.1	23.0	--	309

01109070 SEGREGANSET RIVER NEAR DIGHTON, MA (LAT 41 50 25N LONG 071 08 36W)

OCT 1992	05...	1.7	11.0	--	107	MAR 1993	02...	14	1.0	--	99
NOV	09...	8.6	3.0	--	93	MAY	27...	7.7	16.0	--	83
DEC	15...	120	3.0	--	63	JUL	15...	0.02	25.0	--	95

TEN MILE RIVER BASIN

01109403 TEN MILE RIVER AT PAWTUCKET AVE @ E PROVIDENCE, RI (LAT 41 49 51N LONG 071 21 06W)

OCT 1992	20...	31	11.0	422	--	APR 1993	30...	154	14.5	243	--
DEC	08...	96	3.0	259	--	JUN	23...	31	23.0	386	--
JAN 1993	19...	106	2.5	302	--	JUL	21...	21	23.0	466	--
MAR	02...	93	3.5	247	--	SEP	16...	22	20.5	562	--

BLACKSTONE RIVER BASIN

01110000 QUINSIGAMOND RIVER AT NORTH GRAFTON, MA (LAT 42 13 49N LONG 071 42 41W)

OCT 1992	20...	11	10.5	295	--	JAN 1993	11...	63	3.0	--	256
DEC	03...	42	1.0	--	261	JUN	01...	31	--	--	354

SUPPLEMENTAL WATER-QUALITY DATA--Continued

DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	DATE	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	DATE
---	---	--	--	------	---	---	--	--	------

BLACKSTONE RIVER BASIN--Continued

01110500	BLACKSTONE RIVER AT NORTHBRIDGE, MA (LAT 42 09 13N LONG 071 39 09W)							
OCT 1992	20...	208	10.0	346	--			
01111200	WEST RIVER BELOW WEST HILL DAM, NR UXBRIDGE, MA (LAT 42 06 17N LONG 071 36 28W)							
JUN 1993	01...	32	--	--	183			
01112500	BLACKSTONE RIVER AT WOONSOCKET, RI (LAT 42 00 22N LONG 071 30 13W)							
OCT 1992	26...	305	11.0	251	--	MAY 1993	13...	587
DEC	09...	678	1.5	200	--	SEP	23...	191
JAN 1993	13...	1470	2.0	198	--			

MOSHASSUCK RIVER BASIN

01114000	MOSHASSUCK RIVER AT PROVIDENCE, RI (LAT 41 50 02N LONG 071 24 42W)							
OCT 1992	26...	11	10.0	321	--	MAY 1993	03...	41
DEC	08...	25	3.0	227	--	JUN	23...	8.2
JAN 1993	20...	30	3.0	362	--	JUL	21...	7.5
MAR	04...	33	4.0	322	--	SEP	17...	5.5

WOONASQUATUCKET RIVER BASIN

01114500	WOONASQUATUCKET RIVER AT CENTERDALE, RI (LAT 41 51 32N LONG 071 29 16W)							
OCT 1992	20...	40	12.5	173	--	JUN 1993	28...	19
DEC	02...	63	7.0	164	--	JUL	21...	9.2
JAN 1993	22...	113	3.5	172	--	SEP	23...	14
APR	22...	140	14.0	138	--			

PAWTUXET RIVER BASIN

01116000	SOUTH BRANCH PAWTUXET RIVER AT WASHINGTON, RI (LAT 41 41 24N LONG 071 33 59W)							
SEP 1993	20...	38	16.0	123	--			

SUPPLEMENTAL WATER-QUALITY DATA--Continued

175

DATE	DIS-	SPE-			DATE	DIS-	SPE-		
	CHARGE,	SPE-		CIFIC		CHARGE,	SPE-		CIFIC
	INST.	CIFIC	CON-	CON-		INST.	CIFIC	CON-	CON-
	CUBIC	TEMPER-	DUCT-	DUCT-		CUBIC	TEMPER-	CON-	DUCT-
	FEET	ATURE	DUCT-	ANCE		FEET	ATURE	DUCT-	ANCE
	PER	WATER	ANCE	LAB		PER	WATER	ANCE	LAB
	SECOND	(DEG C)	(US/CM)	(US/CM)		SECOND	(DEG C)	(US/CM)	(US/CM)
	(00061)	(00010)	(00095)	(90095)		(00061)	(00010)	(00095)	(90095)

POTOWOMUT RIVER BASIN

01117000 HUNT RIVER NEAR EAST GREENWICH, RI (LAT 41 38 28N LONG 071 26 45W)

DEC 1992					JUN 1993				
04...	63	5.0	114	--	21...	11	23.5	166	--
JAN 1993					JUL				
20...	47	1.0	147	--	30...	17	22.0	152	--
MAR					SEP				
04...	62	3.0	138	--	17...	2.1	18.0	188	--
MAY									
05...	69	18.5	135	--					

PAWCATUCK RIVER BASIN

01117350 CHIPUXET RIVER AT WEST KINGSTON, RI (LAT 41 28 56N LONG 071 33 06W)

OCT 1992					JUN 1993				
23...	4.6	11.5	103	--	24...	3.4	22.0	115	--
DEC					JUL				
03...	22	6.0	88	--	27...	5.4	19.0	107	--
JAN 1993					SEP				
22...	26	3.5	92	--	22...	1.8	14.0	139	--
MAY									
06...	27	19.0	88	--					

01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI (LAT 41 28 36N LONG 071 36 19W)

OCT 1992					JUN 1993				
23...	29	9.0	78	--	24...	26	19.5	80	--
DEC					JUL				
03...	87	5.5	74	--	27...	31	19.5	83	--
JAN 1993					AUG				
22...	94	2.5	78	--	04...	19	22.0	79	--
MAR					SEP				
05...	124	2.0	70	--	22...	21	15.0	80	--
MAY									
06...	99	17.5	128	--					

01117468 BEAVER RIVER NEAR USQUEPAUG, RI (LAT 41 29 33N LONG 071 37 43W)

OCT 1992					MAY 1993				
23...	5.4	8.0	65	--	06...	25	15.0	58	--
28...	11	13.5	64	--	JUN				
DEC					24...	5.8	13.5	66	--
03...	30	5.0	54	--	JUL				
JAN 1993					27...	11	15.0	60	--
22...	27	4.5	61	--	SEP				
MAR					22...	7.8	12.5	65	--
05...	37	2.5	65	--					

SUPPLEMENTAL WATER-QUALITY DATA--Continued

DATE	DIS- CHARGE, INST.	TEMPER- ATURE	SPE- CIFIC CON- DUCT- ANCE	SPE- CIFIC CON- DUCT- ANCE	DATE	DIS- CHARGE, INST.	TEMPER- ATURE	SPE- CIFIC CON- DUCT- ANCE	SPE- CIFIC CON- DUCT- ANCE
	CUBIC	FEET	CON-	DUCT-		CUBIC	FEET	CON-	DUCT-
	PER	PER	ANCE	ANCE		PER	PER	ANCE	ANCE
	SECOND	(DEG C)	(US/CM)	(US/CM)		SECOND	(DEG C)	(US/CM)	(US/CM)
	(00061)	(00010)	(00095)	(90095)		(00061)	(00010)	(00095)	(90095)

PAWCATUCK RIVER BASIN--Continued

01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI (LAT 41 26 42N LONG 071 40 53W)

OCT 1992					MAY 1993				
29...	82	8.0	91	--	27...	137	16.5	85	--
NOV					JUN				
30...	232	6.0	65	--	29...	63	21.0	95	--
DEC					JUL				
30...	356	2.0	69	--	29...	64	21.0	98	--
FEB 1993					AUG				
01...	189	1.0	83	--	30...	25	22.5	123	--
26...	270	0.5	79	--	SEP				
MAR					01...	24	24.5	109	--
27...	749	7.0	54	--					
APR									
29...	372	11.0	69	--					

01117800 WOOD RIVER NEAR ARCADIA, RI (LAT 41 34 26N LONG 071 43 16W)

OCT 1992					APR 1993				
22...	30	9.0	45	--	30...	124	11.5	42	--
DEC					JUN				
07...	104	4.5	43	--	22...	25	19.0	42	--
JAN 1993					JUL				
20...	92	1.0	47	--	30...	25	21.0	27	--
MAR					SEP				
03...	80	3.5	44	--	20...	8.7	11.5	46	--

01118000 WOOD RIVER AT HOPE VALLEY, RI (LAT 41 29 53N LONG 071 43 01W)

OCT 1992					MAY 1993				
22...	57	9.5	76	--	07...	173	18.5	74	--
DEC					JUN				
07...	190	2.5	64	--	25...	39	21.5	91	--
JAN 1993					JUL				
21...	158	2.0	76	--	29...	62	21.0	91	--
MAR					SEP				
03...	156	4.5	75	--	20...	21	15.5	104	--

THAMES RIVER BASIN

01123360 QUINEBAUG R BL E BRIMFIELD DAM AT FISKDALE, MA (LAT 42 06 31N LONG 072 07 27W)

OCT 1992					MAY 1993				
13...	93	10.0	129	--	24...	70	18.0	--	88
DEC					JUL				
10...	100	0.0	--	80	02...	13	25.0	--	100
JAN 1993									
19...	129	1.0	--	79					

01123600 QUINEBAUG R BL WESTVILLE DAM NR SOUTHBRIDGE, MA (LAT 42 04 58N LONG 072 03 27W)

OCT 1992					JAN 1993				
22...	110	9.0	125	--	19...	196	0.0	--	102
DEC					MAY				
10...	144	0.0	--	103	24...	99	20.0	--	123

SUPPLEMENTAL WATER-QUALITY DATA--Continued

177

DATE	DIS-CHARGE, INST. CUBIC FEET PER SECOND (DEG C) (00061)				SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (00095)				
	TEMPER-ATURE (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (DEG C) (00061)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (00095)	DATE	TEMPER-ATURE (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (DEG C) (00061)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (00095)

THAMES RIVER BASIN--Continued

01124350 FRENCH RIVER BELOW DAM, AT HODGES VILLAGE, MA (LAT 42 07 06N LONG 071 52 54W)

OCT 1992																	
19...	16	9.0	89	--													
					01124500												
OCT 1992									JUL 1993								
19...	19	11.0	125	--					21...	2.0	--	--				96	
DEC																	
07...	80	2.0	--	94													

01125000 FRENCH RIVER AT WEBSTER, MA (LAT 42 03 03N LONG 071 53 08W)

DEC 1992									JUL 1993								
02...	219	4.0	--	105					13...	2.5	--	--				167	

CONNECTICUT RIVER BASIN

01162000 MILLERS RIVER NEAR WINCHENDON, MA (LAT 42 41 03N LONG 072 05 02W)

NOV 1992									MAR 1993								
17...	115	--	--	76					31...	906	--	--				77	
DEC									JUL								
16...	88	--	--	71					09...	8.4	--	--				87	
JAN 1993									AUG								
20...	123	--	--	142					17...	9.3	--	--				110	

01162500 PRIEST BROOK NEAR WINCHENDON, MA (LAT 42 40 57N LONG 072 06 56W)

NOV 1992									JUL 1993								
17...	29	--	--	56					07...	1.7	--	--				53	
DEC									AUG								
15...	22	--	--	50					17...	1.7	--	--				48	
MAR 1993																	
31...	347	--	--	44													

01163200 OTTER RIVER AT OTTER RIVER, MA (LAT 42 35 18N LONG 072 02 29W)

NOV 1992									JUL 1993								
18...	32	--	--	291					09...	19	--	--				222	
DEC																	
16...	40	0.5	--	127													

01168500 DEERFIELD RIVER AT CHARLEMONT, MA (LAT 42 37 33N LONG 072 51 20W)

OCT 1992									JUN 1993								
14...	137	8.0	--	43					09...	162	12.0	--				66	

01169000 NORTH RIVER AT SHATTUCKVILLE, MA (LAT 42 38 18N LONG 072 43 32W)

OCT 1992									FEB 1993								
13...	53	10.5	--	118					11...	71	0.0	--				136	
DEC									APR								
12...	173	3.0	--	101					28...	465	10.0	--				125	
JAN 1993									JUN								
04...	111	0.5	--	91					08...	82	14.0	--				135	

SUPPLEMENTAL WATER-QUALITY DATA--Continued

DATE	DIS- CHARGE, INST.	TEMPER- ATURE	SPE- CIFIC CON- DUCT- ANCE	SPE- CIFIC CON- DUCT- ANCE	DATE	DIS- CHARGE, INST.	TEMPER- ATURE	SPE- CIFIC CON- DUCT- ANCE	SPE- CIFIC CON- DUCT- ANCE
	CUBIC FEET PER SECOND (00061)	WATER (DEG C) (00010)	ANCE (US/CM) (00095)	LAB (US/CM) (90095)		CUBIC FEET PER SECOND (00061)	WATER (DEG C) (00010)	ANCE (US/CM) (00095)	LAB (US/CM) (90095)

CONNECTICUT RIVER BASIN--Continued

01169900 SOUTH RIVER NEAR CONWAY, MA (LAT 42 32 31N LONG 072 41 39W)									
OCT 1992					MAR 1993				
07...	10	11.0	--	130	17...	14	0.0	--	126
DEC					MAY				
29...	40	1.0	--	109	04...	66	10.0	--	110
FEB 1993					JUN				
10...	18	0.0	--	143	09...	17	20.0	--	160
01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MA (LAT 42 32 09N LONG 072 39 14W)									
OCT 1992					JUN 1993				
08...	211	11.0	--	117	09...	1070	14.0	--	102
01170500 CONNECTICUT RIVER AT MONTAGUE CITY, MA (LAT 42 34 48N LONG 072 34 30W)									
JUL 1993									
15...	3000	--	112	--					
01171300 FORT RIVER NEAR AMHERST, MA (LAT 42 21 30N LONG 072 30 23W)									
NOV 1992					JUN 1993				
17...	25	2.0	86	--	18...	15	23.0	--	99
APR 1993					29...	18	23.0	--	92
12...	226	6.0	--	79					
MAY									
20...	39	13.0	--	83					
01171500 MILL RIVER AT NORTHAMPTON, MA (LAT 42 19 05N LONG 072 39 21W)									
DEC 1992					MAY 1993				
04...	199	--	106	--	20...	73	11.0	--	90
16...	75	1.0	--	92	JUN				
MAR 1993					18...	17	24.5	--	123
03...	45	0.0	--	104	30...	13	23.0	--	132
01172500 WARE RIVER NEAR BARRE, MA (LAT 42 25 35N LONG 072 01 30W)									
DEC 1992					MAR 1993				
14...	59	--	--	58	01...	54	0.0	--	55
JAN 1993					JUL				
19...	83	0.0	--	39	14...	8.5	--	--	67
01173500 WARE RIVER AT GIBBS CROSSING, MA (LAT 42 14 10N LONG 072 16 23W)									
OCT 1992					FEB 1993				
23...	98	8.0	85	--	23...	223	2.0	--	75
DEC					JUN				
09...	243	0.0	--	69	28...	66	25.0	--	95
JAN 1993									
12...	743	1.0	--	66					
01174600 CADWELL CREEK NEAR PELHAM, MA (LAT 42 21 16N LONG 072 23 18W)									
JAN 1993					JUN 1993				
12...	1.0	-1.0	--	73	29...	0.02	20.0	--	50
APR									
06...	3.6	5.0	--	58					

SUPPLEMENTAL WATER-QUALITY DATA--Continued

179

DATE	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (90095)	DATE	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (90095)

CONNECTICUT RIVER BASIN--Continued

01174900 CADWELL CREEK NEAR BELCHERTOWN, MA (LAT 42 20 08N LONG 072 22 12W)

NOV 1992					APR 1993				
12...	2.4	1.0	--	33	06...	18	2.5	--	32
JAN 1993					JUN				
12...	4.9	-1.0	--	32	29...	0.51	16.0	--	31

01175500 SWIFT RIVER AT WEST WARE, MA (LAT 42 16 04N LONG 072 19 59W)

NOV 1992					JUN 1993				
13...	33	1.0	46	--	28...	32	15.0	--	42
MAY 1993									
17...	216	10.0	--	40					

01175670 SEVENMILE RIVER NEAR SPENCER, MA (LAT 42 15 54N LONG 072 00 19W)

OCT 1992					JUL 1993				
26...	3.7	6.0	65	--	14...	0.91	--	--	85
DEC					AUG				
07...	18	3.0	--	60	18...	0.74	--	--	61
FEB 1993									
24...	12	1.0	--	71					

01176000 QUABOAG RIVER AT WEST BRIMFIELD, MA (LAT 42 10 56N LONG 072 15 51W)

OCT 1992					FEB 1993				
23...	116	7.5	99	--	22...	171	1.0	--	73
DEC					JUN				
09...	177	0.0	--	101	29...	52	26.0	--	154
JAN 1993									
21...	19	0.0	--	99					

01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MA (LAT 42 09 38N LONG 072 30 52W)

JUL 1993									
09...	110	28.0	--	140					

01179500 WESTFIELD RIVER AT KNIGHTVILLE, MA (LAT 42 17 16N LONG 072 51 53W)

DEC 1992					JUL 1993				
04...	413	--	71	--	08...	28	25.0	--	85
MAY 1993									
19...	197	12.0	--	69					

01180500 MIDDLE B WESTFIELD RIVER AT GOSS HEIGHTS, MA (LAT 42 15 31N LONG 072 52 23W)

NOV 1992					JAN 1993				
19...	86	1.0	50	--	22...	85	4.0	--	41

01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA (LAT 42 14 14N LONG 072 53 46W)

DEC 1992					JUL 1993				
04...	251	--	64	--	08...	41	25.0	--	118
MAY 1993									
19...	125	11.0	--	80					

SUPPLEMENTAL WATER-QUALITY DATA--Continued

DATE	DIS-CHARGE, INST. CUBIC FEET PER SECOND			SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)			DATE	DIS-CHARGE, INST. CUBIC FEET PER SECOND			SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)		
	(00061)			(00095)				(00061)			(00095)		
	(DEG C)			(US/CM)				(DEG C)			(US/CM)		
	(00010)			(00095)				(00010)			(00095)		
	(00095)			(00061)				(00095)			(00061)		

CONNECTICUT RIVER BASIN--Continued

01183500 WESTFIELD RIVER NEAR WESTFIELD, MA (LAT 42 06 24N LONG 072 41 58W)

JUN 1993	18...	232	22.0	--	146	JUN 1993	30...	193	28.0	--	149
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HOUSATONIC RIVER BASIN

01197000 EAST BRANCH HOUSATONIC RIVER AT COLTSVILLE, MA (LAT 42 28 10N LONG 073 11 49W)

OCT 1992	06...	28	9.5	--	234	MAR 1993	15...	42	1.5	--	298
NOV	09...	74	1.5	--	189	APR	26...	287	9.0	--	363
FEB 1993	08...	45	1.0	--	324	JUN	07...	60	14.5	--	284

01197500 HOUSATONIC RIVER NEAR GREAT BARRINGTON, MA (LAT 42 13 55N LONG 073 21 19W)

NOV 1992	18...	473	2.5	--	279
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HUDSON RIVER BASIN

01331500 HOOSIC RIVER AT ADAMS, MA (LAT 42 36 40N LONG 073 07 28W)

OCT 1992	06...	24	9.5	--	200	JUN 1993	07...	118	14.0	--	191
FEB 1993	08...	58	2.0	--	252						

01332500 HOOSIC RIVER NEAR WILLIAMSTOWN, MA (LAT 42 42 21N LONG 073 10 50W)

OCT 1992	07...	53	8.0	--	240	MAR 1993	16...	125	1.0	--	414
DEC	29...	224	4.0	--	412	JUN	08...	147	14.5	--	223
FEB 1993	09...	143	1.5	--	378						

01333000 GREEN RIVER AT WILLIAMSTOWN, MA (LAT 42 42 32N LONG 073 11 50W)

OCT 1992	07...	9.5	8.0	--	170	MAR 1993	16...	31	1.0	--	263
NOV	12...	45	2.0	--	165	JUN	08...	29	14.5	--	175
FEB 1993	09...	23	1.0	--	190						

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	25.32	DEC 23	23.75	FEB 24	23.53	APR 21	22.33	JUN 23	23.22	AUG 25	25.01
NOV 21	25.53	JAN 20	23.60	MAR 20	23.13	MAY 23	22.58	JUL 21	23.92	SEP 21	25.28

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.

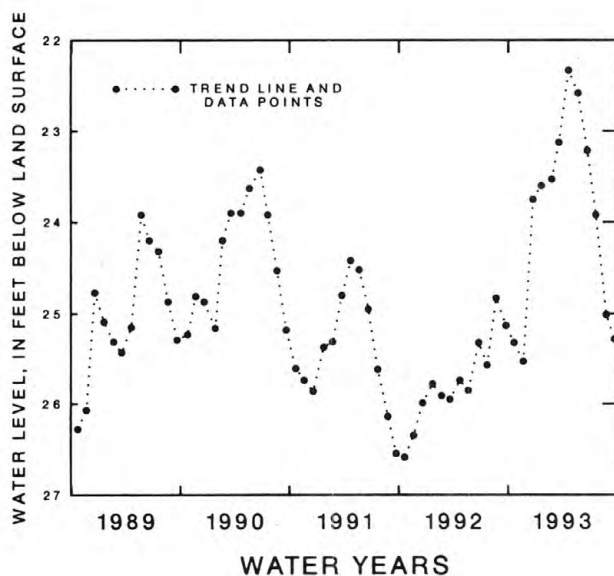
PERIOD OF RECORD.--November 1962 to current year.

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.

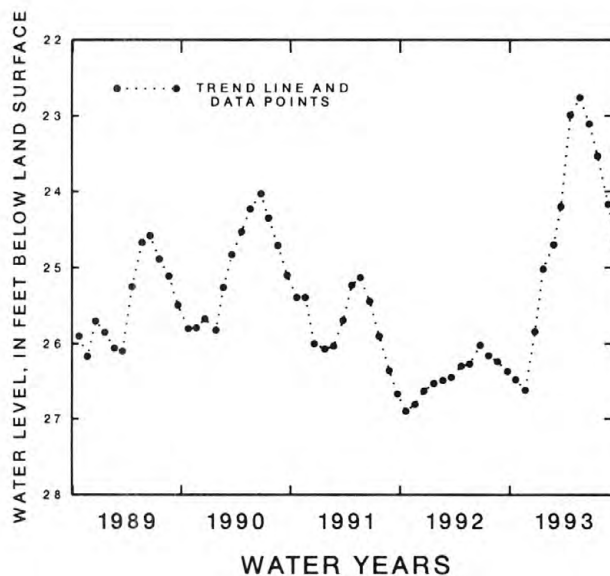
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	26.48	DEC 23	25.84	FEB 24	24.70	APR 21	22.99	JUN 23	23.11	AUG 25	24.17
NOV 21	26.62	JAN 20	25.02	MAR 20	24.20	MAY 23	22.76	JUL 21	23.54	SEP 21	24.64

A1W230



A1W247



GROUND-WATER LEVELS IN MASSACHUSETTS

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	34.16	DEC 21	33.09	FEB 24	32.14	APR 26	31.25	JUN 24	32.34	AUG 25	33.83
NOV 24	34.35	JAN 21	31.77	MAR 25	31.98	MAY 25	31.57	JUL 22	33.08	SEP 22	34.26

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.

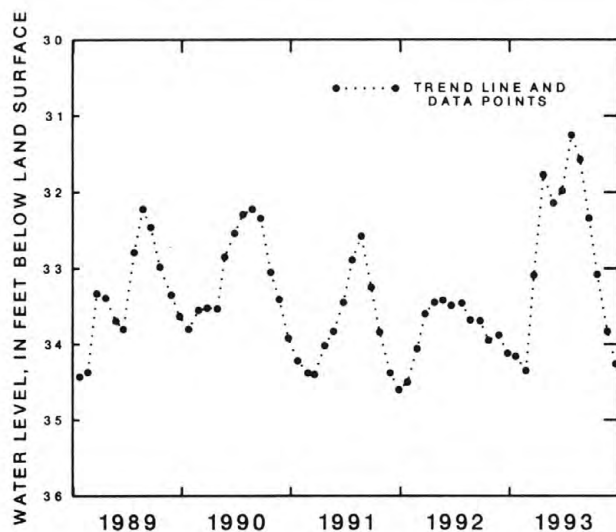
PERIOD OF RECORD.--October 1957 to current year.

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 1992 TO SEPTEMBER 1993

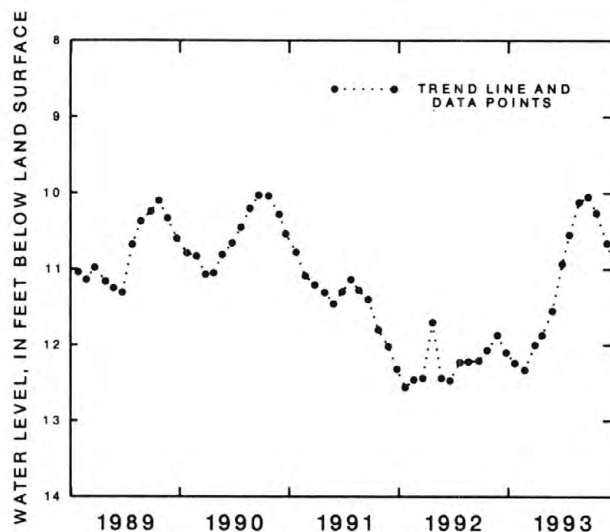
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.24	DEC 28	12.00	FEB 24	11.55	APR 21	10.55	JUN 23	10.05	AUG 26	10.66
NOV 24	12.33	JAN 21	11.87	MAR 29	10.93	MAY 24	10.12	JUL 21	10.26	SEP 23	10.98

BHW198



WATER YEARS

BMW21



WATER YEARS

GROUND-WATER LEVELS IN MASSACHUSETTS

183

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 Nickerson 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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	32.53	DEC 28	32.35	FEB 24	31.80	APR 21	30.20	JUN 23	30.24	AUG 26	31.32
NOV 24	32.80	JAN 21	32.03	MAR 29	30.97	MAY 24	29.95	JUL 21	30.67	SEP 23	31.77

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.

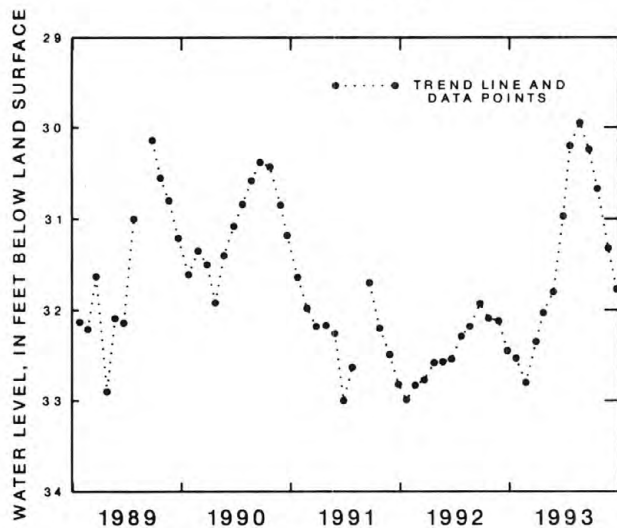
PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

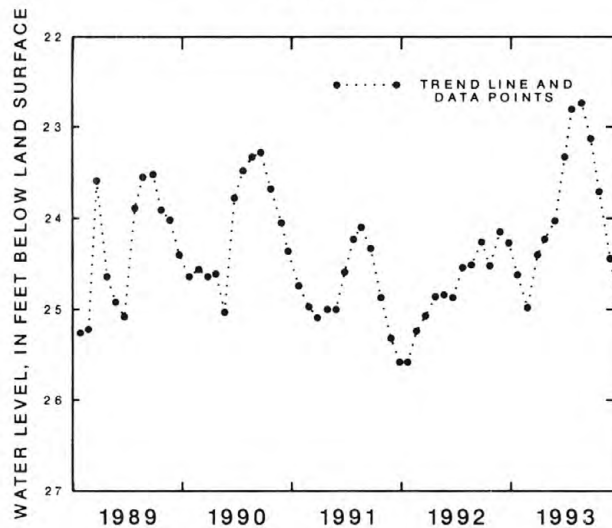
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	24.62	DEC 28	24.40	FEB 24	24.03	APR 21	22.81	JUN 23	23.13	AUG 26	24.44
NOV 24	24.98	JAN 21	24.23	MAR 29	23.33	MAY 24	22.74	JUL 21	23.71	SEP 23	24.95

BMW22



CGW138



GROUND-WATER LEVELS IN MASSACHUSETTS

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	9.01	DEC 21	7.62	FEB 24	7.41	APR 26	6.68	JUN 24	7.53	AUG 25	8.99
NOV 24	8.98	JAN 21	7.47	MAR 25	7.01	MAY 25	6.90	JUL 22	8.20	SEP 22	9.35

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.

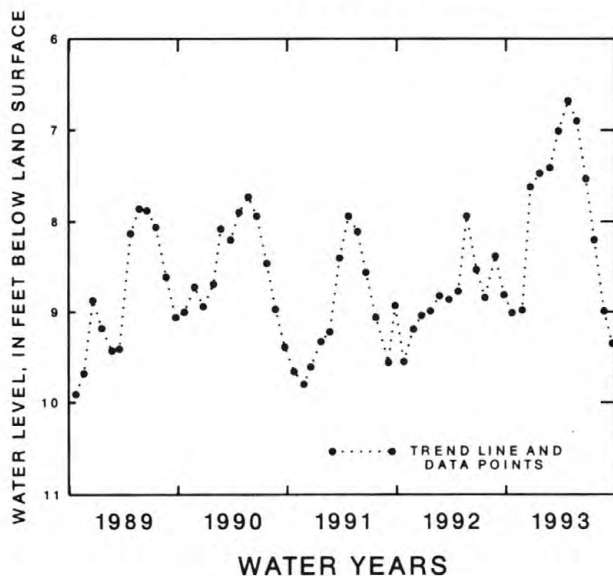
PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

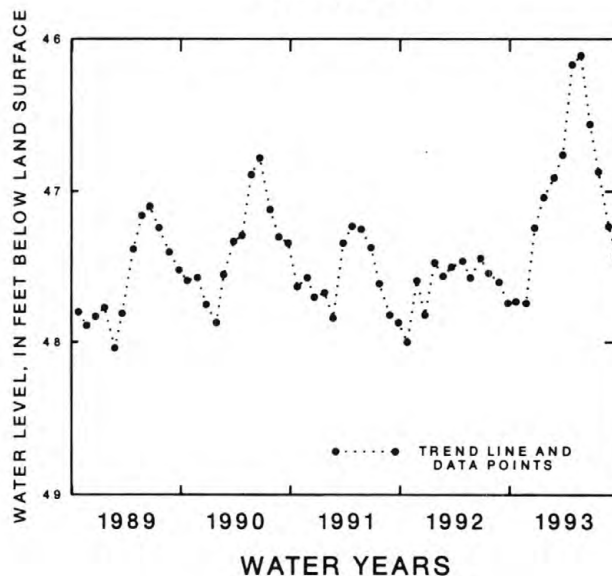
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	47.73	DEC 21	47.24	FEB 24	46.91	APR 26	46.17	JUN 24	46.56	AUG 25	47.23
NOV 24	47.74	JAN 21	47.04	MAR 25	46.76	MAY 25	46.11	JUL 22	46.87	SEP 22	47.42

MIW29



SDW252



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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	53.10	DEC 21	52.32	FEB 24	51.48	APR 26	50.14	JUN 24	49.94	AUG 25	50.69
NOV 24	53.13	JAN 21	51.94	MAR 25	50.97	MAY 25	49.75	JUL 22	50.23	SEP 22	51.05

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.

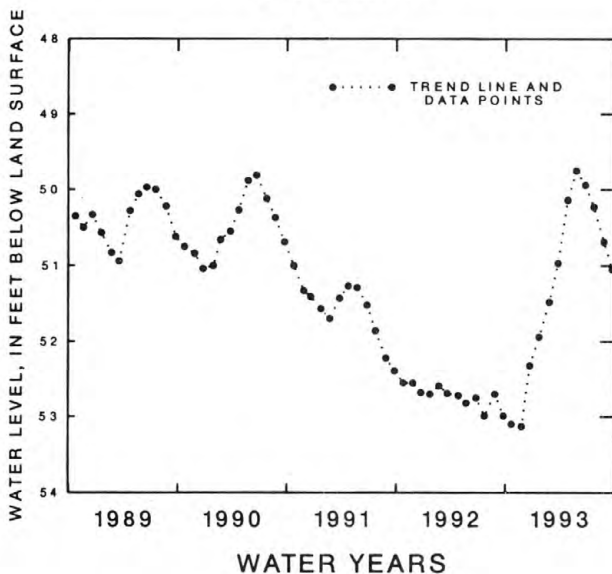
PERIOD OF RECORD.--August 1950 to current year.

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.

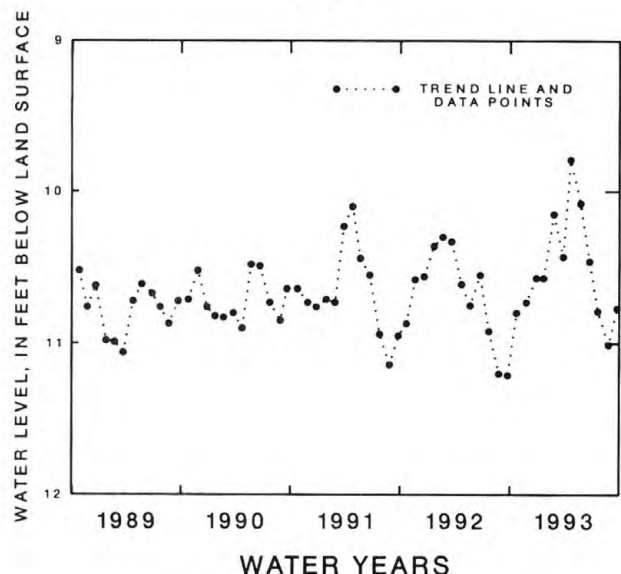
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	10.80	DEC 28	10.57	FEB 24	10.15	APR 21	9.79	JUN 23	10.46	AUG 26	11.01
NOV 24	10.73	JAN 21	10.57	MAR 27	10.43	MAY 24	10.08	JUL 21	10.79	SEP 23	10.77

SDW253



TSW1



GROUND-WATER LEVELS IN MASSACHUSETTS

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.50	DEC 28	12.03	FEB 24	11.83	APR 21	10.99	JUN 23	11.59	AUG 26	12.35
NOV 24	12.45	JAN 21	12.08	MAR 27	11.47	MAY 24	11.17	JUL 21	11.96	SEP 23	12.38

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, 1.24 ft above land-surface datum, 1.13 ft prior to June 1992.

