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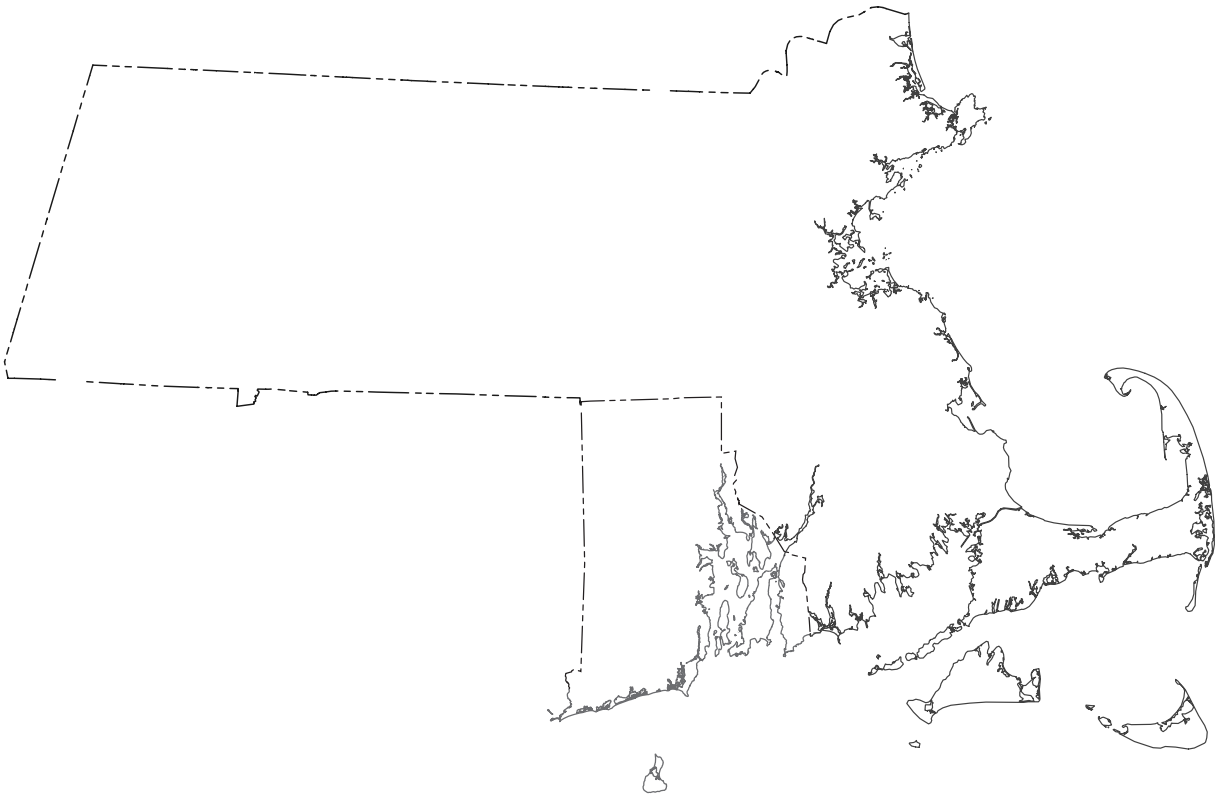
Water Resources Data Massachusetts and Rhode Island Water Year 2003

By R.S. Socolow, J.L. Zanca, T.R. Driskell, and L.R. Ramsbey

Water-Data Report MA-RI-03-1



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

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2004

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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Water resources data for the 2003 water year for Massachusetts and Rhode Island consists of records of stage, discharge, and water quality of streams; contents of lakes and reservoirs; and water levels of ground-water wells. This report contains discharge records for 108 gaging stations, stage records for 2 gaging stations, stage records for 3 ponds; monthend contents of 1 reservoir, precipitation totals at 8 gaging stations; water quality for 27 gaging stations, air temperature at 2 climatological stations; water levels for 129 observation wells, and ground-water quality for 15 wells. 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 miscellaneous surface-water-quality data. 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.

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*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.

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(Letters after station name designate type of data: (d) discharge; (st) stage only; (l) lake; (c) chemical; (t) water temperature; (at) air temperature; (b) biological; (m) microbiological; (s) sediment; (p) precipitation)

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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 (water years)
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
Sudbury River at Ashland, Mass.	01097480	35.1	1994–95
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
NORTH COASTAL BASIN			
Mill Brook at Rockport, Mass.	01102029	.55	1999–2000
Sawmill Brook near Rockport, Mass	011020308	.53	1999–2000
CHARLES RIVER BASIN			
Charles River at Millis, Mass.	01103305	84.0	1974–80
Hobbs Brook at Mill Street near Lincoln, Mass.	01104405	2.16	1998
Cambridge Reservoir, Unnamed Tributary 1 near Lexington, Mass.	01104410	.35	1998
Cambridge Reservoir, Unnamed Tributary 2 near Lexington, Mass.	01104415	.41	1998
Cambridge Reservoir, Unnamed Tributary 3 near Lexington, Mass.	01104420	.73	1998
Hobbs Brook at Kendal Green, Mass.	01104440	8.47	1998
Charles River above Watertown Dam at Watertown, Mass.	01104615	271	2000
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
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

Discontinued surface-water discharge stations--Continued

Station Name	Station Number	Drainage area (mi^2)	Period of record (water years)
HERRING RIVER BASIN			
Herring River at North Harwich, Mass.	01105880	9.4	1966–88
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
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
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
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
THAMES RIVER BASIN			
Quinebaug River at Westville, Mass.	01123500	93.6	1940–62
French River below Hodges Village Dam at Hodges Village, Mass.	01124350	31.2	1962–90
Little River near Oxford, Mass.	01124500	267.4 (revised)	1939–90
Browns Brook near Webster, Mass.	01124750	.49	1963–77
French River at Webster, Mass.	01125000	86.0 (revised)	1949–81
Bucks Horn Brook at Greene, R.I.	01126200	5.52	1965–74

Discontinued surface-water discharge stations--Continued

Station Name	Station Number	Drainage area (mi^2)	Period of record (water years)
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
Deerfield River near Rowe, Mass.	01168151	254	1974–97
Unnamed Channel to Wilder Brook at Buckland, Mass.	01168639	.01	1993–95
Wilder Brook at Buckland, Mass.	01168640	.07	1993–95
Fort River near Amherst, Mass.	01171300	36.3	1966–96
Bassett Brook near Northampton, Mass.	01171800	5.56	1963–74
Connecticut River below Holyoke Dam at Holyoke, Mass.	01172003	8,309	1984–2002
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
Dickey Brook near Cooleyville, Mass.	01174570	1.19	1985–89
Dickey Brook tributary near Cooleyville, Mass.	01174575	1.06	1985–89
Cadwell Creek near Pelham, Mass.	01174600	.60	1962–94
Cadwell Creek near Belchertown, Mass.	01174900	2.55	1961–97
Mill River at Springfield, Mass.	01178000	33.2	1939–51
Westfield River at West Chesterfield, Mass.	01178500	110	1946–51
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 near Great Barrington, Mass.	01198000	51.0	1951–71, 1994–96
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
Ironworks Brook, East Road, at Sheffield, Mass.	01198122	11.2	1994–96
Housatonic River near Ashley Falls, Mass.	01198125	465	1994–96
Konkapot River at Ashley Falls, Mass.	01198200	61.1	1994–96
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	3,956	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
CHARLES RIVER BASIN				
Charles River at Dover, Mass.	01103500	183	Temp., S.C.	1975–81
Hobbs Brook at Mill Street near Lincoln, Mass.	01104405	2.16	Temp., S.C.	1998
Cambridge Reservoir, Unnamed Tributary 1 near Lexington, Mass.	01104410	.35	Temp., S.C.	1998
Cambridge Reservoir, Unnamed Tributary 2 near Lexington, Mass.	01104415	.41	Temp., S.C.	1998
Cambridge Reservoir, Unnamed Tributary 3 near Lexington, Mass.	01104420	.73	Temp., S.C.	1998
Hobbs Brook at Kendal Green, Mass.	01104440	8.47	Temp., S.C.	1998
Stony Brook, Unnamed Tributary 1 near Waltham, Mass.	01104455	.48	Temp., S.C.	1998
Stony Brook at Route 20 near Waltham, Mass.	01104460	22.0	Temp., S.C.	1998
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
Blackstone River at Woonsocket, R.I.	01112500	416	Temp.	1962–67

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

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
PAWTUXET RIVER BASIN				
Pawtuxet River at Cranston, R.I.	*01116500	200	Temp., S.C.	1962–81
POTOWOMUT RIVER BASIN				
Hunt River near Davisville, R.I.	01116910	17.3	Temp.	1962–65
Hunt River near East Greenwich, R.I.	01117000	23.0	Temp., S.C.	1977–81
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.	1979–83
			S.C.	1979–80, 1982–83
Beaver River at Kenyon, R.I.	01117472	11.7	Temp., S.C.	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	1973–81
			D.O.	1973–76, 1978–81
Connecticut River at West Springfield, Mass.	01177200	9,623	Temp., S.C., pH, D.O.	1972–75, 1977, 1979–81
Walker Brook near Becket Center, Mass.	01180800	2.94	Temp., S.C.	1972–77
Westfield River at West Springfield, Mass.	01183600	513	Temp., S.C., pH, D.O.	1972–76
Connecticut River at Agawam, Mass.	01183750	--	Temp., S.C., D.O.	1969–81
			pH	1969–76, 1979–81
HOUSATONIC RIVER BASIN				
Housatonic River near Great Barrington, Mass.	01197500	282	Sed.	1979–80, 1994–96

Water Resources Data for Massachusetts and Rhode Island, 2003

By R.S. Socolow, J.L. Zanca, T.R. Driskell, and L.R. Ramsbey

INTRODUCTION

The Water Resources Discipline of the U.S. Geological Survey (USGS), 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."

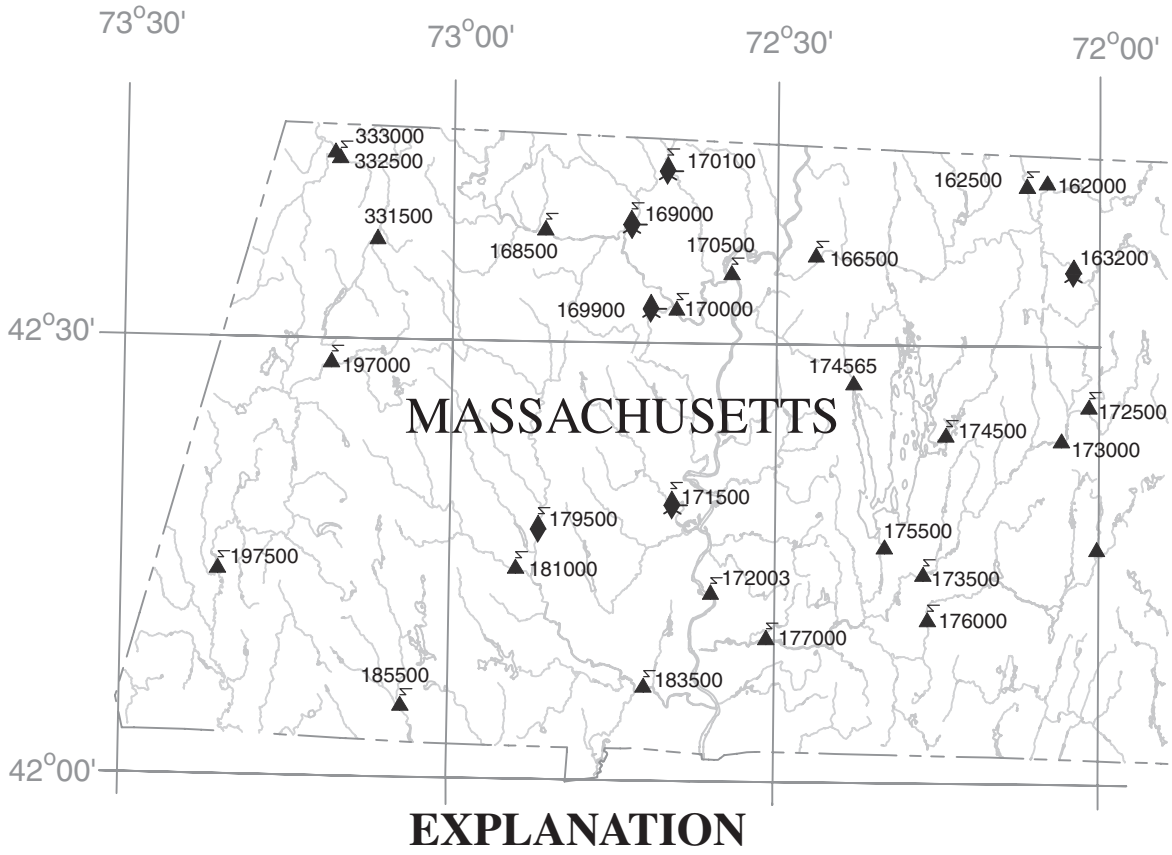
Hydrologic data are also available through the Massachusetts–Rhode Island District Home Page on the World Wide Web (http://ma.water.usgs.gov). Historical data and real-time data (for sites equipped with satellite gage-height telemeter) are also available. The home page also contains a link to the U.S. Geological Survey national home page where streamflow data from locations throughout the United States can be retrieved (http://waterdata.usgs.gov/nwis). Please be advised that hydrographs for surface-water discharge stations and ground-water-level observation wells are available only online in page-sized pdf format through the USGS Web page (http://water.usgs.gov/pubs/wdr/). Surface-water hydrographs display daily mean discharge for water year 2003; ground-water-level hydrographs display water levels for water years 1993 through 2003.

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 for 108 gaging stations; stage records for 2 gaging stations; stage records for 3 ponds; month-end contents of 1 reservoir; precipitation totals at 8 gaging stations; water quality for 27 gaging stations; air temperature at 2 climatological stations; water levels for 129 observation wells; and ground-water quality for 15 wells. Locations of these sites are shown in figures 1 and 2. Hydrologic data were collected at many sites that were not involved in the systematic data-collection program; these data are published as miscellaneous discharge measurements, miscellaneous surface-water-quality, and miscellaneous ground-water-quality data. The data in this report represent that part of the National Water Information System (NWIS) 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." 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, Information Services, Box 25286, Denver Federal Center, Box 25425, Denver, CO 80225-0286.

Publications similar to this report are published annually by the USGS 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-03-1." 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. 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 (800) 696-4042.