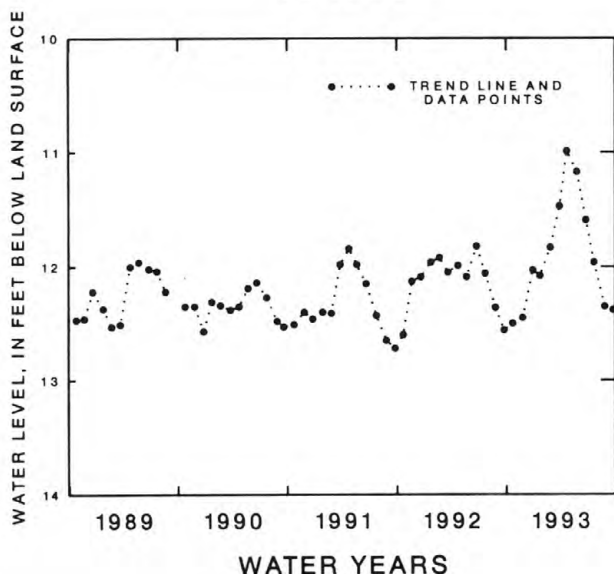
PERIOD OF RECORD.--November 1962 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

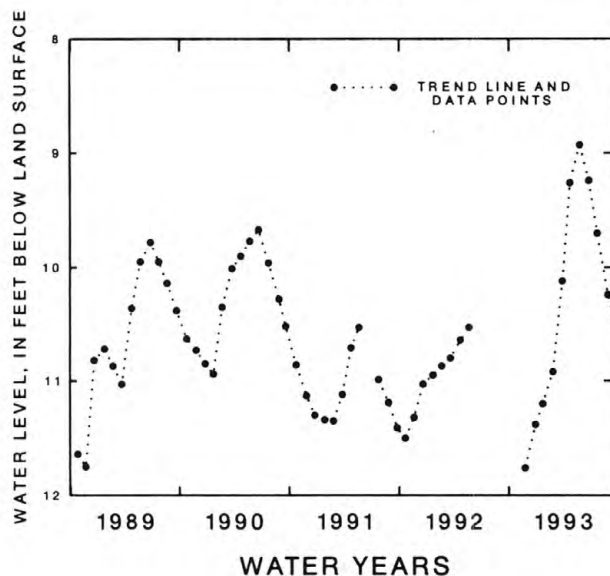
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 24	11.76	JAN 21	11.20	MAR 27	10.12	MAY 24	8.93	JUL 21	9.70	SEP 23	10.51
DEC 28	11.38	FEB 24	10.92	APR 21	9.26	JUN 23	9.24	AUG 26	10.24		

TSW89



WNW17



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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	3.55	DEC 21	2.95	FEB 23	3.70	APR 21	2.97	JUN 21	4.08	AUG 22	3.94
NOV 22	3.02	JAN 21	3.50	MAR 22	3.48	MAY 22	3.53	JUL 21	4.17	SEP 21	3.78

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.

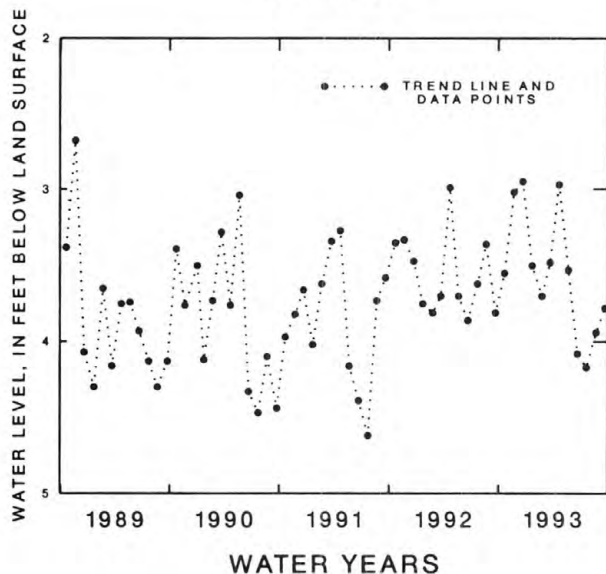
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.09 ft below land-surface datum, Jan. 19, 1952; lowest measured, 19.10 ft below land-surface datum, Sept. 20, 1991.

REMARKS.--Water level may be affected by nearby pumping during summer period.

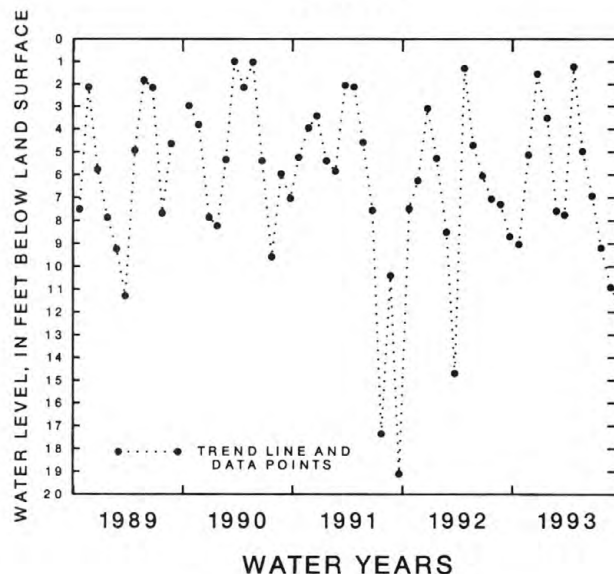
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	9.03	DEC 22	1.54	FEB 24	7.58	APR 22	1.22	JUN 22	6.93	AUG 23	10.91
NOV 23	5.13	JAN 24	3.52	MAR 23	7.75	MAY 21	4.97	JUL 22	9.19	SEP 22	11.63

A3W12



CJW2



GROUND-WATER LEVELS IN MASSACHUSETTS

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.29	DEC 22	7.84	FEB 24	10.52	APR 22	6.35	JUN 22	11.93	AUG 23	12.35
NOV 23	8.86	JAN 24	7.66	MAR 23	10.41	MAY 21	9.46	JUL 22	12.27	SEP 22	12.43

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.

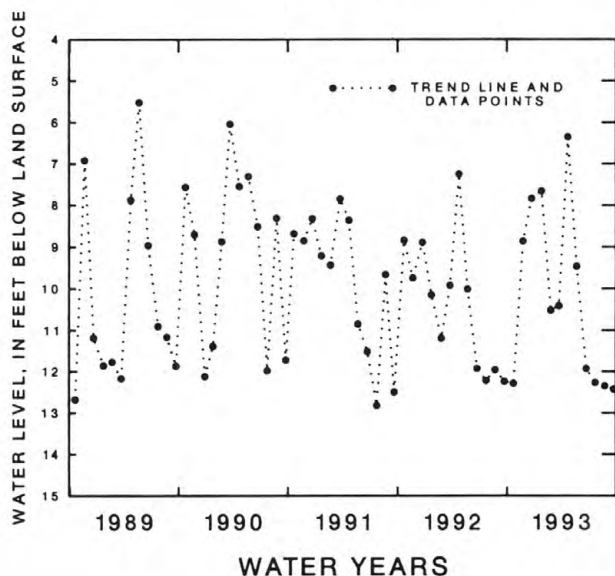
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

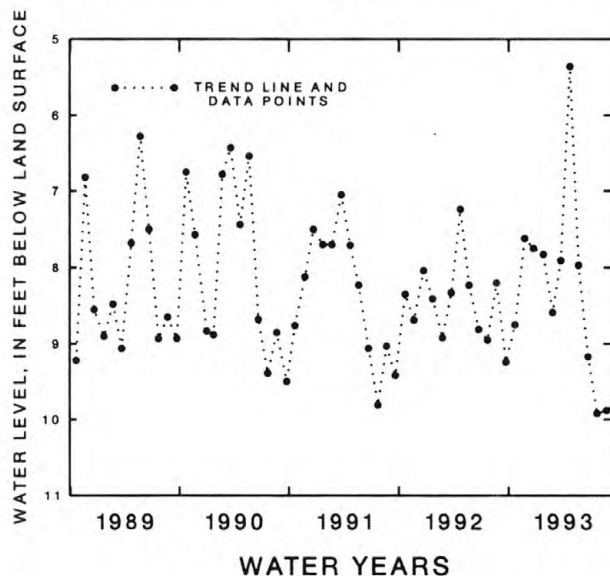
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	8.75	DEC 22	7.75	FEB 24	8.59	APR 22	5.36	JUN 22	9.17	AUG 23	9.88
NOV 23	7.62	JAN 24	7.83	MAR 23	7.91	MAY 21	7.97	JUL 22	9.92	SEP 22	9.79

GMW2



OTW7



GROUND-WATER LEVELS IN MASSACHUSETTS

189

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.

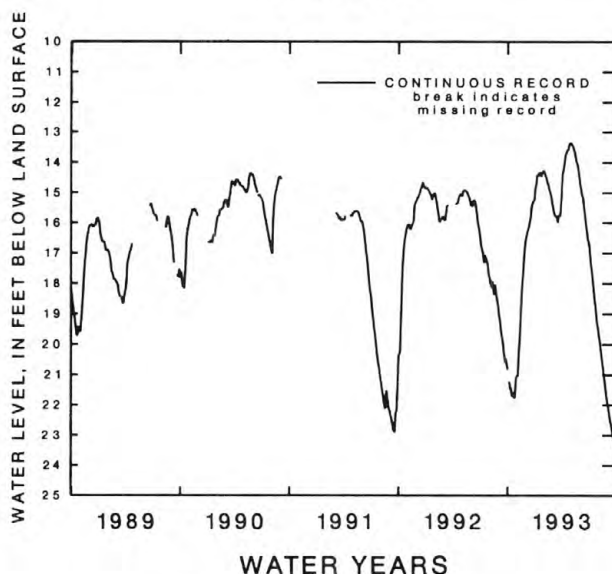
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	21.01	16.49	14.81	14.34	15.50	14.49	13.35	14.78	16.81	19.69	22.04
2	---	21.05	16.43	14.79	14.39	15.54	14.37	13.38	14.81	16.94	19.77	22.13
3	---	21.01	16.40	14.76	14.43	15.61	14.32	13.42	14.87	17.04	19.80	22.21
4	---	20.81	16.36	14.67	14.45	15.65	14.29	13.42	14.95	17.14	19.86	22.27
5	21.22	20.59	16.29	14.56	14.47	15.68	14.24	13.43	15.06	17.25	19.95	22.33
6	21.26	20.39	16.28	14.45	14.49	15.72	14.18	13.43	15.10	17.35	20.04	22.39
7	21.32	20.19	16.21	14.43	14.52	15.76	14.12	13.47	15.10	17.45	20.12	22.46
8	21.39	19.99	16.18	14.41	14.56	15.78	14.05	13.51	15.12	17.50	20.21	22.53
9	21.47	e19.86	16.17	14.44	14.65	15.78	13.97	13.54	15.16	17.59	20.29	22.57
10	21.49	19.70	16.14	14.44	14.67	15.77	13.86	13.58	15.23	17.68	20.37	22.60
11	21.43	19.51	16.06	14.41	14.72	15.76	13.77	13.60	15.33	17.78	20.46	22.63
12	21.51	19.28	16.01	14.36	14.73	15.80	13.71	13.62	15.42	17.88	20.54	22.68
13	21.56	19.02	15.98	14.32	14.69	15.77	13.70	13.68	15.51	17.98	20.62	22.74
14	21.64	18.77	15.92	14.33	14.79	15.80	13.70	13.74	15.59	18.09	20.70	22.80
15	21.71	18.54	15.85	14.34	14.87	15.93	13.68	13.79	15.67	18.19	20.77	22.86
16	21.72	18.36	15.82	14.34	14.89	15.98	13.66	13.84	15.75	18.28	20.86	22.92
17	21.63	18.17	15.76	14.34	14.92	15.97	13.58	13.90	15.87	18.47	20.93	22.98
18	21.57	18.02	15.61	14.40	14.95	15.84	13.57	13.97	15.93	18.49	e21.02	23.02
19	21.63	17.90	15.51	14.44	14.99	15.76	13.58	13.98	16.02	18.60	e21.09	23.07
20	21.68	17.79	15.42	14.45	15.02	15.74	13.59	14.02	16.11	18.66	e21.16	23.12
21	21.72	17.67	15.40	14.45	15.07	15.74	13.59	14.04	16.18	18.74	e21.25	23.17
22	21.74	17.52	15.36	14.37	15.09	15.77	13.55	14.07	16.25	18.85	e21.34	23.23
23	21.76	17.33	15.31	14.32	15.15	15.80	13.41	14.12	16.32	18.96	e21.44	23.28
24	21.78	17.18	15.30	14.31	15.23	15.75	13.40	14.18	16.43	19.06	e21.52	23.33
25	21.64	17.03	15.30	14.32	15.30	15.69	13.39	14.24	16.52	19.17	e21.60	23.38
26	21.44	16.89	15.27	14.32	15.35	15.58	13.39	14.31	16.60	19.26	e21.68	23.44
27	21.27	16.78	15.27	14.27	15.40	15.47	13.36	14.40	16.59	19.34	e21.74	23.49
28	21.12	16.68	15.24	14.27	15.45	15.32	13.35	14.48	16.59	19.37	e21.80	23.51
29	21.05	16.60	15.16	14.28	---	15.11	13.35	14.56	16.67	19.46	e21.88	23.51
30	21.04	16.53	15.05	14.30	---	14.83	13.34	14.65	16.74	19.52	e21.94	23.54
31	21.01	---	14.89	14.31	---	14.66	---	14.74	---	19.60	21.95	---
MEAN	---	18.67	15.76	14.42	14.84	15.64	13.75	13.89	15.74	18.27	20.85	22.87
LOW	---	21.05	16.49	14.81	15.45	15.98	14.49	14.74	16.74	19.60	21.95	23.54
HIGH	---	16.53	14.89	14.27	14.34	14.66	13.34	13.35	14.78	16.81	19.69	22.04

WTR YR 1993 HIGH 13.34 APR 29, 30, MAY 1 LOW 23.57 SEP 30

e Estimated

PTW51



GROUND-WATER LEVELS IN MASSACHUSETTS

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	14.87	DEC 22	14.58	FEB 24	13.97	APR 22	12.19	JUN 22	12.60	AUG 23	13.92
NOV 23	15.13	JAN 24	13.81	MAR 23	14.18	MAY 21	12.02	JUL 22	13.27	SEP 22	14.47

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.

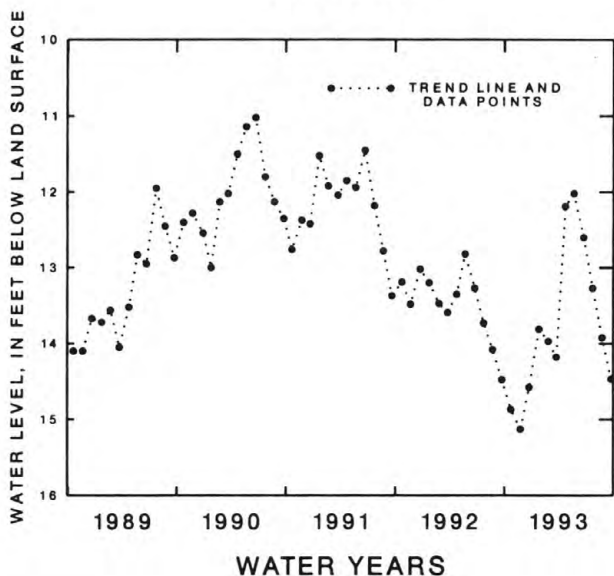
PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

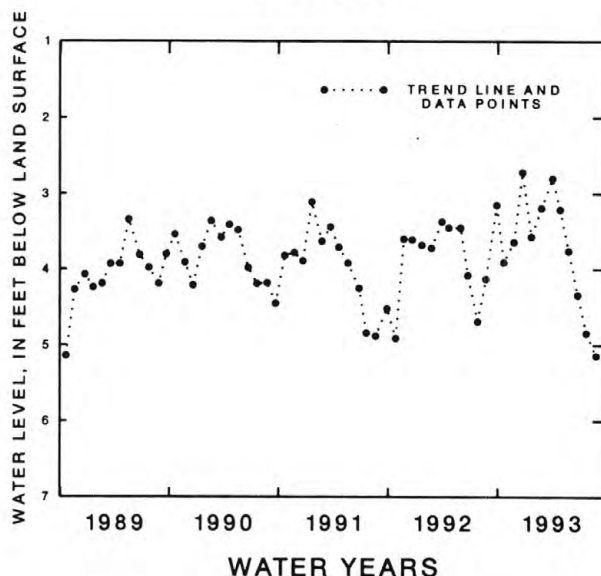
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	3.91	DEC 22	2.72	FEB 23	3.19	APR 26	3.21	JUN 23	4.34	AUG 24	5.14
NOV 23	3.64	JAN 20	3.57	APR 01	2.80	MAY 24	3.76	JUL 22	4.84	SEP 24	5.21

SJW58



ATW83



GROUND-WATER LEVELS IN MASSACHUSETTS

191

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	14.20	DEC 22	13.01	FEB 23	13.04	APR 26	11.66	JUN 22	13.06	AUG 24	14.35
NOV 23	15.12	JAN 20	13.32	APR 01	12.13	MAY 24	12.17	JUL 22	13.72	SEP 24	14.88

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.

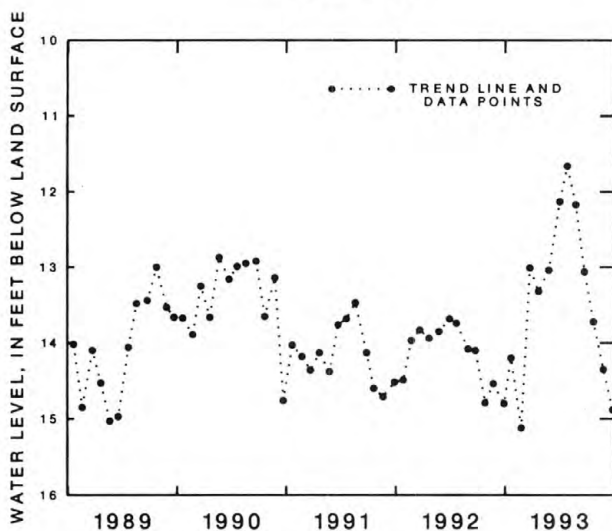
PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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 1992 TO SEPTEMBER 1993

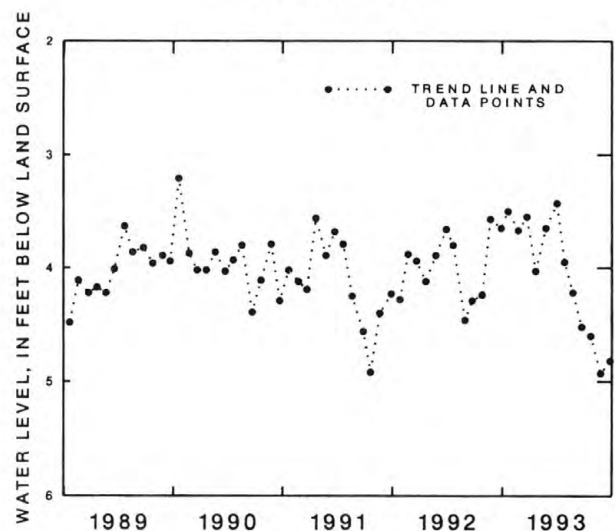
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	3.50	DEC 22	3.55	FEB 23	3.65	APR 26	3.95	JUN 22	4.52	AUG 24	4.93
NOV 23	3.67	JAN 20	4.03	APR 01	3.43	MAY 24	4.22	JUL 22	4.60	SEP 24	4.82

F3W23



WATER YEARS

NGW116



WATER YEARS

GROUND-WATER LEVELS IN MASSACHUSETTS

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, 11.39 ft below land-surface datum, Sept. 24, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	8.98	DEC 22	3.54	FEB 23	5.73	APR 26	5.45	JUN 23	8.99	AUG 24	10.70
NOV 23	7.84	JAN 20	6.17	APR 01	4.52	MAY 24	7.46	JUL 22	10.13	SEP 24	11.39

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.

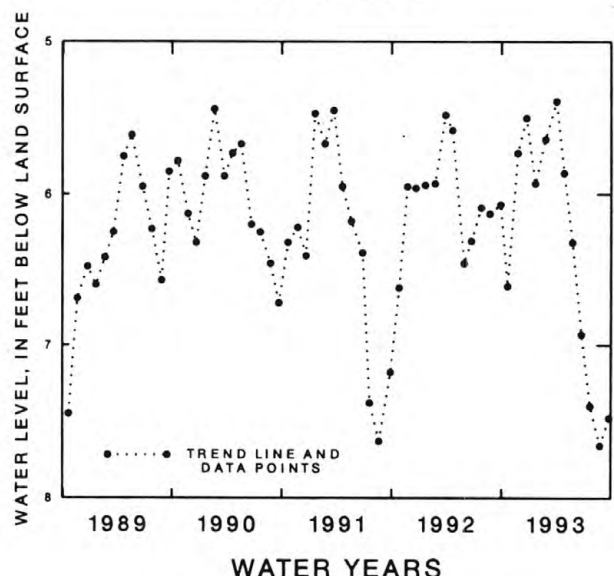
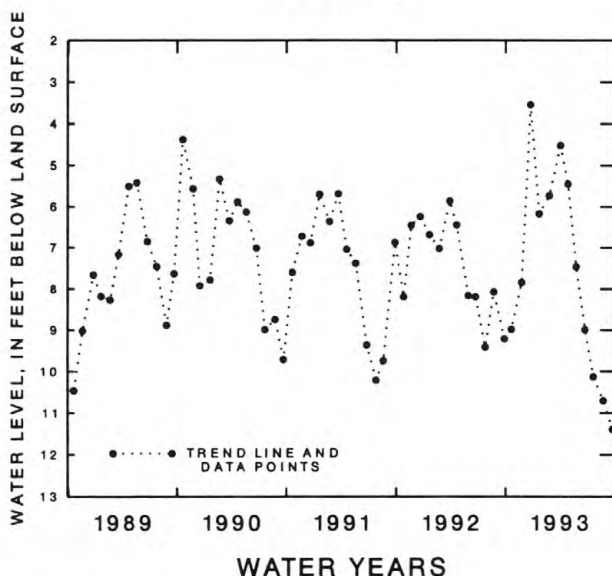
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.02 ft below land-surface datum, Dec. 20, 1986; lowest measured, 8.02 ft below land-surface datum, Sept. 26, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	6.61	DEC 22	5.50	FEB 23	5.64	APR 26	5.86	JUN 23	6.93	AUG 24	7.66
NOV 23	5.73	JAN 20	5.93	APR 01	5.39	MAY 24	6.32	JUL 22	7.40	SEP 24	7.48

N4W37

SHW275



GROUND-WATER LEVELS IN MASSACHUSETTS

193

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	9.72	DEC 22	6.97	FEB 23	7.63	APR 26	7.41	JUN 23	9.26	AUG 24	9.98
NOV 23	9.18	JAN 20	8.03	APR 01	6.77	MAY 24	8.38	JUL 22	9.71	SEP 24	10.12

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.

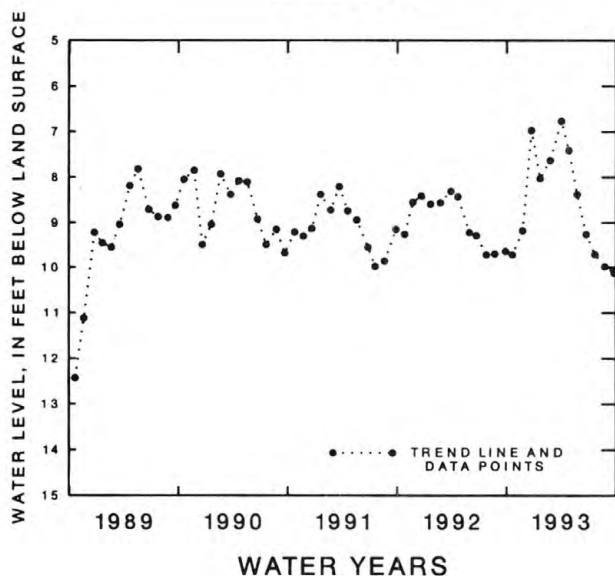
PERIOD OF RECORD.--December 1976 to current year.

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.

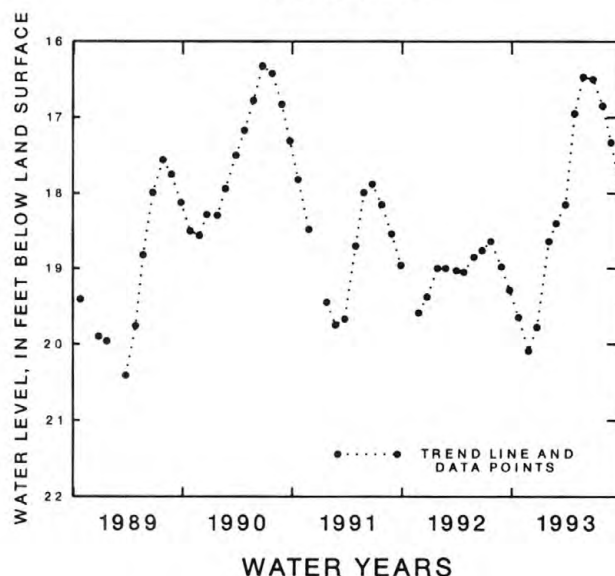
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	19.65	DEC 23	19.78	FEB 25	18.40	APR 27	16.95	JUN 27	16.50	AUG 26	17.33
NOV 25	20.09	FEB 01	18.64	MAR 28	18.15	MAY 26	16.47	JUL 29	16.85	SEP 28	17.98

TAW337



ENW52



GROUND-WATER LEVELS IN MASSACHUSETTS

ESSEX COUNTY

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.

REMARKS.--Water level affected by nearby construction starting about January 1993 and continuing through September 1993.

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, 20.76 ft below land-surface datum, May 25, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	15.41	DEC 30	14.46	FEB 25	19.75	APR 28	19.26	JUN 28	19.64	AUG 26	19.21
NOV 25	15.24	JAN 22	18.66	APR 05	18.01	MAY 25	20.76	JUL 28	19.64	SEP 28	18.37

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.

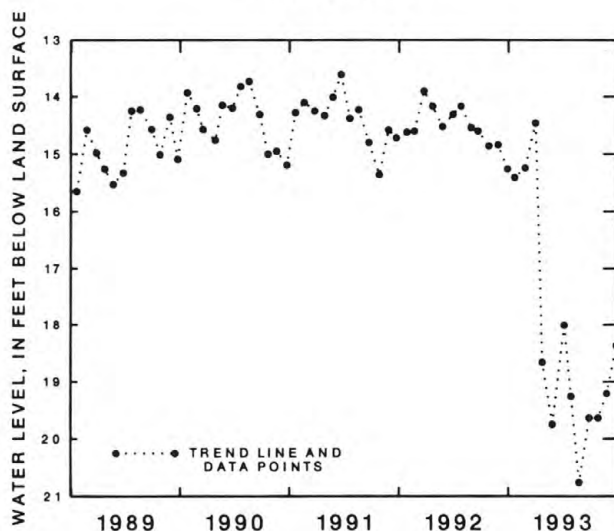
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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 1992 TO SEPTEMBER 1993

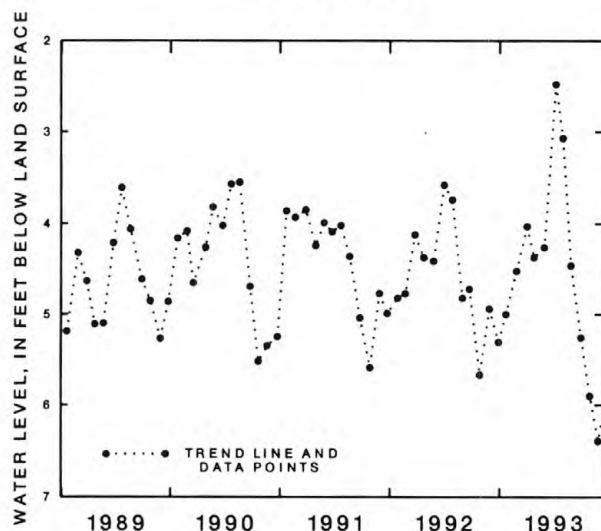
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	5.00	DEC 30	4.03	FEB 25	4.26	APR 28	3.07	JUN 28	5.26	AUG 25	6.39
NOV 25	4.52	JAN 22	4.37	APR 05	2.48	MAY 25	4.46	JUL 28	5.90	SEP 28	5.82

AJW462



WATER YEARS

GCW168



WATER YEARS

GROUND-WATER LEVELS IN MASSACHUSETTS

195

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.

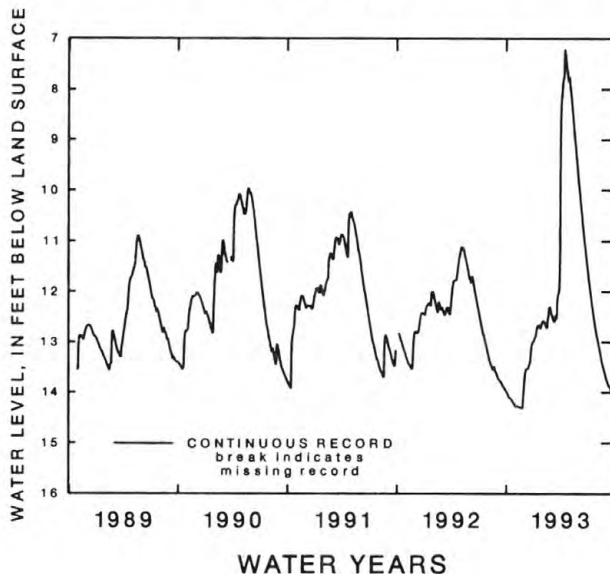
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.99	14.29	13.65	12.95	12.57	12.46	8.64	7.86	9.93	11.68	12.95	e13.78
2	14.00	14.29	13.61	12.93	12.59	12.48	8.33	7.93	9.98	11.73	12.98	e13.80
3	14.02	14.29	13.58	12.92	12.59	12.51	8.22	8.01	10.05	11.77	13.02	e13.82
4	14.03	14.28	13.56	12.91	12.60	12.54	8.16	8.06	10.11	11.82	13.05	e13.84
5	14.04	14.27	13.55	12.89	12.61	12.55	8.09	8.11	10.19	11.87	13.08	e13.85
6	14.05	14.27	13.54	12.87	12.63	12.57	7.99	8.17	10.25	11.92	13.11	e13.86
7	14.07	14.27	13.53	12.83	12.65	12.58	7.89	8.25	10.30	11.97	13.15	e13.88
8	14.08	14.27	13.53	12.79	12.65	12.59	7.83	8.33	10.37	12.01	13.18	e13.89
9	14.10	14.28	13.53	12.75	12.68	12.60	7.81	8.39	10.43	12.06	13.20	13.90
10	14.11	14.29	13.53	12.72	12.69	12.59	7.79	8.47	10.48	12.11	13.23	13.89
11	14.11	14.29	13.53	12.70	12.71	12.54	7.74	8.51	10.55	12.16	13.27	13.89
12	14.12	14.30	13.52	12.68	12.72	12.51	7.62	8.57	10.63	12.20	13.30	13.90
13	14.11	14.30	13.49	12.67	12.70	12.48	7.37	8.64	10.69	12.25	13.34	13.93
14	14.12	14.30	13.47	12.66	12.61	12.46	7.21	8.73	10.74	12.30	13.37	13.95
15	14.12	14.30	13.45	12.66	12.55	12.51	7.24	8.80	10.79	12.34	13.40	13.96
16	14.14	14.30	13.44	12.66	12.52	12.54	7.31	8.86	10.85	12.38	13.43	13.98
17	14.14	14.31	13.43	12.65	12.48	12.54	7.33	8.94	10.91	12.42	13.45	14.00
18	14.15	14.31	13.40	12.67	12.39	12.40	7.40	9.01	10.97	12.47	13.48	14.02
19	14.16	14.31	13.34	12.69	12.32	12.25	7.46	9.06	11.03	12.51	13.50	14.04
20	14.17	14.32	13.26	12.70	12.30	12.14	7.52	9.12	11.09	12.55	13.52	14.05
21	14.18	14.32	13.19	12.73	12.30	12.10	7.57	9.19	11.14	12.59	13.54	14.07
22	14.19	14.32	13.13	12.73	12.29	12.07	7.61	9.26	11.19	12.62	13.56	14.09
23	14.20	14.29	13.09	12.71	12.31	12.05	7.63	9.33	11.25	12.67	13.58	14.11
24	14.21	14.18	13.05	12.68	12.33	12.02	7.75	9.39	11.31	12.70	13.60	14.12
25	14.22	14.10	13.03	12.65	12.37	12.00	7.80	9.46	11.36	12.74	13.62	14.14
26	14.22	14.03	13.01	12.63	12.39	11.95	7.84	9.53	11.41	12.78	13.65	14.16
27	14.23	13.95	13.01	12.61	12.42	11.80	7.84	9.60	11.47	12.81	13.68	14.16
28	14.24	13.87	13.00	12.60	12.44	11.55	7.78	9.67	11.51	12.84	13.70	14.03
29	14.26	13.78	13.00	12.59	---	11.11	7.74	9.73	11.57	e12.88	13.73	13.93
30	14.27	13.71	12.99	12.58	---	9.94	7.78	9.81	11.62	e12.90	e13.74	13.89
31	14.28	---	12.98	12.57	---	9.07	---	9.87	---	12.93	e13.75	---
MEAN	14.14	14.21	13.34	12.72	12.51	12.11	7.74	8.86	10.81	12.35	13.39	13.96
LOW	14.28	14.32	13.65	12.95	12.72	12.60	8.64	9.87	11.62	12.93	13.75	14.16
HIGH	13.99	13.71	12.98	12.57	12.29	9.07	7.21	7.86	9.93	11.68	12.95	13.78

WTR YR 1993 HIGH 7.19 APR 14, LOW 14.32 NOV 19, 20, 21, 22, 23

e Estimated

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.

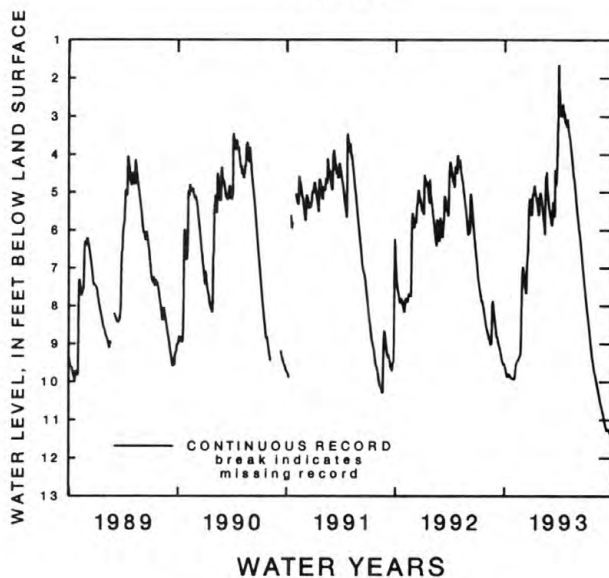
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.36 ft below land-surface datum, Mar. 30, 1993; lowest, 12.68 ft below land-surface datum, Nov. 24, 1965.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.60	9.94	7.01	5.12	5.23	5.58	2.28	3.30	5.63	8.01	9.91	11.11
2	9.62	9.94	7.09	5.04	5.35	5.64	2.37	3.36	5.68	8.09	9.95	11.15
3	9.65	9.93	7.17	5.07	5.42	5.71	2.66	3.43	5.75	8.15	9.99	11.18
4	9.69	9.83	7.26	5.09	5.50	5.75	2.75	3.47	5.83	8.21	10.04	11.21
5	9.73	9.71	7.31	5.03	5.59	5.79	2.82	3.52	5.93	8.28	10.08	11.23
6	9.77	9.64	7.38	4.87	5.68	5.83	2.87	3.56	6.00	8.35	10.11	11.25
7	9.81	9.58	7.43	4.84	5.76	5.88	2.92	3.64	6.03	8.42	10.15	11.28
8	9.84	9.53	7.51	4.82	5.79	5.87	2.96	3.72	6.09	8.50	10.19	11.29
9	9.87	9.51	7.59	4.90	5.88	5.74	3.01	3.79	6.17	8.57	10.24	11.28
10	9.88	9.49	7.65	4.95	5.96	5.47	3.00	3.87	6.23	8.65	10.28	11.28
11	9.86	9.45	7.68	5.01	6.04	5.25	2.95	3.92	6.30	8.72	10.33	11.25
12	9.84	9.46	7.47	5.05	6.12	5.29	2.77	3.98	6.40	8.80	10.37	11.24
13	9.80	9.45	7.07	5.10	5.03	5.39	2.67	4.06	6.49	8.87	10.41	11.24
14	9.79	9.44	6.85	5.16	4.58	5.40	2.82	4.16	6.58	8.96	10.45	11.25
15	9.80	9.43	6.72	5.23	4.92	5.57	2.95	4.25	6.66	9.03	10.49	11.28
16	9.82	9.42	6.64	5.27	5.11	5.66	3.02	4.35	6.75	9.09	10.53	11.31
17	9.82	9.39	6.57	5.30	4.49	5.53	2.92	4.45	6.86	9.16	10.57	11.33
18	9.84	9.35	6.22	5.38	4.46	4.40	2.88	4.54	6.96	9.23	10.60	11.35
19	9.85	9.34	5.75	5.47	4.70	4.45	3.02	4.59	7.05	9.31	10.64	11.35
20	9.87	9.33	5.46	5.54	4.87	4.61	3.11	4.62	7.15	9.37	10.67	11.36
21	9.89	9.32	5.30	5.62	5.00	4.75	3.15	4.67	7.22	9.41	10.70	11.37
22	9.90	9.31	5.21	5.62	5.06	4.82	3.19	4.76	7.27	9.46	10.74	11.39
23	9.91	9.16	5.17	5.38	5.14	4.63	3.10	4.84	7.36	9.52	10.77	11.40
24	9.91	8.65	5.20	5.24	5.23	4.43	3.18	4.93	7.46	9.57	10.80	11.41
25	9.92	8.18	5.29	5.10	5.33	4.32	3.24	5.01	7.55	9.63	10.83	11.42
26	9.90	7.76	5.35	5.03	5.41	3.82	3.28	5.11	7.63	9.69	10.87	11.42
27	9.90	7.35	5.46	5.00	5.46	3.21	3.10	5.20	7.72	9.74	10.91	11.40
28	9.92	7.09	5.54	5.02	5.52	3.33	3.07	5.30	7.80	9.77	10.96	11.31
29	9.93	7.00	5.61	5.07	---	2.12	3.16	5.38	7.87	9.79	11.00	11.19
30	9.94	6.97	5.61	5.14	---	1.65	3.23	5.49	7.94	9.83	11.04	11.10
31	9.94	---	5.42	5.18	---	2.31	---	5.58	---	9.86	11.07	---
MEAN	9.83	9.06	6.42	5.15	5.31	4.78	2.95	4.35	6.75	9.03	10.51	11.29
LOW	9.94	9.94	7.68	5.62	6.12	5.88	3.28	5.58	7.94	9.86	11.07	11.42
HIGH	9.60	6.97	5.17	4.82	4.46	1.65	2.28	3.30	5.63	8.01	9.91	11.1

WTR YR 1993 HIGH 1.36 MAR 30, LOW 11.42 SEP 24, 25, 26, 27

NIW27



GROUND-WATER LEVELS IN MASSACHUSETTS

197

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	14.85	DEC 30	9.96	FEB 25	8.50	APR 28	7.75	JUN 28	12.70	AUG 25	14.90
NOV 25	14.77	JAN 22	9.90	APR 05	6.79	MAY 25	11.24	JUL 28	14.31	SEP 28	15.74

423505070491702. Wenham well WPW 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.

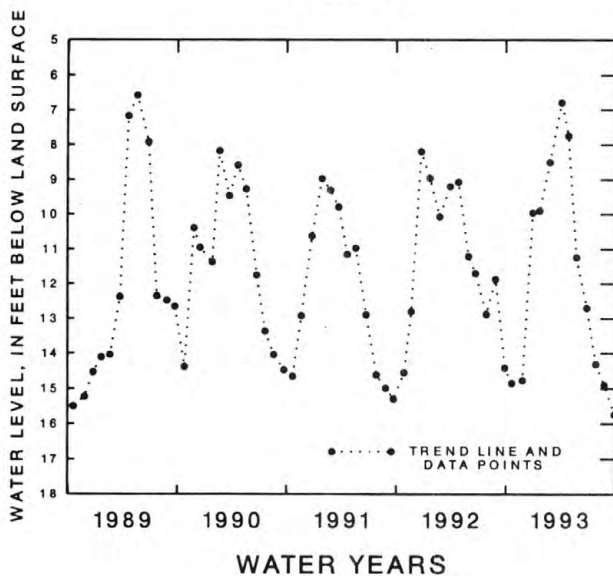
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

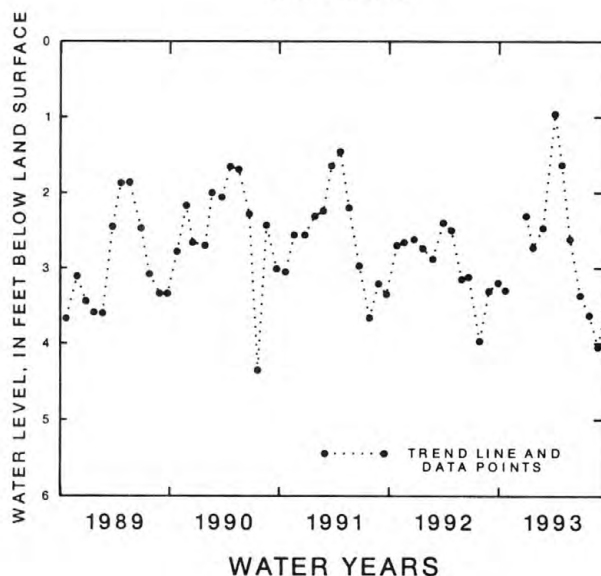
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	3.30	JAN 22	2.73	APR 05	.96	MAY 25	2.62	JUL 28	3.63	SEP 28	3.38
DEC 30	2.31	FEB 24	2.47	28	1.63	JUN 28	3.37	AUG 26	4.05		

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	21.60	DEC 23	21.66	FEB 21	20.12	APR 21	16.39	JUN 22	18.94	AUG 22	21.23
NOV 22	21.79	JAN 24	20.68	MAR 25	20.34	MAY 21	17.30	JUL 22	20.33	SEP 23	21.92

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.

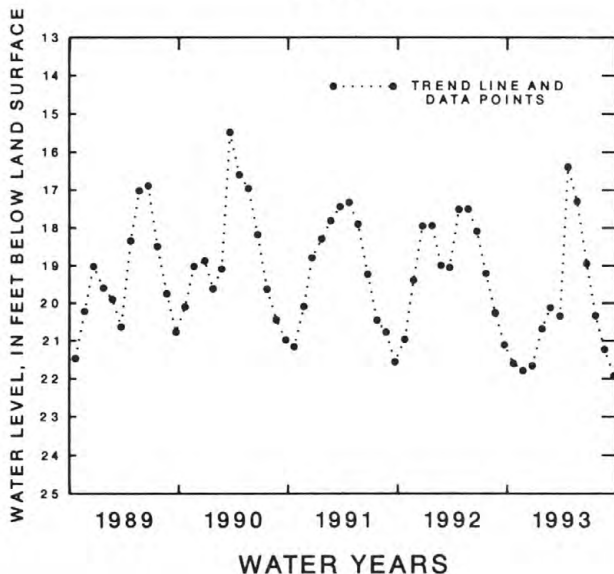
PERIOD OF RECORD.--December 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

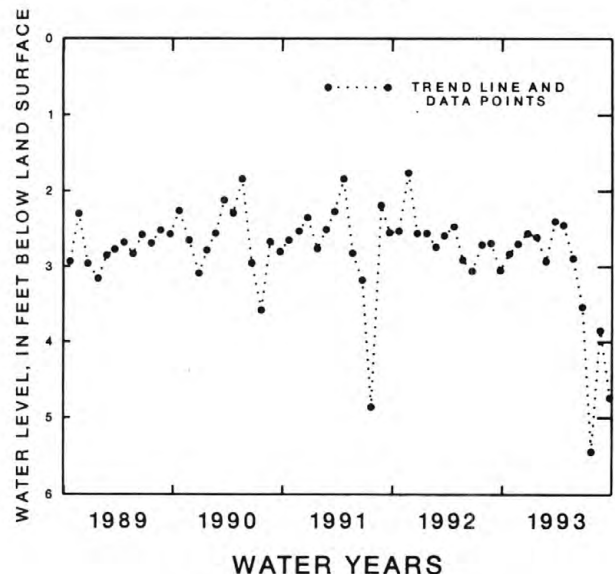
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	2.83	DEC 23	2.56	FEB 22	2.93	APR 21	2.45	JUN 23	3.54	AUG 22	3.85
NOV 21	2.70	JAN 22	2.61	MAR 24	2.40	MAY 23	2.89	JUL 23	5.44	SEP 23	4.74

CSW8



DFW44



GROUND-WATER LEVELS IN MASSACHUSETTS

199

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, 2.78 ft below land-surface datum, Apr. 21, 1993; lowest measured, 6.67 ft below land-surface datum, Sept. 23, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	4.62	DEC 23	3.76	FEB 21	4.32	APR 21	2.78	JUN 21	4.23	AUG 22	5.29
NOV 22	4.16	JAN 21	3.69	MAR 25	4.43	MAY 22	3.46	JUL 21	5.22	SEP 23	6.67

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.

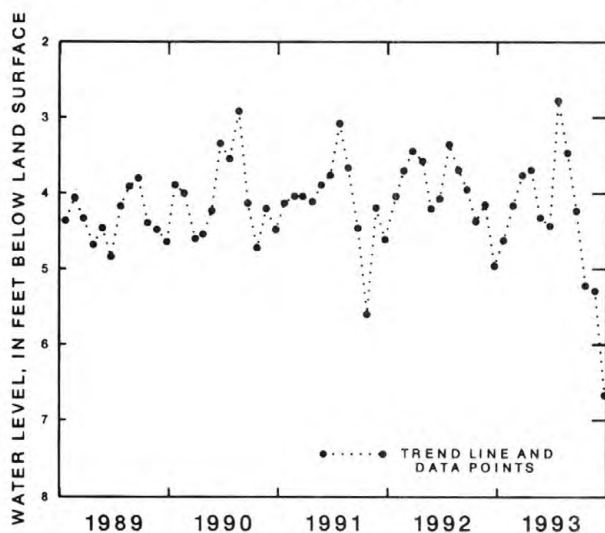
PERIOD OF RECORD.--January 1936 to current year.

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.

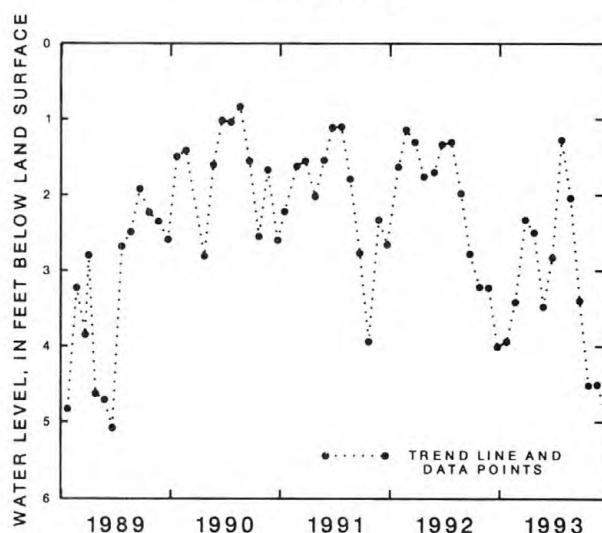
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	3.94	DEC 24	2.33	FEB 22	3.48	APR 23	1.27	JUN 23	3.40	AUG 21	4.51
NOV 21	3.42	JAN 22	2.50	MAR 24	2.83	MAY 23	2.04	JUL 23	4.52	SEP 23	4.95

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	8.33	DEC 23	7.14	FEB 21	7.75	APR 23	6.43	JUN 23	7.58	AUG 21	8.07
NOV 21	7.77	JAN 22	7.40	MAR 25	8.08	MAY 23	6.79	JUL 23	8.19	SEP 23	8.40

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.

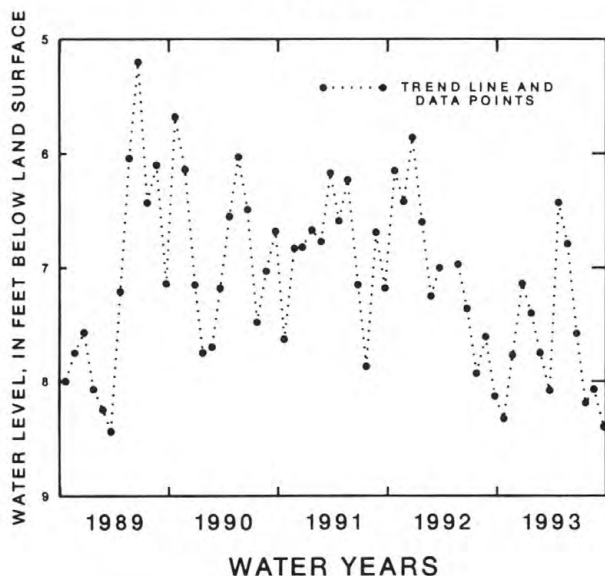
PERIOD OF RECORD.--November 1957 to current year.

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.

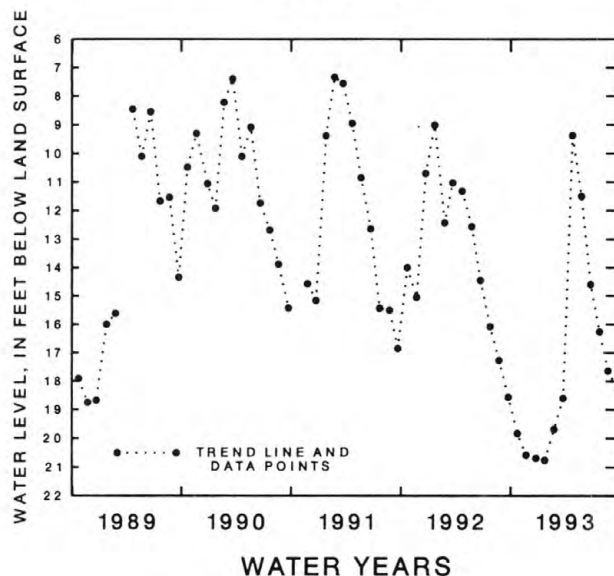
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	19.83	DEC 24	20.69	FEB 22	19.69	APR 23	9.37	JUN 23	14.60	AUG 21	17.64
NOV 21	20.58	JAN 22	20.76	MAR 24	18.60	MAY 23	11.50	JUL 23	16.26	SEP 23	18.26

ORW63



S6W7



GROUND-WATER LEVELS IN MASSACHUSETTS

201

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	4.32	DEC 24	3.23	FEB 22	4.09	APR 23	1.63	JUN 23	3.68	AUG 21	4.70
NOV 21	3.79	JAN 22	3.52	MAR 24	3.62	MAY 23	2.80	JUL 23	4.61	SEP 23	4.78

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.

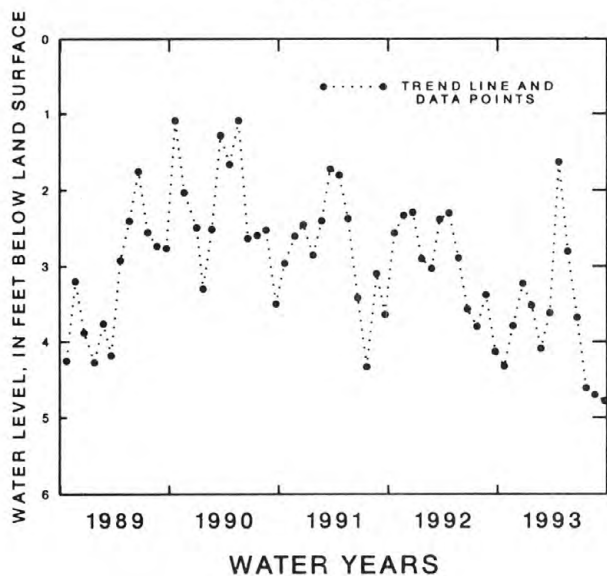
PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.85 ft below land-surface datum, Nov. 22, 1992; lowest measured, 3.85 ft below land-surface datum, Aug. 22, 1987.

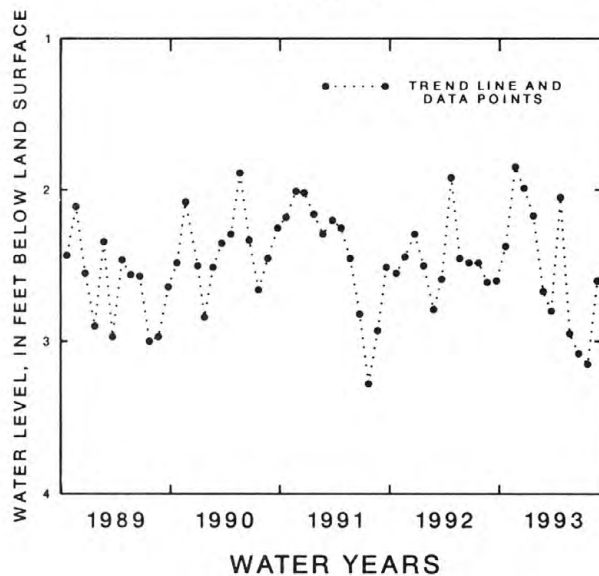
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	2.37	DEC 21	1.99	FEB 23	2.67	APR 21	2.05	JUN 21	3.08	AUG 22	2.60
NOV 22	1.85	JAN 21	2.17	MAR 22	2.80	MAY 22	2.95	JUL 21	3.15	SEP 21	2.52

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	22.14	DEC 21	22.24	FEB 21	21.65	APR 21	20.12	JUN 21	20.67	AUG 21	21.81
NOV 21	22.40	JAN 21	21.77	MAR 22	21.99	MAY 22	20.05	JUL 21	21.26	SEP 21	22.23

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.

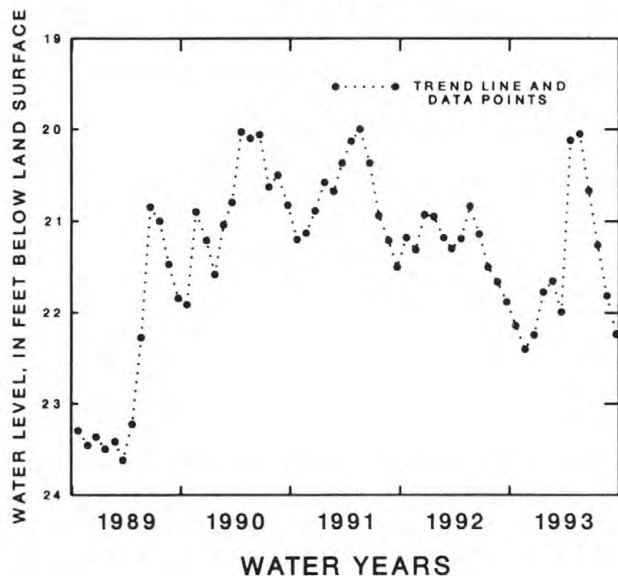
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

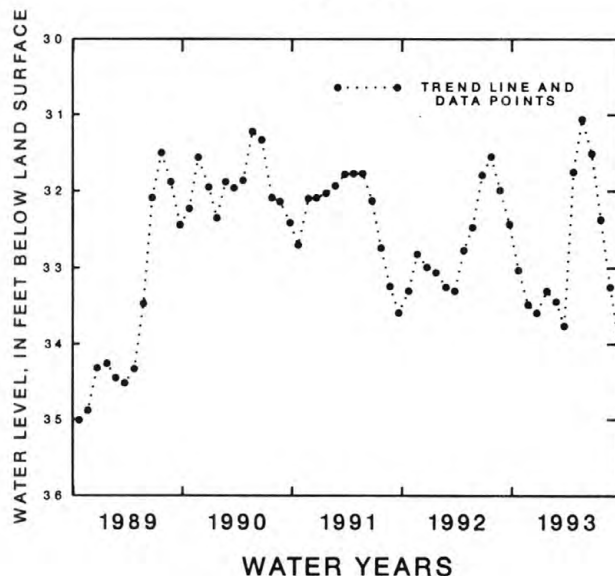
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	33.03	DEC 22	33.59	FEB 24	33.44	APR 22	31.75	JUN 22	31.51	AUG 23	33.25
NOV 23	33.48	JAN 24	33.30	MAR 23	33.76	MAY 21	31.06	JUL 22	32.37	SEP 22	34.00

CMW95



GLW5



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, 8.50 ft below land-surface datum, Aug. 23, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	6.35	DEC 22	3.34	FEB 24	5.58	APR 22	2.57	JUN 22	7.29	AUG 23	8.50
NOV 23	3.62	JAN 24	3.54	MAR 23	5.45	MAY 21	5.63	JUL 22	8.07	SEP 22	8.10

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.

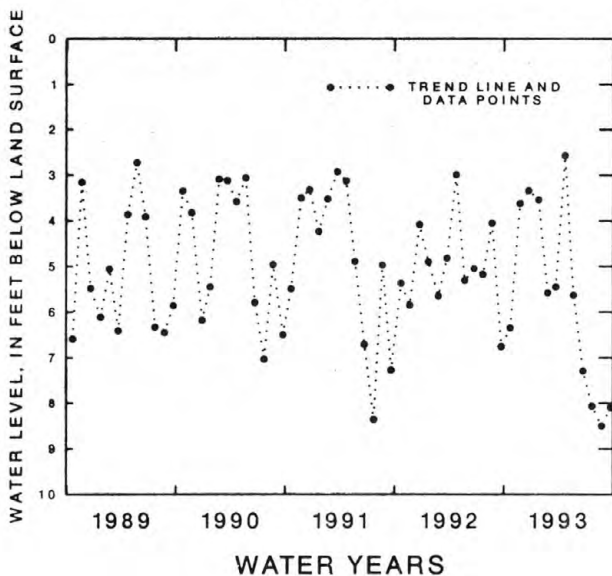
PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.07 ft below land-surface datum, Apr. 21, 1993; lowest measured, 4.31 ft below land-surface datum, Sept. 21, 1993

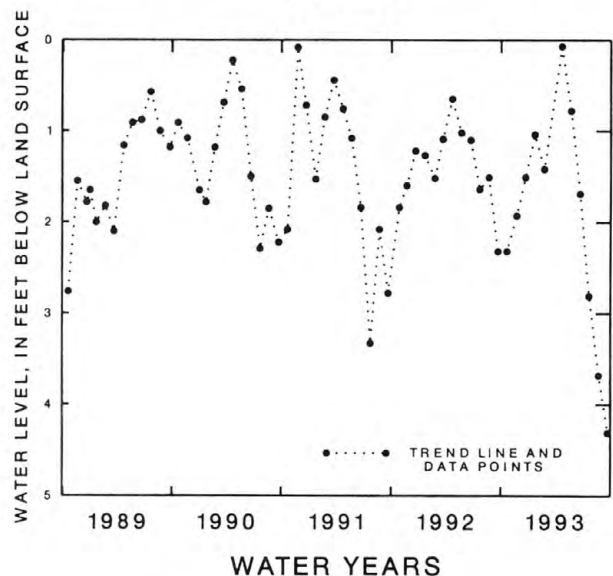
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	2.32	DEC 21	1.51	FEB 22	1.42	MAY 22	.78	JUL 21	2.81	SEP 21	4.31
NOV 22	1.93	JAN 21	1.04	APR 21	.07	JUN 21	1.69	AUG 22	3.68		

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, 4.94 ft below land-surface datum, Sept. 22, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	4.11	DEC 22	3.45	FEB 24	3.96	APR 22	1.36	JUN 22	2.93	AUG 23	4.75
NOV 23	3.76	JAN 24	3.50	MAR 23	3.66	MAY 21	2.08	JUL 22	4.07	SEP 22	4.94

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 22 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.

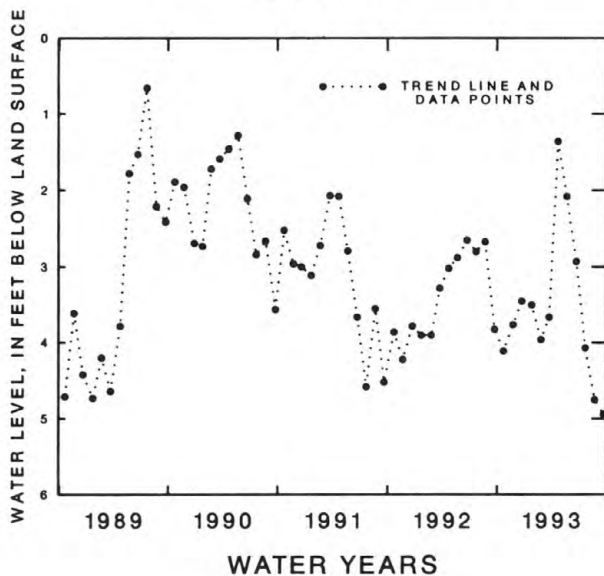
PERIOD OF RECORD.--August 1957 to current year.

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.

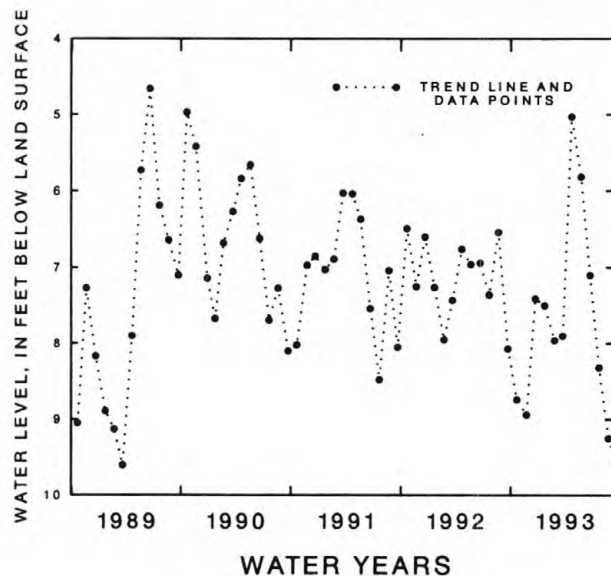
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	8.74	DEC 21	7.41	FEB 23	7.96	APR 21	5.03	JUN 21	7.10	AUG 22	9.25
NOV 22	8.94	JAN 21	7.50	MAR 22	7.90	MAY 22	5.82	JUL 21	8.32	SEP 21	9.58

SVW95



WVW62



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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	3.82	DEC 21	3.52	FEB 21	3.53	APR 21	3.33	JUN 21	3.90	AUG 22	4.00
NOV 22	3.71	JAN 21	3.80	MAR 22	3.55	MAY 22	3.59	JUL 21	4.19	SEP 21	4.08

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.

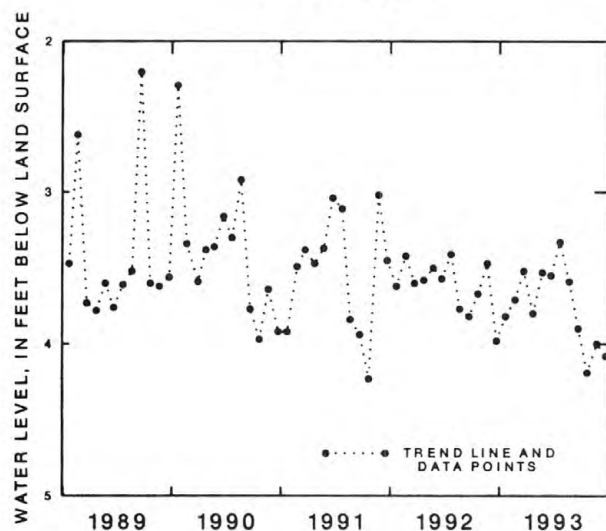
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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 1992 TO SEPTEMBER 1993

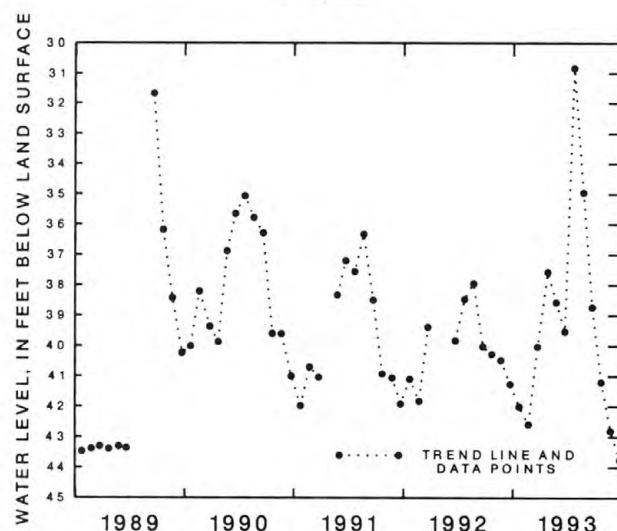
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	42.01	DEC 21	40.03	FEB 21	38.57	APR 21	30.83	JUN 21	38.73	AUG 21	42.80
NOV 21	42.59	JAN 24	37.57	MAR 22	39.53	MAY 22	34.95	JUL 21	41.20	SEP 21	43.75

WVW152



WATER YEARS

XJW55



WATER YEARS

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, 2.10 ft below land-surface datum, Apr. 21, 1993; lowest measured, 6.52 ft below land-surface datum, Sept. 23, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	5.78	DEC 23	4.48	FEB 21	5.27	APR 21	2.10	JUN 21	5.63	AUG 22	6.44
NOV 22	5.16	JAN 21	4.62	MAR 25	5.08	MAY 22	4.63	JUL 21	6.35	SEP 23	6.52

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.

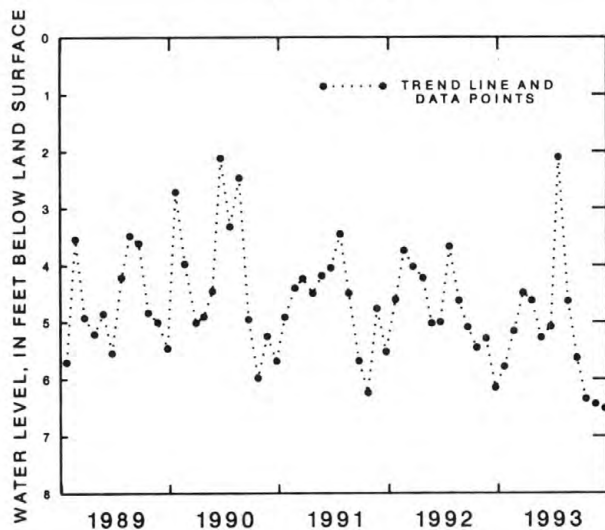
PERIOD OF RECORD.--April 1954 to current year.

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 1992 TO SEPTEMBER 1993

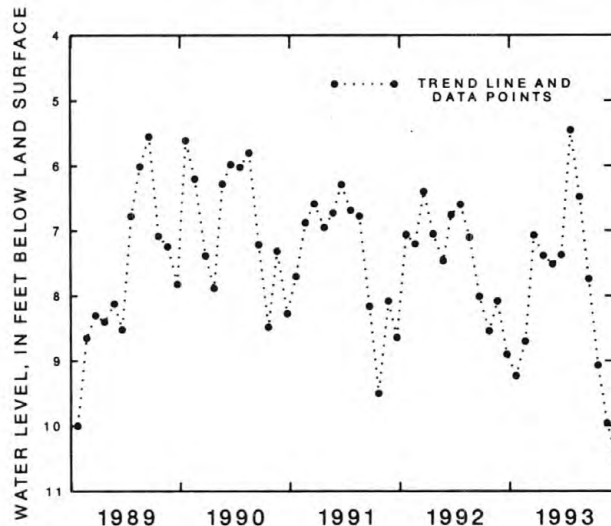
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	9.23	DEC 21	7.07	FEB 21	7.51	APR 23	5.45	JUN 21	7.74	AUG 21	9.96
NOV 21	8.70	JAN 21	7.38	MAR 22	7.37	MAY 22	6.48	JUL 21	9.07	SEP 21	10.47

CYW13



WATER YEARS

GKW68



WATER YEARS

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, 7.44 ft below land-surface datum, Aug. 21, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	5.37	DEC 24	3.54	FEB 21	4.28	APR 23	2.32	JUN 23	5.14	AUG 21	7.44
NOV 21	4.67	JAN 22	3.58	MAR 24	3.75	MAY 23	3.93	JUL 22	6.71	SEP 23	7.12

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.

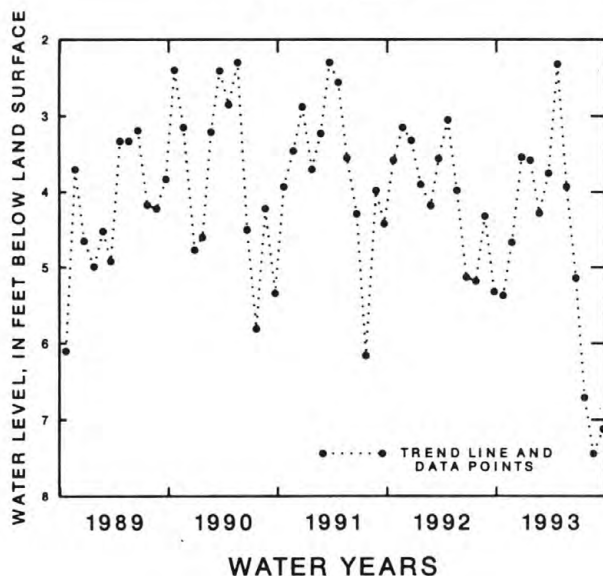
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1975, published in Massachusetts Hydrologic-Data Report No. 17.

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.

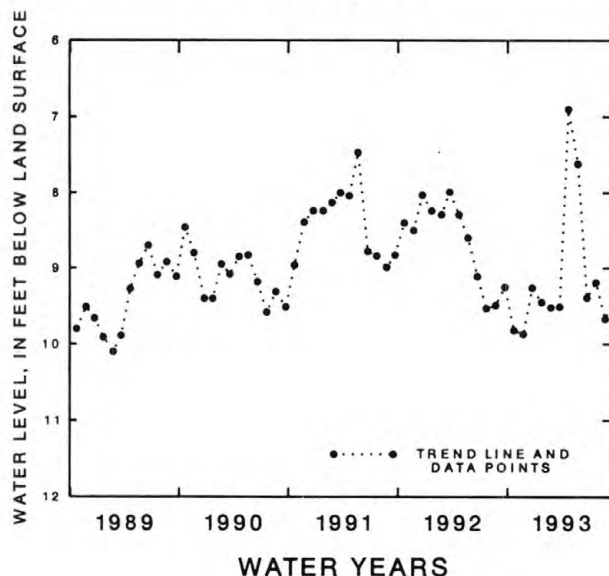
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	9.82	DEC 21	9.26	FEB 21	9.52	APR 21	6.90	JUN 21	9.39	AUG 21	9.67
NOV 21	9.87	JAN 21	9.45	MAR 22	9.51	MAY 22	7.62	JUL 21	9.19	SEP 21	9.35

PDW24



WEW43



GROUND-WATER LEVELS IN MASSACHUSETTS

209

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, 4.55 ft below land-surface datum, May 22, 1993; lowest measured, 16.19 ft below land-surface datum, Sept. 23, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	13.43	DEC 21	13.90	FEB 21	11.73	APR 21	5.62	JUN 21	9.13	AUG 22	14.65
NOV 22	14.80	JAN 21	11.52	MAR 22	13.16	MAY 22	4.55	JUL 21	12.34	SEP 23	16.19

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.