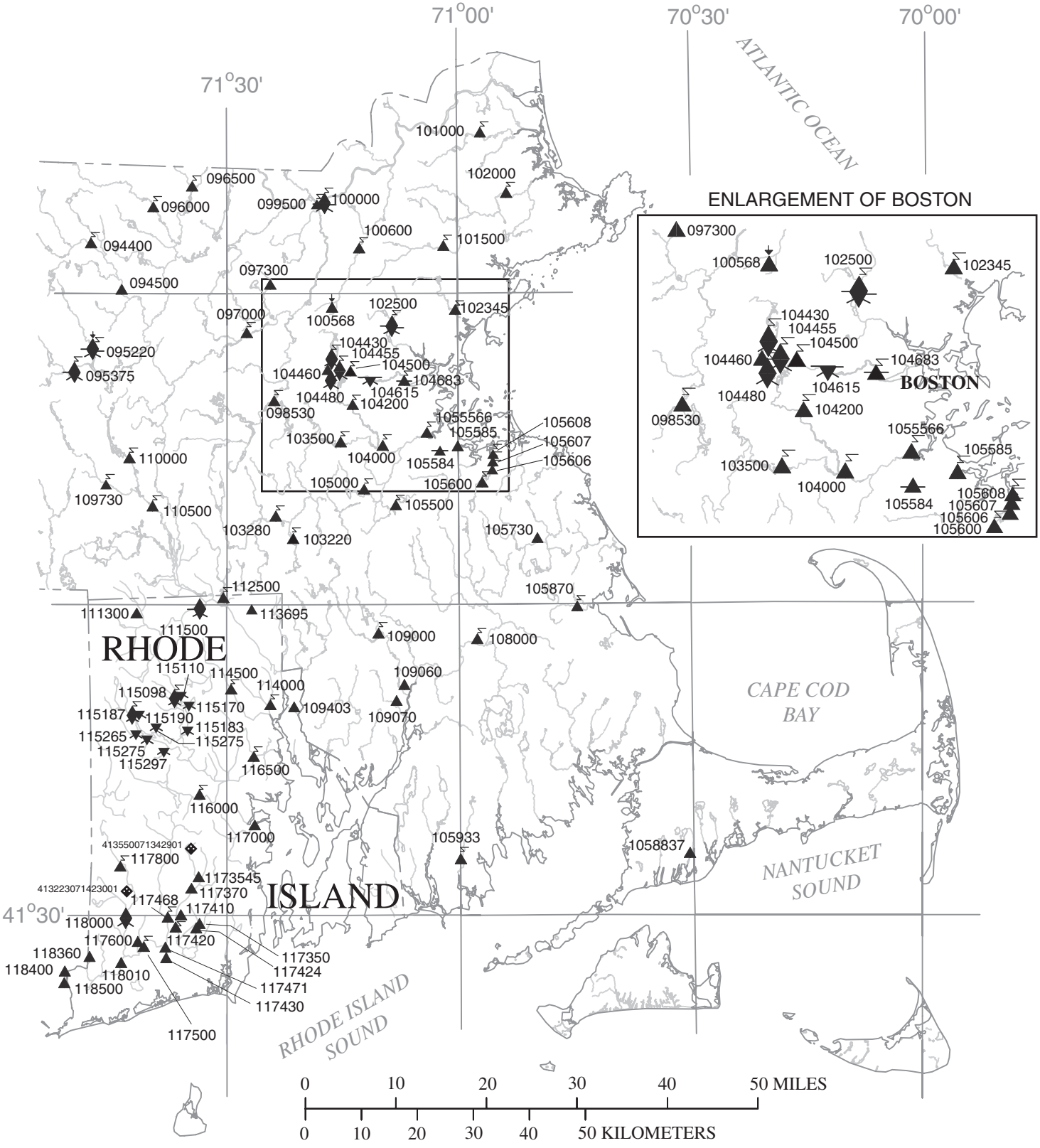


EXPLANATION

- WATER-DISCHARGE STATION WITH SATELLITE OR PHONE TELEMETER AND DATA ON THE WEB PAGE
- WATER-DISCHARGE STATION
- STREAM STAGE ONLY
- WATER-QUALITY STATION
- CHEMICAL-MEASUREMENT SITE
- TEMPERATURE-MEASUREMENT SITE
- MICROBIOLOGICAL-MEASUREMENT SITE
- SEDIMENT-MEASUREMENT SITE
- STATION WITH PRECIPITATION MEASUREMENT
- AIR TEMPERATURE AND PRECIPITATION MEASUREMENT SITE

GAGING-STATION NUMBERS ARE IN ABBREVIATED FORM: THE FIRST TWO DIGITS (01) ARE OMITTED, FOR EXAMPLE STATION NUMBER 01176000 IS SHOWN ON MAP AS 176000

Figure 1. Location of gaging stations.


71°00'
70°30'
70°00'
71°30'
41°30'
ATLANTIC OCEAN
ENLARGEMENT OF BOSTON
BOSTON
RHODE ISLAND
CAPE COD BAY
NANTUCKET SOUND
RHODE ISLAND SOUND
101000
102000
096500
096000
099500
100000
100600
101500
094400
094500
097300
097000
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102500
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105608
105607
105606
103500
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111500
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108000
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118000
117600
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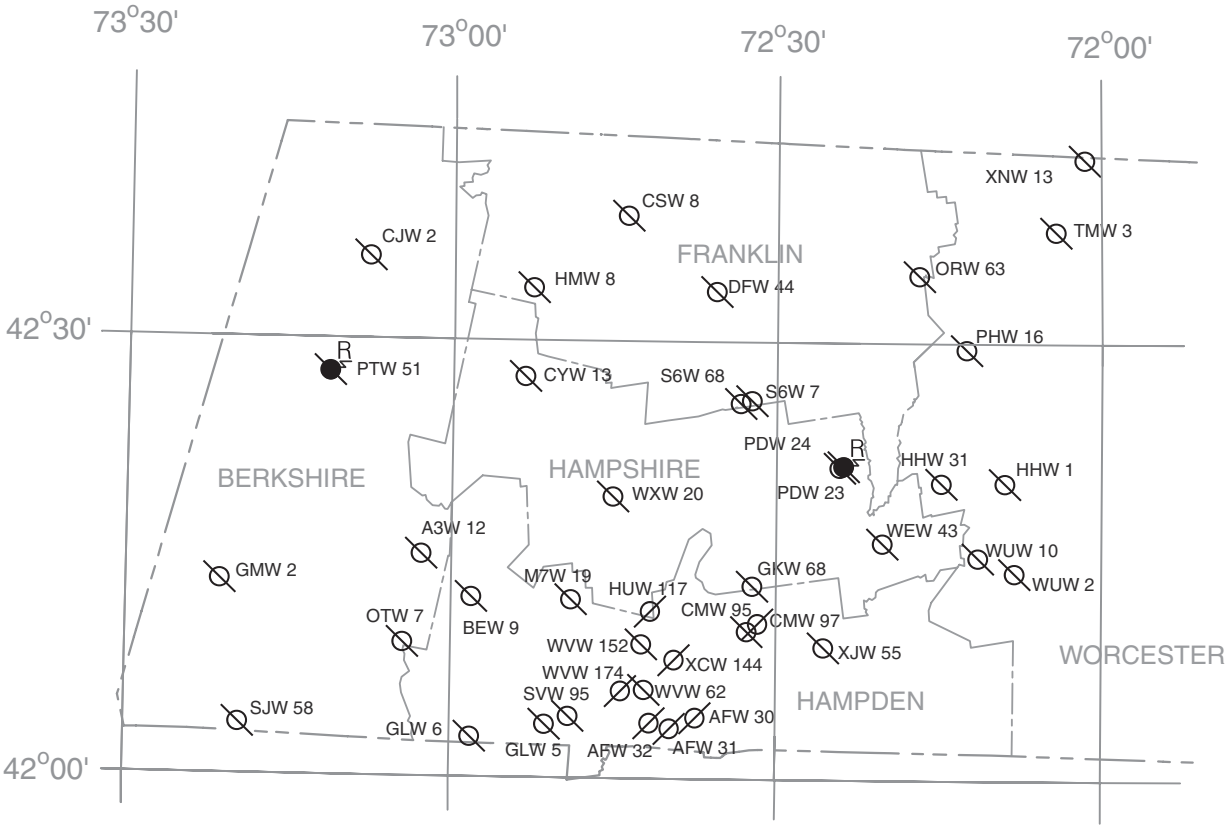
0 10 20 30 40 50 KILOMETERS



EXPLANATION

GMW 2 — OBSERVATION WELL AND LOCAL WELL NUMBER MEASURED MONTHLY

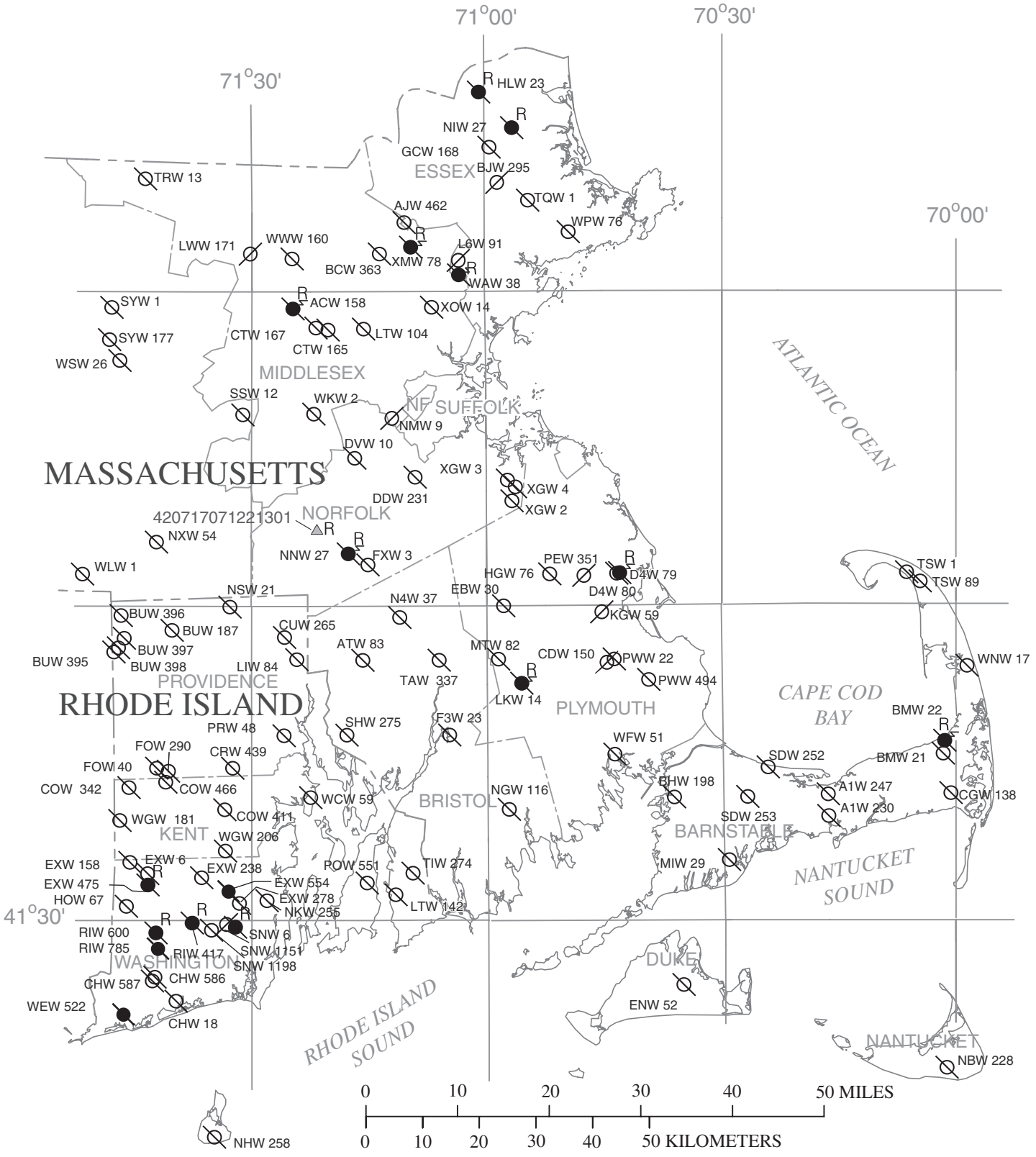
NIW 27 R — OBSERVATION WELL WITH RECORDER

PTW 51 R — OBSERVATION WELL WITH RECORDER AND SATELLITE-TELEMETERED DATA ON WEB PAGE

BJW 295 — OBSERVATION WELL WITH INTERMITTENT WATER-QUALITY DATA (NAWQA)

420717071221301 △R — LAKE-LEVEL GAGE AND NUMBER WITH RECORDER

Figure 2. Location of observation wells.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70°30'
71°30'
70°00'
41°30'
HLW 23
NIW 27
GCW 168
BJW 295
ESSEX
TRW 13
TQW 1
AJW 462
WPW 76
LWW 171
WWW 160
L6W 91
BCW 363
XMW 78
WAW 38
SYW 1
ACW 158
XOW 14
SYW 177
CTW 167
CTW 165
LTW 104
WSW 26
MIDDLESEX
SSW 12
WKW 2
NF SUFFOLK
NMW 9
DVW 10
MASSACHUSETTS
XGW 3
XGW 4
XGW 2
DDW 231
420717071221301
NORFOLK
NXW 54
NNW 27
FXW 3
WLW 1
PEW 351
D4W 79
HGW 76
D4W 80
NSW 21
EBW 30
N4W 37
KGW 59
BUW 396
BUW 187
CUW 265
BUW 397
ATW 83
MTW 82
CDW 150
PWW 22
BUW 395
BUW 398
LIW 84
TAW 337
LKW 14
PWW 494
PROVIDENCE
RHODE ISLAND
PLYMOUTH
SHW 275
F3W 23
PRW 48
WFW 51
FOW 290
CRW 439
FOW 40
COW 342
COW 466
WCW 59
NGW 116
BRISTOL
COW 411
WGW 181
KENT
WGW 206
EXW 158
EXW 6
EXW 238
ROW 551
TIW 274
EXW 475
EXW 554
HOW 67
EXW 278
NKW 255
LTW 142
RIW 600
SNW 6
RIW 785
RIW 417
SNW 1151
SNW 1198
WASHINGTON
CHW 587
CHW 586
WEW 522
CHW 18
RHODE ISLAND SOUND
ATLANTIC OCEAN
CAPE COD BAY
BMW 22
BMW 21
WNW 17
SDW 252
BHW 198
A1W 247
A1W 230
CGW 138
SDW 253
BARNSTABLE
MIW 29
NANTUCKET SOUND
DUKE
ENW 52
TSW 1
TSW 89
NANTUCKET
NBW 228
NHW 258
0 10 20 30 40 50 MILES
0 10 20 30 40 50 KILOMETERS

COOPERATION

The USGS 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 during the 2003 water year were:

Massachusetts:

Department of Environmental Management,
P.C. Webber, Commissioner
Office of Water Resources,
M.L. Gildesgame, Director;
Department of Environmental Protection,
R.W. Golledge, Jr., Commissioner
Division of Watershed Management,
Glenn Haas, Director
Metropolitan District Commission,
William McKinney, Commissioner
Division of Watershed Management,
J.M. McGinn, Director
Division of Parks, Engineering, and Construction,
F.D. Faucher, Director
Town of Dartmouth,
Manuel Branco, Water Superintendent
Town of Franklin,
W.A. Fitzgerald, Director, Department of Public Works
Town of Weymouth,
Bradley Hayes, Superintendent, Water Department
Upper Blackstone Water Pollution Abatement District
T.K. Walsh, Director

Rhode Island:

State Water Resources Board,
M. Paul Sams, General Manager
D.W. Varin, Chairman
Department of Environmental Management,
Fred Vincent, Acting Director,
Providence Water Supply Board,
Robert Kilduff, General Manager and Chief Engineer
A. Parillo, Chairman
Ocean State Power
Gary Couture, EHS Engineer
Rhode Island Emergency Management Agency
A.A. Scappaticci

Assistance in the form of funds or services was given by the U.S. Army Corps of Engineers, in collecting records for three gaging stations published in the report. Assistance in the form of services was given by the Cape Cod Commission, Barnstable County, Nantucket Land Council, Nantucket County, and Cooperative Extension, Martha's Vineyard, Dukes County, Massachusetts, in measuring observation wells on Cape Cod, Nantucket Island, and Martha's Vineyard Island, Massachusetts.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

Runoff was generally normal (between lowest and highest 25 percent of record) and below normal (lowest 25 percent of record) at most gaging stations in Massachusetts and Rhode Island from October 2002 through January 2003. Runoff dropped to below normal (lowest 25 percent of record) in February. Runoff increased in March and was generally normal and above normal from March through September 2003 in Massachusetts and Rhode Island.

Annual peak discharges occurred throughout most of Massachusetts and Rhode Island primarily from March 21 to April 2. Heavy precipitation on April 12–13 resulted in annual peak discharges in south-coastal rivers of Massachusetts. Several gaging stations in south-central Massachusetts recorded annual peak discharges on June 23. Annual peak discharges occurred in several western Massachusetts rivers on September 28.

Monthly discharges for the 2003 water year and median monthly discharges for the 30-year reference period 1971–2000 for three index gaging stations are compared in figure 3. Maps showing monthly surface-water conditions during the 2003 water year in Massachusetts and Rhode Island are shown in figure 4. The maps show areas of normal (between highest and lowest 25 percent of record), 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 gaging stations contained in this report. Additional statistics for each gaging station are provided with the tables of daily mean discharge. Historical monthly surface-water conditions maps dating back to 1999 are available on the Web at http://ma.water.usgs.gov/water/water_s.htm.

Reservoir Storage

During the 2003 water year, month-end storage of Quabbin Reservoir in central Massachusetts ranged from 76 percent of usable capacity at the end of October to 94 percent of usable capacity at the end of June. Month-end storage of Borden Brook/Cobble Mountain Reservoir in western Massachusetts ranged from 58 percent of usable capacity at the end of October to 96 percent of usable capacity at the end of June. Storage values for Quabbin and Borden Brook/Cobble Mountain Reservoirs were provided by the Metropolitan District Commission, Division of Watershed Management. The month-end storage of Scituate Reservoir in central Rhode Island ranged from 51 percent of usable capacity at the end of October to 105 percent of usable capacity at the end of April. Storage values were provided by the Providence Water Supply Board.

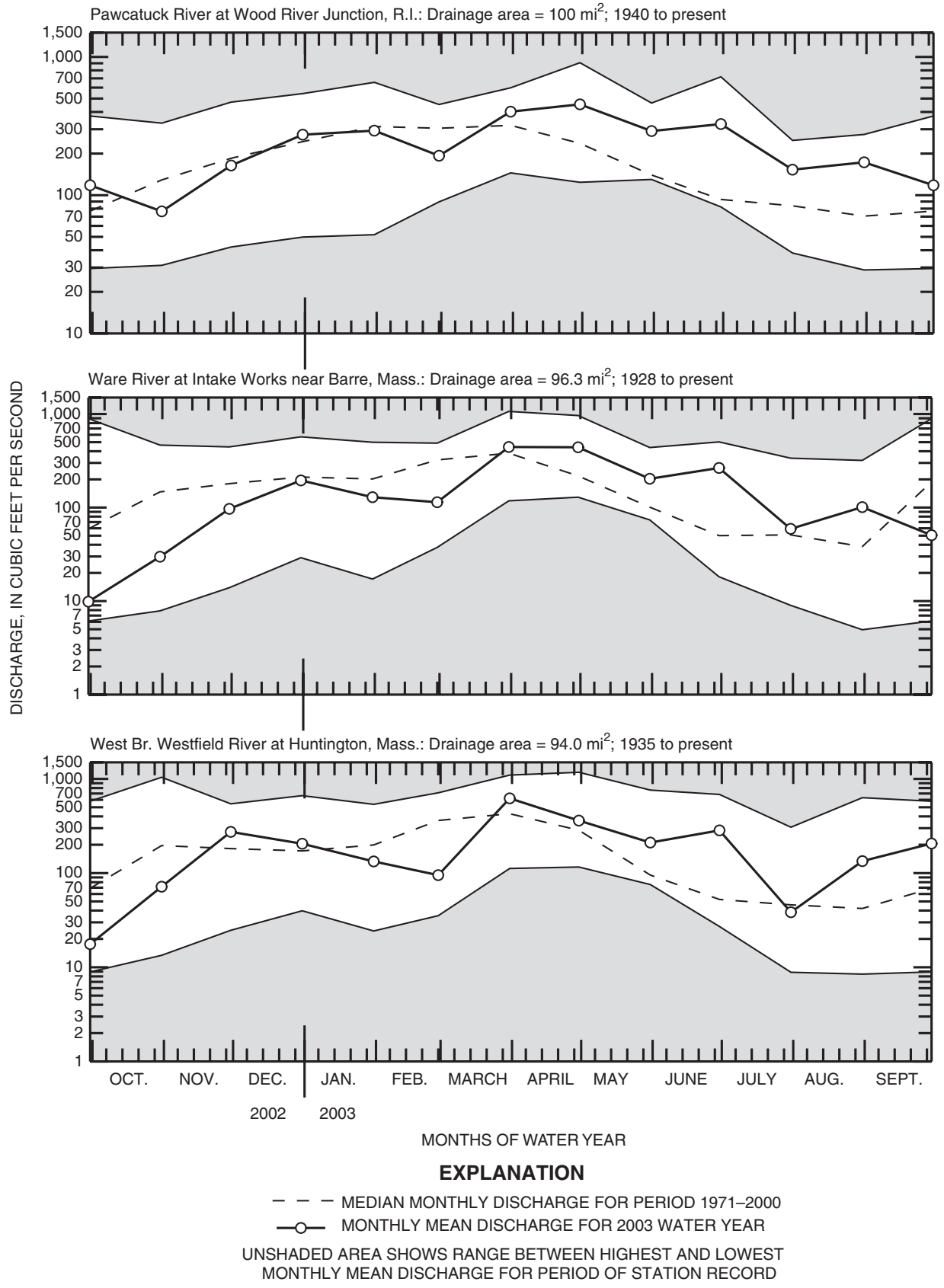

Figure 3. Comparison of discharge at three long-term index stations during the 2003 water year with median discharge for 1971–2000.

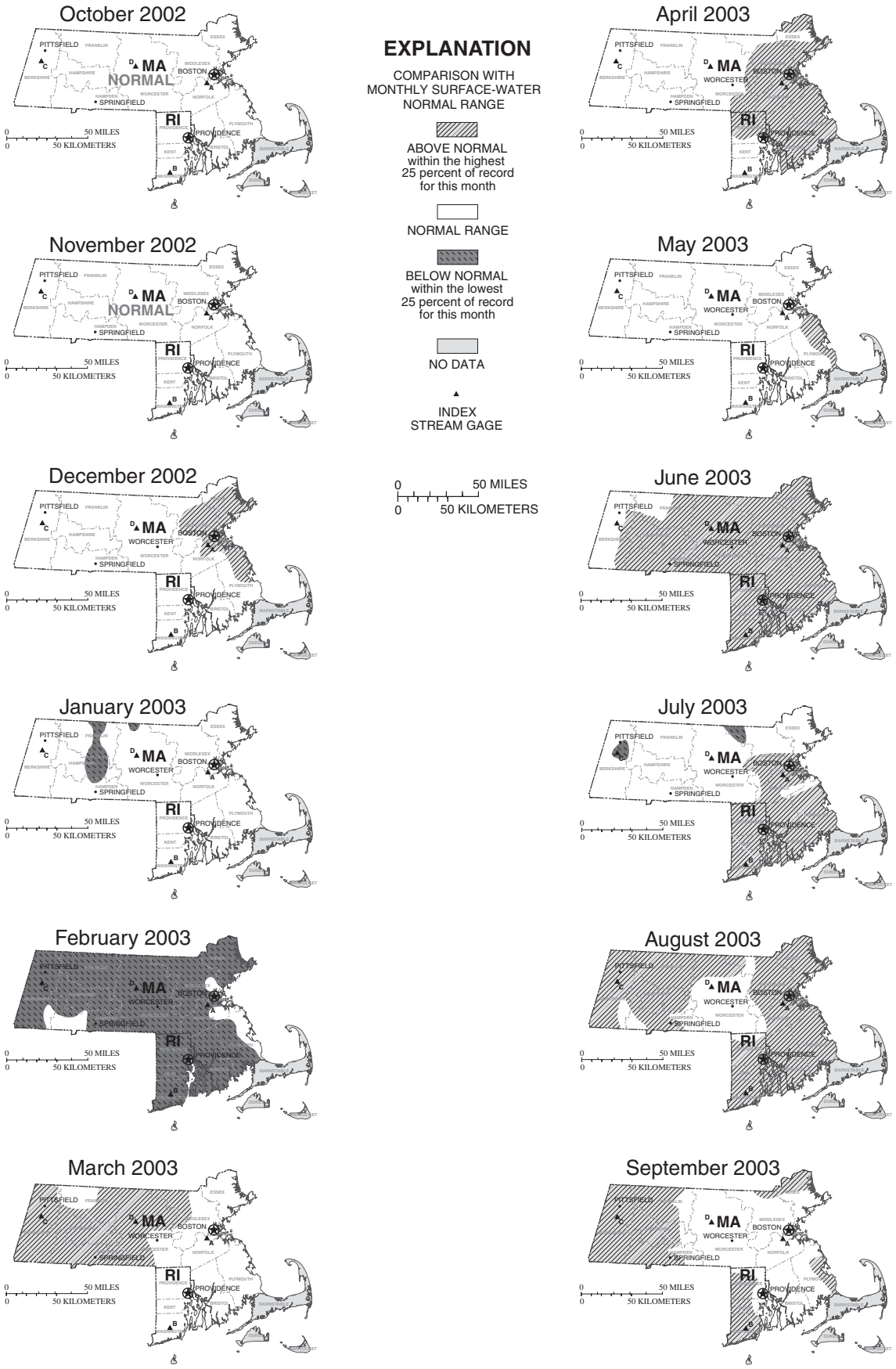

Figure 4. Monthly surface-water conditions during the 2003 water year in Massachusetts and Rhode Island.

Water Quality

Specific conductance and water temperature were recorded at 16 surface-water sites in Massachusetts and 11 surface-water sites in Rhode Island. In Massachusetts, water-quality data were recorded at 6 sites and were sampled intermittently at 10 sites. In Rhode Island, water-quality data were recorded at all 11 sites.

Four stations that had recorded water-quality data for 5 years or longer were in operation during the 2003 water year. These include: Stillwater River near Sterling, MA (01095220); Quinapoxet River at Canada Mills near Holden, MA (01095375); Hobbs Brook below Cambridge Reservoir near Kendal Green, MA (01104430); and Wood River at Hope Valley, RI (01118000). The following new extremes for period of gage operation were recorded during the 2003 water year: a new maximum specific conductance value was recorded at Stillwater River; new minimum water-temperature values were recorded at Stillwater River and Wood River. No new extremes were recorded at any other stations. New extreme values for these stations are listed in the station manuscripts.

Ground-Water Levels

From October 2002 through March 2003, new historical high ground-water levels were measured at four wells in Massachusetts (Becket 12, Hawley 8, Seekonk 275 and Sterling 1). There were no new historical high water levels measured at any wells in Rhode Island. During that same period, new historical low ground-water levels were measured at four wells in Massachusetts (Brewster 21, Brewster 22, Cheshire 2, and Seekonk 275) and at two wells in Rhode Island (Exeter 475 and Richmond 600). Also from October through March, new monthly high ground-water levels (including historical high levels) were measured at 22 wells in Massachusetts and at 11 wells in Rhode Island. Also during that same period, new monthly low ground-water levels were measured at 17 wells in Massachusetts and at 4 wells in Rhode Island. Analyses of historical and monthly high and low ground-water levels are based on wells with 10 or more years of record.

From April through September 2003, new historical high ground-water levels were measured at four wells in Massachusetts (Barnstable 247, Hardwick 31, Wareham 51, and Westfield 152) and at one well in Rhode Island (New Shoreham “Block Island” 258). During that same period, no historical low ground-water levels were measured at any wells in Massachusetts or Rhode Island. Also from April through September, new monthly high ground-water levels were measured at 40 wells in Massachusetts and at 32 wells in Rhode Island. During that same period, no new monthly low water levels were measured at any wells in Massachusetts and Rhode Island.

Monthly water levels and median, maximum, and minimum monthly water levels for periods of record for three index observation wells in Massachusetts and Rhode Island are compared in figure 5. Maps showing monthly ground-water conditions during the 2003 water year in Massachusetts and Rhode Island are shown in figure 6. The maps show areas of normal (between the highest and lowest 25 percent of levels), above normal (within the highest 25 percent of levels), and below normal (within the lowest 25 percent of levels) ground-water levels for each month. Historical monthly ground-water-level conditions maps dating back to 1995 are available on the Web at http://ma.water.usgs.gov/water/water_g.htm.

Floods and Droughts

Floods

No major floods occurred during the 2003 water year in Massachusetts or Rhode Island.

Droughts

No major droughts occurred during the 2003 water year in Massachusetts or Rhode Island.

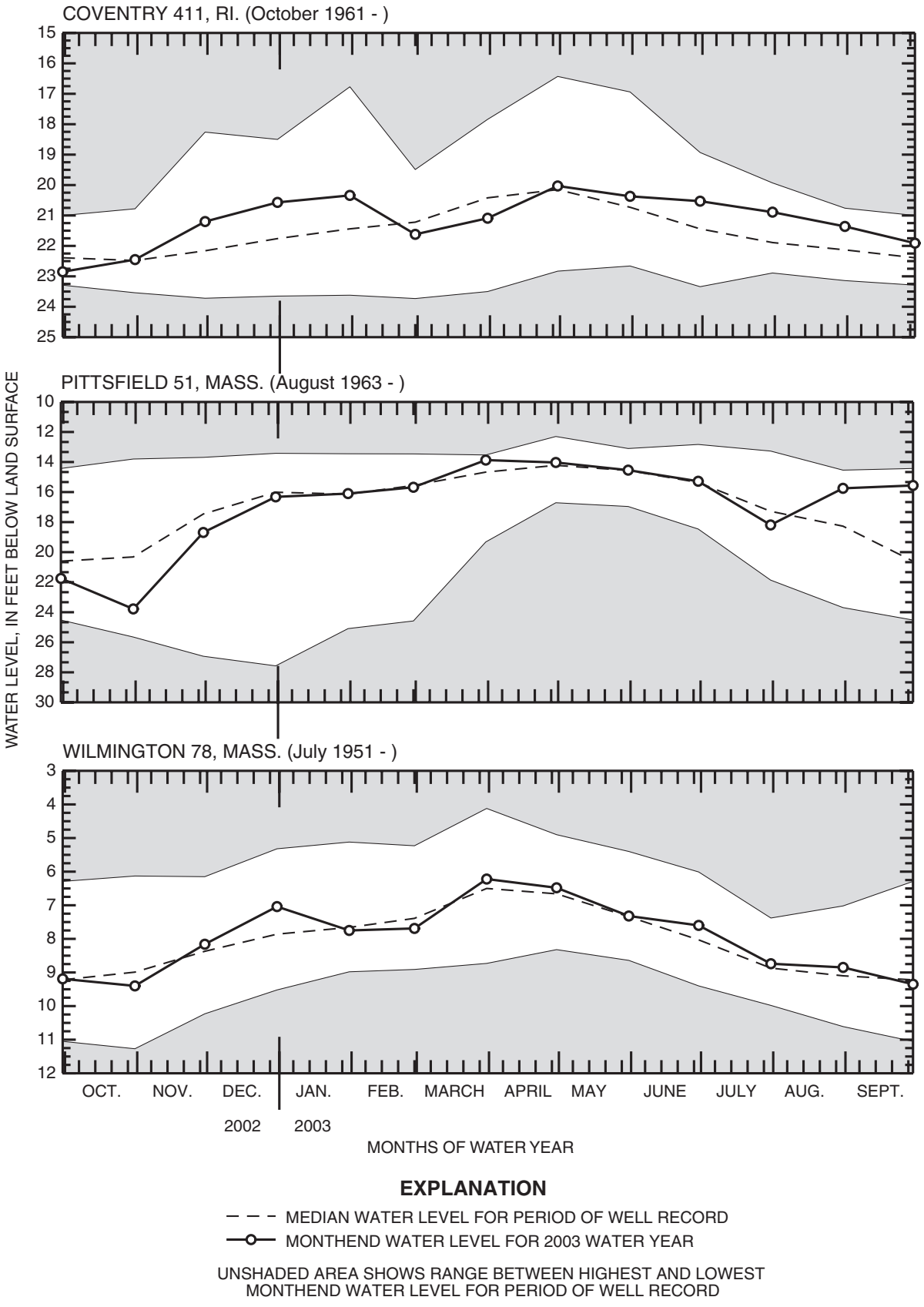

Figure 5. Comparison of monthly water levels in selected observation wells during the 2003 water year with median, maximum, and minimum monthly water levels for periods of record.