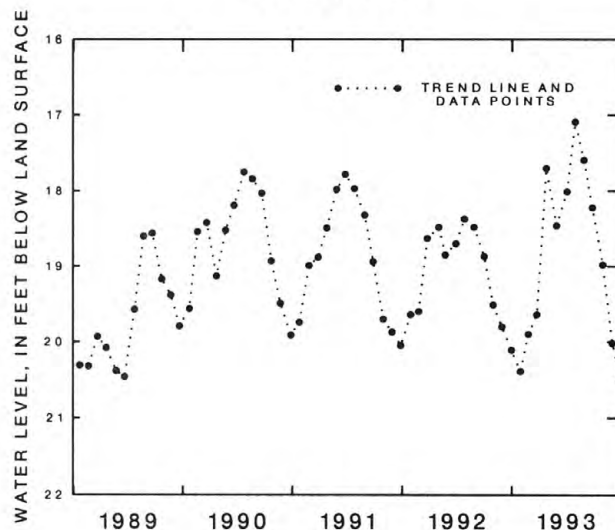
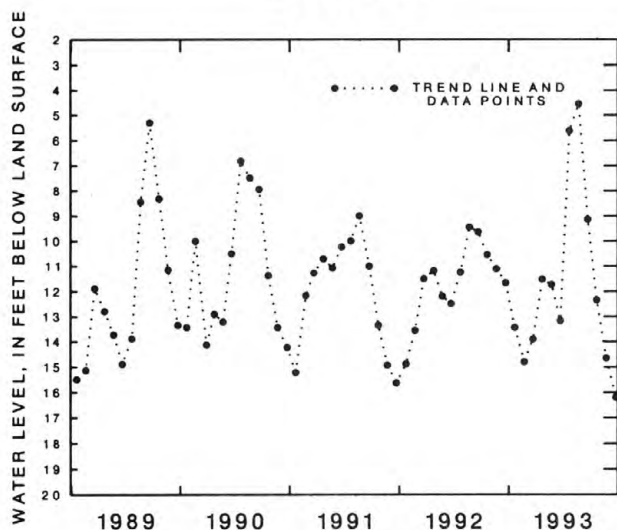
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.98 ft below land-surface datum, Apr. 23, 1987; lowest measured, 21.86 ft below land-surface datum, Jan. 26, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	20.39	DEC 22	19.64	FEB 25	18.46	APR 28	17.09	JUN 24	18.22	AUG 30	20.02
NOV 24	19.90	JAN 22	17.70	APR 01	18.01	MAY 27	17.59	JUL 29	18.98	SEP 29	20.50

WXW20

ACW158



GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY

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, 0.73 ft below land-surface datum, Apr. 1, 1993; lowest measured, dry Aug. 24, Sept. 22, Oct. 25, 1983.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	11.39	DEC 22	5.97	FEB 25	5.35	APR 28	2.35	JUN 24	8.16	AUG 30	11.35
NOV 24	10.67	JAN 22	5.56	APR 01	.73	MAY 27	5.98	JUL 29	10.28	SEP 29	11.61

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.

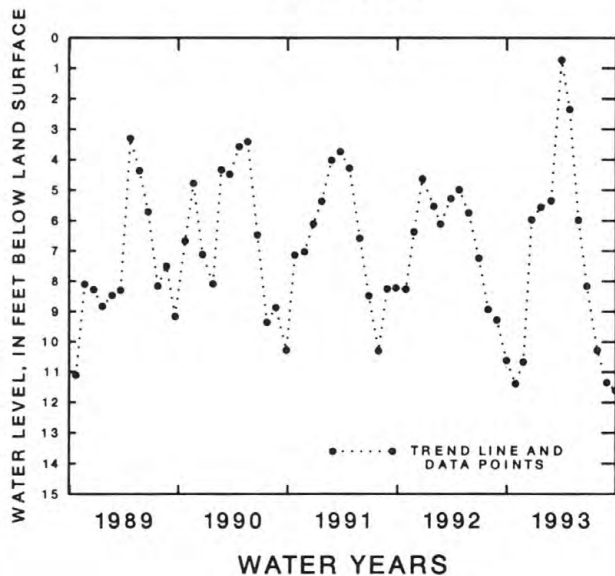
PERIOD OF RECORD.--August 1939 to current year.

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.

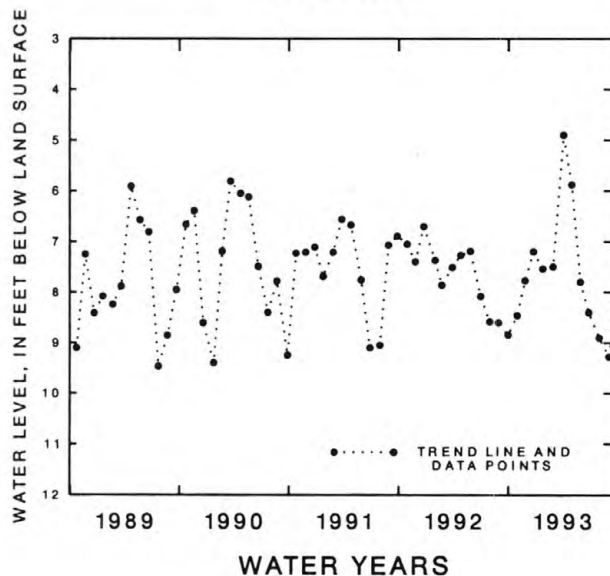
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	8.46	DEC 22	7.20	FEB 25	7.50	APR 28	5.88	JUN 24	8.40	AUG 30	9.28
NOV 24	7.77	JAN 22	7.54	APR 01	4.90	MAY 27	7.80	JUL 29	8.90	SEP 29	8.18

BCW363



CHW68



GROUND-WATER LEVELS IN MASSACHUSETTS

211

MIDDLESEX COUNTY--Continued

423546071190701.--Chelmsford well CHW 384.

LOCATION.--Lat 42° 35' 46", long 71° 19' 07", Middlesex County, Hydrologic Unit 0107000, 25 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 42.0 ft, screened 40.0 to 42.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 125 ft above sea level. Measuring point: Top of casing, 2.2 ft above land-surface datum.

PERIOD OF RECORD.--May 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.42 ft below land-surface datum, Apr. 28, 1993; lowest measured, 16.92 ft below land-surface datum, Mar. 23, 1988.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	16.36	DEC 22	15.83	FEB 25	15.97	APR 28	14.42	JUN 24	15.17	AUG 30	16.86
NOV 24	16.04	JAN 22	15.82	APR 01	14.59	MAY 27	14.90	JUL 29	16.53	SEP 29	16.38

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.

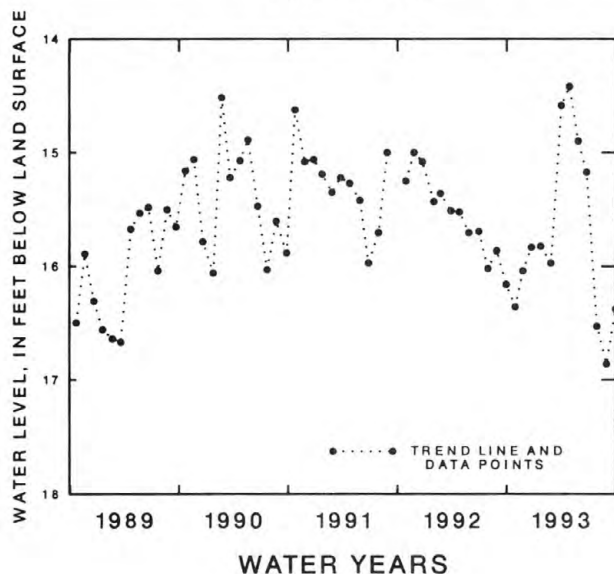
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

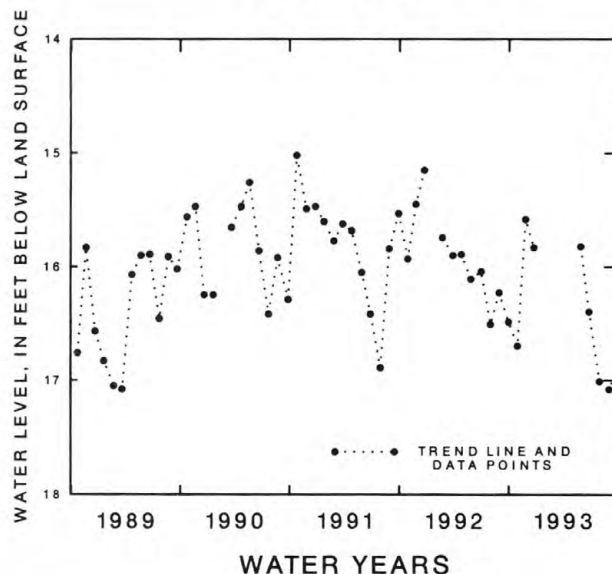
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	16.70	DEC 22	15.83	JUN 24	16.40	JUL 29	17.01	AUG 30	17.08	SEP 29	16.89
NOV 24	15.58	MAY 27	15.82								

CHW384



CHW385



GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY--Continued

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	42.16	DEC 22	42.80	FEB 25	43.23	APR 28	40.56	JUN 24	39.51	AUG 30	40.85
NOV 24	42.45	JAN 22	42.14	APR 01	42.34	MAY 27	40.15	JUL 29	40.28	SEP 29	41.28

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.

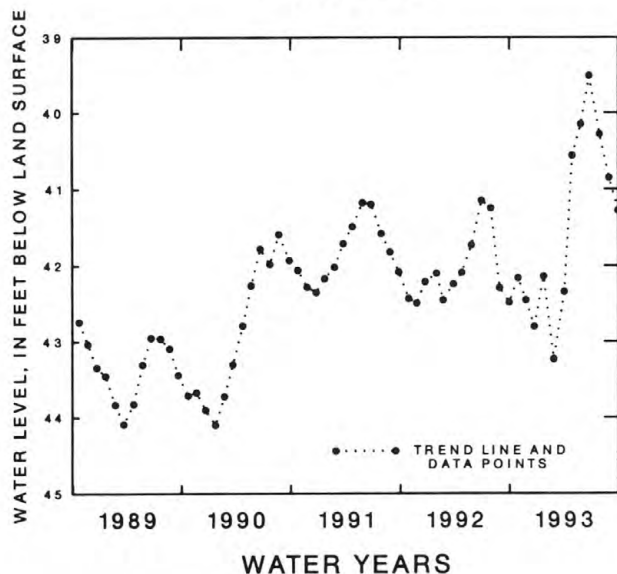
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

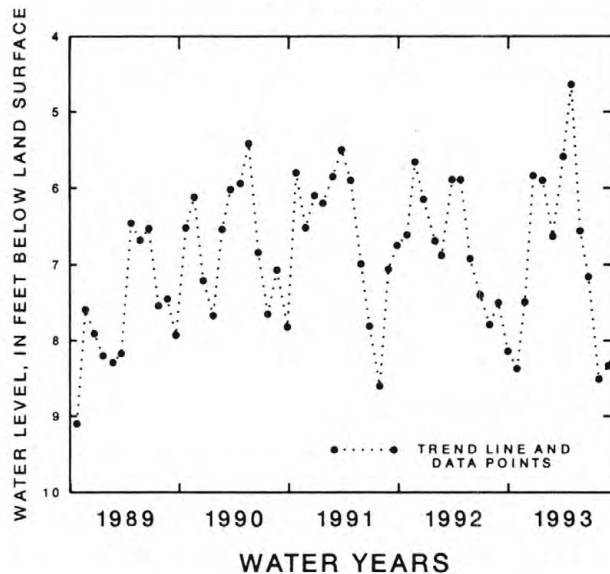
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	8.37	DEC 22	5.84	FEB 25	6.63	APR 28	4.64	JUN 24	7.16	AUG 30	8.33
NOV 24	7.49	JAN 22	5.90	APR 01	5.59	MAY 27	6.56	JUL 29	8.51	SEP 29	8.03

CTW165



CTW167



MIDDLESEX COUNTY--Continued

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.--Augured 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, 0.72 ft below land-surface datum, Apr. 1, 1993; lowest measured, 4.35 ft below land-surface datum, Aug. 26, 1975.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	2.69	DEC 22	1.72	FEB 25	1.90	APR 28	1.50	JUN 24	2.76	AUG 30	3.81
NOV 24	2.35	JAN 22	1.52	APR 01	.72	MAY 27	2.47	JUL 29	3.42	SEP 29	2.78

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.

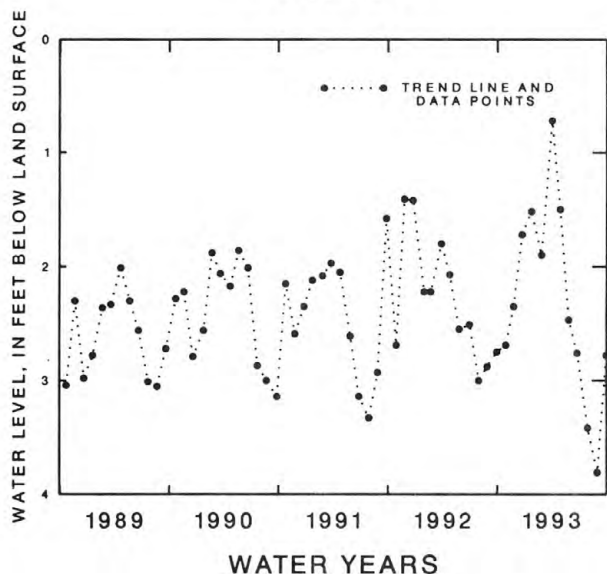
PERIOD OF RECORD.--July 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.84 ft below land-surface datum, Apr. 1, 1993; lowest measured, 15.74 ft below land-surface datum, Sept. 29, 1993.

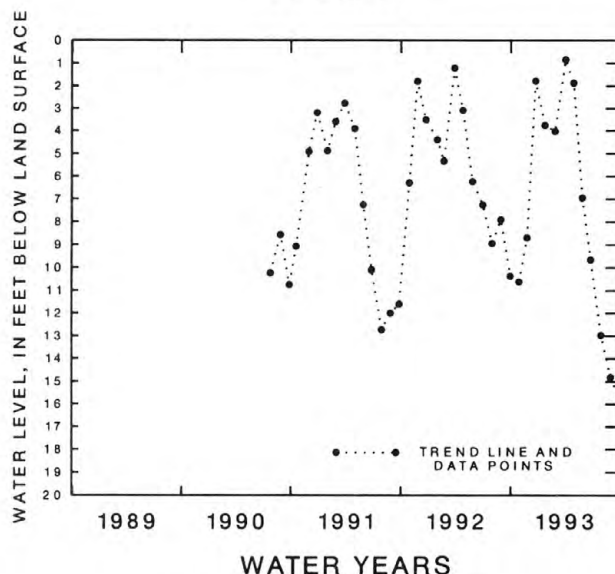
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	10.62	DEC 22	1.78	FEB 25	4.03	APR 28	1.87	JUN 24	9.66	AUG 30	14.81
NOV 24	8.69	JAN 22	3.76	APR 01	.84	MAY 27	6.95	JUL 29	12.97	SEP 29	15.74

LTW104



SSW12



GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY--Continued

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	14.24	DEC 21	14.26	FEB 25	14.07	APR 28	13.94	JUN 24	11.62	AUG 30	14.14
NOV 20	14.64	JAN 21	12.92	MAR 28	13.95	MAY 27	11.95	JUL 29	13.59	SEP 29	14.73

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.

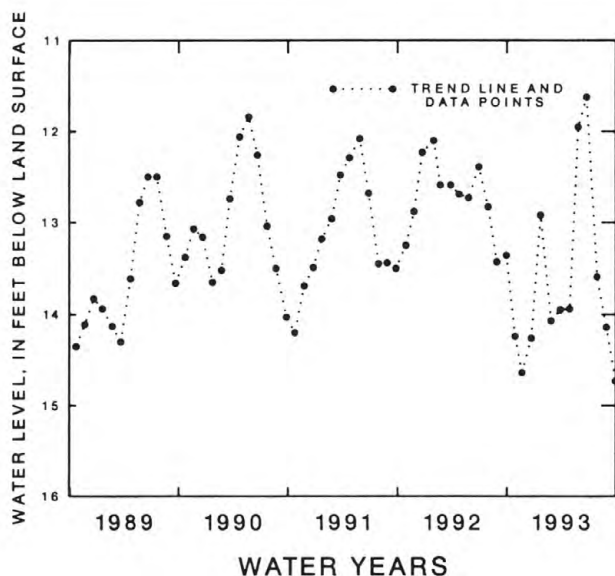
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

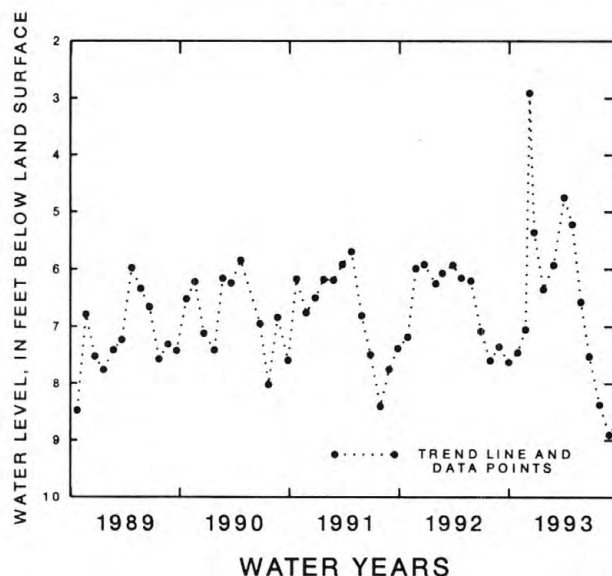
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	7.45	DEC 22	5.36	FEB 25	5.93	APR 28	5.22	JUN 24	7.52	AUG 30	8.90
NOV 24	7.05	JAN 22	6.35	APR 01	4.75	MAY 27	6.57	JUL 29	8.37	SEP 29	8.64

TRW13



WAW38



MIDDLESEX COUNTY--Continued

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, 2.76 ft above land-surface datum, 4.0 ft prior to April 1993.

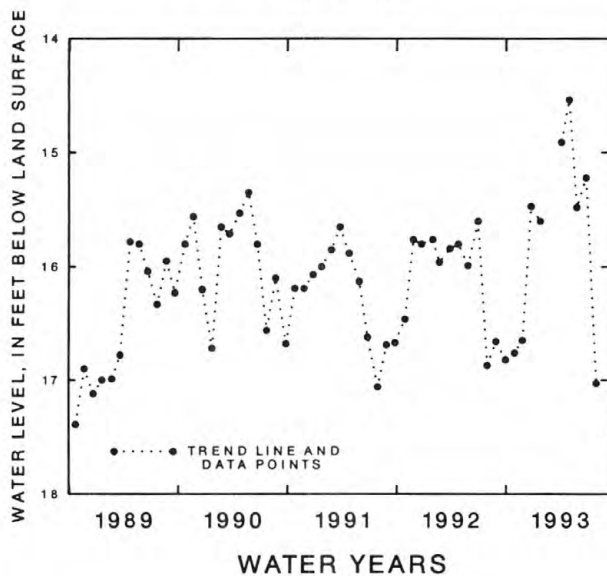
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.96 ft below land-surface datum, Mar. 27, 1972; lowest measured, 17.48 below land-surface datum, Sept. 29, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	16.76	DEC 22	15.47	APR 02	14.91	MAY 24	15.48	JUL 29	17.03	SEP 29	17.48
NOV 24	16.65	JAN 22	15.60	29	14.54	JUN 24	15.22				

WKW2



GROUND-WATER LEVELS IN MASSACHUSETTS

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.

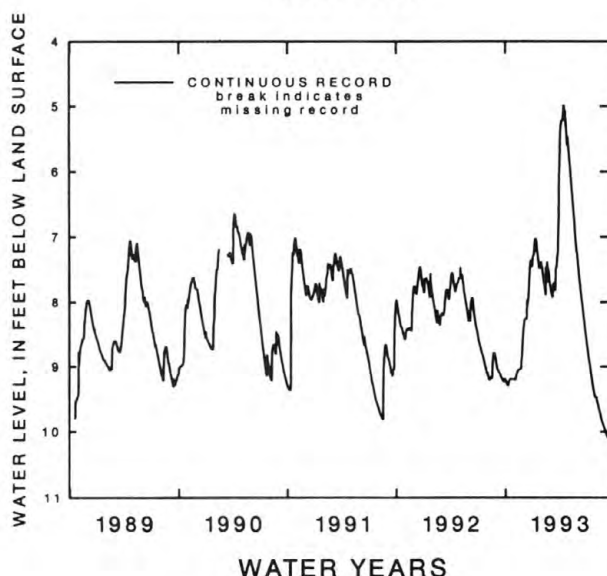
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.19 ft below land-surface datum, Apr. 19, 20, 1987; lowest measured, 11.27 ft below land-surface datum, Oct. 30, 1957.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.21	9.20	8.37	7.29	7.50	7.80	5.62	5.72	7.46	8.69	9.49	10.02
2	9.22	9.21	8.34	7.29	7.54	7.82	5.41	5.79	7.52	8.73	9.52	10.04
3	9.23	9.20	8.30	7.27	7.58	7.85	5.33	5.84	7.57	8.76	9.54	10.05
4	9.25	9.15	8.28	7.25	7.61	7.87	5.28	5.87	7.62	8.80	9.56	10.06
5	9.26	9.14	8.26	7.16	7.64	7.89	5.25	5.94	7.66	8.84	9.57	10.07
6	9.27	9.12	8.26	7.12	7.68	7.91	5.22	6.00	7.69	8.88	9.59	10.08
7	9.28	9.11	8.25	7.07	7.71	7.93	5.21	6.07	7.73	8.91	9.61	10.09
8	9.29	9.09	8.26	7.03	7.74	7.90	5.21	6.13	7.79	8.94	9.64	10.07
9	9.30	9.08	8.26	7.02	7.79	7.78	5.23	6.19	7.83	8.93	9.66	10.02
10	9.26	9.07	8.27	7.03	7.82	7.72	5.21	6.25	7.87	8.98	9.67	9.99
11	9.25	9.06	8.23	7.04	7.86	7.71	5.17	6.30	7.92	9.02	9.69	9.96
12	9.23	9.06	7.97	7.07	7.89	7.72	5.10	6.35	7.96	9.05	9.71	9.95
13	9.21	9.05	8.07	7.10	7.46	7.70	5.00	6.41	8.00	9.09	9.73	9.94
14	9.21	9.04	8.03	7.17	7.58	7.71	4.98	6.48	8.01	9.12	9.75	9.94
15	9.20	9.04	7.99	7.21	7.67	7.80	5.04	6.53	8.06	9.15	9.77	9.95
16	9.19	9.04	7.94	7.25	7.70	7.83	5.11	6.61	8.11	9.18	9.79	9.96
17	9.19	9.04	7.88	7.28	7.37	7.76	5.06	6.67	8.15	9.22	9.81	9.96
18	9.18	9.04	7.79	7.34	7.43	7.46	5.06	6.72	8.20	9.25	9.83	9.95
19	9.18	9.04	7.69	7.39	7.47	7.48	5.14	6.75	8.24	9.28	9.84	9.94
20	9.19	9.04	7.59	7.42	7.48	7.46	5.23	6.86	8.28	9.31	9.85	9.93
21	9.19	9.04	7.52	7.47	7.51	7.44	5.30	6.93	8.31	9.33	9.87	9.93
22	9.19	9.04	7.45	7.48	7.51	7.38	5.35	6.99	8.35	9.36	9.88	9.92
23	9.20	8.88	7.39	7.47	7.54	7.30	5.40	7.04	8.39	9.38	9.89	9.91
24	9.20	8.88	7.36	7.45	7.60	7.26	5.50	7.10	8.44	9.41	9.91	9.90
25	9.20	8.83	7.35	7.45	7.67	7.21	5.56	7.15	8.47	9.44	9.92	9.89
26	9.19	8.74	7.35	7.42	7.71	7.01	5.61	7.23	8.51	9.47	9.94	9.88
27	9.19	8.64	7.40	7.37	7.73	6.79	5.47	7.23	8.55	9.46	9.95	9.78
28	9.19	8.55	7.43	7.39	7.76	6.69	5.53	7.24	8.59	9.48	9.97	9.64
29	9.19	8.47	7.46	7.41	---	6.05	5.61	7.30	8.62	9.46	9.98	9.59
30	9.19	8.41	7.39	7.44	---	5.99	5.67	7.36	8.66	9.45	10.00	9.52
31	9.19	---	7.29	7.45	---	5.82	---	7.41	---	9.47	10.01	---
MEAN	9.22	8.98	7.85	7.28	7.63	7.42	5.30	6.60	8.09	9.16	9.77	9.93
LOW	9.30	9.21	8.37	7.48	7.89	7.93	5.67	7.41	8.66	9.48	10.01	10.09
HIGH	9.18	8.41	7.29	7.02	7.37	5.82	4.98	5.72	7.46	8.69	9.49	9.52

WTR YR 1993 HIGH 4.97 APR 14, LOW 10.09 SEP 7, 8

XMW78



GROUND-WATER LEVELS IN MASSACHUSETTS

217

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	9.46	DEC 22	7.70	FEB 25	9.22	APR 28	7.80	JUN 24	13.45	AUG 30	14.59
NOV 24	10.94	JAN 22	9.78	APR 01	4.90	MAY 27	11.52	JUL 29	13.75	SEP 29	14.90

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.

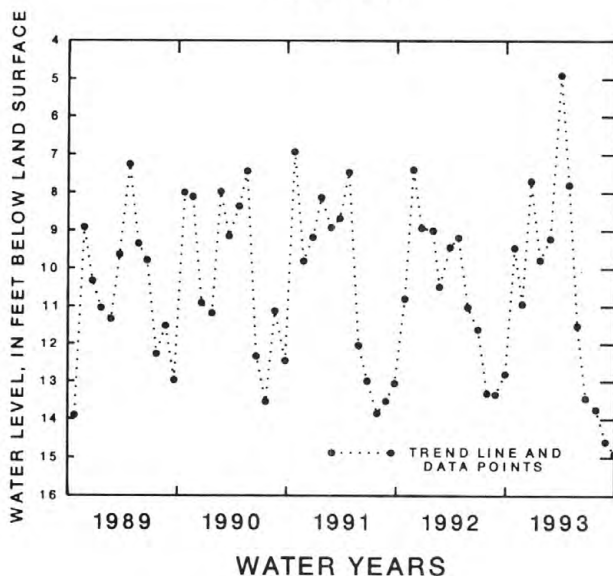
PERIOD OF RECORD.--March 1976 to current year.

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.

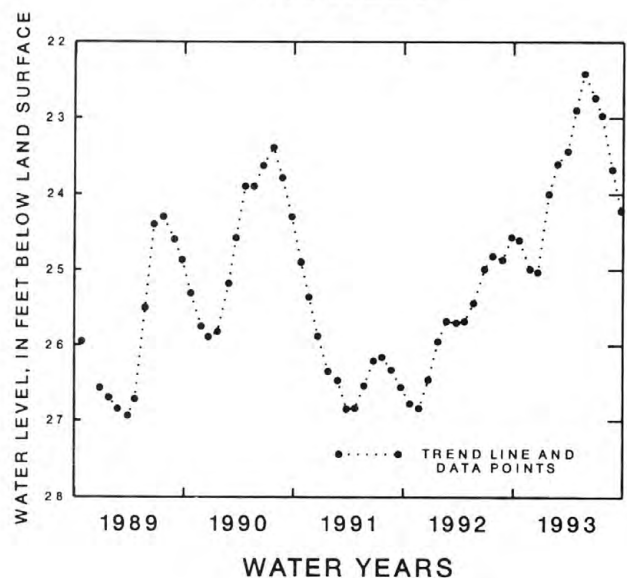
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	24.61	DEC 21	25.03	FEB 24	23.61	APR 26	22.90	JUN 28	22.74	AUG 25	23.68
NOV 25	24.99	JAN 26	24.00	MAR 30	23.44	MAY 24	22.42	JUL 21	22.97	SEP 23	24.22

XOW14



NBW228



GROUND-WATER LEVELS IN MASSACHUSETTS

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	11.59	DEC 23	4.33	FEB 24	5.49	APR 27	4.10	JUN 24	9.57	AUG 25	13.12
NOV 24	10.66	JAN 21	5.96	APR 02	2.79	MAY 24	6.61	JUL 27	11.99	SEP 23	13.43

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.

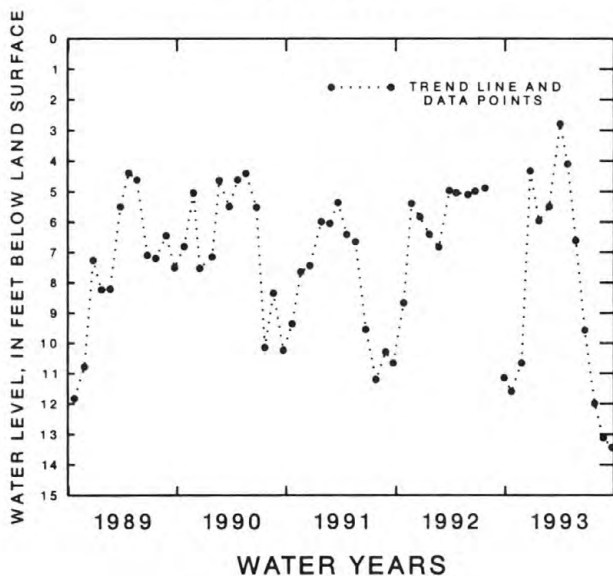
PERIOD OF RECORD.--January 1965 to current year.

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.

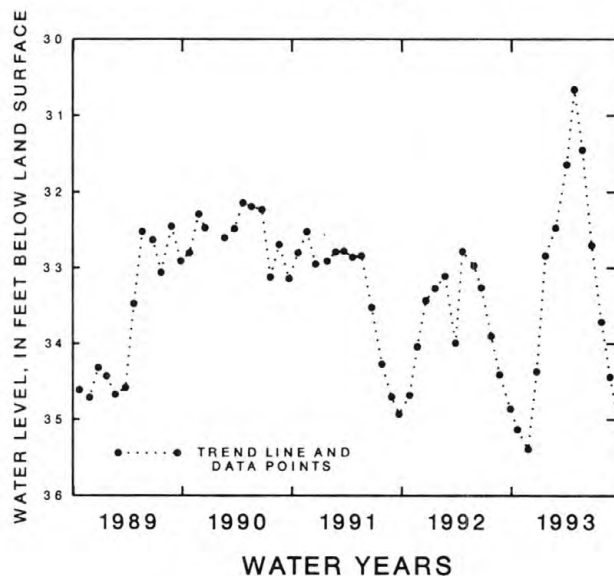
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	35.13	DEC 23	34.37	FEB 24	32.47	APR 27	30.66	JUN 24	32.70	AUG 25	34.44
NOV 25	35.39	JAN 21	32.84	APR 02	31.64	MAY 24	31.45	JUL 27	33.71	SEP 23	35.01

DDW231



DVW10



GROUND-WATER LEVELS IN MASSACHUSETTS

219

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	20.66	DEC 23	17.78	FEB 23	18.45	APR 26	17.70	JUN 23	19.30	AUG 24	20.63
NOV 23	20.51	JAN 20	18.54	APR 01	17.50	MAY 24	18.46	JUL 22	20.04	SEP 24	21.05

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.

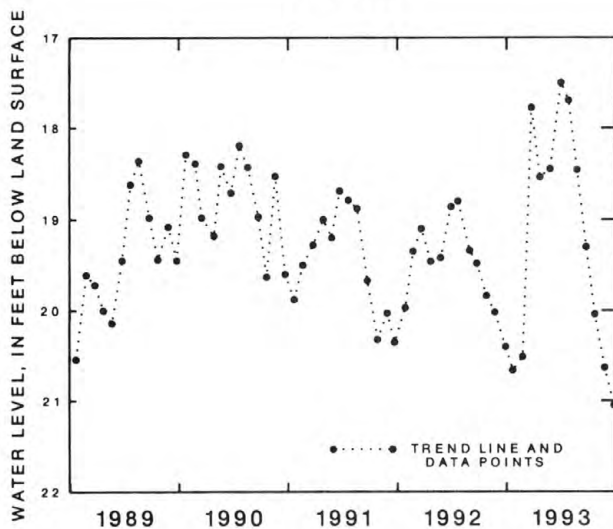
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

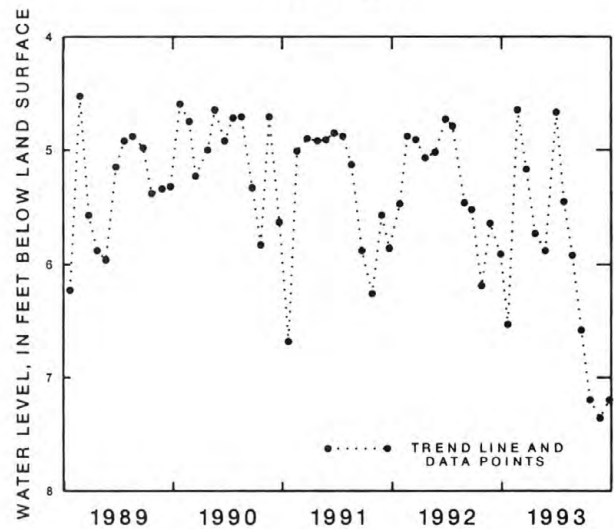
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	6.53	DEC 22	5.17	FEB 23	5.88	APR 26	5.45	JUN 23	6.58	AUG 24	7.36
NOV 23	4.65	JAN 20	5.73	APR 01	4.67	MAY 24	5.92	JUL 22	7.20	SEP 24	7.20

FXW3



NNW27



GROUND-WATER LEVELS IN MASSACHUSETTS

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, 4.57 ft below land-surface datum, Apr. 2, 1993; lowest measured, 22.63 ft below land-surface datum, Nov. 21, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	17.87	DEC 23	7.74	FEB 24	8.05	APR 27	6.09	JUN 24	12.25	AUG 25	18.89
NOV 23	8.63	JAN 21	9.06	APR 02	4.57	MAY 24	8.07	JUL 27	16.15	SEP 23	20.51

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.