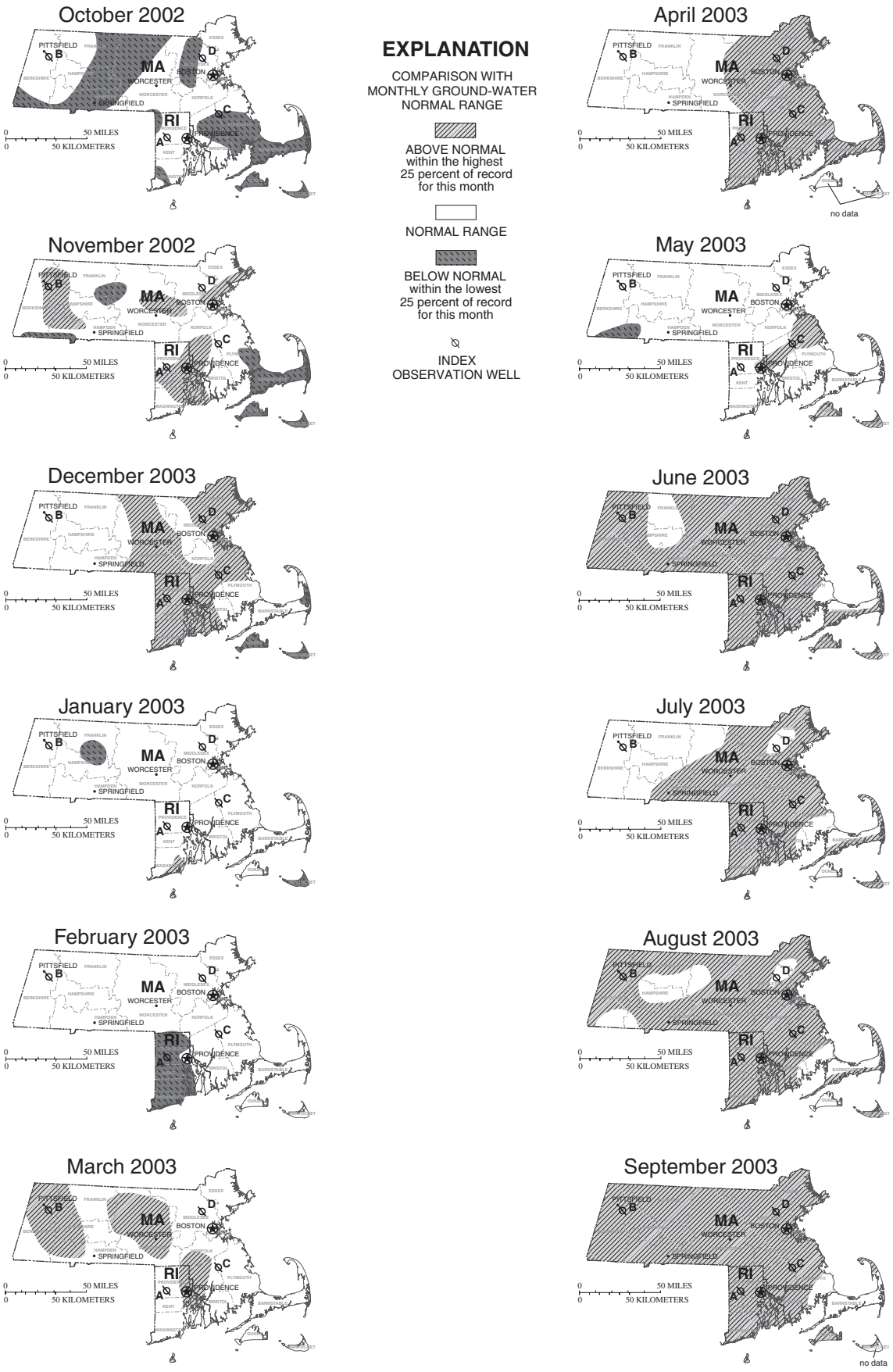

Figure 6. Monthly ground-water conditions during the 2003 water year in Massachusetts and Rhode Island.

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number "09" plus the 6-digit (or 8-digit) downstream order number "004100." In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, and the next 7 digits denote degrees, minutes, and seconds of longitude; the last 2 digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as "01," "02," and so forth, would be assigned as one would for wells (see fig. 7). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

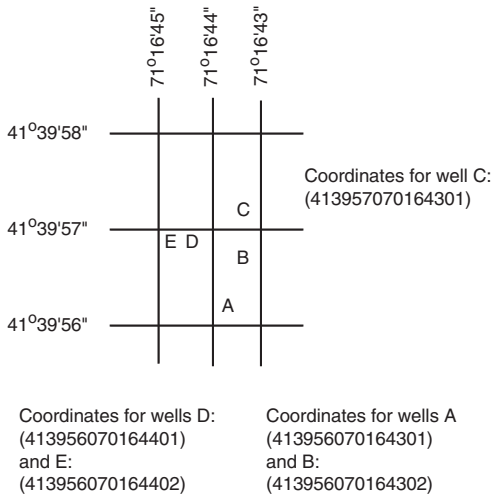

Figure 7. System for numbering wells (latitude and longitude).

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from http://water.usgs.gov/hbn/.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents,

including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment (NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program may be accessed from http://water.usgs.gov/nasqan/.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provide continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as data from the individual sites, may be accessed from http://bqs.usgs.gov/acidrain/.

The USGS National Water-Quality Assessment (NAWQA) Program is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 study units (major watersheds 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 is 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 water-resources managers to use in making decisions and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program may be accessed from http://water.usgs.gov/nawqa/.

The New England Coastal Basins (NECB) NAWQA study unit encompasses 23,000 square miles (mi^2) in western and central Maine, eastern New Hampshire, eastern Massachusetts, most of Rhode Island, and a small part of eastern Connecticut. The NECB NAWQA routine surface-water quality monitoring locations in WY 2003 published in this report are: Stillwater River near Sterling, MA (01095220); Merrimack River below Concord River, at Lowell, MA (01100000); Aberjona River (head of Mystic River) at Winchester, MA (01102500); and Charles River above Watertown Dam at Watertown, MA (01104615). Additional water samples were collected from 8 groundwater wells as part of the NECB NAWQA program during the 2003 water year.

The Connecticut, Housatonic, and Thames River Basins (CONN) NAWQA study unit encompasses 15,760 mi^2 in eastern Vermont, western New Hampshire, west-central Massachusetts, most of Connecticut, and small parts of New York, Rhode Island, and the Province of Quebec, Canada. The CONN NAWQA routine surface-water-quality-monitoring location published in this report is the Green River near Colrain, MA (01170100). Additional water samples were collected from 7 groundwater wells as part of the CONN NAWQA program during the 2003 water year.

Additional information about the NAWQA Program is available through the World Wide Web at: http://water.usgs.gov/nawqa.

The USGS National Streamflow Information Program (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the

nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from http://water.usgs.gov/nsip/.

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations (fig. 1) consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the U.S. Geological Survey (TWRIs), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence 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 at some distance from the base gage.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, 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.

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

For a lake or reservoir station, capacity tables giving the volume or contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly changes are computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some stream-gaging stations, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records from other stations in the same or nearby basins. Likewise, lake or reservoir volumes may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of four parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; and (4) 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 follow that clarify information presented under the various headings of the station description.

LOCATION.—Location information is obtained from the most accurate maps available. The location of the gaging station 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 term indicates the time period for which records have been published 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 its flow reasonably can be considered equivalent to flow at the present station.

REVISED RECORDS.—If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, 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 either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented 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, the outlet works and spillway, and the purpose and use of the reservoir.

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents 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 USGS.

REVISIONS.—Records are revised if errors in published records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (http://water.usgs.gov/nwis/nwis). Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations 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 revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. 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 stage-capacity table when daily volumes are given.

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 arithmetic 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 is 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). Values for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if extensive regulation or diversion is in effect 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 diversion data or reservoir volumes are given. These values are identified by a symbol and a corresponding footnote.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (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 values. 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. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are 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 records within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are 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 the dates of occurrence do not fall within the selected water years listed in the heading, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration-curve statistics and runoff data also are given. Runoff data may be omitted if extensive regulation or diversion of flow is in effect in the drainage basin.

The following summary statistics data are provided with each continuous record of discharge. Comments that 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.

ANNUAL MEAN.—The arithmetic mean for the individual daily mean discharges for the year noted or for the designated period.

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.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, 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 equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.
>
> Cubic feet per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.
>
> Inches (INCHES) indicate 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 a table. The table lists discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for a 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. This identification is shown either by flagging individual daily values with the letter "e" and noting in a table footnote, "e–Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

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

The degree of accuracy of the records is stated in the REMARKS in the station description. "Excellent" indicates that about 95 percent of the daily discharges are within 5 percent of the true value; "good" within 10 percent; and "fair," within 15 percent. "Poor" indicates that daily discharges have less than "fair" accuracy. Different accuracies may be attributed to different parts of a given record.

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

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, values 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 Data Records Available

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

Information on the availability of unpublished data or statistical analyses may be obtained from the District office (see address that is shown on the back of the title page of this report).

EXPLANATION OF PRECIPITATION RECORDS

Data Collection and Computation

Rainfall data generally are collected using electronic data loggers that measure the rainfall in 0.01-inch increments every 15 minutes using either a tipping-bucket rain gage or a collection well gage. Twenty-four hour rainfall totals are tabulated and presented. A 24-hour period extends from just

past midnight of the previous day to midnight of the current day. Snowfall-affected data can result during cold weather when snow fills the rain-gage funnel and then melts as temperatures rise. Snowfall-affected data are subject to errors. Missing values are indicated by this symbol "---" in the table.

Data Presentation

Precipitation records collected at surface-water gaging stations are identified with the same station number and name as the stream-gaging station. Where a surface-water daily-record station is not available, the precipitation record is published with its own name and latitude-longitude identification number.

Information pertinent to the history of a precipitation station is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, period of record, and general remarks.

The following information is provided with each precipitation station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

INSTRUMENTATION.—Information on the type of rainfall collection system is given.

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

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Surface-water samples for analysis usually are collected at or near stream-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

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

For ground-water records, no descriptive statements are given; however, the well number, depth of well, sampling date, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRIs. A list of TWRIs is provided in this report.

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 at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between 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 and minimum values (and sometimes mean or median values) for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data is useful in the interpretation of surface-water quality. Records of surface-water quality in this report 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 *continuous-record station* is a site where data are collected on a regularly scheduled basis. Frequency may be one 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 continuous- or partial-record station, where 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 *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. 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 figures 1 and 2.

Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Rating classifications for continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	≤ ±0.2 °C	> ±0.2 to 0.5 °C	> ±0.5 to 0.8 °C	> ±0.8 °C
Specific conductance	≤ ±3%	> ±3 to 10%	> ±10 to 15%	> ±15%
Dissolved oxygen	≤ ±0.3 mg/L	> ±0.3 to 0.5 mg/L	> ±0.5 to 0.8 mg/L	> ±0.8 mg/L
pH	≤ ±0.2 unit	> ±0.2 to 0.5 unit	> ±0.5 to 0.8 unit	> ±0.8 unit
Turbidity	≤ ±5%	> ±5 to 10%	> ±10 to 15%	> ±15%

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 is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must 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 on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1-A9. These TWRIs are listed in this report. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS District office (see address that is shown on the back of title page in this report).

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, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

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 section.

During periods of rapidly changing flow or rapidly changing concentration, samples may be 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 are collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow 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

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRIs, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These methods are consistent with ASTM standards and generally follow ISO standards.

Analyses of Pesticides in Surface- and Ground-Water Samples (Schedule 2001)

Selected surface- and ground-water samples from NECB and CONN NAWQA study sites were analyzed for pesticides on National Water Quality Laboratory (NWQL) schedule 2001 during the 2003 water year. The following table lists the pesticides on the schedule, the unit of measure (micrograms per liter, µg/L), the U.S. Geological Survey National Water Information System parameter code, the NWQL compound name, and the laboratory reporting level (LRL).

Estimated values for constituents in the 2001 schedule are preceded by an "E" to alert the data user to decreased confidence in accurate quantitation. Values for analytes in the 2001 schedule are preceded by an "E" in the following situations:

1. An analyte is determined outside the concentration range (upper concentration limits are to 20 mg/L for most compounds). The analyte is reported as greater than the highest calibration standard, and qualified with an "E." For example, a sample with a concentration of cyanazine determined as 41 mg/L from the calibration curve is reported as "E41."
2. The concentration is less than the Laboratory Reporting Level (LRL). The analyte meets all identification criteria to be positively identified, but the amount detected is below where it can be reliably quantified. The LRLs are used as the default reporting values when no analyte is detected in a sample.
3. An analyte demonstrated "poor" performance (that is, low and/or inconsistent recovery). These performance problems are related to either SPE or GC/MS procedures. The analyte is reported with an "E" code, to indicate that the concentration is an estimated measurement.

Only pesticides measured at or above the minimum reporting level for one or more samples are listed in the water-quality tables.

ANALYSES DESCRIPTION--Pesticides are partitioned from the filtered sample water by a C-18 Solid Phase Extraction (SPE) cartridge and analyzed by gas chromatography/mass spectrometry (GC/MS).

SAMPLE REQUIREMENTS--1 liter of water is filtered through a 0.7-micron glass-fiber depth filter, chilled at 4°C (packed in ice).

CONTAINER REQUIREMENTS--1 liter baked amber glass bottle (GCC) from USGS NWQL.

PCODE--The USGS parameter code.

COMPOUND NAME--IUPAC nomenclature.

COMMON NAME--Common or trade name(s) for constituent.

LRL--Laboratory reporting level.

PCode	Compound Name/(Common Name)	LRL (µg/L)
82660	2,6-Diethylanaline (Metabolite of Alachlor)	0.006
49260	Acetochlor (Harness Plus, Surpass)	.006
46342	Alachlor (Lasso, Bullet)	.004
39632	Atrazine (Atrex, Atred)	.007
82686	Azinphos, Methyl- (Guthion, Gusathion)	.050
82673	Benfluralin (Benefin, Balan)	.010
04028	Butylate (Genate Plus, Suntan+)	.002
82680	Carbaryl (Sevin, Denapan)	.041
82674	Carbofuran (Furandan, Curaterr) *****	.020
38933	Chlorpyrifos (Brodan, Dursban)	0.005
04041	Cyanazine (Bledex, Fortrol)	.018
82682	DCPA (Dacthal, Chlorthal-dimethyl)	.003
34653	DDE,p,p′-	.003
04040	Deethylatrazine, (Metabolite of Atrazine)	.006
39572	Diazinon (Basudin, Diazatol)	.005
39381	Dieldrin (Panoram D-31, Octalox)	.005
82677	Disulfoton (Disyston, Frumin AL)	.021
82668	EPTC (Eptam, Farmarox)	.002
82663	Ethalfluralin (Sonalan, Curbit)	.009
82672	Ethoprop (Mocap, Ethoprophos)	.005
62169	Desulfinylfipronil amide	.009
62167	Fipronil sulfide	.005
62168	Fipronil sulfone	.005
62170	Desulfinylfipronil	.004
62166	Fipronil	.007
04095	Fonofos (Dyfonate, Capfos)	.003
34253	HCH,alpha- (alpha-BHC, alpha-lindane)	.005
39341	HCH,gamma- (Lindane, gamma-BHC)	.004
82666	Linuron (Lorex, Linex)	.035
39532	Malathion	.027
39415	Metolachlor (Dual, Pennant)	.013
82630	Metribuzin (Lexon, Sencor)	.006
82671	Molinate (Ordram)	.002
82684	Napropamide (Devrinol)	.007
39542	Parathion, Ethyl- (Roethyl-P, Alkron)	.010
82667	Parathion, Methyl- (Penncap-M)	.006
82669	Pebulate (Tillam, PEBL)	.004
82683	Pendimethalin (Prowl, Stomp, Pre-M)	.022
82687	Permethrin,cis- (Ambush, Astro)	.006
82664	Phorate (Thimet, Granutox)	.011
04037	Prometon (Pramitol, Princep)	.015
82676	Pronamide (Kerb) (Propyzamid)	.004
04024	Propachlor (Ramrod, Satecid)	.010
82679	Propanil (Stampede, Stam)	.011
82685	Propargite (Omite, Alkyl sulfite)	.023
04035	Simazine (Princep, Caliber 91)	.005
82670	Tebuthiuron (Spike, Tebusan)	.016
82665	Terbacil (Sinbar)	.034
82675	Terbufos (Counter, Contraven)	.017
82681	Thiobencarb (Bolero, Saturn)	.005
82678	Triallate (Avadex BW, Far-Go)	.002
82661	Trifluralin (Treflan, Gowan)	.009

Analyses of Volatile-Organic Compounds in Ground-Water Samples (Schedule 2020)

Selected ground-water samples from CONN NAWQA study sites were analyzed for volatile organic compounds (VOCs) in the 2003 water year. The NWQL created a method for accurate determination of VOCs in water in the nanogram per liter range, schedule 2020. The method described in USGS Open-File Report 97-829 (Connor and others) is similar to USEPA method 524-2 (Mund, 1995) and the method described by Rose and Schroeder (1995). Minor improvements to instrument operating conditions include the following: additional compounds, quantitation ions that are different from those recommended in USEPA Method 524.2 because of interferences from the additional compounds, and a data-reporting strategy for measuring detected compounds extrapolated at less than the lowest calibration standard or measured at less than the reporting limit.

The following table lists the VOCs on the schedule, the unit of measure (micrograms per liter, µg/L), the USGS National Water Information System parameter code, the NWQL compound name, and the NWQL LRL. The LRL is a statistically defined reporting limit designed to limit false positives and false negatives to less than 1 percent. Positive detections measured at less than LRL are reported as estimated concentrations (E) to alert the data user to decreased confidence in accurate quantitation. Values for analytes in the 2020 schedule are preceded by an "E" in the following situations:

1. The calculated concentration is less than the lowest calibration standard. The analyte meets all identification criteria to be positively identified, but the amount detected is below where it can be reliably quantified.
2. A sample is diluted for any reason. The method reporting level is multiplied by the dilution factor to obtain the adjusted method reporting level. Values below the lowest calibration standard multiplied by the dilution factor are qualified with an "E." For example, a value of 0.19 in a 1:2 dilution is reported as E0.19.
3. The set spike has recoveries out of the specified range (60-140%).
4. The analyte is also detected in the set blank. If the value in the sample is less than five times the blank value and greater than the blank value plus the long term method detection limit, the value is preceded by an "E" to indicate that the analyte is positively identified but not positively quantified because the analyte was also detected in the blank.

Only VOCs measured at or above the non-detection level for one or more samples are listed in the water-quality tables.

ANALYSES DESCRIPTION--The sample water is actively purged with helium to extract the volatile organic compounds. The volatile organic compounds are collected onto a sorbent trap, thermally desorbed, separated by a gas chromatographic capillary column, and determined by a full scan quadropole mass spectrometer. Compound identification is confirmed by the gas chromatographic retention time and by the resultant mass spectrum, typically identified by three unique ions.

SAMPLE REQUIREMENTS--Water is collected in vials placed in a stainless steel VOC sampler. Samples are preserved with 1:1 hydrochloric acid and chilled at 4°C (packed in ice).

CONTAINER REQUIREMENTS--40 milliliter baked amber septum glass vial, from USGS OCALA Water Quality Service Unit.

PCODE--The USGS parameter code.

COMPOUND NAME--USGS NWQL nomenclature.

LRL--Laboratory reporting level.

PCODE	COMPOUND NAME	LRL (µg/L)
77562	1,1,1,2-Tetrachloroethane	0.030
34506	1,1,1-Trichloroethane	.032
34516	1,1,2,2-Tetrachloroethane	.09
34511	1,1,2-Trichloroethane	.064
77652	1,1,2-Trichlorotrifluoroethane	.060
34496	1,1-Dichloroethane	.035
34501	1,1-Dichloroethylene	.044
77168	1,1-Dichloropropene	.05
49999	1,2,3,4-Tetramethylbenzene	.23
50000	1,2,3,5-Tetramethylbenzene	.20
77613	1,2,3-Trichlorobenzene	.27
77443	1,2,3-Trichloropropane	.16
77221	1,2,3-Trimethylbenzene	.12
34551	1,2,4-Trichlorobenzene	.12
77222	1,2,4-Trimethylbenzene	.056
82625	1,2-Dibromo-3-chloropropane	.05
77651	1,2-Dibromoethane	.036
34536	1,2-Dichlorobenzene	.048
32103	1,2-Dichloroethane	.13
34541	1,2-Dichloropropane	.029
77226	1,3,5-Trimethylbenzene	.044
34566	1,3-Dichlorobenzene	.030
77173	1,3-Dichloropropane	.12
34571	1,4-Dichlorobenzene	.05
77170	2,2-Dichloropropane	.05

PCODE	COMPOUND NAME	LRL (µg/L)
81595	2-Butanone	5.0
77275	2-Chlorotoluene	.042
77103	2-Hexanone	.7
78109	3-Chloropropene	.12
77277	4-Chlorotoluene	.056
77356	4-Isopropyl-1-methylbenzene	.12
78133	4-Methyl-2-pentanone	.37
81552	Acetone	7.1
34215	Acrylonitrile	1.2
34030	Benzene	.021
81555	Bromobenzene	.036
77297	Bromochloromethane	.12
32101	Bromodichloromethane	.048
50002	Bromoethene	.1
32104	Bromoform	.10
34413	Bromomethane	.26
77342	Butylbenzene	.19
77041	Carbon disulfide	.075
34301	Chlorobenzene	.028
34311	Chloroethane	.12
32106	Chloroform	.024
34418	Chloromethane	.17
77093	*cis*-1,2-Dichloroethylene	.038
34704	*cis*-1,3-Dichloropropene	.09
32105	Dibromochloromethane	.18
30217	Dibromomethane	.05
34668	Dichlorodifluoromethane	.18
34423	Dichloromethane	.16
81576	Diethyl ether	.17
81577	Diisopropyl ether	.10
73570	Ethyl methacrylate	.18
50004	Ethyl *tert*-butyl ether	.054
34371	Ethylbenzene	.03
39702	Hexachlorobutadiene	.14
34396	Hexachloroethane	.19
77223	Isopropylbenzene	.06
85795	m- and p-Xylene	.06
49991	Methyl acrylate	1.4
81593	Methyl acrylonitrile	.57
77424	Methyl iodide	.35
81597	Methyl methacrylate	.35
78032	Methyl*tert*-butyl ether	.17
34696	Naphthalene	.50
77220	o-Ethyl toluene	.06
77135	o-Xylene	.07
77224	Propylbenzene	0.042
77350	*sec*-Butylbenzene	.06
77128	Styrene	.042
77353	*tert*-Butylbenzene	.10
50005	*tert*-Pentyl methyl ether	.08
34475	Tetrachloroethylene	.027
32102	Tetrachloromethane	.060
81607	Tetrahydrofuran	2.2
34010	Toluene	.05
34546	*trans*-1,2-Dichloroethylene	.032
34699	*trans*-1,3-Dichloropropene	.09
73547	*trans*-1,4-Dichloro-2-butene	.7
39180	Trichloroethylene	.038
34488	Trichlorofluoromethane	.09
39175	Vinyl chloride	.11

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 gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information 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 information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

DRAINAGE AREA.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—This indicates the time periods for which published water-quality records for the station are available. 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 USGS by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (http://waterdata.usgs.gov/nwis). Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are made on an annual basis.

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 section:

Printed Output	Remark
E or 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.
M	Presence verified, not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.
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.
K	Results based on colony count outside the acceptance range (non-ideal colony count).

Water-Quality Control Data

The USGS National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte was either not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of “E.” These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this District office are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all

derived QC data and are identified so that they can be related to corresponding environmental samples. These data are not presented in this report but are available from the District office.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. Many types of blank samples are possible; each is designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this district are:

Field blank—A blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—A blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—A blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank—A blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—A blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—A blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—A blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory. The reference material composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this District are:

Concurrent samples—A type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating the collection of samples into two or more compositing containers.

Sequential samples—A type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—A type of replicate sample in which a sample is split into subsamples, each subsample contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Ground-water-level data from wells with continuous recorders and from wells measured monthly (generally within the last 10 days of each month) or more frequently are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs. (See NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES in this report for a detailed explanation.)

Data Collection and Computation

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

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the On-site Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure 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.

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 above sea level 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. Water levels for measured wells are reported generally in the last 10 days 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 of water of several hundred feet, the error in 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 only to a tenth of a foot or a larger unit.

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or town well number. Well locations are shown in figure 2; each well is identified on the map by its local well number.

Each well record consists of two parts: the well description and the data table of water levels observed during the water year. Hydrographs are available only online in page-size PDF format (http://water.usgs.gov/pubs/wdr/). Well descriptions are presented in the headings preceding the tabular data.

The following comments clarify information presented in these various headings.

LOCATION.—This paragraph follows the well-identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are reported as North American Datum of 1927 unless otherwise specified.

AQUIFER.—This entry designates by name and geologic age the aquifer that the well taps.

WELL CHARACTERISTICS.—This entry describes the well in terms of depth, casing diameter and depth or screened interval, method of construction, use, and 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 continuous, monthly, or some other frequency of measurement.

DATUM.—This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth), 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 National Geodetic Vertical Datum of 1929 (NGVD 29); 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, when various methods of measurement were begun, and the network (climatic, terrane, local, or areal effects) or the special project to which the well belongs.

PERIOD OF RECORD.—This entry indicates the time period for which records are published for the well, the month and year at the start of publication of water-level records by the USGS, and the words “to current year” if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

EXTREMES FOR PERIOD OF RECORD.—This entry contains the highest and lowest instantaneously recorded or measured water levels of the period of published record, with respect to land-surface datum or sea level, and the dates of occurrence.

Water-Level Tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

Hydrographs are a graphic display of water-level fluctuations over a period of time. In the pdf version of this report on the Web, current water year and, when available, the previous 9 water year hydrographs are shown. Hydrographs that display periodic water-level measurements show points that may be connected with a dashed line from one measurement to the next. Hydrographs that display recorder data show a solid line representing the mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water-quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some wells within a county but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide.

Most methods for collecting and analyzing water samples are described in the TWRIs. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS District office (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed on site. All other sample analyses are performed at the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed from http://water.usgs.gov.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each Water Discipline District Office (See address that is shown on the back of the title page of this report.)

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Definitions of common terms such as algae, water level, and precipitation are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting inch/pound units to International System (SI) units on the inside of the back cover.

Acid-neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also "Annual runoff.")

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

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. (See also "Biomass" and "Dry weight.")

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a "filtered" sample.

Annual runoff is the total quantity of water that is discharged ("runs off") from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1–March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. 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.)

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that 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 collected. 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. (See also "Substrate.")

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

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas 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.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also "Peak flow.")

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bedload is material in transport that is supported primarily by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to the top of the bedload sampler nozzle (an elevation ranging from 0.25 to 0.5 foot). These particles are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload," "Dry weight," "Sediment," and "Suspended-sediment discharge.")

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment.")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

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 microorganisms, such as bacteria.

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

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This is also called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) 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. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton.")

Bottom material: See "Bed material."

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved-solids content of the pore water and lithology and porosity of the rock.

Cells/volume refers to the number of cells of any organism that 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 volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^2 h$ cylinder $\pi r^2 h$.

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159….

From cell volume, total algal biomass expressed as biovolume (μm^3/mL) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

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 BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)."]

Clostridium perfringens *(C. perfringens)* is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and of the presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria.")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

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.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

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.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, 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 saltwater.

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, $[(ft^3/s)/d]$) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "Annual runoff.")

Daily mean suspended-sediment concentration is the time-weighted mean concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration.")

Daily record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data are usually downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or Univeral Transverse Mercator (UTM) coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988.")

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton.")

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or **flow**, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, etc., within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It 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, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

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

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

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area.")

Dry mass refers to the mass of residue present after drying in an oven at 105°C, 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. (See also "Ash mass," "Biomass," and "Wet mass.")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65°C, until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight.")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class.")

***Enterococcus* bacteria** are commonly found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of *enterococci* in water is an indication of fecal pollution and the possible presence of enteric pathogens. *Enterococcus* bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41°C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. *Enterococci* include *Streptococcus feacalis, Streptococcus feacium, Streptococcus avium,* and their variants. (See also "Bacteria.")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that are generally considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli *(E. coli)* are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5°C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria.")

Estimated (E) concentration value is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an 'E' code will be reported with the value. If the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an 'E' code even though the measured value is greater than the MDL. A value reported with an 'E' code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<).

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton.")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are 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°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria.")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria.")

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "Phytoplankton.")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and (or) computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

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

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

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 (cells/mL) of sample. (See also "Phytoplankton.")

Ground-water level is the elevation of the water table or another potentiometric surface at a particular location.

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat are typically made over a wider geographic scale than are measurements of species distribution.

Habitat-quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. *See NOAA web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = \mathrm{sum}\frac{(n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum.")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

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

Inch (IN., in.), as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it. (See also "Annual runoff.")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge.")

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. [Note: In several previous NWQL documents (NWQL Technical Memorandum 98.07, 1998), the LRL was called the nondetection value or NDV—a term that is no longer used.]

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

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L} \ ,$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L}\log_e \frac{I}{I_o} \ .$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration.")

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

Mean high or **low tide** is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum.")

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

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

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.

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

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 (UG/G, µg/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 kilogram (UG/KG, µg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, µS/cm) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent 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.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations**,** it does not necessarily represent local mean sea level at any particular place. *See NOAA web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88* (See "North American Vertical Datum of 1988.")

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

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Vertical Datum of 1988 (NAVD 1988) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian**,** Mexican, and United States first-order terrestrial leveling networks.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or **volatile mass** of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass.")

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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 (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter Code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes law to calculate sediment-particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) 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, as used in this report, agrees with the recommendation 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/sieve
Gravel	>2.0–64.0	Sieve
Cobble	>64–256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, 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.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or **percent of total** 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, weight, mass, or volume.

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

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

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

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

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 commonly are known as algae. (See also "Plankton.")

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 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. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

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

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Precipitation is falling products of condensation in the atmosphere as rain, snow, sleet, and hail.

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 (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [mg C/(m^2/time)] for periphyton and macrophytes or per volume [mg C/(m^3/time)] for phytoplankton. The carbon method defines 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 with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity.")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/time)] for phytoplankton. The oxygen method defines 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. (See also "Primary productivity.")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable from bed (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. (See also "Bed material.")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval.")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff.")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums. See conversion factors and vertical datum page (inside back cover) for identification of the datum used in this report.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment 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 affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "Annual 7-day minimum" and "Recurrence interval.")

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

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. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105°C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 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.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See "Gage height.")

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

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.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2 mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26–50 percent
1	> 75 percent	4	5–25 percent
2	51–75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 foot) 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 defined operationally as 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 suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures 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 directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended.")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "Sediment.")

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment.")

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration.")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment.")

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as 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 directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended.")

Suspended solids, total residue at 105°C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial 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*

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table descriptions 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 resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) 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 at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35°C. 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°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also "Bacteria.")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. 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 judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bedload.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "Organism count/volume.")

Total, recoverable is the amount of a given constituent in a whole-water sample after a 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, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bedload transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "Bedload," "Bedload discharge," "Sediment," "Suspended sediment," and "Suspended-sediment concentration.")

Total sediment load or **total load** is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also "Sediment," "Suspended-sediment load," and "Total load.")

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to U.S. EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of path length of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See "Water-table aquifer.")

Vertical datum (See "Datum.")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry-cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS 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, 2003, is called the "2003 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.

Wet mass is the mass of living matter plus contained water. (See also "Biomass" and "Dry mass.")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "Dry weight.")

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

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are 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. (See also "Plankton.")

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The USGS 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 USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be made in the form of a 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 mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

1–D1. *Water temperature—Influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.

1–D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

2–D1. *Application of surface geophysics to ground-water investigations,* by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.

2–D2. *Application of seismic-refraction techniques to hydrologic studies,* by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

2–E1. *Application of borehole geophysics to water-resources investigations,* by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.