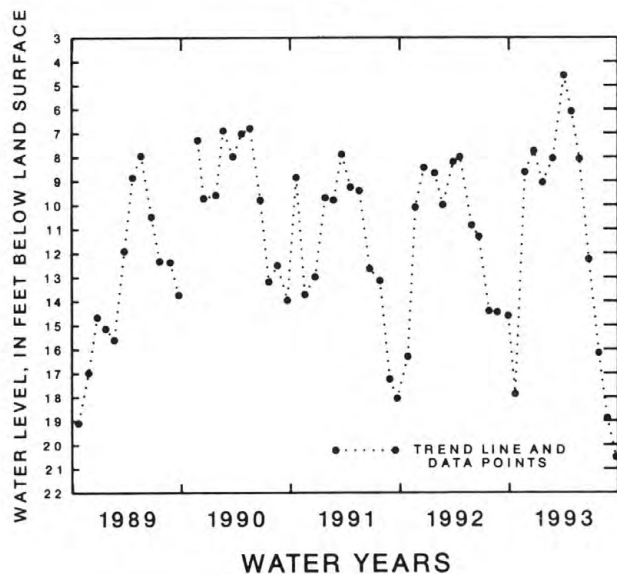
PERIOD OF RECORD.--January 1965 to current year.

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.

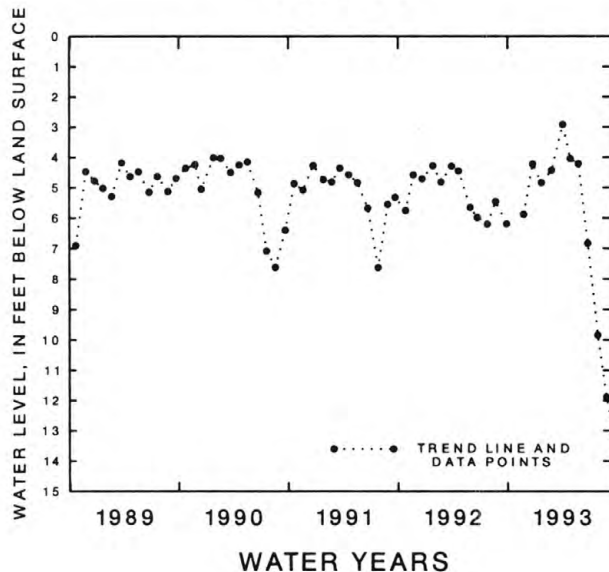
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 23	5.88	JAN 21	4.84	APR 02	2.92	MAY 24	4.21	JUL 27	9.84	SEP 23	13.26
DEC 23	4.22	FEB 24	4.43	27	4.04	JUN 24	6.83	AUG 25	11.88		

XGW2



XGW3



GROUND-WATER LEVELS IN MASSACHUSETTS

221

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, 4.39 ft below land-surface datum, Apr. 2, 1993; lowest measured, 10.45 ft below land-surface datum, Sept. 27, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	7.51	DEC 23	5.71	FEB 24	6.06	APR 27	5.32	JUN 24	7.55	AUG 25	8.06
NOV 23	6.34	JAN 21	6.61	APR 02	4.39	MAY 24	6.73	JUL 27	8.27	SEP 23	7.97

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.

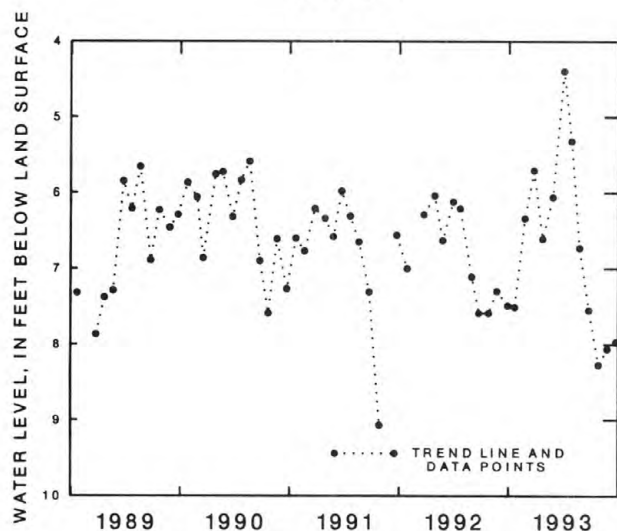
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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 1992 TO SEPTEMBER 1993

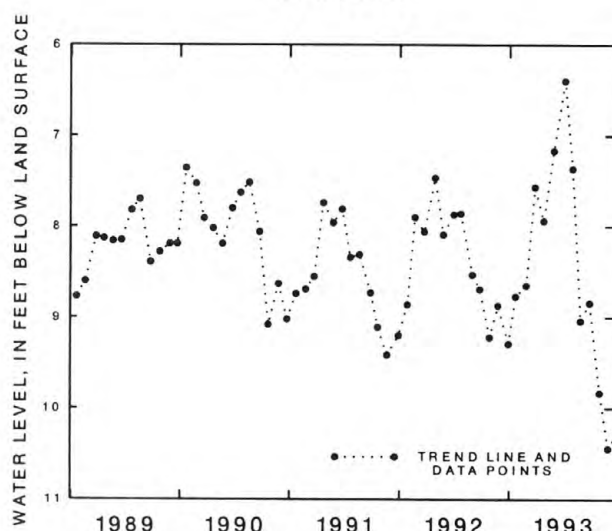
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	8.77	DEC 23	7.57	FEB 24	7.17	APR 27	7.37	JUN 23	8.84	AUG 25	10.44
NOV 24	8.65	JAN 21	7.94	APR 02	6.40	MAY 24	9.04	JUL 27	9.83	SEP 23	10.28

XGW4



WATER YEARS

D4W79



WATER YEARS

GROUND-WATER LEVELS IN MASSACHUSETTS

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	22.43	DEC 23	21.16	FEB 24	20.35	APR 27	20.72	JUN 23	22.21	AUG 25	23.70
NOV 24	22.23	JAN 21	21.47	APR 02	19.85	MAY 24	21.59	JUL 27	23.06	SEP 23	23.70

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.

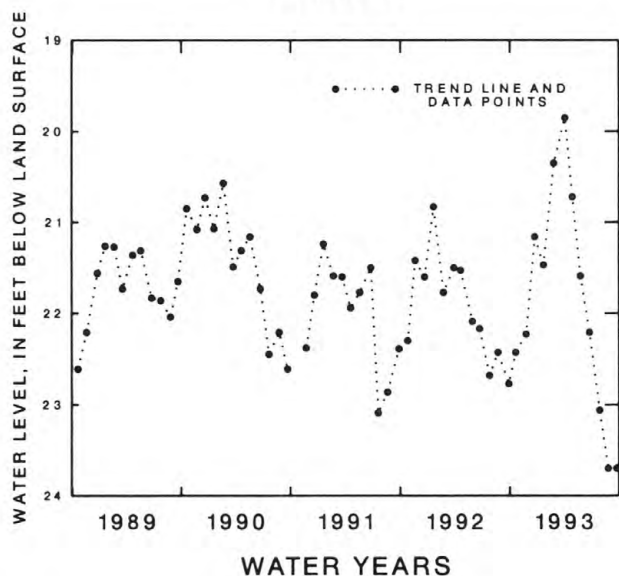
PERIOD OF RECORD.--July 1958 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.26 ft below land-surface datum, Apr. 2, 1993; lowest measured, 17.83 ft below land-surface datum, Dec. 28, 1965.

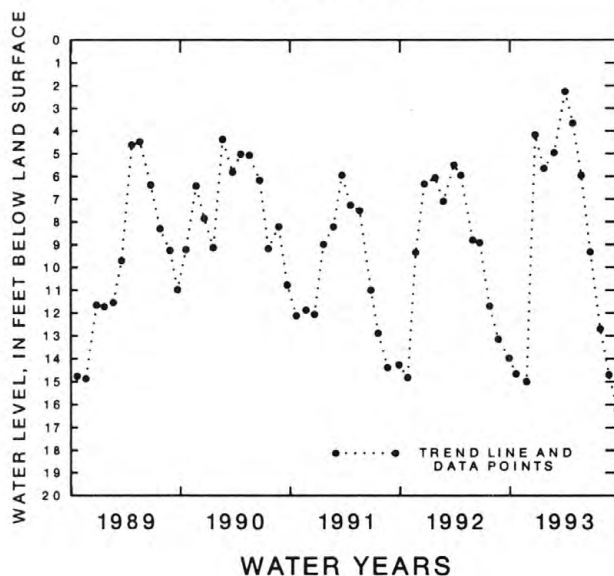
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	14.66	DEC 23	4.17	FEB 24	4.96	APR 27	3.65	JUN 24	9.32	AUG 25	14.70
NOV 24	15.00	JAN 21	5.65	APR 02	2.26	MAY 25	5.96	JUL 27	12.70	SEP 23	16.21

D4W80



EBW30



GROUND-WATER LEVELS IN MASSACHUSETTS

223

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, 6.28 ft below land-surface datum, Sept. 23, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	4.90	DEC 23	3.23	FEB 24	3.29	APR 27	2.83	JUN 24	4.94	AUG 25	6.12
NOV 24	4.30	JAN 21	3.48	APR 02	2.68	MAY 25	3.48	JUL 27	5.26	SEP 23	6.28

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.

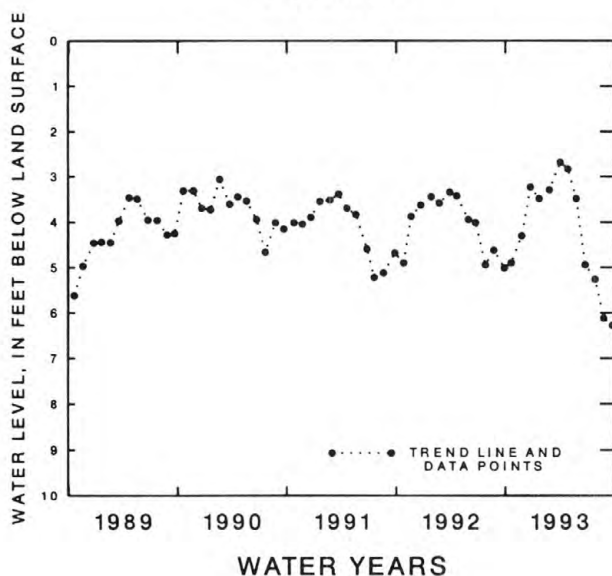
PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

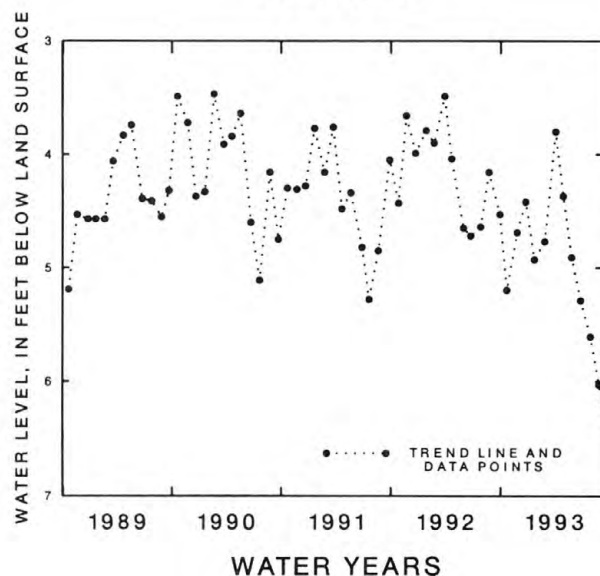
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	5.20	DEC 23	4.42	FEB 24	4.77	APR 27	4.37	JUN 24	5.29	AUG 25	6.03
NOV 24	4.69	JAN 21	4.93	APR 02	3.80	MAY 25	4.91	JUL 27	5.61	SEP 23	6.44

HBW97



HGW76



GROUND-WATER LEVELS IN MASSACHUSETTS

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.

PERIOD OF RECORD.--June 1964 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

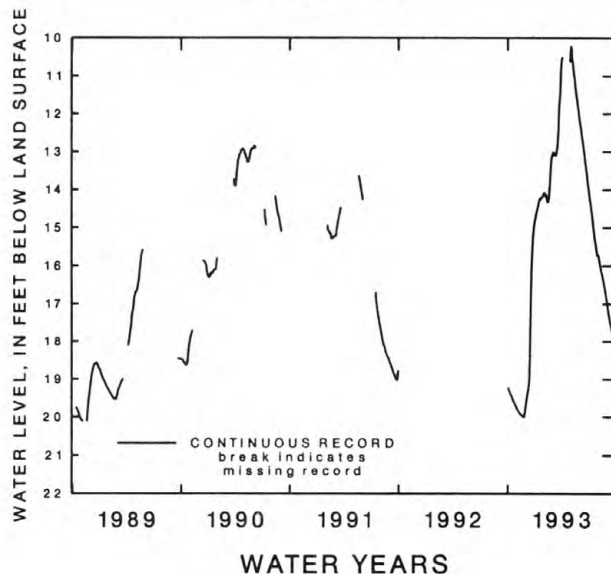
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.28 ft below land-surface datum, Mar. 29, 1983; lowest measured, 23.59 ft below land-surface datum, Oct. 26, 1966.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.22	19.79	19.65	14.76	14.08	13.01	10.50	10.24	12.33	14.21	15.81	17.18
2	19.23	19.81	19.58	14.75	14.14	13.00	---	10.37	12.40	14.29	15.84	17.25
3	19.25	19.82	19.53	14.70	14.11	13.05	---	10.51	12.45	14.32	15.88	17.29
4	19.28	19.82	19.49	14.64	14.12	13.08	---	10.57	12.52	14.35	15.94	17.33
5	19.30	19.84	19.43	14.58	14.13	13.04	---	10.62	12.58	14.42	15.97	17.38
6	19.31	19.85	19.38	14.58	14.19	13.06	---	10.66	12.64	14.48	16.03	17.44
7	19.33	19.87	19.33	14.54	14.22	13.11	---	10.77	12.69	14.54	16.07	17.49
8	19.37	19.87	19.29	14.48	14.21	13.10	---	10.86	12.76	14.61	16.12	17.53
9	19.38	19.90	19.23	14.47	14.29	13.09	---	10.90	12.79	14.67	16.14	17.56
10	19.40	19.90	19.18	14.43	14.30	13.11	---	10.99	12.84	14.74	16.17	17.58
11	19.41	19.91	19.11	14.39	14.34	13.03	---	11.00	12.91	14.81	16.19	17.61
12	19.42	19.92	19.00	14.35	14.35	13.06	---	11.07	13.00	14.87	16.23	17.65
13	19.44	19.92	18.73	14.29	14.23	12.98	---	11.16	13.05	14.95	16.28	17.68
14	19.47	19.94	18.28	14.29	14.26	12.92	---	11.26	13.11	15.02	16.31	17.71
15	19.49	19.95	17.75	14.27	14.26	12.91	---	11.34	13.17	15.10	16.36	17.75
16	19.51	19.95	17.26	14.25	14.15	12.80	---	11.40	13.24	15.16	16.40	17.79
17	19.54	19.95	16.83	14.21	14.00	12.67	---	11.48	13.32	15.24	16.43	17.80
18	19.55	19.96	16.49	14.26	13.88	12.51	---	11.55	13.36	15.30	16.48	17.80
19	19.57	19.98	16.20	14.28	13.73	12.30	---	11.58	13.43	15.36	16.53	17.79
20	19.59	19.99	15.93	14.22	13.59	12.06	---	11.62	13.50	15.38	16.57	17.81
21	19.60	19.99	15.75	14.23	13.46	11.87	---	11.68	13.54	15.43	16.62	17.83
22	19.62	19.99	15.56	14.19	13.30	11.74	---	11.75	13.59	15.48	16.66	17.86
23	19.63	20.00	15.39	14.20	13.23	11.65	---	11.82	13.68	15.55	16.71	17.88
24	19.64	20.01	15.26	14.19	13.16	11.54	---	11.87	13.77	15.60	16.77	17.90
25	19.67	20.00	15.16	14.20	13.15	11.37	---	11.93	13.83	15.66	16.81	17.93
26	19.68	19.96	15.06	14.20	13.11	11.12	10.57	11.99	13.89	15.71	16.88	17.94
27	19.71	19.90	15.02	14.12	13.08	10.92	10.63	12.06	13.95	15.73	16.92	17.92
28	19.72	19.84	14.95	14.11	13.04	10.76	10.46	12.12	13.99	15.70	16.98	17.91
29	19.73	19.77	14.88	14.10	---	10.64	10.26	12.17	14.06	15.72	17.03	17.92
30	19.75	19.70	14.84	14.10	---	10.56	10.21	12.25	14.14	15.71	17.09	17.94
31	19.77	---	14.78	14.07	---	10.55	---	12.31	---	15.76	17.14	---
MEAN	19.50	19.90	17.30	14.34	13.86	12.28	---	11.35	13.22	15.09	16.43	17.68
LOW	19.77	20.01	19.65	14.76	14.35	13.11	---	12.31	14.14	15.76	17.14	17.94
HIGH	19.22	19.70	14.78	14.07	13.04	10.55	---	10.24	12.33	14.21	15.81	17.18

WTR YR 1993 HIGH 10.21 APR 30, MAY 1, LOW 20.04 NOV 24

LKW14



GROUND-WATER LEVELS IN MASSACHUSETTS

225

PLYMOUTH COUNTY--Continued

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	10.70	DEC 22	2.02	FEB 23	4.02	APR 27	3.57	JUN 23	10.13	AUG 25	16.20
NOV 23	14.56	JAN 20	4.37	APR 02	2.47	MAY 25	5.72	JUL 27	14.43	SEP 23	17.15

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.

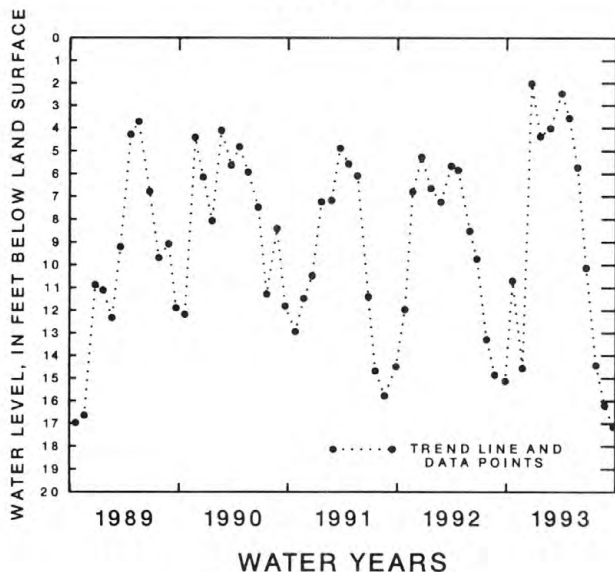
PERIOD OF RECORD.--November 1956 to current year.

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.

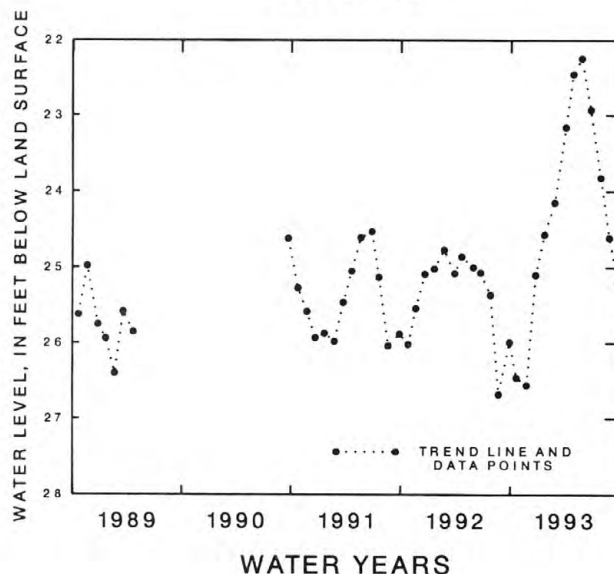
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	26.46	DEC 23	25.10	FEB 24	24.15	APR 27	22.45	JUN 24	22.93	AUG 25	24.61
NOV 24	26.56	JAN 21	24.57	APR 02	23.16	MAY 25	22.24	JUL 27	23.82	SEP 23	25.20

MTW82



PWW22



GROUND-WATER LEVELS IN MASSACHUSETTS

PLYMOUTH COUNTY--Continued

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, 33.23 ft below land-surface datum, Nov. 24, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	32.82	DEC 23	31.92	FEB 24	31.46	APR 27	29.72	JUN 24	29.56	AUG 25	30.31
NOV 24	33.23	JAN 21	31.69	APR 02	30.48	MAY 25	29.41	JUL 27	29.91	SEP 23	30.71

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.

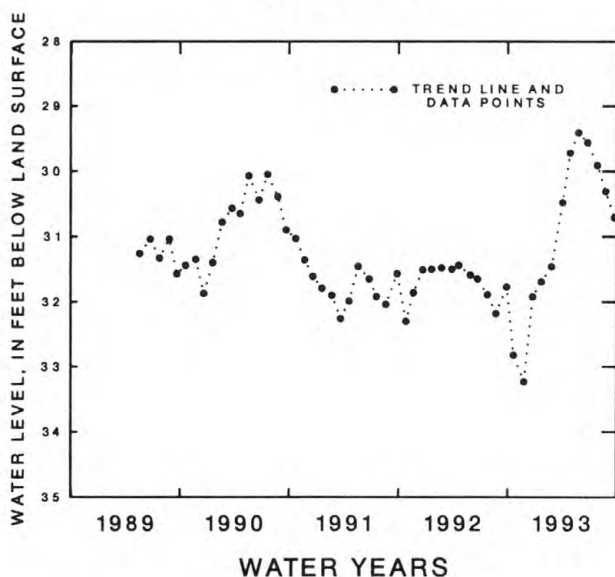
PERIOD OF RECORD.--July 1959 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.34 ft below land-surface datum, Jan. 26, 1978; lowest measured, dry, several months in water years 1980-84.

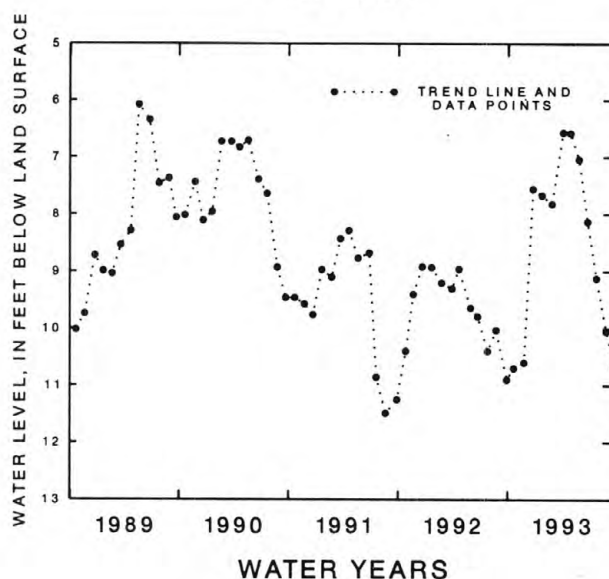
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	10.70	DEC 22	7.56	FEB 23	7.82	APR 26	6.58	JUN 22	8.13	AUG 24	10.05
NOV 23	10.60	JAN 21	7.67	APR 01	6.57	MAY 24	7.04	JUL 22	9.12	SEP 23	10.67

PWW494



WFW51



GROUND-WATER LEVELS IN MASSACHUSETTS

227

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 LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	23.61	DEC 29	23.40	FEB 24	23.25	APR 28	22.60	JUN 29	22.90	AUG 30	23.37
NOV 24	23.59	JAN 27	23.21	MAR 29	23.08	MAY 26	22.50	JUL 29	23.13	SEP 27	23.60

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.

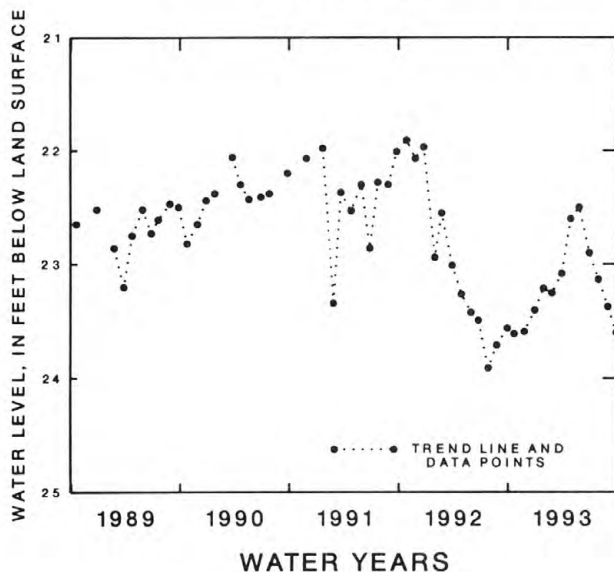
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.21 ft below land-surface datum, Apr. 21, 1983; lowest measured, 17.77 ft below land-surface datum, Nov. 22, 1965.

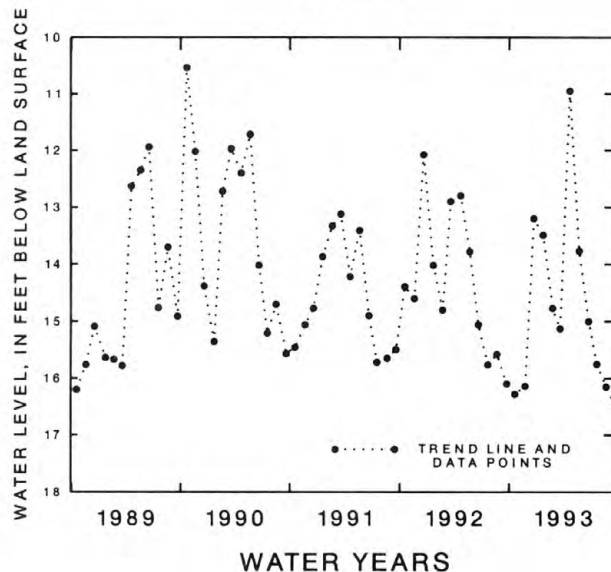
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	16.28	DEC 21	13.20	FEB 22	14.77	APR 20	10.95	JUN 22	15.00	AUG 20	16.15
NOV 23	16.14	JAN 21	13.49	MAR 19	15.13	MAY 21	13.77	JUL 20	15.75	SEP 21	16.48

BGW925



HHW1



GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY--Continued

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	11.53	DEC 21	10.88	FEB 21	11.06	APR 21	10.31	JUN 21	11.33	AUG 21	11.50
NOV 21	11.56	JAN 21	11.03	MAR 22	11.28	MAY 22	10.80	JUL 21	11.54	SEP 21	11.65

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.

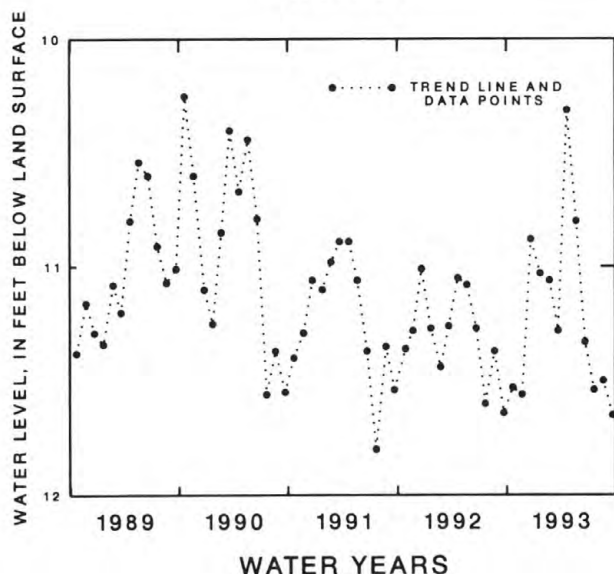
PERIOD OF RECORD.--August 1984 to current year.

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.

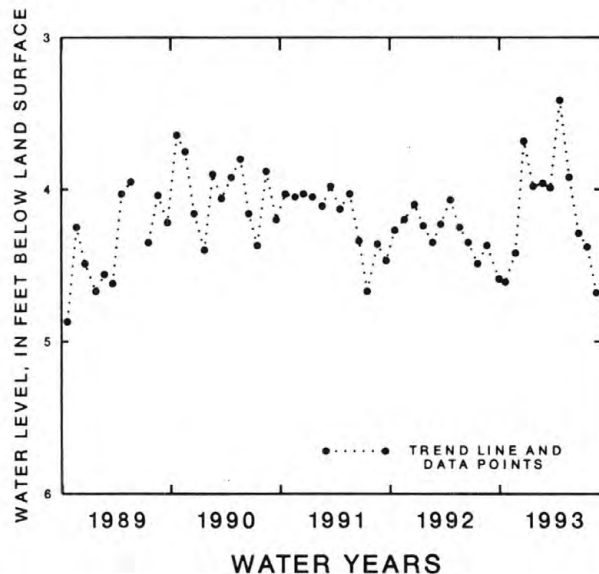
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	4.61	DEC 21	3.68	FEB 22	3.96	APR 20	3.41	JUN 22	4.29	AUG 20	4.68
NOV 23	4.42	JAN 21	3.98	MAR 19	3.99	MAY 21	3.92	JUL 20	4.38	SEP 21	4.79

HHW31



NXW54



GROUND-WATER LEVELS IN MASSACHUSETTS

229

WORCESTER COUNTY--Continued

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	15.25	DEC 21	12.79	FEB 21	13.80	APR 21	7.22	JUN 21	14.71	AUG 21	16.00
NOV 21	14.41	JAN 21	12.75	MAR 22	14.58	MAY 22	13.37	JUL 21	15.40	SEP 21	16.44

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.

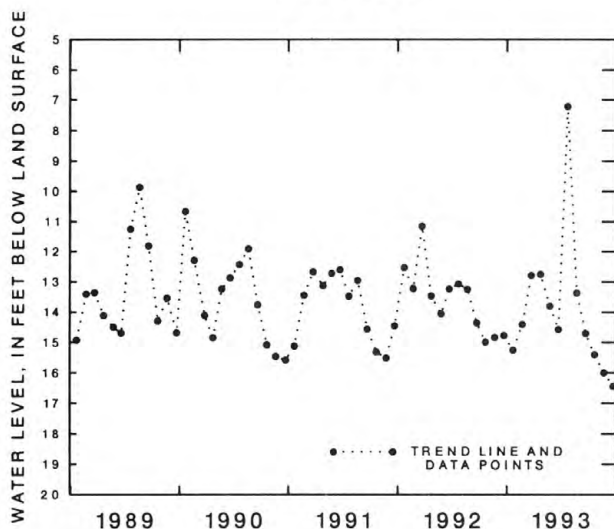
PERIOD OF RECORD.--May 1947 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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 1992 TO SEPTEMBER 1993

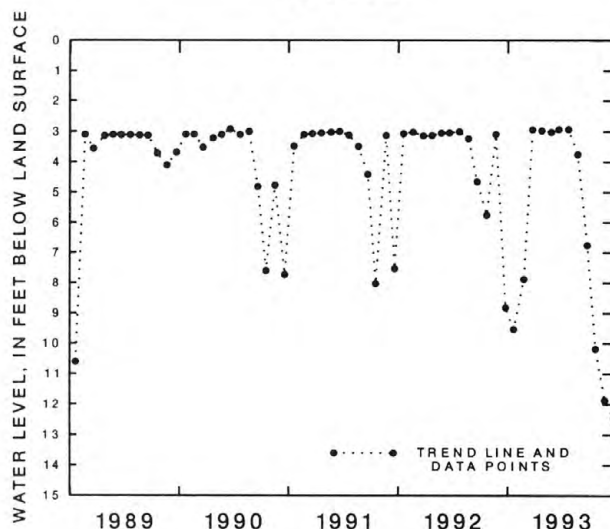
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	9.54	DEC 21	2.94	FEB 22	3.02	APR 20	2.93	JUN 22	6.76	AUG 20	11.87
NOV 23	7.88	JAN 21	2.97	MAR 19	2.93	MAY 21	3.75	JUL 20	10.18	SEP 21	12.47

PHW16



WATER YEARS

SYW1



WATER YEARS

GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY--Continued

23717072043101. 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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	3.76	DEC 21	3.12	FEB 22	3.64	APR 20	2.82	JUN 22	3.88	AUG 31	4.16
NOV 23	3.30	JAN 21	3.50	MAR 19	3.36	MAY 21	3.74	JUL 20	4.55	SEP 21	3.97

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.

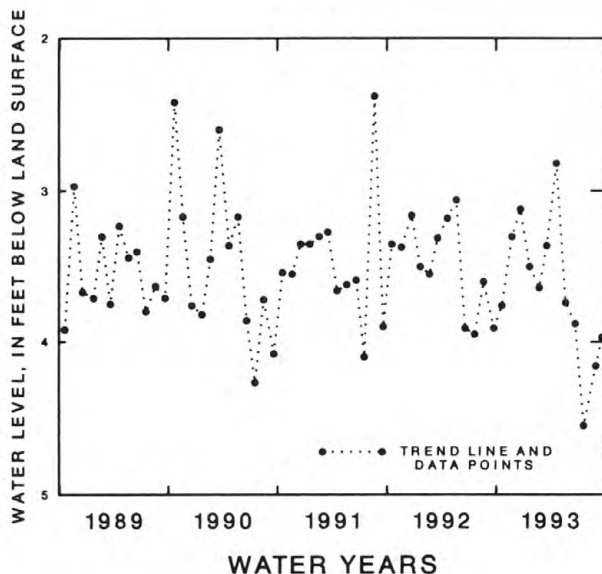
PERIOD OF RECORD.--September 1958 to November 1979, October 1981 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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

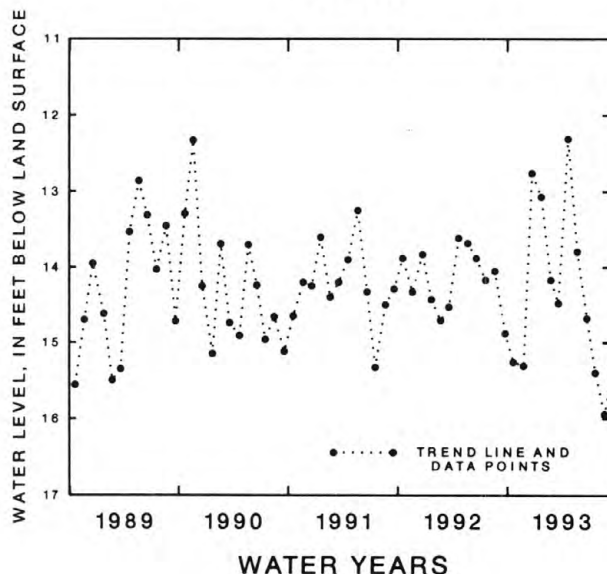
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	15.26	DEC 21	12.76	FEB 22	14.17	APR 20	12.31	JUN 22	14.68	AUG 20	15.94
NOV 23	15.31	JAN 21	13.07	MAR 19	14.48	MAY 21	13.79	JUL 20	15.40	SEP 21	15.30

TMW3



WLW1



GROUND-WATER LEVELS IN MASSACHUSETTS

231

WORCESTER COUNTY--Continued

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	19.40	DEC 21	19.33	FEB 22	18.83	MAY 21	17.96	JUL 20	18.80	SEP 21	18.73
NOV 23	19.70	JAN 21	18.86	APR 20	18.09	JUN 22	18.36	AUG 20	19.30		

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.