2–E2. *Borehole geophysics applied to ground-water investigations,* by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

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, chap. F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

3–A1. *General field and office procedures for indirect discharge measurements,* by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.

3–A2. *Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.

3–A3. *Measurement of peak discharge at culverts by indirect methods,* by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.

3–A4. *Measurement of peak discharge at width contractions by indirect methods,* by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 p.

3–A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.

3–A6. *General procedure for gaging streams,* by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.

3–A7. *Stage measurement at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.

3–A8. *Discharge measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.

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, chap. A9. 1989. 27 p.

3–Al0. *Discharge ratings at gaging stations,* by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.

3–A11. *Measurement of discharge by the moving-boat method,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.

3–A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.

3–A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.

3–A14. *Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.

3–A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.

3–A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.

3–A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.

3–A18. *Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.

3–A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.

3–A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.

3–A21 *Stream-gaging cableways,* by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

3–B1. *Aquifer-test design, observation, and data analysis,* by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.

3–B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.

3–B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.

3–B4. *Regression modeling of ground-water flow,* by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.

3–B4. *Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems,* by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.

3–B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.

3–B6. *The principle of superposition and its application in ground-water hydraulics,* by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.

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, chap. B7. 1992. 190 p.

3–B8. *System and boundary conceptualization in ground-water flow simulation,* by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

3–C1. *Fluvial sediment concepts,* by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.

3–C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.

3–C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

4–A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.

4–A2. *Frequency curves,* by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.

4–A3. *Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS–TWRI book 4, chap. A3. 1991. Available only online at http://water.usgs.gov/pubs/twri/twri4a3/. (Accessed August 30, 2002.)

Section B. Surface Water

4–B1. *Low-flow investigations,* by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.

4–B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.

4–B3. *Regional analyses of streamflow characteristics,* by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

4–D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

5–A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.

5–A2. *Determination of minor elements in water by emission spectroscopy,* by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.

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, chap. A3. 1987. 80 p.

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, chap. A4. 1989. 363 p.

5–A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.

5–A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments,* by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

5–C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

6–A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.

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, chap. A2. 1991. 68 p.

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, chap. A3. 1993. 136 p.

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, chap. A4. 1992. 108 p.

6–A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details,* by L.J. Torak: USGS–TWRI book 6, chap. A5. 1993. 243 p.

6–A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A6. 1996. 125 p.

6–A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI book 6, chap. A7. 2002. 77 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

7–C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.

7–C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.

7–C3. *A model for simulation of flow in singular and interconnected channels,* by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

8–A1. *Methods of measuring water levels in deep wells,* by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.

8–A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

8–B2. *Calibration and maintenance of vertical-axis type current meters,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

9–A1. National field manual for the collection of water-quality data: Preparations for water sampling, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.

9–A2. National field manual for the collection of water-quality data: Selection of equipment for water sampling, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.

9–A3. National field manual for the collection of water-quality data: Cleaning of equipment for water sampling, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.

9–A4. National field manual for the collection of water-quality data: Collection of water samples, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.

9–A5. National field manual for the collection of water-quality data: Processing of water samples, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.

9–A6. National field manual for the collection of water-quality data: Field measurements, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.

9–A7. National field manual for the collection of water-quality data: Biological indicators, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.

9–A8. National field manual for the collection of water-quality data: Bottom-material samples, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.

9–A9. National field manual for the collection of water-quality data: Safety in field activities, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.

REMARK CODES

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

PRINT OUTPUT	REMARK
E or e	Value is estimated.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.
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 count less than 0.5 percent (organism may be observed rather than counted).
K	Results based on colony count outside the acceptance range (non-ideal colony count)

Dissolved Trace-Element Concentrations

NOTE--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10s to 100s of nanograms per liter (ng/L). Data above the µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

Change in National Trends Network Procedures

NOTE--Sample handling procedures at all National Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).

Two fact sheets that describe the history of the streamflow-data network in Massachusetts and Rhode Island and operation of the oldest streamflow-gaging station in Massachusetts and Rhode Island were recently published. They are available online at http://ma.water.usgs.gov/publications/. Titles and abstracts of these fact sheets are presented here.

One Hundred Years of Streamflow Measurements in Massachusetts and Rhode Island

(USGS Fact Sheet FS-2004-3056)

By Mary S. Ashman, Roy S. Socolow, and Joseph L. Zanca

The U.S. Geological Survey (USGS) has been collecting streamflow data in Massachusetts and Rhode Island for over 100 years. Since the first streamflow measurements were made in the late 19th century, the isolated sites where streamflow data were collected have evolved into a monitoring network of 112 streamflow-gaging stations. Today, nearly three-quarters of the stations have satellite telemetry equipment to make streamflow data available to the public on the World Wide Web within 4 hours of collection. Data from this network are used by Federal, State, and local government agencies, water-resources managers, National Weather Service flood forecasters, watershed associations, university scientists, recreational enthusiasts, and citizens with an interest in their local rivers.

From its inception in the 19th century, the USGS streamflow-gaging network has served the public interest. From providing information about streamflow to mill owners to providing data to flood forecasters, data from this network have helped water-resource managers make sound decisions in managing water resources in Massachusetts and Rhode Island. This fact sheet summarizes the history and development of this network and demonstrates how data are collected from it. It discusses how the network has historically served the public interest, continues to do so today after a century of continuous data collection, and how it will do so in the future.

A Century of Service—100 Years of Continuous Streamflow-Data Collection on the Connecticut River, Montague City, Massachusetts

(USGS Fact Sheet FS-2004-3049)

By Matthew G. Cooke, Roy S. Socolow, and Joseph L. Zanca

In 1904, the U.S. Geological Survey (USGS) began continuous streamflow measurements on the Connecticut River when it established a streamflow-gaging station near Montague City, Massachusetts. Since that time, the USGS has maintained a continuous record of streamflow of the Connecticut River at the Montague City station. From its rudimentary beginnings as a staff gage, to the satellite technology used tuday, the Montague City station has greatly evolved over its century of service. Researchers and resource managers have used data from this station for a variety of purposes, including monitoring the amount of water released from dams, assessing local and regiona water quality, and collecting data related to tracking the movements of fish populations. From this first station grew the current (2004) network of 90 streamflow-gaging stations throughout Massachusetts, 72 of which report real-time flow and water-level data to the World Wide Web. Today, water-resource managers from local, State, and Federal agencies, recreational enthusiasts, watershed associations, private corporations, and university scientists depend upon data from this network to make informed decisions about the use and stewardship of water resources in Massachusetts.

MERRIMACK RIVER BASIN

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.--64.2 mi^2 (revised).

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

REVISED RECORDS.--WDR MA-RI-84-1; WDR MA-RI-03-1; Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by mills and reservoirs upstream. Flow affected by diversions for municipal use. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--31 years, 119 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,510 ft^3/s, Apr. 5, 1987, gage height, 7.78 ft; maximum gage height, 9.25 ft, Apr. 5, 1987, backwater from landslide; minimum discharge, 1.5 ft^3/s, Sept. 11, 12, 1995; minimum daily, 2.7 ft^3/s, Sept. 5, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 892 ft^3/s, Mar. 22, gage height, 5.38 ft; minimum, 3.0 ft^3/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	30	80	113	e59	82	350	131	197	50	22	16
2	9.0	29	69	197	e75	123	285	158	195	43	89	29
3	6.9	27	70	163	e72	180	298	261	151	39	55	29
4	7.7	46	e59	161	e84	147	294	196	125	36	83	43
5	9.0	37	60	141	e88	119	261	161	141	33	79	38
6	8.1	66	61	120	e71	119	232	138	128	30	62	28
7	6.8	74	59	110	e62	115	206	133	127	26	58	24
8	3.9	59	56	110	e60	99	195	145	147	25	73	20
9	6.0	50	58	103	e60	107	186	139	130	26	58	24
10	5.7	46	e49	96	e58	109	186	124	125	27	48	22
11	7.4	43	50	94	e52	100	277	114	140	46	43	19
12	36	57	81	87	e48	90	740	154	180	45	97	18
13	43	154	80	84	e43	92	527	171	187	42	163	15
14	41	110	263	e81	e42	92	346	144	184	30	116	16
15	27	84	349	e77	e41	83	275	124	147	26	82	14
16	55	71	242	e80	e40	88	237	107	118	26	62	40
17	90	136	179	e72	e43	144	199	98	114	26	50	31
18	54	181	147	e68	e45	263	178	90	88	25	53	25
19	40	128	122	e68	e51	308	165	82	80	25	49	52
20	34	106	308	e64	e56	247	153	77	74	20	40	50
21	29	111	509	e63	e66	640	141	83	73	18	35	35
22	26	179	314	e61	e83	788	147	81	173	20	46	28
23	32	214	229	e59	194	683	165	86	259	21	43	150
24	32	170	181	e57	209	528	148	100	167	20	31	151
25	28	133	160	e57	163	490	134	112	118	19	25	83
26	48	114	165	e58	130	488	177	230	93	17	26	118
27	55	110	147	e58	108	562	269	354	80	15	28	87
28	43	100	125	e58	94	417	206	229	69	14	26	84
29	35	89	112	e59	---	389	170	190	61	13	23	117
30	31	82	104	e60	---	702	149	153	55	11	22	87
31	31	---	98	e61	---	526	---	132	---	10	19	---
TOTAL	892.5	2836	4586	2740	2197	8920	7296	4497	3926	824	1706	1493
MEAN	28.8	94.5	148	88.4	78.5	288	243	145	131	26.6	55.0	49.8
MAX	90	214	509	197	209	788	740	354	259	50	163	151
MIN	3.9	27	49	57	40	82	134	77	55	10	19	14
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2003, BY WATER YEAR (WY)												
MEAN	74.9	112	135	132	136	231	242	142	98.4	44.9	45.1	41.2
MAX	220	243	347	304	294	528	600	277	368	90.3	137	121
(WY)	1997	1996	1997	1996	1984	1983	1987	1984	1982	1996	1991	1991
MIN	15.1	14.2	35.5	24.6	34.6	84.1	84.1	53.6	16.0	12.9	8.63	8.33
(WY)	2002	2002	2002	1981	1980	1989	1985	1999	1999	1999	1999	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1973 - 2003	
ANNUAL TOTAL	26286.5		41913.5			
ANNUAL MEAN	72.0		115		119	
HIGHEST ANNUAL MEAN					169	1973
LOWEST ANNUAL MEAN					54.7	2002
HIGHEST DAILY MEAN	756	May 14	788	Mar 22	2830	Apr 5 1987
LOWEST DAILY MEAN	2.8	Sep 22	3.9	Oct 8	2.5	Sep 3 2001
ANNUAL SEVEN-DAY MINIMUM	4.5	Sep 9	6.7	Oct 5	4.3	Aug 31 1995
MAXIMUM PEAK FLOW			892	Mar 22	3510	Apr 5 1987
MAXIMUM PEAK STAGE			5.38	Mar 22	9.25	Apr 5 1987
INSTANTANEOUS LOW FLOW			3.0	Oct 8	1.5	Sep 11 1995
10 PERCENT EXCEEDS	162		231		253	
50 PERCENT EXCEEDS	55		82		77	
90 PERCENT EXCEEDS	7.2		24		21	

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.--Total above gage is 110 mi^2; net above gage is 108 mi^2, excludes 2.1 mi^2 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for discharges greater than 450 ft^3/s and estimated daily discharges, which are poor. 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.

AVERAGE DISCHARGE.--68 years, 200 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft^3/s, Mar. 18, 1936, gage height, 20.53 ft, from floodmarks, by computation of peak flow over dam; minimum, 11 ft^3/s, Aug. 29, 1948; minimum daily, 22 ft^3/s, Sept. 27, 1936, Sept. 2, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,840 ft^3/s, Mar. 21, gage height, 3.97 ft; minimum, 19 ft^3/s, Oct. 9, minimum daily, 25 ft^3/s, Oct. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	51	155	238	121	177	759	247	405	116	63	44
2	32	49	139	462	149	341	628	301	396	110	168	65
3	29	45	131	338	149	429	651	511	285	100	116	60
4	29	59	113	330	167	e323	669	372	233	90	210	103
5	31	57	114	291	174	268	589	299	275	83	164	76
6	28	155	120	252	146	251	524	255	245	77	129	61
7	27	129	108	237	142	e237	454	243	258	71	117	53
8	26	95	106	226	136	222	420	267	278	70	232	50
9	25	80	94	223	126	249	378	261	242	71	127	50
10	25	68	92	210	122	240	370	237	229	71	110	49
11	27	65	94	192	120	207	537	219	229	132	94	47
12	82	105	173	187	113	207	1410	306	306	122	218	45
13	84	374	168	175	105	209	1090	320	344	95	332	44
14	81	226	628	166	99	203	723	265	346	80	218	45
15	50	161	823	157	98	187	561	237	269	71	155	46
16	137	133	513	157	92	197	470	216	218	64	119	109
17	184	309	372	159	89	313	383	202	201	65	99	63
18	94	468	287	141	120	615	329	187	179	66	115	56
19	67	286	257	138	123	718	303	177	167	58	104	112
20	57	225	651	144	121	561	277	164	163	52	83	102
21	52	226	1070	135	124	1350	258	168	155	49	72	69
22	48	361	645	124	206	1650	264	171	445	52	89	58
23	60	423	467	121	528	1430	296	185	669	53	95	358
24	56	319	367	127	468	1080	261	215	362	53	67	273
25	52	251	318	125	331	989	246	237	253	48	59	139
26	123	218	330	124	e257	957	379	564	200	45	57	213
27	100	212	283	124	e222	1090	616	853	173	42	57	160
28	74	192	250	132	197	838	418	518	150	41	56	139
29	62	169	235	122	---	787	331	409	137	41	52	182
30	56	161	214	118	---	1370	279	314	125	39	50	144
31	53	---	207	118	---	1110	---	269	---	38	47	---
TOTAL	1886	5672	9524	5793	4845	18805	14873	9189	7937	2165	3674	3015
MEAN	60.8	189	307	187	173	607	496	296	265	69.8	119	100
MAX	184	468	1070	462	528	1650	1410	853	669	132	332	358
MIN	25	45	92	118	89	177	246	164	125	38	47	44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2003, BY WATER YEAR (WY)

MEAN	113	171	205	211	225	385	422	244	168	88.9	79.9	86.3
MAX	606	485	682	466	534	1289	1126	503	642	392	286	595
(WY)	1956	1956	1997	1996	1970	1936	1987	1984	1982	1938	1938	1938
MIN	37.5	33.7	58.0	50.3	63.7	140	133	85.4	46.6	36.5	30.2	32.6
(WY)	2002	2002	2002	1981	1980	1965	1985	1965	1999	1993	2002	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1935 - 2003	
ANNUAL TOTAL	51576		87378			
ANNUAL MEAN	141		239		200	
HIGHEST ANNUAL MEAN					307	1956
LOWEST ANNUAL MEAN					81.2	1965
HIGHEST DAILY MEAN	1440	May 14	1650	Mar 22	7530	Mar 18 1936
LOWEST DAILY MEAN	21	Aug 19	25	Oct 9	21	Aug 19 2002
ANNUAL SEVEN-DAY MINIMUM	22	Aug 16	27	Oct 5	22	Aug 16 2002
MAXIMUM PEAK FLOW			1840	Mar 21	16300	Mar 18 1936
MAXIMUM PEAK STAGE			3.97	Mar 21	20.53	Mar 18 1936
INSTANTANEOUS LOW FLOW			19	Oct 9	11	Aug 29 1948
10 PERCENT EXCEEDS	318		515		419	
50 PERCENT EXCEEDS	95		167		125	
90 PERCENT EXCEEDS	27		52		48	

e Estimated

MERRIMACK RIVER BASIN

01095220 STILLWATER RIVER NEAR STERLING, MA
(National Water Quality Assessment Site)

LOCATION.--Lat 42°24'39", long 71°47'30", Worcester County, Hydrologic Unit 01070004, on left bank at downstream side of bridge on Muddy Pond Road, 1.5 mi upstream of mouth and 2.5 mi southwest of Sterling.