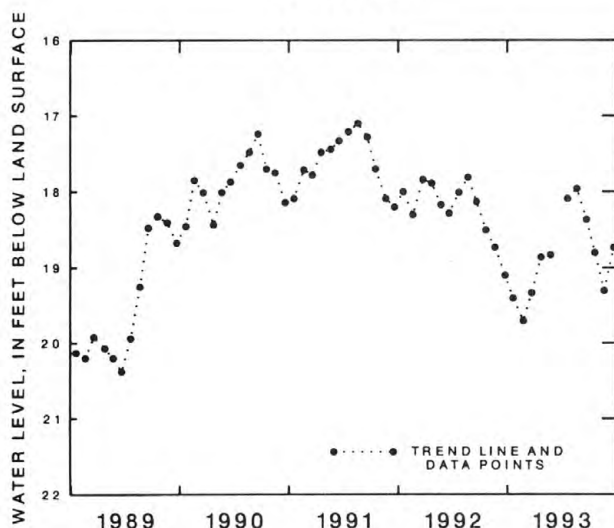
PERIOD OF RECORD.--October 1970 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

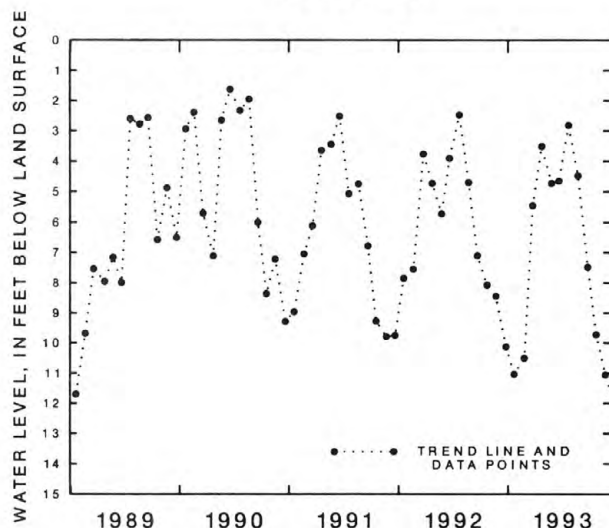
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	11.04	DEC 21	5.46	FEB 22	4.73	APR 20	2.82	JUN 22	7.48	AUG 20	11.06
NOV 23	10.51	JAN 21	3.51	MAR 19	4.65	MAY 21	4.48	JUL 20	9.72	SEP 21	12.12

WUW2



WUW10



GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY--Continued

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	11.30	DEC 21	5.30	FEB 22	5.44	APR 20	3.10	JUN 22	7.90	AUG 20	11.81
NOV 23	10.07	JAN 21	4.18	MAR 19	5.89	MAY 21	4.89	JUL 20	10.47	SEP 21	12.52

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.

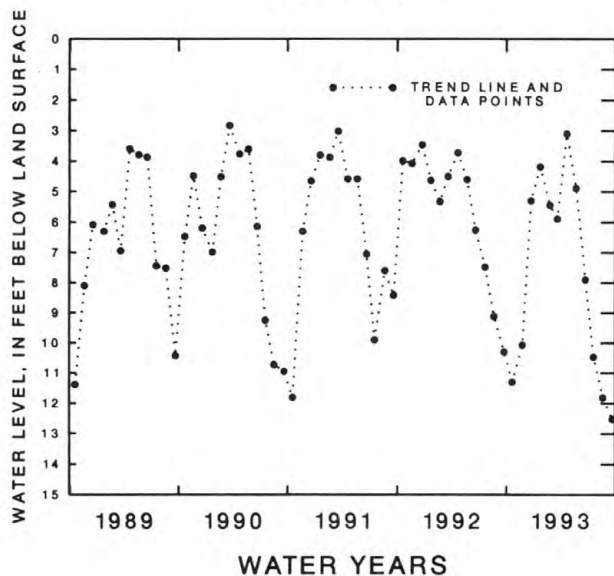
PERIOD OF RECORD.--January 1965 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

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.

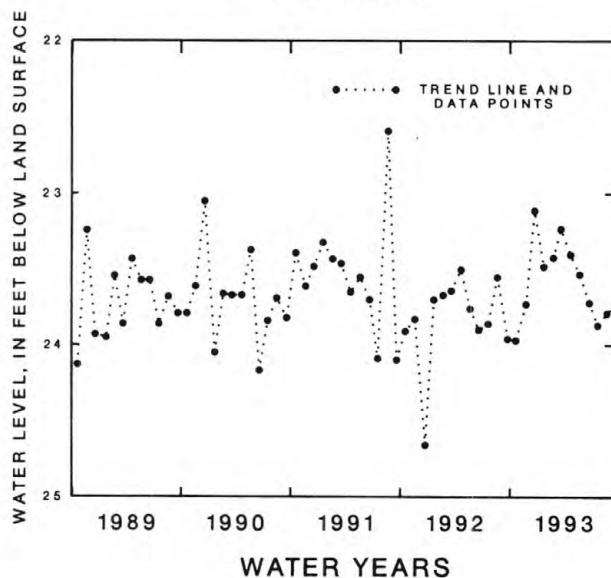
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	23.97	DEC 21	23.11	FEB 22	23.42	APR 20	23.40	JUN 22	23.72	AUG 20	23.79
NOV 23	23.73	JAN 21	23.48	MAR 19	23.23	MAY 21	23.53	JUL 20	23.87	SEP 21	23.73

XNW13



XSW274



GROUND-WATER LEVELS IN RHODE ISLAND

233

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, 6.20 ft below land-surface datum, Dec. 22, 1992; lowest measured, 11.90 ft below land-surface datum, Sep. 26, 1957.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	9.65	DEC 22	6.20	FEB 20	7.38	APR 27	7.11	JUN 23	10.30	AUG 27	11.56
NOV 28	7.23	JAN 22	7.67	MAR 24	7.30	MAY 25	9.16	JUL 27	11.22	SEP 22	11.45

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.

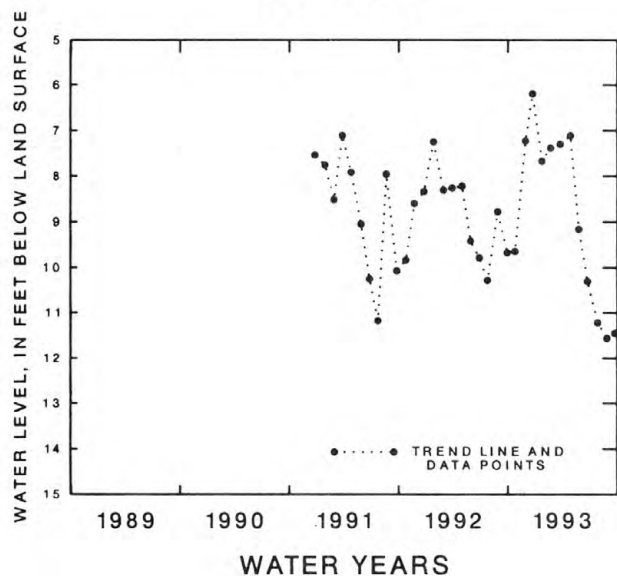
PERIOD OF RECORD.--October 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.43 ft below land-surface datum, Apr. 23, 1983; dry on Oct. 25, 1986.

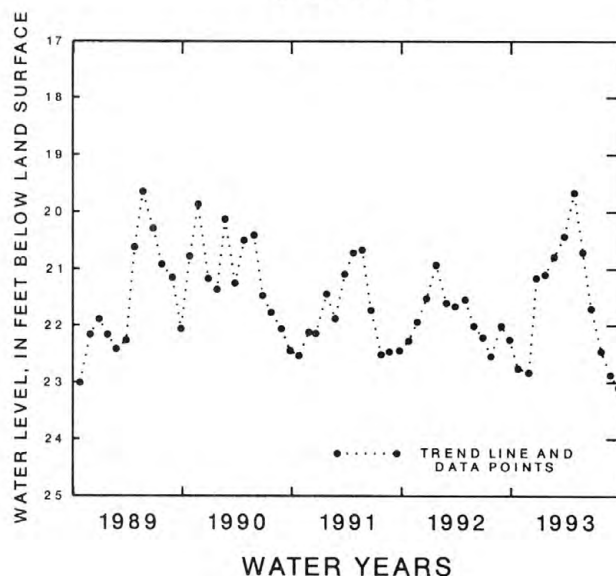
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	22.76	DEC 23	21.16	FEB 20	20.79	APR 28	19.67	JUN 23	21.70	AUG 26	22.87
NOV 28	22.83	JAN 21	21.10	MAR 26	20.43	MAY 26	20.71	JUL 26	22.45	SEP 22	23.09

COW342



COW411



GROUND-WATER LEVELS IN RHODE ISLAND

KENT COUNTY--Continued

414315071410701. Coventry well COW 466.

LOCATION.--Lat 41°43'15", long 71°41'07", Kent County, Hydrologic Unit 01090004, town of Coventry, Audubon Society, Parker Woodland. Maple Valley Road at Flat River.
 Owner: Audubon Society.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 17.8 ft, cased to 7.6 ft, screened from 7.6 ft to 17.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 345 ft. Measuring point: Notch in PVC casing, 0.8 ft above land-surface datum.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.09 ft below land-surface datum, Dec. 22, 1992; lowest measured, 4.67 ft below land-surface datum, July 27, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 30	2.33	JAN 19	2.39	MAR 22	2.25	MAY 26	2.60	JUL 27	4.67	SEP 28	3.56
DEC 22	2.09	FEB 16	2.38	APR 20	2.36	JUN 24	3.78	AUG 24	4.63		

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.

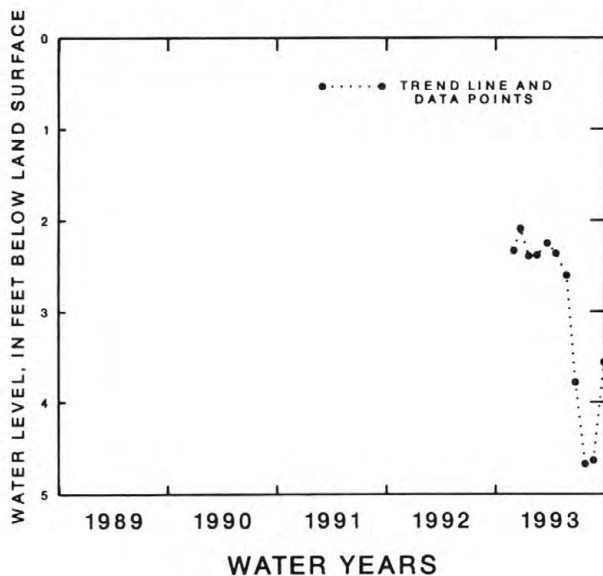
PERIOD OF RECORD.--April 1949 to December 1955, November 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.46 ft below land-surface datum, Feb. 20, 1993; lowest measured, 24.77 ft below land-surface datum, Oct. 31, 1949.

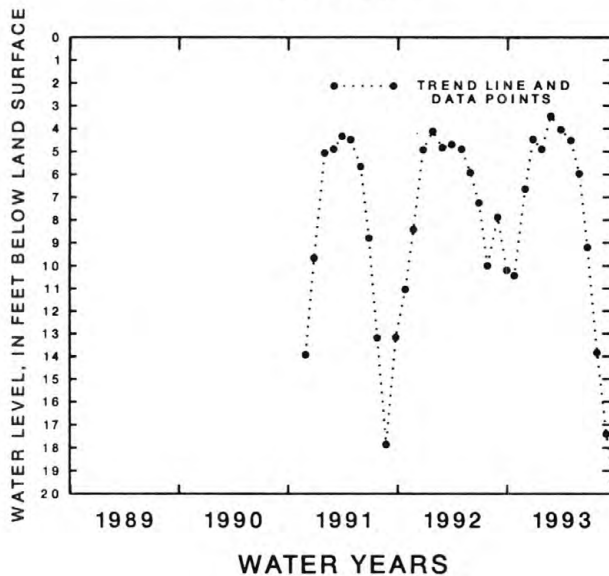
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	10.43	DEC 23	4.47	FEB 20	3.46	APR 28	4.52	JUN 23	9.20	AUG 26	17.40
NOV 27	6.64	JAN 21	4.90	MAR 26	4.05	MAY 26	5.97	JUL 26	13.84	SEP 22	19.50

COW466



WCW59



KENT COUNTY--Continued

413907071465001. West Greenwich well GWG 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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	15.89	NOV 28	14.19	DEC 22	13.06	JAN 22	15.19	FEB 20	14.52	MAR 24	14.93
APR 27	14.82	MAY 25	15.95	JUN 23	16.35	JUL 26	16.35	AUG 27	16.96	SEP 22	17.06

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.

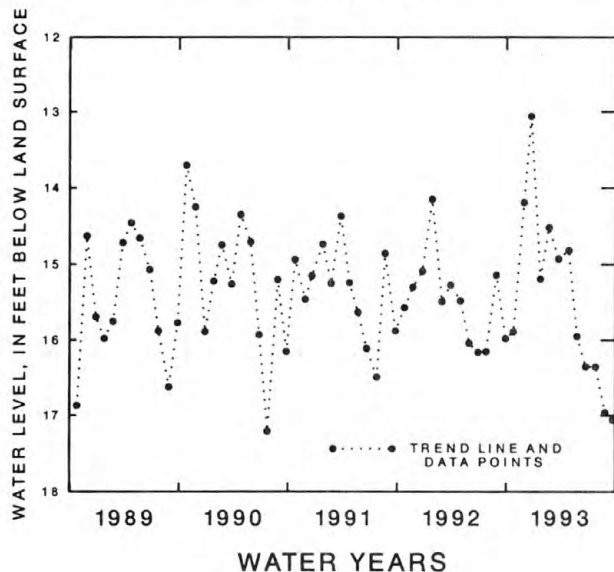
PERIOD OF RECORD.--October 1955 to June 1960, January 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.85 ft below land-surface datum, Oct. 17, 1955; lowest measured, dry, Aug. 26, Sept. 22, 1993.

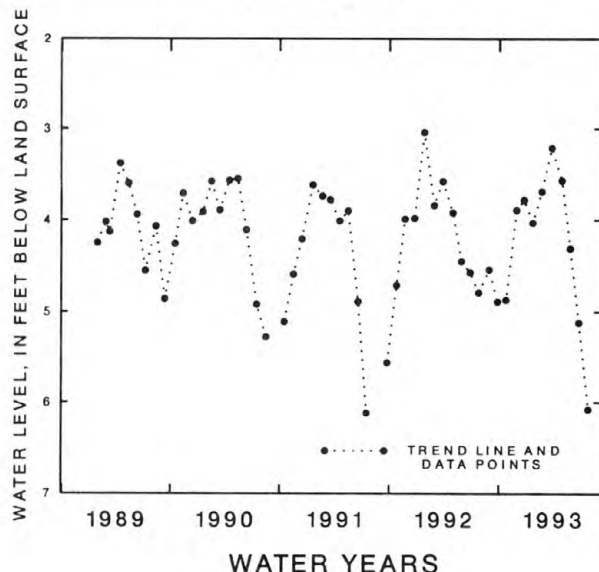
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	4.87	DEC 23	3.78	FEB 20	3.69	APR 28	3.57	JUN 24	5.12	AUG 26	DRY
NOV 28	3.89	JAN 21	4.03	MAR 25	3.21	MAY 26	4.31	JUL 26	6.08	SEP 22	DRY

WG181



WG206



GROUND-WATER LEVELS IN RHODE ISLAND

NEWPORT COUNTY

413220071115501. Little Compton well LTW 142.

LOCATION.--Lat 41°32'20", long 71°11'55", Newport County, Hydrologic Unit 01090004, town of Little Compton, East of Rt. 77 at intersection with Old Main Road.
Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 23.1 ft, cased to 12.9 ft, screened from 12.9 ft to 22.3 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 100 ft. Measuring point: Notch in PVC casing, 1.4 ft above land-surface datum.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.26 ft below land-surface datum, Dec. 22, 1992; lowest measured, dry, Aug. 25, Sept. 29, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	15.7	JAN 19	10.25	MAR 22	5.34	MAY 26	14.70	JUL 28	18.60	SEP 29	DRY
DEC 22	4.26	FEB 16	12.90	APR 19	9.64	JUN 28	17.39	AUG 25	DRY		

413325071152401. Portsmouth well POW 551.

LOCATION.--Lat 41°33'25", long 71°15'24", Newport County, Hydrologic Unit 01090004, town of Portsmouth, State police barracks, Portsmouth Terrace on East Main St. (Rt. 138); just south of Union St.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 51.9 ft, cased to 41.7 ft, screened from 41.7 ft to 51.1 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 245 ft. Measuring point: Notch in PVC casing, 2.50 ft above land-surface datum.

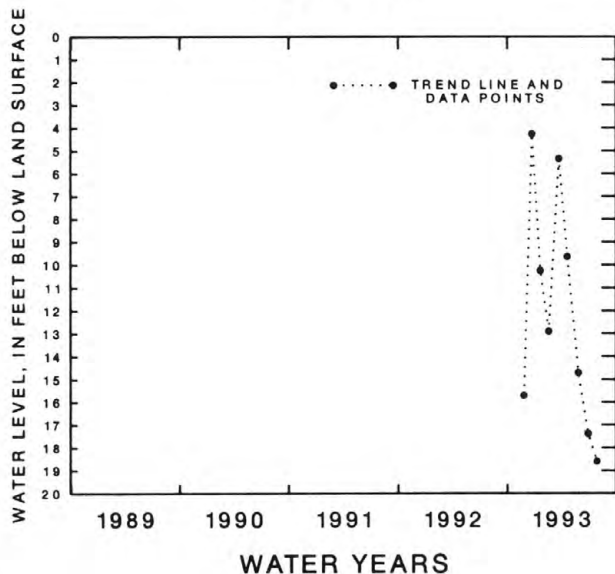
PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.95 ft below land-surface datum, Dec. 22, 1992; lowest measured, dry, Sept. 29, 1993.

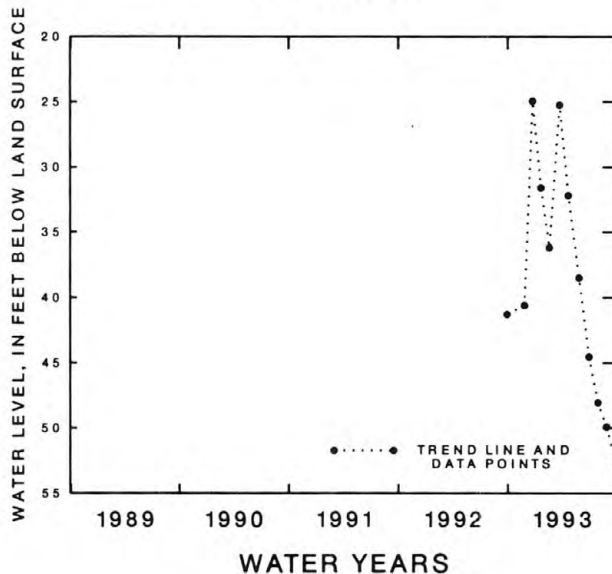
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	40.6	JAN 19	31.60	MAR 22	25.25	MAY 26	38.50	JUL 28	48.05	SEP 29	DRY
DEC 22	24.95	FEB 16	36.20	APR 20	32.19	JUN 28	44.55	AUG 26	49.92		

LTW142



POW551



GROUND-WATER LEVELS IN RHODE ISLAND

237

NEWPORT COUNTY--Continued

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, 0.48 ft below land-surface datum, Nov. 25, 1992; lowest measured, 12.35 ft below land-surface datum, Sept. 29, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.82	DEC 22	.98	FEB 16	1.29	APR 19	9.05	JUN 28	7.63	AUG 24	11.10
NOV 25	.48	JAN 19	1.90	MAR 22	.84	MAY 26	2.98	JUL 28	9.95	SEP 29	12.35

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.

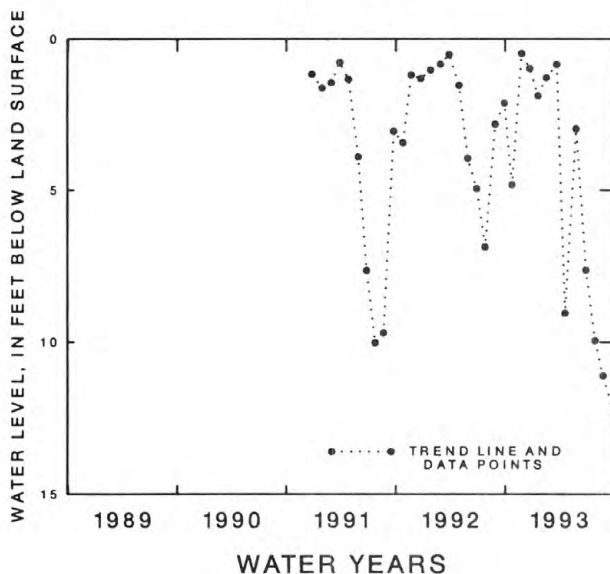
PERIOD OF RECORD.--January 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.74 ft below land-surface datum, Apr. 23, 1983; lowest measured, 18.83 ft below land-surface datum, Nov. 3, 1970.

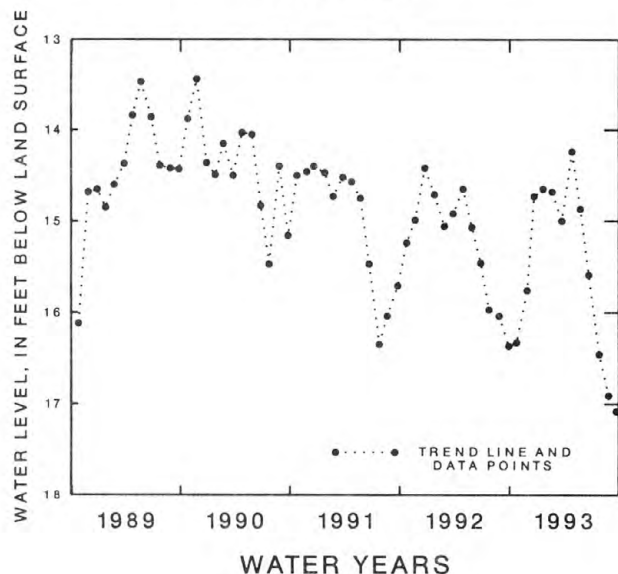
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	16.33	DEC 22	14.73	FEB 20	14.68	APR 27	14.24	JUN 22	15.59	AUG 27	16.91
NOV 28	15.76	JAN 21	14.65	MAR 24	15.00	MAY 25	14.87	JUL 27	16.46	SEP 22	17.08

TIW274



BUW187



GROUND-WATER LEVELS IN RHODE ISLAND

PROVIDENCE COUNTY--Continued

415546071474701. Burrillville well BUW 395.

LOCATION.--Lat 41°55'46", long 71°47'47", Providence County, Hydrologic Unit 01100001, town of Burrillville, Pulaski Memorial State Park, near southeast corner of parking area #3.
 Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 17.7 ft, cased to 7.8 ft, screened from 7.8 ft to 17.2 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 575 ft. Measuring point: Notch in PVC casing, 1.1 ft above land-surface datum.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.54 ft below land-surface datum, Dec. 21, 1992; lowest measured, 12.05 ft below land-surface datum, Sept. 28, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	8.79	JAN 19	6.02	MAR 22	6.54	MAY 27	7.29	JUL 27	10.40	SEP 28	12.05
DEC 21	5.54	FEB 16	6.47	APR 20	5.71	JUN 24	9.17	AUG 24	11.59		

4158470711471401. Burrillville well BUW 396.

LOCATION.--Lat 41°58'47", long 71°47'14", Providence County, Hydrologic Unit 01100001, town of Burrillville, Buck Hill Road, 0.3 miles West of Wakefield Road; north side of road at turn-out, near stream. Near power-line pole #64.
 Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 17.4 ft, cased to 7.2 ft, screened from 7.2 ft to 16.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 530 ft. Measuring point: Notch in PVC casing, 0.8 ft above land-surface datum.

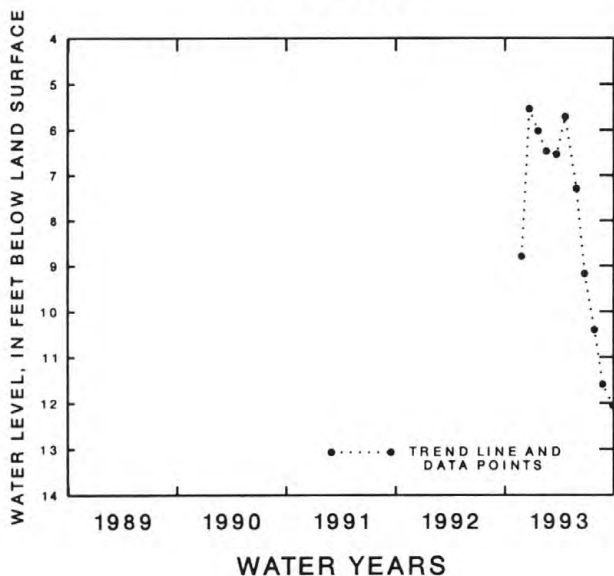
PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.08 ft below land-surface datum, Dec. 21, 1992; lowest measured, 6.75 ft below land-surface datum, Aug. 24, 1993.

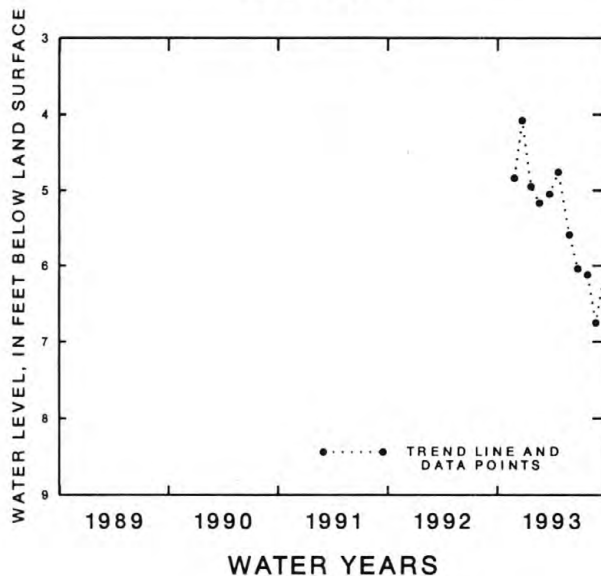
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	4.84	JAN 19	4.95	MAR 22	5.05	MAY 27	5.59	JUL 27	6.12	SEP 28	5.95
DEC 21	4.08	FEB 16	5.17	APR 20	4.76	JUN 24	6.04	AUG 24	6.75		

BUW395



BUW396



GROUND-WATER LEVELS IN RHODE ISLAND

239

PROVIDENCE COUNTY--Continued

415606071462201. Burrillville well BUW 397.

LOCATION.--Lat 41°56'06", long 71°46'22", Providence County, Hydrologic Unit 01100001, town of Burrillville, Pulaski Memorial State Park, Center Trail, east of buw 395.
 Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 25.6 ft, cased to 15.2 ft, screened from 15.2 ft to 24.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 705 ft. Measuring point: Notch in PVC casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.13 ft below land-surface datum, Apr. 20, 1993; lowest measured, dry, Nov. 25, 1992.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	DRY	JAN 19	11.48	APR 20	9.13	JUN 24	19.28	AUG 24	22.95	SEP 28	24.30
DEC 21	14.06	FEB 16	14.06	MAY 27	14.94	JUL 27	20.70				

415559071471201. Burrillville well BUW 398.

LOCATION.--Lat 41°55'59", long 71°47'12", Providence County, Hydrologic Unit 01100001, town of Burrillville, Pulaski Park, Center Trail.
 Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 13.5 ft, cased to 3.3 ft, screened from 3.3 ft to 12.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 615 ft. Measuring point: Notch in PVC casing, 1.7 ft above land-surface datum.

PERIOD OF RECORD.--September 1992 to current year.

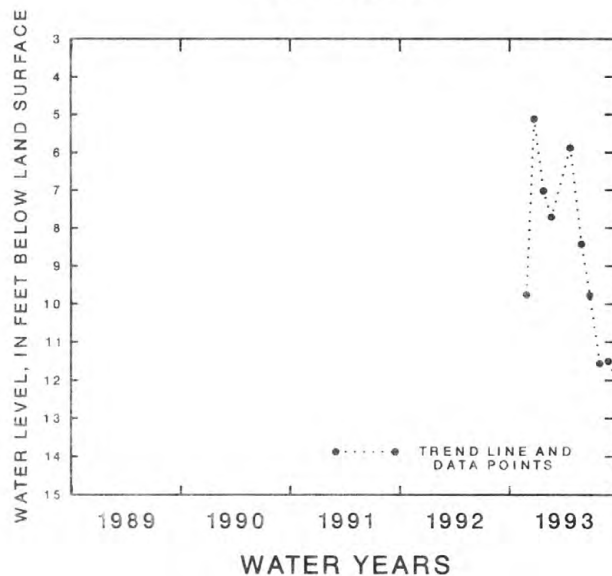
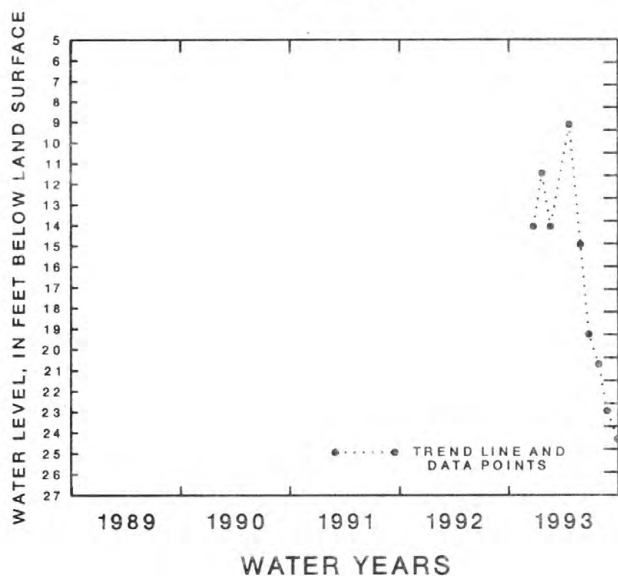
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.12 ft below land-surface datum, Dec. 21, 1992; lowest measured, 12.10 ft below land-surface datum, Sept. 28, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25	9.76	JAN 21	7.02	APR 20	5.88	JUN 24	9.78	AUG 24	11.50	SEP 28	12.10
DEC 21	5.12	FEB 16	7.71	MAY 27	8.43	JUL 27	11.56				

BUW397

BUW398



GROUND-WATER LEVELS IN RHODE ISLAND

PROVIDENCE COUNTY--Continued

415626071254601. Cumberland well CUV 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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	14.53	DEC 22	9.25	FEB 20	11.05	APR 27	11.14	JUN 22	14.03	AUG 27	15.98
NOV 28	12.34	JAN 21	11.70	MAR 24	10.13	MAY 25	12.87	JUL 27	15.45	SEP 22	16.22

414448071323001. Cranston well CRW 439.

LOCATION.--Lat 41°44'48", long 71°32'30", Providence County, Hydrologic Unit 01090004, town of Cranston, J. L. Curran Park, west side of Laten Knight Road, 0.3 miles north of Hope Road.

Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 23.1 ft, cased to 12.9 ft, screened from 12.9 ft to 22.3 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 395 ft. Measuring point: Notch in PVC casing, 1.8 ft above land-surface datum.

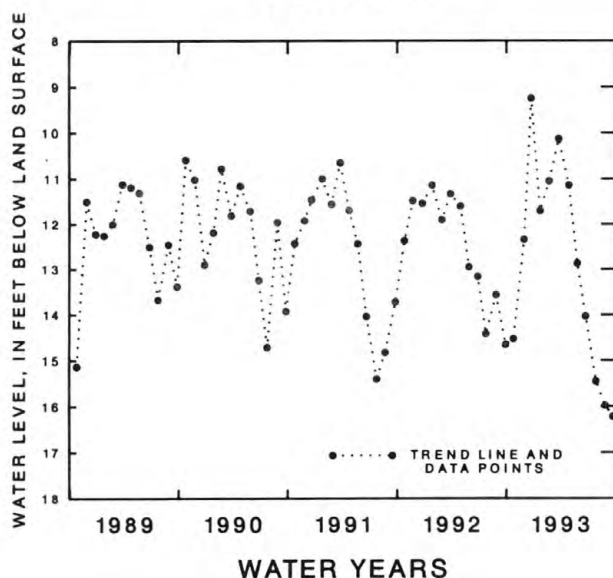
PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.72 ft below land-surface datum, Apr. 20, 1993; lowest measured, 20.56 ft below land-surface datum, Sept. 28, 1993.

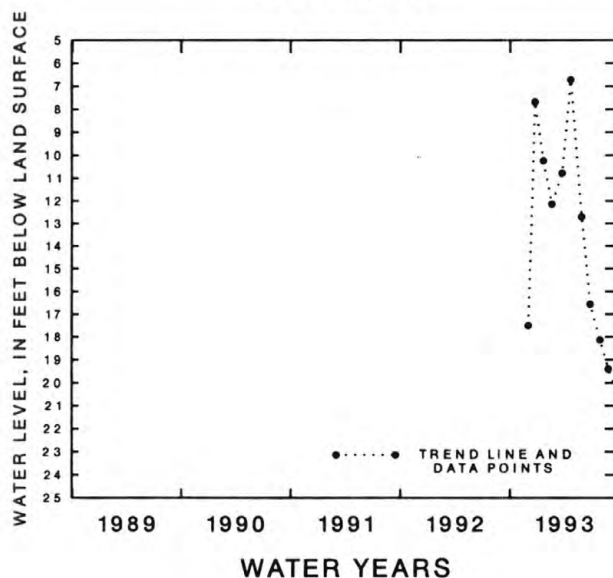
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 30	17.50	JAN 19	10.24	MAR 22	10.78	MAY 26	12.70	JUL 27	18.14	SEP 28	20.56
DEC 22	7.68	FEB 16	12.14	APR 20	6.72	JUN 24	16.56	AUG 24	19.40		

CUW265



CRW439



GROUND-WATER LEVELS IN RHODE ISLAND

241

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, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.56	DEC 22	2.87	FEB 20	3.53	APR 27	3.01	JUN 23	7.94	AUG 27	11.33
NOV 28	2.85	JAN 22	4.48	MAR 24	3.20	MAY 25	6.14	JUL 27	10.45	SEP 22	11.96

414357071405101. Foster well FOW 290.

LOCATION.--Lat 41°43'57", long 71°40'51", Providence County, Hydrologic Unit 01090004, town of Foster, Parker Woodland, Audobon Society. Pig Hill Road, 1 mile north of Maple Valley Road.
Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 15.4 ft, cased to 5.2 ft, screened from 5.2 ft to 14.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 345 ft. Measuring point: Notch in PVC casing, 1.6 ft above land-surface datum.