DRAINAGE AREA.--31.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Low-flow partial-record measurements in water years 1971–73, 1991–93. April 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharge, which are poor.

AVERAGE DISCHARGE.-- 9 years, 51.1 ft^3/s, 21.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 890 ft^3/s, Jan. 28, 1996, gage height, 8.50 ft from rating curve extended above 340 ft^3/s; minimum, 0.07 ft^3/s, Aug. 19, 20, 27–29, Sept. 13–15, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 509 ft^3/s, Dec. 21, gage height, 7.41 ft; minimum, 0.71 ft^3/s, Oct. 6–11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	8.6	33	60	e13	45	212	56	76	18	22	3.0
2	1.6	8.6	29	115	24	57	165	53	110	16	38	4.3
3	1.3	7.3	26	105	27	e117	172	93	73	13	41	6.8
4	1.1	7.5	23	90	29	e109	183	85	51	12	50	11
5	1.1	7.2	23	84	e31	e82	170	66	66	11	65	11
6	.87	17	23	72	e20	75	143	55	63	9.5	62	9.0
7	.83	27	22	64	e32	e76	127	48	54	8.9	53	8.6
8	.79	22	22	60	e23	60	114	56	103	8.9	76	9.5
9	.80	18	19	58	26	65	103	66	82	9.0	71	11
10	.80	15	19	e39	e20	e66	97	51	63	11	55	13
11	.91	14	19	e35	e17	e63	121	41	48	19	48	13
12	4.0	15	32	e31	e10	53	213	57	53	38	52	14
13	12	60	44	e26	e9.3	53	228	64	64	22	165	14
14	15	65	e90	e27	e8.2	50	155	55	96	16	108	15
15	11	46	e127	e28	e8.9	46	118	45	77	14	60	14
16	12	34	e111	e26	e6.7	50	97	38	52	13	43	17
17	31	46	e90	e27	e7.8	81	80	34	41	14	32	17
18	23	90	e76	e25	e11	193	70	30	39	13	29	15
19	15	75	72	e22	21	248	65	27	44	12	44	17
20	12	56	124	e21	20	172	64	24	37	10	25	22
21	8.7	57	428	e18	20	299	59	22	35	9.5	16	18
22	6.8	80	246	e17	26	434	56	24	87	9.8	12	14
23	6.9	114	159	e17	72	407	61	27	287	11	9.5	29
24	6.6	85	117	e20	e123	328	56	37	197	12	6.3	53
25	7.8	60	98	e12	e115	293	50	47	113	11	4.2	30
26	15	48	92	e9.4	e83	267	60	83	68	8.4	4.0	19
27	28	44	86	e9.4	e61	265	163	294	46	7.1	4.0	18
28	21	40	75	e12	53	217	125	190	32	6.2	3.4	17
29	14	35	68	e6.1	---	180	89	122	25	6.0	3.2	18
30	12	34	60	e8.4	---	308	69	86	21	6.4	3.4	17
31	10	---	56	e9.5	---	312	---	63	---	12	3.5	---
TOTAL	284.10	1236.2	2509	1153.8	917.9	5071	3485	2039	2203	387.7	1208.5	478.2
MEAN	9.16	41.2	80.9	37.2	32.8	164	116	65.8	73.4	12.5	39.0	15.9
MAX	31	114	428	115	123	434	228	294	287	38	165	53
MIN	0.79	7.2	19	6.1	6.7	45	50	22	21	6.0	3.2	3.0
CFSM	0.29	1.30	2.56	1.18	1.04	5.18	3.68	2.08	2.32	0.40	1.23	0.50
IN.	0.33	1.46	2.95	1.36	1.08	5.97	4.10	2.40	2.59	0.46	1.42	0.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

MEAN	21.9	37.6	57.0	69.0	64.9	115	109	61.0	43.3	15.3	12.1	9.80
MAX	83.8	106	171	157	120	164	187	100	113	34.4	39.0	22.5
(WY)	1997	1996	1997	1996	1996	2003	2001	1998	1998	1996	2003	1996
MIN	2.44	2.36	10.4	8.60	21.5	51.8	43.8	26.1	4.46	2.81	0.74	0.92
(WY)	2002	2002	2002	2002	2002	2002	1999	1999	1999	1999	2002	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1994 - 2003	
ANNUAL TOTAL	11768.16		20973.40			
ANNUAL MEAN	32.2		57.5		51.1	
HIGHEST ANNUAL MEAN					74.9	1996
LOWEST ANNUAL MEAN					22.5	2002
HIGHEST DAILY MEAN	428	Dec 21	434	Mar 22	742	Jan 28 1996
LOWEST DAILY MEAN	0.10	Aug 19	0.79	Oct 8	0.10	Aug 19 2002
ANNUAL SEVEN-DAY MINIMUM	0.15	Aug 17	0.87	Oct 5	0.15	Aug 17 2002
MAXIMUM PEAK FLOW			509	Dec 21	890	Jan 28 1996
MAXIMUM PEAK STAGE			7.41	Dec 21	8.50	Jan 28 1996
INSTANTANEOUS LOW FLOW			0.71	Oct 6	0.07	Aug 19 2002
ANNUAL RUNOFF (CFSM)	1.02		1.82		1.62	
ANNUAL RUNOFF (INCHES)	13.85		24.69		21.95	
10 PERCENT EXCEEDS	81		123		119	
50 PERCENT EXCEEDS	19		34		28	
90 PERCENT EXCEEDS	0.59		7.8		2.4	

e Estimated

MERRIMACK RIVER BASIN

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1998 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1998 to current year.
WATER TEMPERATURE: April 1998 to current year.
PRECIPITATION: October 1998 to current year.

INSTRUMENTATION.--Heated tipping-bucket precipitation gage, specific conductance and water temperature water-quality monitor.

REMARKS.--Specific conductance and water temperature records good. Extremes for period of daily record and current year are for those values reported.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 284 µS/cm, Oct. 12, 2002; minimum, 43 µS/cm, June 14, 1998.
WATER TEMPERATURE: Maximum recorded, 27.6°C, July 6, 1999; minimum, -0.4°C, Jan. 7, 10, 11, 13–15, 18, 19, 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 284 µS/cm, Oct. 12; minimum, 68 µS/cm, Dec 21.
WATER TEMPERATURE: Maximum recorded, 25.5°C, July 6 ;minimum, -0.4°C, Jan. 7, 10, 11, 13–15, 18, 19.

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	204	199	202	182	176	178	136	123	132	123	106	111
2	207	202	204	187	182	184	139	123	132	118	87	94
3	203	200	202	190	183	187	135	120	126	98	92	94
4	206	200	201	191	186	189	132	121	126	105	92	95
5	209	206	207	192	187	190	134	125	129	97	90	94
6	207	203	205	208	184	195	140	125	132	102	93	97
7	207	202	204	184	171	174	130	124	127	106	98	101
8	205	199	202	176	166	171	140	125	132	112	99	104
9	199	194	196	166	160	162	131	123	127	113	103	108
10	197	193	194	164	160	162	139	126	131	114	99	106
11	197	194	196	167	163	165	142	126	135	109	99	105
12	284	197	238	189	166	172	150	126	139	113	104	107
13	271	190	217	194	140	161	137	123	129	115	103	108
14	212	178	190	143	136	140	140	96	124	111	104	108
15	180	172	177	143	133	138	97	82	89	112	108	111
16	237	178	196	139	133	135	86	81	83	114	109	111
17	228	161	177	163	138	149	92	82	86	116	108	112
18	166	161	163	163	127	139	96	87	93	115	108	111
19	174	163	168	141	127	134	108	92	100	117	111	116
20	177	173	175	144	141	142	138	87	112	118	113	115
21	178	173	176	143	132	136	88	68	72	116	112	114
22	184	176	182	141	124	135	82	72	76	119	114	117
23	196	183	188	124	116	119	89	82	85	123	118	121
24	201	190	199	119	116	117	93	89	91	125	119	122
25	198	180	194	120	117	119	95	80	90	125	119	121
26	230	176	198	124	120	122	94	83	87	123	119	121
27	197	171	178	129	124	125	94	83	88	122	116	118
28	172	170	171	128	121	125	102	90	96	121	116	118
29	174	170	173	131	118	127	107	95	100	122	117	120
30	175	172	174	139	130	134	109	96	101	122	115	118
31	177	173	175	---	---	---	113	103	108	122	118	120
MONTH	284	161	191	208	116	151	150	68	109	125	87	110

MERRIMACK RIVER BASIN

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

SPECIFIC CONDUCTANCE (μS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	122	118	120	109	99	104	94	88	92	133	127	130
2	122	112	118	128	105	114	100	94	97	145	131	139
3	120	116	118	112	90	96	100	96	98	141	121	126
4	123	115	118	95	90	93	108	100	103	121	119	120
5	121	105	114	106	94	100	102	96	99	126	120	122
6	112	106	109	105	98	101	112	99	105	131	126	128
7	113	109	111	118	101	107	115	110	112	137	130	133
8	112	107	109	125	106	114	116	114	114	140	127	134
9	113	107	110	136	110	120	118	115	116	127	118	122
10	117	107	112	118	108	111	123	118	120	132	124	128
11	114	107	111	126	110	115	130	113	118	139	130	134
12	115	108	111	138	114	124	119	96	106	140	131	135
13	116	109	111	123	112	118	96	93	94	132	129	130
14	116	110	112	135	113	120	102	94	98	131	128	129
15	117	112	114	139	116	126	113	101	107	132	128	131
16	118	113	115	154	118	133	121	112	117	134	132	133
17	116	112	114	146	111	129	122	119	121	138	133	135
18	115	111	113	111	87	102	126	122	123	141	134	137
19	124	112	116	98	85	90	131	126	128	143	137	141
20	124	115	120	104	86	95	132	128	129	146	141	144
21	125	115	120	112	78	98	136	130	133	151	145	149
22	140	118	125	87	75	81	140	135	138	150	142	146
23	140	101	120	86	80	83	138	133	134	148	142	144
24	101	89	95	88	85	87	135	131	133	148	136	143
25	93	89	91	90	85	87	136	132	134	141	130	137
26	98	91	95	88	85	86	150	133	142	143	109	130
27	99	95	98	87	84	85	133	108	113	109	86	90
28	104	98	100	89	84	87	115	108	111	94	86	90
29	---	---	---	102	89	92	121	115	118	102	94	99
30	---	---	---	97	82	86	136	120	125	109	102	106
31	---	---	---	88	82	85	---	---	---	118	109	113
MONTH	140	89	111	154	75	102	150	88	116	151	86	128

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	121	112	118	165	156	160	282	260	267	220	212	216
2	112	110	110	175	165	168	284	229	269	247	220	233
3	116	110	113	182	173	177	229	211	215	241	209	217
4	122	116	118	186	180	183	227	215	220	226	206	215
5	129	118	123	193	185	188	227	189	214	218	203	207
6	123	118	120	202	192	197	189	170	178	207	198	202
7	139	123	129	206	194	200	199	171	180	206	198	202
8	130	113	117	212	198	207	227	156	191	207	197	202
9	123	114	117	220	212	216	157	150	153	207	198	203
10	124	118	122	215	205	210	166	157	163	211	206	208
11	130	120	123	236	188	209	170	165	168	216	206	211
12	131	124	128	234	174	189	178	149	169	221	210	216
13	132	126	129	183	174	176	168	115	129	220	212	216
14	126	116	119	195	183	190	119	112	114	222	217	219
15	118	116	117	200	194	197	129	119	124	225	216	221
16	124	118	122	207	198	204	143	129	138	230	220	226
17	129	124	126	206	194	199	153	143	147	224	197	212
18	141	128	134	212	197	206	162	152	157	201	193	197
19	140	132	135	212	204	209	156	127	133	227	199	205
20	138	133	136	215	205	211	142	130	135	228	176	191
21	148	135	137	224	213	219	153	142	148	180	176	178
22	158	125	144	247	213	232	167	151	158	187	179	183
23	125	89	98	241	232	236	172	166	169	224	184	196
24	95	89	91	232	214	223	169	165	167	204	138	150
25	107	95	100	222	214	218	185	169	179	160	142	150
26	119	107	113	228	217	224	196	185	191	170	160	166
27	129	119	123	241	226	235	197	189	193	169	158	161
28	141	129	134	250	239	245	200	196	198	161	155	158
29	151	141	145	256	245	250	206	196	201	161	148	155
30	157	151	154	259	248	253	221	206	214	151	145	147
31	---	---	---	262	255	259	212	208	210	---	---	---
MONTH	158	89	123	262	156	209	284	112	177	247	138	195
YEAR	284	68	144									