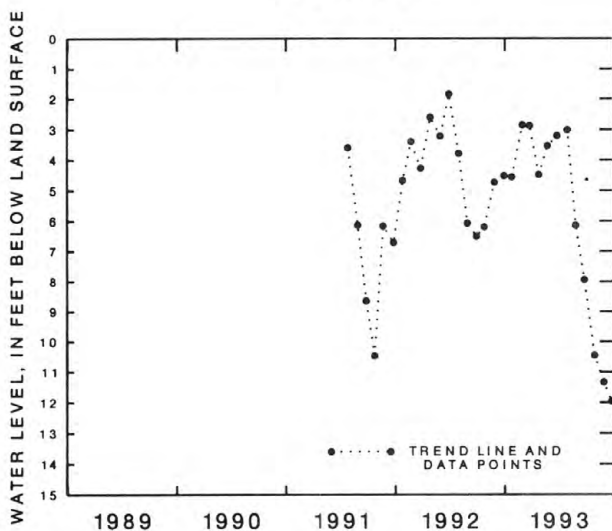
PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.40 ft below land-surface datum, Dec. 22, 1992; lowest measured, dry, Aug. 24, Sept. 28, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

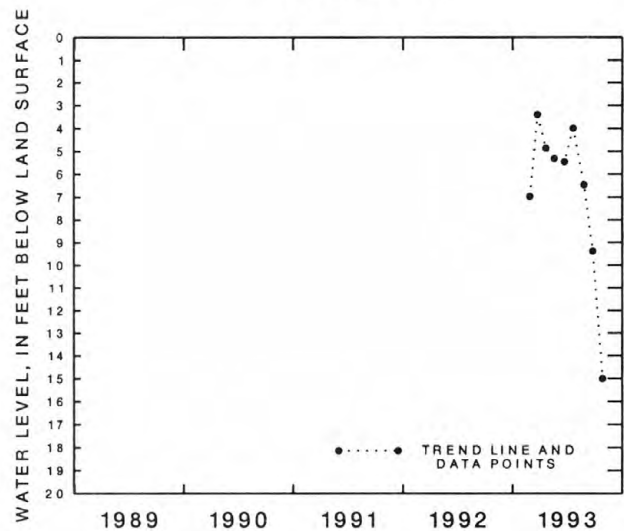
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 27	6.97	JAN 19	4.86	MAR 22	5.46	MAY 26	6.47	JUL 27	15.00	SEP 28	DRY
DEC 22	3.40	FEB 16	5.32	APR 20	3.99	JUN 24	9.38	AUG 24	DRY		

FOW40



WATER YEARS

FOW290



WATER YEARS

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	5.53	DEC 22	2.74	FEB 20	4.28	APR 27	3.65	JUN 22	5.78	AUG 27	6.49
NOV 28	4.36	JAN 21	4.81	MAR 24	3.74	MAY 25	5.29	JUL 27	5.88	SEP 22	6.37

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, 1947-80.

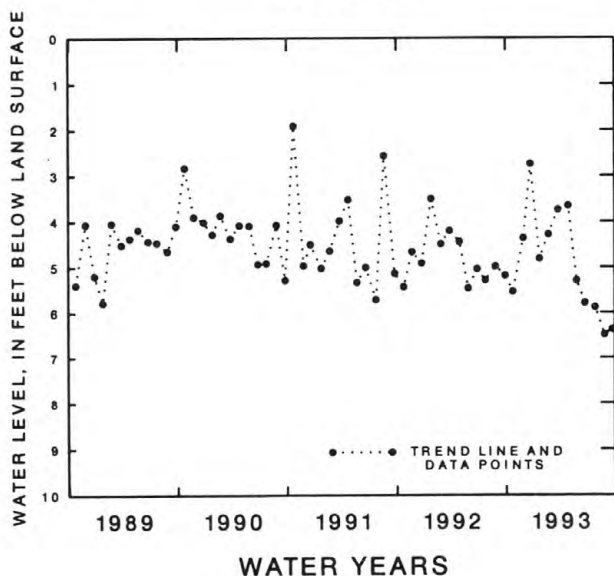
PERIOD OF RECORD.--May 1947 to current year.

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.

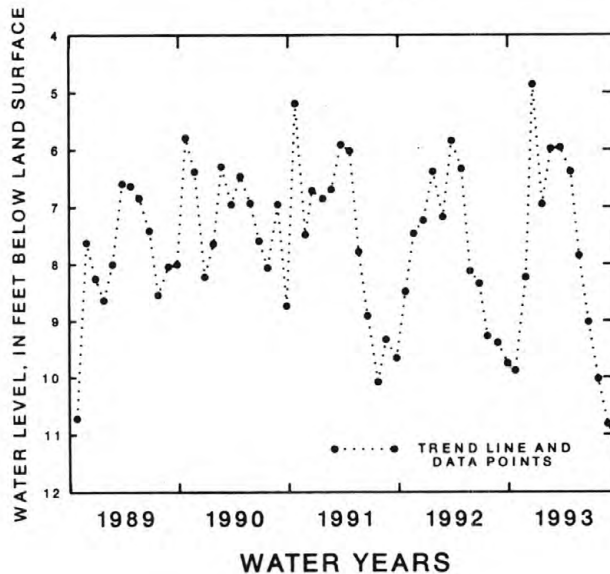
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	9.88	DEC 22	4.86	FEB 20	5.98	APR 27	6.38	JUN 25	9.02	AUG 27	10.82
NOV 28	8.23	JAN 22	6.95	MAR 24	5.96	MAY 25	7.85	JUL 27	10.03	SEP 22	11.08

LIW84



NSW21



GROUND-WATER LEVELS IN RHODE ISLAND

243

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	5.60	DEC 22	3.33	FEB 20	3.56	APR 28	2.53	JUN 24	4.71	AUG 27	5.39
NOV 28	4.94	JAN 21	3.71	MAR 26	2.85	MAY 25	3.36	JUL 27	4.82	SEP 22	5.82

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.

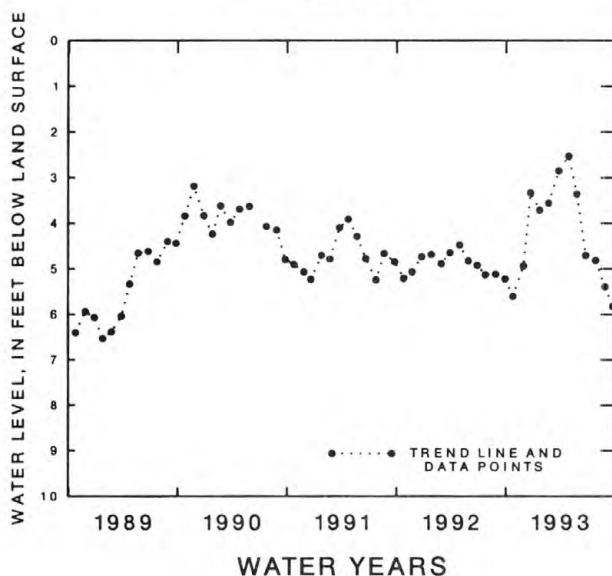
PERIOD OF RECORD.--December 1944 to current year.

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.

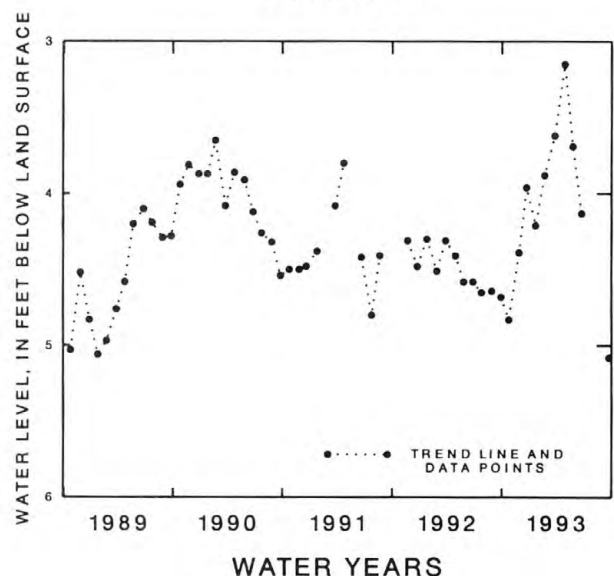
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.83	DEC 22	3.96	FEB 20	3.88	APR 28	3.15	JUN 23	4.13	SEP 22	5.08
NOV 27	4.39	JAN 21	4.21	MAR 26	3.62	MAY 25	3.69				

PAW136



PRW48



GROUND-WATER LEVELS IN RHODE ISLAND

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	19.12	DEC 23	14.58	FEB 19	16.10	APR 27	13.78	JUN 24	17.54	AUG 26	19.83
NOV 27	19.16	JAN 22	15.00	MAR 25	13.43	MAY 25	15.85	JUL 26	18.90	SEP 23	20.38

412434071422401. Charlestown well CHW 586.

LOCATION.--Lat 41°24'34", long 71°42'24", Washington County, Hydrologic Unit 01090005, town of Charlestown, Burlingame State Park, 0.7 miles from Buckeye Road on Clawson Trail.

Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 14.3 ft, cased to 4.1 ft, screened from 4.1 ft to 13.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 125 ft. Measuring point: Notch in PVC casing, 1.3 ft above land-surface datum.

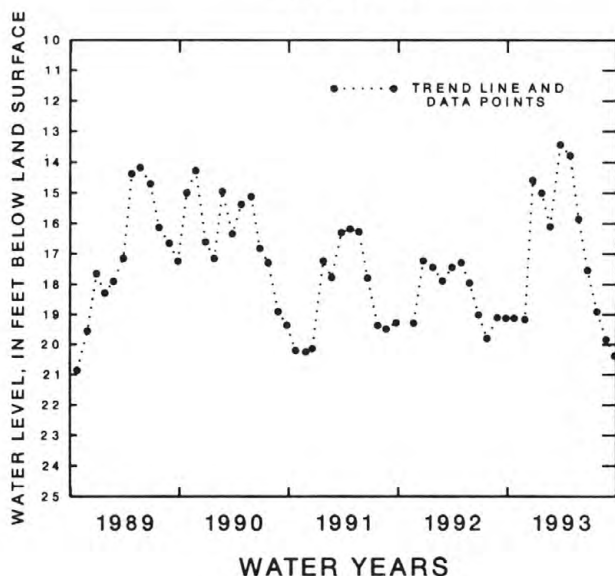
PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.10 ft below land-surface datum, Nov. 27, 1992; lowest measured, 5.02 ft below land-surface datum, Aug. 25, 1993.

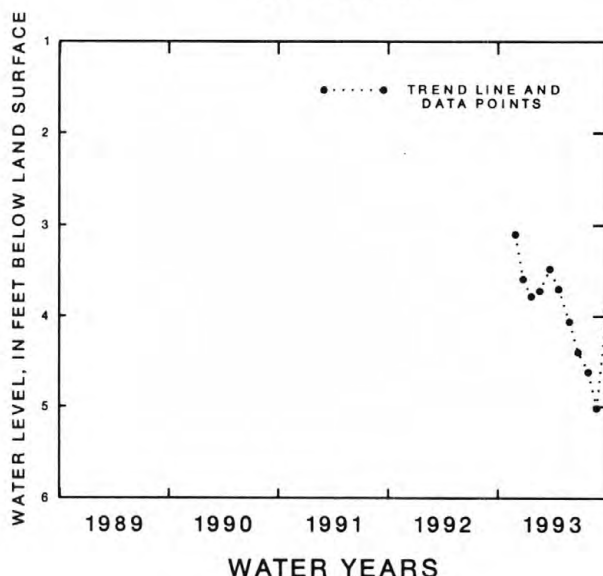
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 27	3.10	DEC 23	3.59	JAN 19	3.78	FEB 16	3.72	MAR 22	3.48	APR 20	3.70
MAY 26	4.06	JUN 24	4.40	JUL 28	4.62	AUG 25	5.02	SEP 28	3.94		

CHW18



CHW586



GROUND-WATER LEVELS IN RHODE ISLAND

245

WASHINGTON COUNTY--Continued

412424071423601. Charlestown well CHW 587.

LOCATION.--Lat 41°24'24", long 71°42'36", Washington County, Hydrologic Unit 01090005, town of Charlestown, Burligame State Park, 0.8 miles from Buckeye Brook Road on Mills Trail.

Owner: State of Rhode Island.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 12.5 ft, cased to 2.3 ft, screened from 2.3 ft to 11.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 90 ft. Measuring point: Notch in PVC casing, 1.6 ft above land-surface datum.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.42 ft below land-surface datum, Feb. 16, 1993; lowest measured, 12.02 ft below land-surface datum, Sept. 28, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 27	6.76	JAN 19	6.93	MAR 22	4.35	MAY 26	9.22	JUL 28	11.85	SEP 28	12.02
DEC 23	4.19	FEB 16	3.42	APR 20	6.22	JUN 24	10.67	AUG 25	11.93		

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.

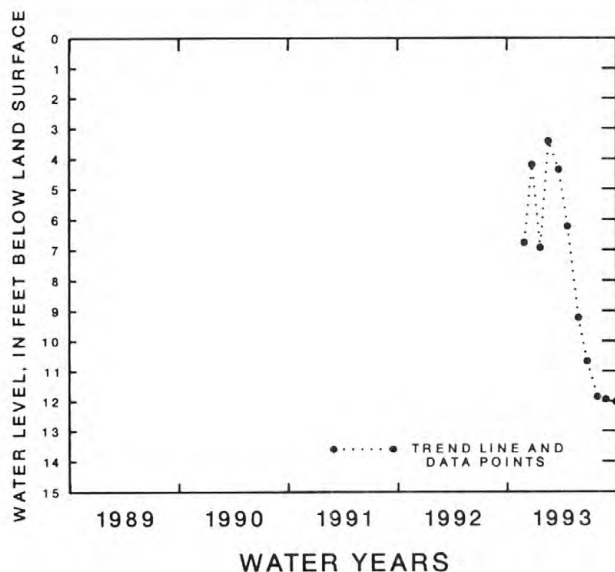
PERIOD OF RECORD.--December 1948 to current year.

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.

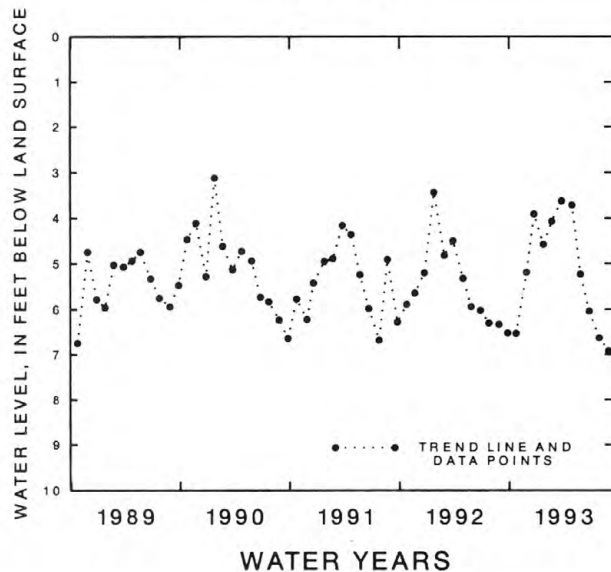
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	6.53	DEC 22	3.91	FEB 19	4.07	APR 27	3.72	JUN 23	6.04	AUG 26	6.92
NOV 27	5.19	JAN 22	4.58	MAR 24	3.63	MAY 25	5.23	JUL 26	6.63	SEP 22	6.97

CHW587



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, 18.30 ft below land-surface datum, Oct. 29, 1957.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	13.92	DEC 22	4.74	FEB 20	5.49	APR 27	5.61	JUN 23	13.78	AUG 27	17.05
NOV 27	10.26	JAN 22	6.53	MAR 24	4.76	MAY 25	8.98	JUL 27	16.37	SEP 22	17.47

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.

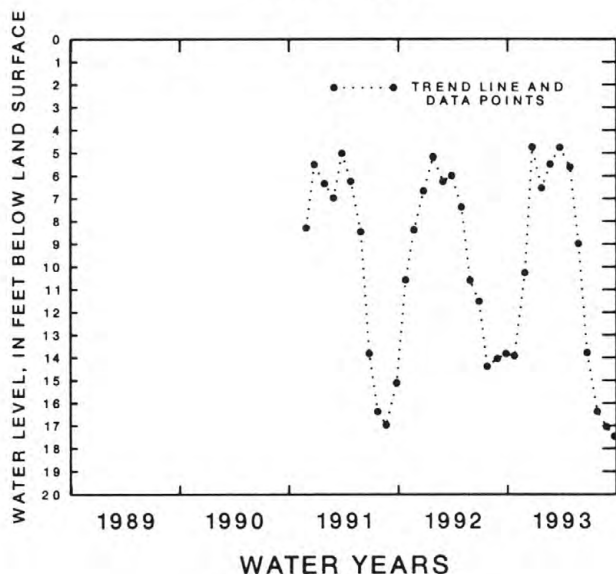
PERIOD OF RECORD.--October 1955 to June 1960, May 1991 to current year.

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.

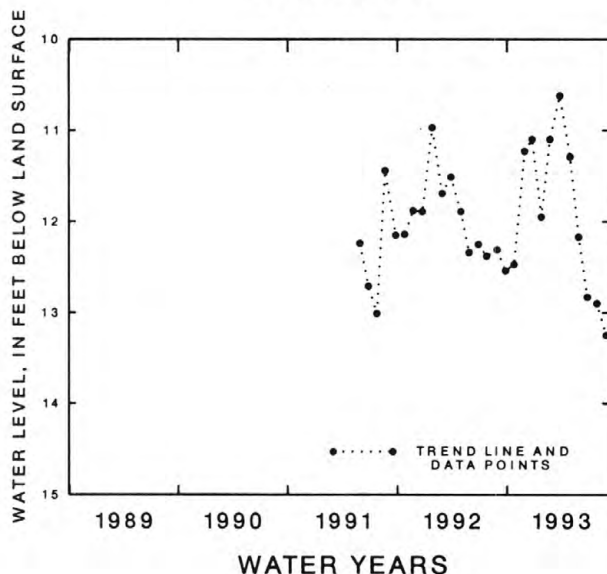
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	12.47	DEC 23	11.10	FEB 20	11.10	APR 28	11.29	JUN 24	12.83	AUG 26	13.25
NOV 28	11.23	JAN 22	11.95	MAR 25	10.62	MAY 26	12.17	JUL 26	12.90	SEP 22	13.02

EXW158



EXW238



GROUND-WATER LEVELS IN RHODE ISLAND

247

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.

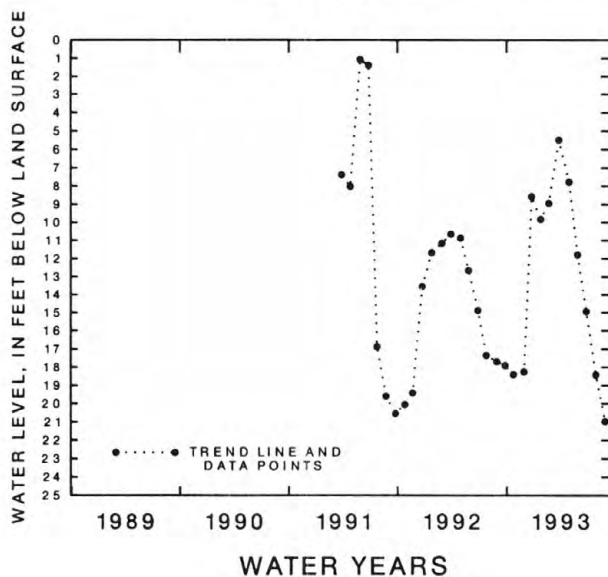
PERIOD OF RECORD.--August 1954 to June 1960, March 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.06 ft below land-surface datum, May 29, 1991; lowest measured, dry, Sept. 23, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	18.40	DEC 23	8.57	FEB 19	8.94	APR 28	7.77	JUN 24	14.94	AUG 26	20.97
NOV 27	18.25	JAN 22	9.83	MAR 25	5.49	MAY 26	11.79	JUL 26	18.42	SEP 23	DRY

EXW278



GROUND-WATER LEVELS IN RHODE ISLAND

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.

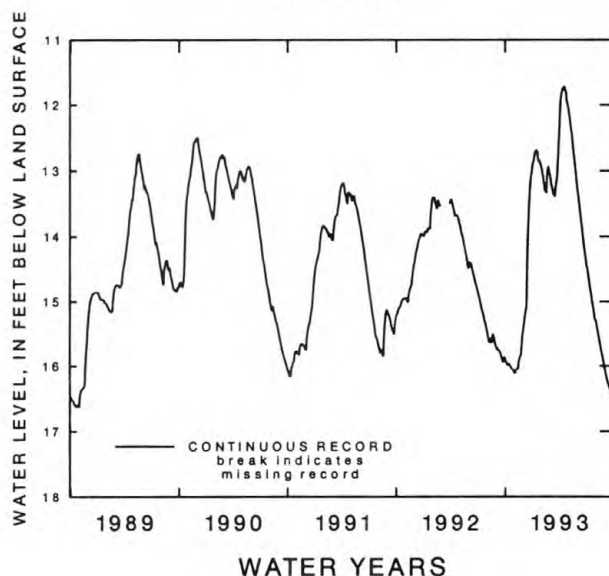
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.58 ft below land-surface datum, Apr. 28, 29, 1983; lowest, 16.74 ft below land-surface datum, Oct. 19, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.89	16.10	15.38	12.89	13.00	13.09	12.32	12.06	13.32	14.47	15.32	16.09
2	15.91	16.11	15.35	12.88	13.04	13.11	12.16	12.11	13.35	14.46	15.35	16.12
3	15.93	16.11	15.31	12.87	13.06	13.16	12.04	12.15	13.39	14.48	15.37	16.14
4	15.94	16.08	15.26	12.84	13.09	13.20	11.95	12.17	13.44	14.52	15.40	16.16
5	15.95	16.07	15.23	12.81	13.11	13.21	11.90	12.20	13.48	14.56	15.42	16.18
6	15.96	16.06	15.20	12.78	13.16	13.23	11.86	12.22	13.51	14.59	15.45	16.20
7	15.97	16.05	15.17	12.75	13.19	13.26	11.83	12.27	13.55	14.62	15.47	16.22
8	15.98	16.05	15.14	12.72	13.20	13.28	11.81	12.32	13.60	14.66	15.50	16.24
9	15.99	16.05	15.12	12.72	13.25	13.30	11.79	12.35	13.64	14.69	15.53	16.25
10	15.99	16.05	15.10	12.71	13.27	13.32	11.76	12.39	13.67	14.72	15.55	16.26
11	15.98	16.04	15.04	12.70	13.30	13.33	11.75	12.41	13.71	14.76	15.58	16.28
12	15.96	16.05	14.82	12.70	13.31	13.37	11.75	12.45	13.76	14.79	15.60	16.29
13	15.96	16.02	14.53	12.68	13.26	13.33	11.74	12.50	13.80	14.81	15.63	16.31
14	15.97	15.96	14.28	12.71	13.29	13.32	11.73	12.55	13.83	14.84	15.65	16.32
15	15.98	15.93	14.08	12.71	13.34	13.39	11.74	12.60	13.87	14.87	15.68	16.34
16	15.99	15.91	13.94	12.71	13.33	13.39	11.73	12.64	13.92	14.90	15.71	16.35
17	15.99	15.89	13.81	12.72	13.15	13.35	11.72	12.69	13.96	14.93	15.73	16.37
18	16.01	15.87	13.69	12.79	13.06	13.27	11.73	12.73	14.00	14.97	15.76	16.38
19	16.01	15.86	13.57	12.83	13.01	13.25	11.75	12.76	14.04	15.00	15.78	16.38
20	16.02	15.85	13.46	12.84	12.97	13.20	11.78	12.80	14.08	15.03	15.80	16.39
21	16.03	15.85	13.38	12.87	12.96	13.16	11.79	12.84	14.12	15.06	15.82	16.41
22	16.04	15.84	13.30	12.84	12.93	13.14	11.78	12.89	14.15	15.08	15.85	16.42
23	16.04	15.80	13.22	12.85	12.95	13.13	11.82	12.93	14.19	15.12	15.88	16.42
24	16.05	15.72	13.16	12.85	12.97	13.07	11.91	12.97	14.22	15.15	15.90	16.43
25	16.05	15.67	13.12	12.88	13.02	12.96	11.94	13.02	14.26	15.18	15.92	16.44
26	16.05	15.61	13.07	12.91	13.03	12.88	11.96	13.06	14.30	15.23	15.95	16.44
27	16.06	15.56	13.05	12.88	13.05	12.79	11.98	13.11	14.33	15.26	15.97	16.41
28	16.07	15.50	13.02	12.92	13.06	12.70	12.00	13.15	14.36	15.27	16.00	16.39
29	16.07	15.46	12.99	12.94	---	12.59	12.01	13.20	14.40	15.28	16.02	16.38
30	16.08	15.42	12.95	12.97	---	12.49	12.03	13.25	14.43	15.28	16.05	16.38
31	16.09	---	12.90	12.96	---	12.41	---	13.29	---	15.30	16.07	---
MEAN	16.00	15.88	14.12	12.81	13.12	13.12	11.87	12.65	13.89	14.90	15.70	16.31
LOW	16.09	16.11	15.38	12.97	13.34	13.39	12.32	13.29	14.43	15.30	16.07	16.44
HIGH	15.89	15.42	12.90	12.68	12.93	12.41	11.72	12.06	13.32	14.46	15.32	16.09

WTR YR 1993 HIGH 11.72 APR 17, LOW 16.44 SEP 25, 26

EXW475



GROUND-WATER LEVELS IN RHODE ISLAND

249

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, 8.22 ft below land-surface datum, Mar. 25, 1993; lowest measured, 11.70 ft below land-surface datum, Sept. 23, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	10.82	DEC 23	8.72	FEB 19	8.74	APR 28	8.80	JUN 24	10.33	AUG 26	11.20
NOV 27	10.41	JAN 21	9.31	MAR 25	8.22	MAY 26	9.69	JUL 26	10.87	SEP 23	11.70

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 22.9 ft, cased with stone to 22.9 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.

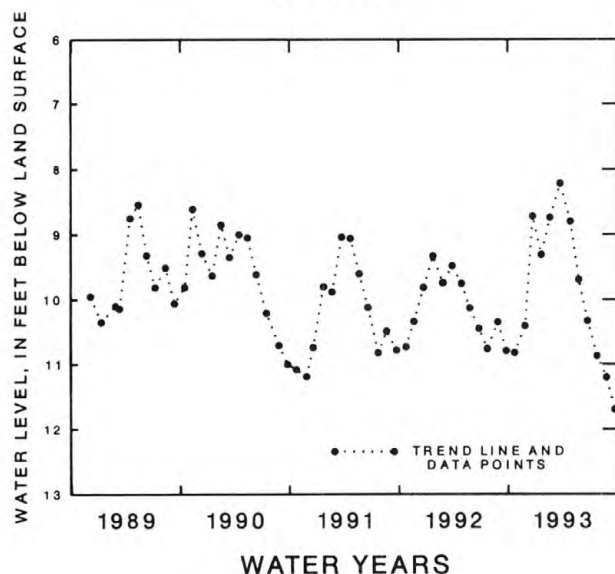
PERIOD OF RECORD.--August 1953 to February 1959, November 1990 to current year..

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.70 ft below land-surface datum, Mar. 26, 1958; lowest measured, dry, Oct. 29, 1957.

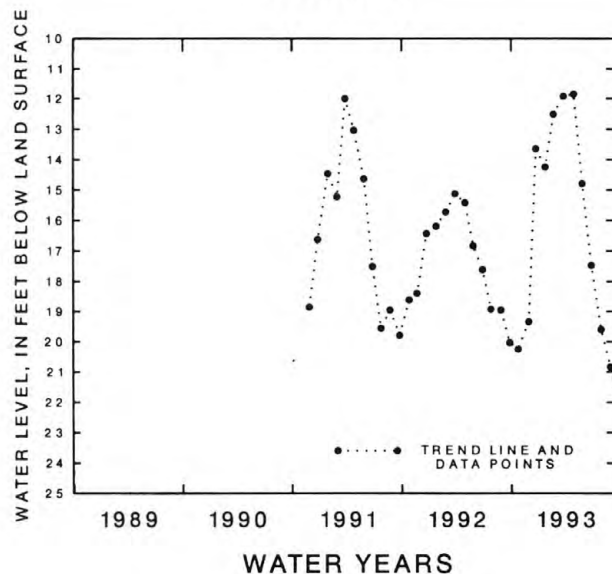
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	20.24	DEC 22	13.64	FEB 19	12.51	APR 27	11.85	JUN 24	17.47	AUG 26	20.83
NOV 27	19.34	JAN 22	14.24	MAR 24	11.92	MAY 25	14.79	JUL 26	19.60	SEP 23	21.95

EXW554



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 Cemetery.

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, 10.05 ft below land-surface datum, Mar. 29, 1993; lowest measured, 13.41 ft below land-surface datum, Sept. 29, 1993.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	12.53	DEC 20	11.58	MAR 29	10.05	JUN 28	12.13	AUG 30	13.00	SEP 29	13.41
NOV 24	12.78	JAN 21	10.90	APR 21	10.43	JUL 31	12.43				

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.

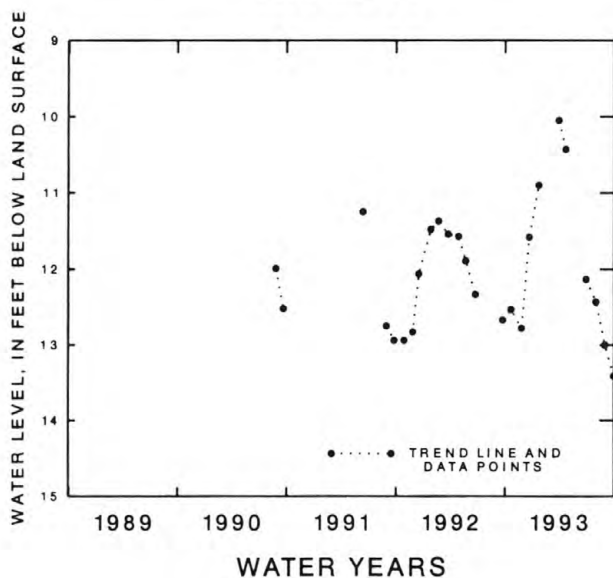
PERIOD OF RECORD.--August 1954 to December 1963, January 1966 to current year.

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.

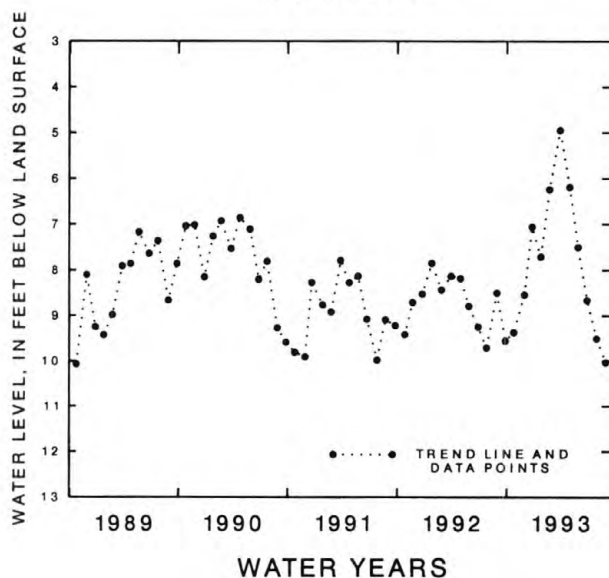
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	9.37	DEC 23	7.06	FEB 19	6.24	APR 27	6.19	JUN 24	8.66	AUG 26	10.03
NOV 27	8.54	JAN 21	7.71	MAR 26	4.95	MAY 25	7.50	JUL 26	9.51	SEP 23	10.21

NHW258



NKW255



GROUND-WATER LEVELS IN RHODE ISLAND

251

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.

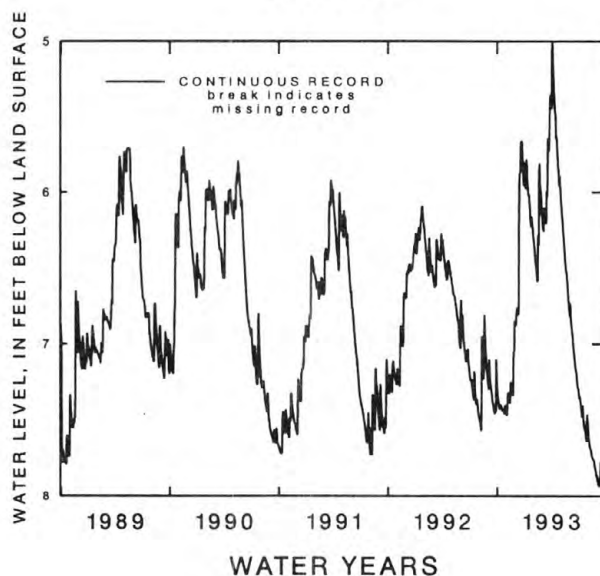
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.08 ft below land-surface datum, Apr. 25, 1983; lowest, 8.02 ft below land-surface datum, Oct. 3, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.30	7.47	6.88	5.83	6.36	6.21	5.35	6.03	6.73	7.34	7.58	7.90
2	7.33	7.47	6.88	5.91	6.39	6.23	5.03	6.06	6.76	7.36	7.61	7.91
3	7.35	7.41	6.81	5.97	6.42	6.25	5.00	6.09	6.82	7.34	7.63	7.92
4	7.36	7.32	6.78	5.98	6.44	6.26	5.05	6.12	6.85	7.34	7.64	7.93
5	7.38	7.32	6.77	5.90	6.46	6.12	5.13	6.15	6.87	7.37	7.66	7.91
6	7.40	7.32	6.76	5.78	6.48	6.10	5.20	6.17	6.89	7.39	7.68	7.93
7	7.41	7.32	6.77	5.82	6.49	6.13	5.27	6.20	6.91	7.41	7.69	7.94
8	7.42	7.33	6.79	5.87	6.51	6.15	5.33	6.23	6.93	7.42	7.69	7.91
9	7.43	7.35	6.81	5.92	6.54	6.15	5.38	6.26	6.95	7.44	7.69	7.90
10	7.41	7.36	6.81	5.96	6.57	6.18	5.42	6.29	6.97	7.46	7.70	7.82
11	7.40	7.38	6.72	5.99	6.59	6.19	5.44	6.32	7.00	7.48	7.71	7.77
12	7.40	7.39	6.22	6.02	6.59	6.21	5.48	6.34	7.02	7.45	7.73	7.82
13	7.40	7.30	5.95	6.02	6.32	6.20	5.48	6.37	7.04	7.40	7.74	7.85
14	7.41	7.25	5.88	6.01	6.28	6.00	5.53	6.40	7.06	7.44	7.74	7.88
15	7.42	7.25	5.87	6.04	6.35	5.99	5.60	6.43	7.08	7.48	7.75	7.90
16	7.43	7.28	5.87	6.08	6.33	6.03	5.65	6.46	7.10	7.51	7.76	7.91
17	7.43	7.29	5.84	6.10	5.86	5.95	5.64	6.48	7.12	7.53	7.76	7.91
18	7.44	7.31	5.69	6.14	5.81	5.66	5.65	6.51	7.14	7.55	7.76	7.90
19	7.44	7.32	5.66	6.17	5.86	5.64	5.71	6.52	7.16	7.56	7.76	7.89
20	7.44	7.33	5.66	6.21	5.93	5.68	5.76	6.53	7.17	7.54	7.77	7.90
21	7.44	7.33	5.66	6.23	5.98	5.70	5.80	6.54	7.18	7.56	7.79	7.92
22	7.44	7.34	5.68	6.20	5.99	5.72	5.83	6.58	7.19	7.58	7.80	7.82
23	7.45	7.17	5.72	6.16	6.01	5.73	5.84	6.60	7.21	7.59	7.81	7.78
24	7.46	7.05	5.77	6.19	6.04	5.57	5.89	6.64	7.24	7.61	7.82	7.81
25	7.43	7.05	5.82	6.20	6.09	5.39	5.93	6.66	7.26	7.63	7.83	7.84
26	7.40	7.05	5.85	6.22	6.12	5.38	5.96	6.70	7.28	7.64	7.84	7.76
27	7.40	6.88	5.91	6.25	6.15	5.36	5.89	6.73	7.29	7.50	7.87	7.67
28	7.42	6.85	5.94	6.28	6.18	5.36	5.90	6.75	7.29	7.46	7.87	7.64
29	7.44	6.85	5.96	6.30	---	5.37	5.95	6.77	7.30	7.50	7.86	7.68
30	7.45	6.86	5.86	6.32	---	5.39	5.99	6.80	7.32	7.50	7.88	7.73
31	7.46	---	5.80	6.34	---	5.45	---	6.82	---	7.55	7.89	---
MEAN	7.41	7.24	6.17	6.08	6.25	5.86	5.57	6.44	7.07	7.48	7.75	7.85
LOW	7.46	7.47	6.88	6.34	6.59	6.26	5.99	6.82	7.32	7.64	7.89	7.94
HIGH	7.30	6.85	5.66	5.78	5.81	5.36	5.00	6.03	6.73	7.34	7.58	7.64

WTR YR 1993 HIGH 5.00 APR 3, LOW 7.94 SEP 7

RIW417



GROUND-WATER LEVELS IN RHODE ISLAND

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.

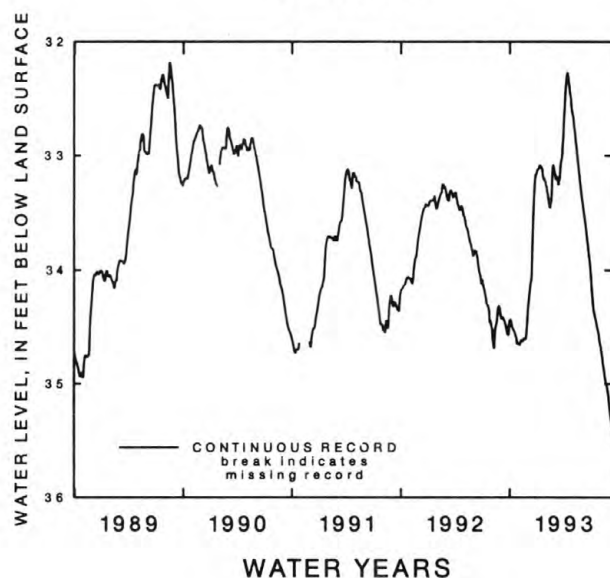
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.42 ft below land-surface datum, June 11, 1982; lowest, 35.94 ft below land-surface datum, Feb. 2, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.43	34.65	34.30	33.12	33.29	33.16	32.62	32.67	33.41	34.15	34.69	35.27
2	34.43	34.66	34.27	33.12	33.32	33.17	32.58	32.70	33.43	34.19	34.71	35.29
3	34.43	34.66	34.24	33.12	33.33	33.20	32.52	32.73	33.45	34.22	34.73	35.31
4	34.44	34.64	34.22	33.12	33.34	33.21	32.46	32.75	33.47	34.25	34.75	35.33
5	34.45	34.63	34.19	33.11	33.36	33.19	32.42	32.77	33.49	34.28	34.76	35.35
6	34.46	34.62	34.17	33.11	33.38	33.18	32.37	32.79	33.51	34.31	34.79	35.36
7	34.48	34.62	34.14	33.10	33.39	33.19	32.34	32.81	33.53	34.34	34.81	35.36
8	34.49	34.61	34.13	33.08	33.40	33.19	32.32	32.84	33.55	34.36	34.83	35.37
9	34.51	34.62	34.11	33.09	33.43	33.20	32.30	32.87	33.57	34.37	34.84	35.38
10	34.51	34.62	34.10	33.09	33.44	33.22	32.28	32.89	33.59	34.38	34.86	35.39
11	34.51	34.62	34.08	33.09	33.45	33.23	32.27	32.91	33.61	34.39	34.88	35.40
12	34.52	34.63	34.05	33.09	33.46	33.26	32.27	32.93	33.64	34.41	34.89	35.41
13	34.52	34.62	33.96	33.09	33.42	33.23	32.29	32.96	33.66	34.42	34.92	35.42
14	34.53	34.61	33.86	33.11	33.40	33.20	32.32	32.99	33.68	34.43	34.94	35.42
15	34.54	34.60	33.75	33.11	33.41	33.22	32.34	33.02	33.70	34.44	34.95	35.43
16	34.54	34.60	33.67	33.11	33.40	33.21	32.36	33.05	33.73	34.46	34.97	35.44
17	34.55	34.60	33.59	33.12	33.33	33.19	32.37	33.07	33.75	34.47	34.99	35.45
18	34.56	34.60	33.52	33.16	33.25	33.14	32.40	33.10	33.77	34.48	35.00	35.46
19	34.57	34.60	33.44	33.18	33.17	33.10	32.43	33.12	33.79	34.49	35.01	35.47
20	34.58	34.61	33.37	33.19	33.12	33.07	32.45	33.15	33.82	34.51	35.02	35.48
21	34.59	34.61	33.32	33.21	33.09	33.05	32.47	33.17	33.84	34.52	35.03	35.48
22	34.59	34.61	33.27	33.19	33.08	33.04	32.48	33.19	33.87	34.53	35.04	35.49
23	34.62	34.60	33.23	33.20	33.08	33.03	32.50	33.22	33.90	34.54	35.06	35.49
24	34.65	34.56	33.20	33.20	33.09	33.00	32.55	33.24	33.91	34.56	35.08	---
25	34.65	34.53	33.18	33.22	33.11	32.98	32.58	33.26	33.93	34.57	35.09	---
26	34.65	34.50	33.16	33.23	33.12	32.93	32.60	33.29	33.96	34.60	35.11	---
27	34.64	34.46	33.17	33.22	33.14	32.89	32.61	33.31	34.00	34.63	35.14	---
28	34.64	34.42	33.16	33.25	33.15	32.85	32.63	33.34	34.04	34.64	35.17	---
29	34.64	34.37	33.15	33.26	---	32.81	32.64	33.36	34.07	34.65	35.19	---
30	34.65	34.33	33.14	33.27	---	32.70	32.65	33.38	34.11	34.66	35.22	---
31	34.65	---	33.13	33.27	---	32.65	---	33.40	---	34.68	35.24	---
MEAN	34.55	34.58	33.69	33.16	33.28	33.09	32.45	33.04	33.73	34.45	34.96	---
LOW	34.65	34.66	34.30	33.27	33.46	33.26	32.65	33.40	34.11	34.68	35.24	---
HIGH	34.43	34.33	33.13	33.08	33.08	32.65	32.27	32.67	33.41	34.15	34.69	---

WTR YR 1993 HIGH 32.27 APR 11, 12, LOW 35.49 SEP 22, 23

RIW600



GROUND-WATER LEVELS IN RHODE ISLAND

253

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.

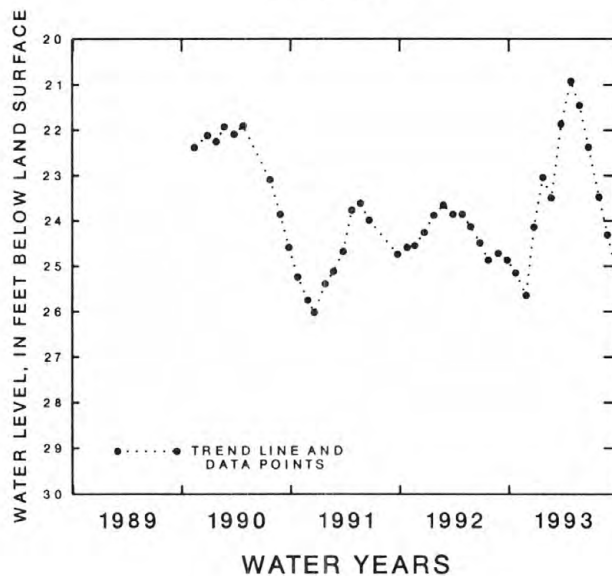
PERIOD OF RECORD.-- October 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.92 ft below land-surface datum, Apr. 27, 1993 lowest measured, 26.02 ft below land-surface datum, Dec. 20, 1990.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	25.15	DEC 23	24.14	FEB 19	23.50	APR 27	20.92	JUN 24	22.37	AUG 26	24.31
NOV 27	25.64	JAN 22	23.04	MAR 24	21.87	MAY 25	21.46	JUL 29	23.48	SEP 23	25.09

RIW785



GROUND-WATER LEVELS IN RHODE ISLAND

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.

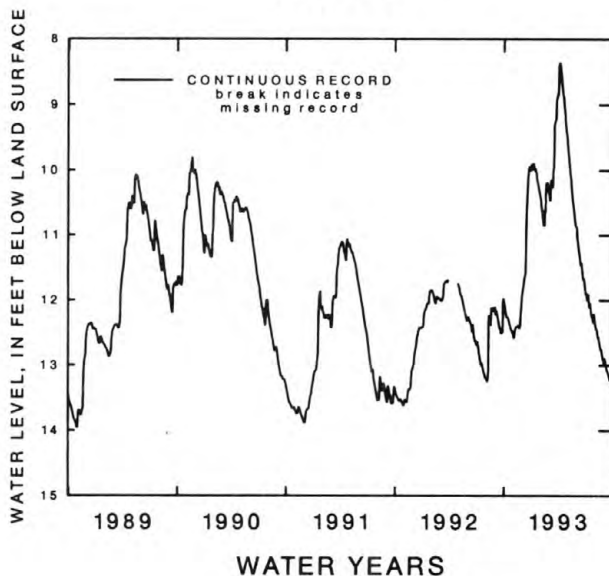
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.91 ft below land-surface datum, Apr. 25, 26, 1983; lowest, 15.06 ft below land-surface datum, Dec. 29, 1965.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.03	12.56	11.88	9.90	10.48	10.35	8.76	9.55	10.87	11.91	12.36	12.89
2	12.05	12.58	11.85	9.96	10.55	10.39	8.43	9.62	11.01	11.88	12.39	12.90
3	12.07	12.59	11.82	9.99	10.58	10.43	8.39	9.69	11.06	11.92	12.43	12.93
4	12.11	12.53	11.79	9.99	10.62	10.47	8.36	9.73	11.09	11.94	12.45	12.95
5	12.14	12.49	11.75	9.98	10.65	10.33	8.36	9.77	11.13	11.97	12.44	12.98
6	12.17	12.46	11.72	9.90	10.71	10.19	8.36	9.81	11.17	12.01	12.43	13.00
7	12.20	12.44	11.67	9.89	10.75	10.16	8.39	9.88	11.20	11.99	12.47	13.03
8	12.23	12.42	11.65	9.91	10.78	10.14	8.42	9.94	11.24	11.90	12.51	13.05
9	12.25	12.41	11.63	9.97	10.83	10.16	8.48	9.99	11.27	11.91	12.54	13.07
10	12.27	12.41	11.62	9.99	10.84	10.19	8.50	10.05	11.30	11.99	12.57	13.09
11	12.26	12.41	11.59	9.99	10.86	10.20	8.56	10.08	11.34	12.04	12.59	13.09
12	12.25	12.41	11.41	9.98	10.86	10.27	8.62	10.12	11.39	12.09	12.56	13.10
13	12.26	12.41	11.07	9.96	10.65	10.21	8.69	10.18	11.42	12.11	12.60	13.12
14	12.28	12.40	10.80	10.01	10.60	10.01	8.74	10.24	11.46	12.07	12.63	13.13
15	12.29	12.39	10.62	10.03	10.66	9.97	8.80	10.30	11.47	12.04	12.66	13.15
16	12.31	12.39	10.51	10.03	10.63	9.97	8.85	10.35	11.42	12.09	12.69	13.17
17	12.33	12.38	10.42	10.03	10.31	9.79	8.86	10.41	11.44	12.13	12.71	13.19
18	12.35	12.39	10.27	10.10	10.21	9.33	8.87	10.45	11.50	12.18	12.74	13.21
19	12.36	12.40	10.15	10.15	10.19	9.29	8.94	10.49	11.54	12.22	12.76	13.22
20	12.39	12.43	10.08	10.17	10.19	9.27	9.01	10.52	11.60	12.24	12.75	13.22
21	12.40	12.43	10.06	10.21	10.20	9.25	9.06	10.56	11.64	12.25	12.76	13.23
22	12.42	12.43	10.00	10.21	10.18	9.24	9.09	10.60	11.67	12.27	12.79	13.24
23	12.44	12.38	9.96	10.25	10.20	9.24	9.15	10.64	11.68	12.28	12.82	13.23
24	12.45	12.28	9.95	10.26	10.23	9.15	9.25	10.69	11.69	12.29	12.84	13.23
25	12.47	12.21	9.94	10.31	10.28	8.96	9.30	10.73	11.67	12.32	12.86	13.24
26	12.46	12.17	9.94	10.34	10.30	8.92	9.35	10.78	11.71	12.35	12.89	13.25
27	12.47	12.11	10.01	10.31	10.31	8.90	9.40	10.82	11.76	12.29	12.91	13.21
28	12.49	12.01	10.00	10.37	10.33	8.87	9.43	10.85	11.81	12.20	12.93	13.16
29	12.50	11.95	9.99	10.39	---	8.84	9.45	10.86	11.85	12.23	12.95	13.15
30	12.52	11.91	9.97	10.43	---	8.83	9.50	10.87	11.90	12.28	12.97	13.15
31	12.54	---	9.92	10.43	---	8.86	---	10.87	---	12.33	12.97	---
MEAN	12.31	12.36	10.78	10.11	10.50	9.68	8.85	10.30	11.44	12.12	12.68	13.12
LOW	12.54	12.59	11.88	10.43	10.86	10.47	9.50	10.87	11.90	12.35	12.97	13.25
HIGH	12.03	11.91	9.92	9.89	10.18	8.83	8.36	9.55	10.87	11.88	12.36	12.89

WTR YR 1993 HIGH 8.36 APR 4, 5, 6, LOW 13.25 SEP 26

SNW6



GROUND-WATER LEVELS IN RHODE ISLAND

255

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 Kingston.

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 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	28.31	DEC 23	25.70	FEB 19	26.17	APR 28	25.47	JUN 24	27.80	AUG 26	DRY
NOV 27	27.94	JAN 21	26.04	MAR 25	25.19	MAY 26	26.74	JUL 26	28.59	SEP 23	DRY

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.

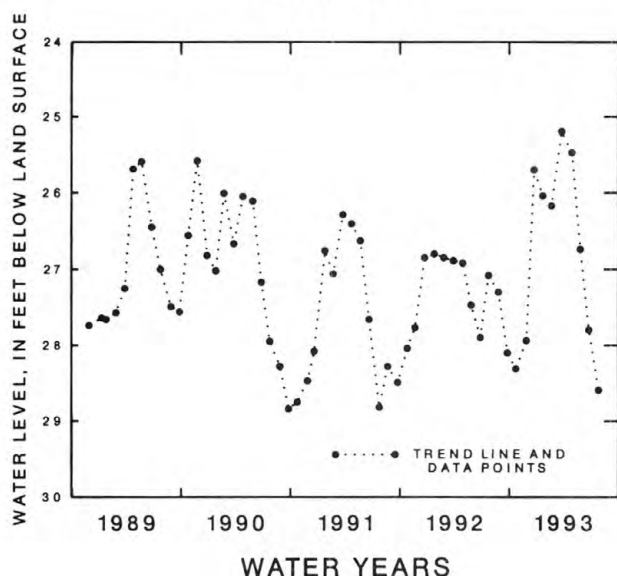
PERIOD OF RECORD.--January 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.23 ft below land-surface datum, Apr. 23, 1983; lowest measured, 14.69 ft below land-surface datum, Sept. 23, 1993.

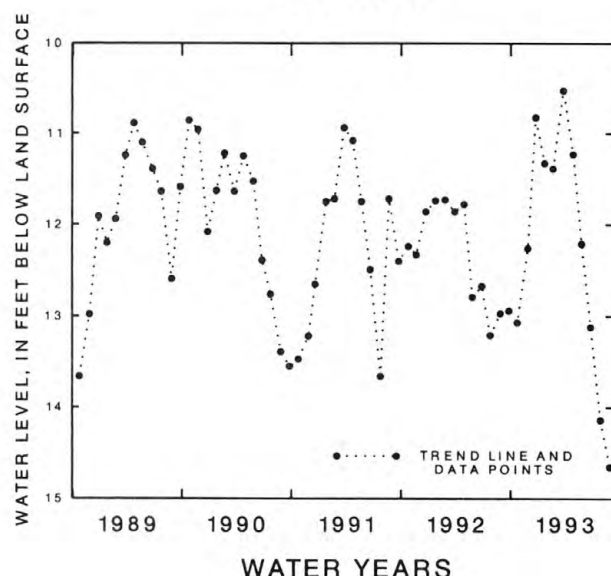
WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	13.07	DEC 23	10.83	FEB 19	11.39	APR 27	11.23	JUN 24	13.12	AUG 26	14.65
NOV 27	12.26	JAN 22	11.33	MAR 25	10.53	MAY 25	12.21	JUL 26	14.14	SEP 23	14.69

SNW515



WEW522



QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

REMARKS.--Data for volatile organic compounds and some pesticides exist, but are not ready to be published.

LOCAL IDENT- IFIER	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 AIR (DEG C) (00020)
BERKSHIRE COUNTY									
DAW 36	422850073091501	112SRFD	7.44	15.17	08-16-93	1310	306	7.7	--
DAW 37	422831073100101	112SRFD	23.73	27.92	08-17-93	1730	747	8.0	--
DAW 37	422831073100101	112SRFD	--	27.92	08-18-93	0800	--	--	--
DAW 38	422903073105701	112SRFD	6.97	19.66	08-16-93	1510	84	6.0	--
GMW 67	421047073182001	112SRFD	7.53	16.34	08-17-93	1145	228	7.3	--
GMW 68	421101073235201	112SRFD	12.43	22.10	08-18-93	1110	149	6.2	--
GMW 69	421120073235901	112SRFD	15.42	21.62	08-18-93	1230	324	6.2	--
GMW 70	421134073213901	112SRFD	9.60	17.74	08-18-93	1545	436	7.6	--
M6W 24	421030073135901	112SRFD	1.22	10.48	08-17-93	0925	192	6.4	--
NKW 54	420302073171501	112SRFD	11.70	19.79	08-24-93	1100	406	7.8	--
NKW 54	420302073171501	112SRFD	--	19.79	08-24-93	1120	--	--	--
NKW 55	420545073162201	112SRFD	10.29	12.20	08-23-93	1245	507	8.1	--
SJW 76	420914073213601	112SRFD	11.32	15.10	08-19-93	1000	425	7.1	--
SJW 77	420730073211401	112SRFD	13.10	15.15	08-19-93	1500	244	7.2	--
SJW 78	420718073222401	112SRFD	6.10	7.00	08-23-93	1545	300	7.1	--
SJW 79	420527073201301	112SRFD	5.38	13.20	08-20-93	1015	309	7.8	--

HAMPDEN COUNTY

BOW 72	420651072132401	112DFSF	5.70	12.65	08-27-93	1100	330	5.9	--
SCW 1	420351073034201	112SRFD	7.61	10.20	08-17-93	1135	51	6.3	20.5
TPW 3	420555073023001	112SRFD	2.48	8.48	09-02-93	1230	163	7.2	22.0
WVW 171	420744072451001	112SRFD	9.71	17.80	08-11-93	1445	233	6.4	30.0
WVW 172	420637072451401	112DFSF	9.52	19.25	08-11-93	1145	180	6.1	30.0
WVW 172	420637072451401	112DFSF	--	19.25	08-11-93	1146	--	--	--
WVW 172	420637072451401	112DFSF	--	19.25	08-11-93	1148	--	--	--

LOCAL IDENT- IFIER	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE OF (MM HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
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BERKSHIRE COUNTY

DAW 36	11.0	730	1028	80020	0.8	7.8	0	168	0.020	<0.010
DAW 37	10.5	--	1028	80020	5.0	7.6	0	457	0.180	<0.010
DAW 37	--	--	1028	80020	--	--	0	457	--	--
DAW 38	8.0	730	1028	80020	0.2	7.1	0	34	0.020	<0.010
GMW 67	8.5	730	1028	80020	10.0	--	0	121	--	--
GMW 68	10.0	743	1028	80020	0	--	0	54	--	--
GMW 69	11.0	745	1028	80020	0	--	0	104	--	--
GMW 70	12.0	745	1028	80020	5.5	7.9	0	250	0.050	<0.010
M6W 24	11.0	730	1028	80020	0.7	--	0	104	--	--
NKW 54	10.5	740	1028	80020	7.5	--	0	182	--	--
NKW 54	--	--	1028	80020	--	--	--	--	--	--
NKW 55	6.0	740	1028	80020	7.0	8.0	0	229	0.020	<0.010
SJW 76	10.0	747	1028	80020	3.3	--	0	250	--	--
SJW 77	7.0	740	1028	80020	4.6	--	0	90	--	--
SJW 78	16.5	--	1028	80020	--	--	0	149	--	--
SJW 79	10.0	740	1028	80020	1.0	7.8	0	128	0.040	<0.010

HAMPDEN COUNTY

BOW 72	13.0	747	1028	80020	2.5	6.1	0	28	0.050	<0.010
SCW 1	12.0	760	1028	80020	6.4	7.2	0	11	0.020	<0.010
TPW 3	12.5	760	1028	80020	7.1	7.0	0	74	0.020	<0.010
WVW 171	13.0	764	1028	80020	3.8	7.0	0	51	0.040	<0.010
WVW 172	--	765	1028	80020	5.1	6.4	0	39	0.010	<0.010
WVW 172	--	--	1028	80020	--	--	--	--	--	--
WVW 172	13.0	--	1028	80020	--	6.2	--	--	0.020	<0.010

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER		NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	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)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
BERKSHIRE COUNTY											
DAW 36		<0.20	0.065	<0.010	<0.010	1.3	36	14	4.0	1.4	4.9
DAW 37		0.30	0.770	<0.010	<0.010	4.2	91	29	18	5.8	7.5
DAW 37		--	--	--	--	--	--	--	--	--	--
DAW 38		<0.20	0.062	<0.010	<0.010	0.6	8.8	3.1	0.80	0.40	1.1
GMW 67		--	--	--	--	0.4	--	--	--	--	--
GMW 68		--	--	--	--	4.0	--	--	--	--	--
GMW 69		--	--	--	--	9.1	--	--	--	--	--
GMW 70		<0.20	<0.050	<0.010	<0.010	0.7	46	26	4.7	3.5	2.9
M6W 24		--	--	--	--	5.4	--	--	--	--	--
NKW 54		--	--	--	--	1.4	--	--	--	--	--
NKW 54		--	--	--	--	0.4	--	--	--	--	--
NKW 55		<0.20	0.330	<0.010	<0.010	0.7	49	21	21	1.4	43
SJW 76		--	--	--	--	0.3	--	--	--	--	--
SJW 77		--	--	--	--	1.4	--	--	--	--	--
SJW 78		--	--	--	--	2.5	--	--	--	--	--
SJW 79		<0.20	<0.050	<0.010	0.020	1.8	34	13	2.3	1.8	12

HAMPDEN COUNTY

BOW 72		<0.20	17.0	<0.010	<0.010	0.6	27	14	5.4	2.2	23
SCW 1		<0.20	0.310	<0.010	<0.010	1.6	4.8	0.76	1.6	1.4	0.70
TPW 3		<0.20	0.530	<0.010	<0.010	1.0	16	6.2	3.3	4.5	0.90
WVW 171		<0.20	2.20	<0.010	<0.010	0.5	21	3.8	14	3.7	29
WVW 172		<0.20	2.60	<0.010	<0.010	0.3	16	3.9	9.6	3.3	18
WVW 172		--	--	--	--	--	--	--	--	--	--
WVW 172		<0.20	2.60	<0.010	<0.010	0.4	15	3.8	9.5	3.3	17

LOCAL
IDENT-
I-
FIER

SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS STO2) (00955)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO- METON, WATER, DISS, REC (UG/L) (04037)
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BERKSHIRE COUNTY

DAW 36		12	0.10	5.6	22	21	<0.02	<0.01	<0.01	<0.01
DAW 37		12	0.40	11	4	180	--	--	--	--
DAW 37		--	--	--	--	--	<0.02	<0.01	<0.01	<0.01
DAW 38		7.4	0.10	5.0	120	71	<0.02	<0.01	<0.01	<0.01
GMW 67		--	--	--	--	--	<0.02	<0.01	<0.01	<0.01
GMW 68		--	--	--	--	--	<0.02	<0.01	<0.01	<0.01
GMW 69		--	--	--	--	--	<0.02	<0.01	<0.01	<0.01
GMW 70		8.7	0.10	11	44	280	<0.02	<0.01	<0.01	<0.01
M6W 24		--	--	--	--	--	<0.02	<0.01	<0.01	<0.01
NKW 54		--	--	--	--	--	<0.02	<0.01	0.02	<0.01
NKW 54		--	--	--	--	--	--	--	--	--
NKW 55		12	<0.10	6.2	6	2	<0.02	<0.01	<0.01	<0.01
SJW 76		--	--	--	--	--	<0.02	<0.01	<0.01	<0.01
SJW 77		--	--	--	--	--	<0.02	<0.01	<0.01	<0.01
SJW 78		--	--	--	--	--	--	--	--	--
SJW 79		24	0.10	6.8	44	500	<0.02	<0.01	<0.01	<0.01

HAMPDEN COUNTY

BOW 72		33	<0.10	14	9	58	<0.02	<0.01	<0.01	<0.01
SCW 1		11	0.10	6.4	45	780	--	--	--	--
TPW 3		9.4	0.10	12	16	430	--	--	--	--
WVW 171		15	<0.10	11	7	580	<0.02	<0.01	<0.01	0.06
WVW 172		14	<0.10	13	<3	20	<0.02	<0.01	<0.01	0.01
WVW 172		--	--	--	--	--	<0.02	<0.01	<0.01	0.01
WVW 172		14	<0.10	12	3	20	--	--	--	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER		DEETHYL- ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	P, P' DDE DISSOLV (UG/L) (34653)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	LINDANE DIS- SOLVED (UG/L) (39341)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)
BERKSHIRE COUNTY										
DAW	36	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	138	<0.01	<0.02
DAW	37	--	--	--	--	--	--	375	--	--
DAW	37	<0.02	<0.01	<0.01	<0.01	<0.01	<0.00	375	<0.01	<0.02
DAW	38	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	28	<0.01	<0.02
GMW	67	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	99	<0.01	<0.02
GMW	68	<0.02	<0.01	<0.01	<0.01	<0.01	<0.00	44	<0.01	<0.02
GMW	69	<0.02	<0.01	<0.01	<0.01	<0.01	<0.00	85	<0.01	<0.02
GMW	70	<0.02	<0.01	<0.01	<0.01	<0.01	<0.00	205	<0.01	<0.02
M6W	24	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	85	<0.01	<0.02
NKW	54	0.21	<0.01	<0.01	<0.01	<0.02	<0.00	149	<0.01	<0.02
NKW	54	--	--	--	--	--	--	--	--	--
NKW	55	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	188	<0.01	<0.02
SJW	76	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	205	<0.01	<0.02
SJW	77	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	74	<0.01	<0.02
SJW	78	--	--	--	--	--	--	122	--	--
SJW	79	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	105	<0.01	<0.02
HAMPDEN COUNTY										
BOW	72	0.41	<0.01	<0.01	<0.01	<0.02	<0.00	23	<0.01	<0.02
SCW	1	--	--	--	--	--	--	9	--	--
TPW	3	--	--	--	--	--	--	61	--	--
WVW	171	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	42	<0.01	<0.02
WVW	172	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	32	<0.01	<0.02
WVW	172	<0.02	<0.01	<0.01	<0.01	<0.02	<0.00	--	<0.01	<0.02
WVW	172	--	--	--	--	--	--	--	--	--
LOCAL IDENT- I- FIER		METO- LACHLOR WATER DISSOLV (UG/L) (39415)	MALA- THION, DIS- SOLVED (UG/L) (39532)	PARA- THION, DIS- SOLVED (UG/L) (39542)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	ALA- CHLOR, WATER, DISS, REC (UG/L) (46342)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)
BERKSHIRE COUNTY										
DAW	36	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	163	<0.010	1150
DAW	37	--	--	--	--	--	--	150	0.020	1130
DAW	37	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	--	--	1130
DAW	38	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	36	0.010	1138
GMW	67	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	--	--	960
GMW	68	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	--	--	720
GMW	69	<0.01	<0.01	<0.02	<0.01	0.01	<0.01	--	--	720
GMW	70	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	227	0.020	675
M6W	24	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	--	--	1170
NKW	54	0.01	<0.01	<0.02	<0.01	0.56	<0.01	--	--	690
NKW	54	--	--	--	--	--	--	--	--	690
NKW	55	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	303	0.020	780
SJW	76	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	--	--	660
SJW	77	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	--	--	650
SJW	78	--	--	--	--	--	--	--	--	673
SJW	79	<0.01	<0.01	<0.02	<0.01	0.02	<0.01	164	0.020	670
HAMPDEN COUNTY										
BOW	72	<0.01	<0.01	<0.02	<0.01	0.16	<0.01	217	0.030	672
SCW	1	--	--	--	--	--	--	34	<0.010	725
TPW	3	--	--	--	--	--	--	94	<0.010	1420
WVW	171	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	134	0.040	141
WVW	172	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	103	0.030	148
WVW	172	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	--	--	148
WVW	172	--	--	--	--	--	--	106	0.030	148

LOCAL
IDENT-
I-
FIER

METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	2, 6-DI- ETHYL ANALINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	DIMETH- OATE WATER FLTRD 0.7 U GG, REC (UG/L) (82662)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	METHYL PARA- THON WAT FLT 0.7 U GF, REC (UG/L) (82667)
--	--	---	--	---	--	--	---	---

DAW	36		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
DAW	37	--	--	--	--	--	--	--	--	--	--
DAW	37		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
DAW	38		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
GMW	67		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
GMW	68		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
GMW	69		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
GMW	70		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
M6W	24		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
NKW	54		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
NKW	54	--	--	--	--	--	--	--	--	--	--
NKW	55		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
SJW	76		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
SJW	77		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03
SJW	78	--	--	--	--	--	--	--	--	--	--
SJW	79		<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.03	<0.04	<0.03

[illegible]

LOCAL IDENT- I- FIER	EPTC	PEB- ULATE	TEBU- THIURON	MOL- INATE	ETHO- PROP	BEN- FLUR-	CARBO- FURAN	TER- BUPOS	PRON- AMIDE
	WATER	WATER	WATER	WATER	WATER	ALIN	WATER	WATER	WATER
	FLTRD	FILTRD	FLTRD	FLTRD	FLTRD	WAT PLD	FLTRD	FLTRD	FLTRD
	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
	GF, REC (UG/L) (82668)	GF, REC (UG/L) (82669)	GF, REC (UG/L) (82670)	GF, REC (UG/L) (82671)	GF, REC (UG/L) (82672)	GF, REC (UG/L) (82673)	GF, REC (UG/L) (82674)	GF, REC (UG/L) (82675)	GF, REC (UG/L) (82676)

DAW	36	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
DAW	37	--	--	--	--	--	--	--	--	--
DAW	37	<0.00	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
DAW	38	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
GMW	67	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
GMW	68	<0.00	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
GMW	69	<0.00	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
GMW	70	<0.00	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
M6W	24	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NKW	54	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NKW	54	--	--	--	--	--	--	--	--	--
NKW	55	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SJW	76	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SJW	77	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SJW	78	--	--	--	--	--	--	--	--	--
SJW	79	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

[illegible]

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER		DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	
BERKSHIRE COUNTY											
DAW	36	<0.02	<0.00	<0.02	0.02	<0.01	<0.00	<0.02	<0.01	<0.01	
DAW	37	--	--	--	--	--	--	--	--	--	
DAW	37	<0.02	<0.01	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	
DAW	38	<0.02	<0.00	<0.02	0.02	<0.01	<0.00	<0.02	<0.01	<0.01	
GMW	67	<0.02	<0.00	<0.02	0.02	<0.01	<0.00	<0.02	<0.01	<0.01	
GMW	68	<0.02	<0.01	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	
GMW	69	<0.02	<0.01	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	
GMW	70	<0.02	<0.01	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	
M6W	24	<0.02	<0.00	<0.02	0.02	<0.01	<0.00	<0.02	<0.01	<0.01	
NKW	54	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	
NKW	54	--	--	--	--	--	--	--	--	--	
NKW	55	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	
SJW	76	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	
SJW	77	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	
SJW	78	--	--	--	--	--	--	--	--	--	
SJW	79	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01	

HAMPDEN COUNTY										
BOW	72	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01
SCW	1	--	--	--	--	--	--	--	--	--
TPW	3	--	--	--	--	--	--	--	--	--
WVW	171	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01
WVW	172	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01
WVW	172	<0.02	<0.00	<0.02	<0.05	<0.01	<0.00	<0.02	<0.01	<0.01
WVW	172	--	--	--	--	--	--	--	--	--

LOCAL IDENT- I- FIER		METHYL AZIN- PHOS	PER- METHRIN CIS	SPE- CIFIC CON- DUCT- ANCE		ALKA- LINITY LAB (MG/L AS CACO3) (90410)	DIAZ- INON D10 SRG WAT FLT 0.7 U GF, REC (91063)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC (91064)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC (91065)	SAMPLE VOLUME SCHED- ULE 2010 (ML) (99857)	
		WAT FLT 0.7 U GF, REC (UG/L) (82686)	WAT FLT 0.7 U GF, REC (UG/L) (82687)	SAMPLER TYPE (CODE) (84164)		LAB (US/CM) (90095)	WAT FLT 0.7 U GF, REC (91063)	WAT FLT 0.7 U GF, REC (91064)	WAT FLT 0.7 U GF, REC (91065)		
		BERKSHIRE COUNTY									
DAW	36	<0.08	<0.02	4050	308	147	100	120	90	927	
DAW	37	--	--	--	659	310	--	--	--	--	
DAW	37	<0.04	<0.02	--	--	--	90	110	90	892	
DAW	38	<0.08	<0.02	4050	81	33	100	120	100	947	
GMW	67	<0.08	<0.02	4050	--	--	100	130	100	947	
GMW	68	<0.04	<0.02	4050	--	--	90	100	90	950	
GMW	69	<0.04	<0.02	4050	--	--	90	100	90	924	
GMW	70	<0.04	<0.02	4050	411	216	80	99	80	937	
M6W	24	<0.08	<0.02	4050	--	--	100	120	100	949	
NKW	54	<0.08	<0.02	4050	--	--	100	100	90	903	
NKW	54	--	--	--	--	--	--	--	--	--	
NKW	55	<0.08	<0.02	4020	507	181	80	100	90	947	
SJW	76	<0.08	<0.02	4050	--	--	80	87	80	918	
SJW	77	<0.08	<0.02	4050	--	--	90	100	90	918	
SJW	78	--	--	4020	--	--	--	--	--	--	
SJW	79	<0.08	<0.02	4050	306	113	20	23	20	942	

HAMPDEN COUNTY										
BOW	72	<0.08	<0.02	4050	325	21	100	120	100	898
SCW	1	--	--	--	54	12	--	--	--	--
TPW	3	--	--	4080	163	70	--	--	--	--
WVW	171	<0.08	<0.02	4050	239	46	100	130	90	919
WVW	172	<0.08	<0.02	4050	186	36	100	140	100	928
WVW	172	<0.08	<0.02	--	--	--	100	130	90	975
WVW	172	--	--	--	185	35	--	--	--	--

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

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



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