MERRIMACK RIVER BASIN

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.3	13.5	14.9	6.6	5.0	5.6	1.5	0.4	1.0	0.9	0.3	0.5
2	17.7	14.9	16.4	5.0	3.4	4.2	1.7	.4	1.1	.3	-.3	-.2
3	17.3	15.3	16.3	5.0	3.4	4.0	1.2	.0	.4	.0	-.3	-.2
4	15.3	13.7	14.2	5.0	3.2	4.1	.4	.0	.2	-.1	-.3	-.2
5	17.0	13.7	15.4	5.7	4.0	4.7	.7	.1	.4	.1	-.3	-.1
6	15.3	12.6	13.8	5.3	4.5	4.9	1.1	.0	.6	.1	-.3	-.1
7	13.2	11.6	12.3	5.0	3.2	4.3	.3	.0	.2	.2	-.4	-.1
8	12.4	10.2	11.2	5.1	3.0	4.1	1.0	.0	.5	.4	-.3	-.1
9	10.6	8.9	10.0	6.3	4.6	5.5	.4	.0	.1	.5	-.2	.1
10	12.0	10.3	11.1	8.5	5.9	7.2	.7	.1	.3	.6	-.4	.0
11	11.8	11.2	11.6	10.2	8.4	9.2	.9	.1	.5	-.1	-.4	-.3
12	12.3	11.8	12.0	9.2	8.3	8.9	1.1	.0	.6	.1	-.3	-.2
13	12.6	11.9	12.2	9.1	8.0	8.8	1.2	.4	.7	-.1	-.4	-.2
14	12.6	10.1	11.7	8.1	7.3	7.6	1.1	.4	.8	-.1	-.4	-.3
15	10.1	8.6	9.4	8.0	7.0	7.4	.6	.2	.4	-.1	-.4	-.3
16	10.4	9.2	9.7	7.3	4.3	6.3	.5	.1	.3	-.1	-.3	-.2
17	11.0	9.7	10.4	4.5	3.4	4.1	.4	.0	.1	.0	-.3	-.2
18	10.6	9.3	10.1	4.0	2.6	3.0	.2	.0	.1	-.1	-.4	-.3
19	10.1	8.2	9.2	3.2	2.4	2.8	.6	.0	.2	.0	-.4	-.2
20	10.1	8.7	9.4	4.0	2.7	3.3	1.6	.4	.9	.0	-.2	-.1
21	9.2	7.3	8.2	3.8	3.0	3.5	.7	.2	.4	.0	-.3	-.2
22	8.4	6.3	7.3	4.3	3.6	3.9	1.1	.5	.7	.0	-.2	-.2
23	8.1	6.2	7.2	4.8	4.0	4.5	1.4	1.0	1.2	.0	-.2	-.1
24	7.5	5.2	6.2	4.2	3.5	3.8	1.3	.9	1.1	.1	-.2	-.1
25	7.3	5.2	6.1	4.0	3.0	3.6	1.0	-.2	.5	.1	-.2	-.1
26	7.1	5.8	6.5	4.0	3.2	3.6	.2	-.2	.0	.1	-.2	-.1
27	7.6	6.2	6.9	3.7	2.0	3.0	.3	-.2	.0	.0	-.2	-.1
28	7.2	5.7	6.4	2.0	.8	1.5	.5	-.1	.1	.0	-.2	-.1
29	6.2	4.6	5.6	1.5	.6	1.1	.7	-.1	.2	.1	-.2	.0
30	6.6	5.4	5.9	2.1	1.2	1.5	.7	-.2	.2	.2	-.2	-.1
31	6.3	4.3	5.3	---	---	---	.7	.2	.4	.2	-.1	.1
MONTH	17.7	4.3	10.1	10.2	0.6	4.7	1.7	-0.2	0.5	0.9	-0.4	-0.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.2	0.0	0.1	0.5	-0.1	0.2	5.0	3.2	4.0	14.6	13.4	13.9
2	.1	-.3	.0	.3	.0	.2	6.0	4.0	4.8	16.8	13.2	14.7
3	.3	-.1	.1	.1	-.1	-.1	5.9	4.8	5.4	16.1	14.5	15.1
4	.2	-.1	.1	.1	-.1	.0	4.8	2.4	3.5	14.9	13.6	14.3
5	.3	-.3	-.1	.4	.0	.2	2.4	1.1	1.5	15.2	13.1	13.9
6	.0	-.3	-.1	.2	-.1	.0	3.6	1.3	2.4	13.5	12.6	13.3
7	.0	-.1	.0	.2	-.1	.0	3.7	2.4	3.1	15.5	12.2	13.8
8	.2	-.2	.0	1.1	.0	.4	2.4	2.0	2.2	14.6	13.0	14.1
9	.3	-.2	.0	1.5	-.1	.5	2.6	2.1	2.4	15.2	12.6	13.7
10	.5	-.1	.1	.4	-.1	.0	5.4	2.3	3.8	16.4	13.4	14.8
11	.3	-.2	.0	.6	-.1	.1	6.0	4.3	5.1	16.6	13.7	14.9
12	.3	-.2	.0	1.6	.1	.6	7.0	4.1	5.0	14.3	13.1	13.8
13	.1	-.2	-.1	.7	-.1	.3	8.9	5.8	7.1	13.5	12.6	13.0
14	.1	-.2	-.1	1.1	-.1	.2	9.1	6.8	8.0	13.6	12.4	12.9
15	.2	-.1	.0	1.6	.0	.6	12.3	8.9	10.3	15.3	12.2	13.6
16	.2	-.1	.0	2.4	.0	.9	14.5	12.3	13.4	13.6	12.2	13.1
17	.0	-.2	-.1	2.4	.4	1.0	13.0	9.6	11.8	15.0	11.5	12.9
18	.1	-.1	.0	1.2	.1	.5	9.6	8.0	9.1	16.2	11.0	13.4
19	.4	-.1	.1	1.0	.0	.4	10.9	7.6	9.0	17.8	12.5	14.9
20	.5	.0	.2	.8	.0	.4	12.1	9.0	10.3	19.1	14.4	16.5
21	.6	-.1	.2	1.3	.4	.7	13.3	9.9	11.4	16.7	15.4	16.2
22	.3	.0	.1	2.0	.3	1.1	12.3	11.0	11.8	15.4	13.7	14.6
23	.1	-.2	.0	3.6	1.4	2.3	11.9	9.9	10.8	13.7	12.6	13.2
24	.0	-.2	-.1	6.2	2.9	4.3	10.2	8.2	9.5	12.6	11.4	11.9
25	.0	-.2	-.2	7.0	3.8	5.4	11.4	7.2	9.1	12.2	11.0	11.6
26	.1	-.2	-.1	8.2	5.1	6.6	10.5	9.3	9.9	12.3	11.5	11.9
27	.1	-.1	.0	8.5	6.4	7.5	11.9	8.7	9.9	13.0	10.9	11.7
28	.3	-.1	.0	8.7	5.8	7.2	13.9	11.0	12.3	14.4	12.8	13.5
29	---	---	---	9.6	7.8	8.6	15.2	13.9	14.4	15.7	13.9	14.8
30	---	---	---	9.6	6.4	8.3	15.4	13.5	14.3	16.9	15.5	16.1
31	---	---	---	6.4	4.7	5.3	---	---	---	16.4	15.6	16.1
MONTH	0.6	-0.3	0.0	9.6	-0.1	2.1	15.4	1.1	7.9	19.1	10.9	13.9

MERRIMACK RIVER BASIN

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.6	14.5	15.2	22.7	19.3	21.1	20.0	18.1	18.5	17.1	15.8	16.4
2	15.3	13.6	14.6	23.2	19.2	21.3	20.2	17.6	18.7	17.3	16.0	16.6
3	16.3	14.5	15.3	23.7	20.6	22.0	22.0	20.1	20.9	18.0	16.6	17.1
4	15.9	15.1	15.4	24.4	20.7	22.5	21.6	20.6	21.1	17.6	16.9	17.2
5	15.2	14.5	14.8	24.7	22.0	23.4	22.4	21.1	21.6	19.0	17.3	18.0
6	17.2	14.1	15.6	25.5	22.4	23.8	23.3	21.2	22.1	18.7	16.3	17.4
7	16.7	15.6	16.3	25.2	21.9	23.6	22.5	21.5	22.0	18.7	15.6	17.0
8	15.9	15.4	15.6	25.5	22.3	23.8	22.4	21.4	21.8	19.2	17.0	17.8
9	16.2	15.4	15.7	23.8	20.2	21.9	22.3	21.2	21.7	17.6	15.6	16.6
10	18.3	15.3	16.7	22.3	18.7	20.5	23.1	21.6	22.2	17.2	13.4	15.3
11	17.8	17.0	17.4	20.9	19.0	19.7	24.2	22.2	23.1	18.0	14.4	16.0
12	18.4	17.0	17.6	21.5	18.5	19.8	24.1	22.7	23.3	17.9	15.1	16.3
13	18.0	16.6	17.5	22.3	19.1	20.7	23.2	21.7	22.6	17.4	15.0	16.0
14	17.1	15.9	16.5	21.3	19.3	20.4	24.1	22.3	23.2	18.4	16.3	17.2
15	19.1	16.8	17.9	22.5	18.3	20.4	24.1	22.1	23.0	19.2	17.1	18.0
16	18.9	17.6	18.1	21.3	19.2	20.1	24.0	21.9	22.9	19.8	17.8	18.6
17	19.5	16.9	18.0	22.3	18.9	20.6	22.9	21.6	22.2	19.1	16.3	17.6
18	17.9	17.1	17.6	21.1	19.4	20.3	21.9	20.6	21.3	18.2	15.6	16.8
19	18.6	16.8	17.6	22.2	19.1	20.6	22.4	20.5	21.4	17.9	16.2	17.0
20	18.9	17.8	18.2	22.5	18.5	20.4	22.7	20.1	21.5	20.0	17.6	18.6
21	19.2	16.9	17.8	21.8	19.2	20.5	23.2	20.6	22.0	19.0	17.1	18.1
22	17.2	15.3	16.4	22.5	20.0	21.1	23.7	21.0	22.2	18.4	16.3	17.3
23	17.9	14.9	16.1	21.9	20.5	21.1	22.6	20.2	21.5	17.8	16.4	17.0
24	20.5	17.6	18.9	22.6	20.6	21.4	20.2	17.6	18.9	17.0	15.6	16.5
25	21.9	19.8	20.9	23.1	20.2	21.6	19.8	17.7	18.6	16.9	14.9	16.0
26	24.0	21.4	22.6	22.9	19.6	21.2	21.1	18.1	19.5	16.5	15.7	16.1
27	24.8	22.6	23.7	23.2	20.6	21.6	22.2	19.5	20.5	16.5	15.6	15.9
28	24.0	22.1	23.1	23.2	20.4	21.7	20.4	17.8	19.1	16.5	15.9	16.2
29	23.3	20.7	21.9	22.2	19.3	20.7	19.8	16.2	18.0	16.4	15.1	15.9
30	22.8	20.8	21.7	21.8	18.3	20.1	20.4	18.6	19.3	15.7	14.2	14.9
31	---	---	---	22.3	18.4	20.2	19.2	16.3	17.8	---	---	---
MONTH	24.8	13.6	17.8	25.5	18.3	21.2	24.2	16.2	21.0	20.0	13.4	16.8
YEAR	25.5	-0.4	9.7									

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.04	0.00	0.66	0.02	0.00	0.03	0.01	0.52	0.00	0.57	0.02
2	.02	.00	.03	.54	.46	1.12	.30	.51	.00	.00	.23	.58
3	.00	.00	.01	.40	.00	.00	.04	.00	.00	.00	.01	.18
4	.14	.01	.00	.37	.29	.00	.34	.00	.13	.00	.80	.33
5	.07	.00	.06	.00	.00	.04	.20	.00	.35	.00	.34	.02
6	.00	.79	.02	.03	.00	.16	.00	.01	.00	.00	.04	.01
7	.00	.01	.00	.00	.23	.00	.10	.00	.71	.00	.37	.00
8	.00	.00	.00	.02	.00	.00	.10	.25	.00	.00	.58	.00
9	.00	.00	.00	.08	.00	.00	.04	.01	.00	.19	.03	.00
10	.00	.05	.00	.07	.05	.00	.00	.00	.00	.00	.10	.00
11	.38	.06	.35	.00	.00	.00	.53	.34	.24	1.21	.04	.00
12	1.24	.92	.59	.00	.02	.00	.18	.14	.02	.01	1.05	.00
13	.55	.27	.13	.00	.00	.23	.00	.00	.66	.00	.00	.00
14	.00	.00	1.20	.00	.00	.00	.00	.02	.01	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	1.28	.24	.19	.00	.00	.00	.00	.00	.00	.04	.00	.58
17	.00	.95	.00	.00	.81	.00	.00	.00	.00	.00	.00	.01
18	.00	.12	.00	.00	.02	.00	.00	.00	.38	.09	.78	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.71
20	.00	.00	1.16	.00	.00	.27	.00	.00	.09	.00	.00	.00
21	.00	.06	.01	.00	.00	.47	.00	.15	.36	.00	.00	.00
22	.00	.33	.00	.00	.80	.00	.26	.10	1.59	.31	.25	.00
23	.27	.00	.00	.00	.63	.00	.02	.35	.11	.26	.00	2.12
24	.00	.00	.00	.00	.00	.00	.00	.26	.00	.08	.00	.00
25	.00	.03	.88	.00	.00	.00	.00	.16	.00	.00	.00	.00
26	1.08	.00	.07	.02	.00	.20	1.27	1.70	.00	.00	.00	.05
27	.00	.25	.00	.00	.00	.01	.01	.01	.00	.00	.00	.01
28	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.27
29	.00	.00	.00	.00	---	.66	.00	.00	.00	.00	.00	.01
30	.00	.00	.00	.00	---	.39	.00	.00	.00	.00	.00	.01
31	.00	---	.02	.00	---	.00	---	.17	---	.00	.00	---
TOTAL	5.03	4.13	4.72	2.19	3.33	3.55	3.42	4.24	5.17	2.19	5.19	4.91
MAX	1.28	0.95	1.20	0.66	0.81	1.12	1.27	1.70	1.59	1.21	1.05	2.12

CAL YR 2002 TOTAL 42.19 MAX 1.86
WTR YR 2003 TOTAL 48.07 MAX 2.12

MERRIMACK RIVER BASIN

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued
(National Water Quality Assessment Site)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	INSTAN-TANEOUS DISCHARGE, CFS (00061)	BARO-METRIC PRESSURE, MM HG (00025)	DIS-SOLVED OXYGEN, MG/L (00300)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, AIR, DEG C (00020)	TEMPER-ATURE, WATER, DEG C (00010)	ALKALINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)	BICARBONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)
NOV 2002										
20...	1200	54	754	10.7	6.3	149	10.0	3.9	3	4
DEC										
09...	0800	17	763	12.8	6.8	163	-6.1	.1	8	10
JAN 2003										
28...	1015	E13	756	11.3	6.3	142	-12.3	.2	7	8
FEB										
13...	0945	E14	746	14.8	6.2	138	-10.8	.1	6	7
MAR										
19...	1030	258	758	--	--	109	5.6	.4	4	5
MAY										
09...	1030	69	748	9.5	6.2	119	19.5	13.0	5	6
JUL										
09...	1000	8.4	746	7.2	6.3	219	22.2	21.6	19	22
30...	1040	7.1	--	7.0	6.4	262	--	18.4	--	--
AUG										
18...	1500	29	--	8.4	6.8	157	--	21.3	--	--
SEP										
03...	1015	6.8	754	6.8	6.9	206	15.9	16.2	17	21

DATE	CHLORIDE, WATER, FLTRD, MG/L (00940)	SULFATE WATER, FLTRD, MG/L (00945)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PHOSPHORUS, WATER, UNFLTRD MG/L (00665)	CHLORO-PHYLL A PERIPHYTON, CHROMO-FLUORO, MG/M2 (70957)	SUSPENDED SEDIMENT CONCEN-TRATION MG/L (80154)
NOV 2002										
20...	30.5	9.0	0.23	<0.04	0.09	<0.008	<0.02	0.008	--	--
DEC										
09...	33.1	9.8	.24	<.04	.24	<.008	<.02	.009	--	2
JAN 2003										
28...	28.8	8.4	.20	<.04	.40	<.008	<.02	.007	--	3
FEB										
13...	28.9	8.1	.18	E.03	.37	<.008	<.02	.007	--	1
MAR										
19...	23.9	6.5	.20	<.04	.19	<.008	<.02	.014	--	9
MAY										
09...	24.9	6.4	.26	<.04	.10	<.008	<.02	.012	--	3
JUL										
09...	47.5	6.4	.33	<.04	.21	<.008	<.02	.020	--	2
30...	--	--	.24	.028	.216	--	--	.015	7.9	--
AUG										
18...	--	--	--	--	--	--	--	--	15.9	--
SEP										
03...	45.2	7.2	.23	<.04	.14	<.008	<.02	.012	--	2

< Less than
E Estimated value

MERRIMACK RIVER BASIN

01095375 QUINAPOXET RIVER AT CANADA MILLS NEAR HOLDEN, MA

LOCATION.--Lat 42°22'25" (revised), long 71°49'43", Worcester County, Hydrologic Unit 01070004, on left bank, 300 ft upstream from bridge on Harris Street at Canada Mills, 2.1 mi north of Holden, MA, and about 3.5 mi upstream from mouth at Wachusett Reservoir.

DRAINAGE AREA.--44.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1996 to current year.

GAGE.--Water stage recorder. Elevation of gage is 560 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Flow regulated by Quinapoxet Reservoir. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.-- 6 years, 54.0 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,670 ft^3/s, Mar. 10, 1998, gage height, 13.76 ft; minimum, 0.48 ft^3/s, Aug. 10, 1999.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 21, 1996, reached a discharge of 890 ft^3/s, gage height, 12.45 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 895 ft^3/s, June 23, gage height, 11.29 ft; minimum daily, 2.4 ft^3/s, Oct. 8–10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	9.2	19	77	e23	e51	236	84	132	76	18	13
2	4.2	8.4	17	142	e29	84	194	89	128	65	29	21
3	3.7	8.1	16	115	e32	145	199	118	98	57	26	21
4	3.9	8.7	15	113	e36	e126	223	99	82	49	40	31
5	4.6	9.5	14	95	e38	98	208	84	105	44	49	27
6	3.2	19	15	84	e34	93	172	73	92	39	41	22
7	2.5	20	e19	78	e31	e84	153	69	98	33	31	18
8	2.4	14	14	75	e28	76	145	70	137	30	47	15
9	2.4	12	e17	74	e26	78	132	74	108	31	39	14
10	2.4	11	13	e59	e25	e73	130	66	94	32	33	13
11	2.8	11	13	e51	e24	e70	169	63	87	53	29	13
12	22	13	21	e48	e24	67	314	81	101	77	61	13
13	29	44	23	e44	e23	69	263	86	136	51	481	13
14	23	29	67	e40	e22	e65	198	76	175	39	148	12
15	13	21	82	e37	e22	62	185	68	135	34	78	11
16	22	16	57	e36	e21	65	167	61	99	32	55	18
17	39	31	47	e36	e21	102	137	56	83	34	38	14
18	19	53	43	e32	e24	211	122	53	82	29	31	11
19	13	38	44	e30	e23	268	108	52	92	28	25	17
20	11	31	168	e30	e23	196	96	48	85	24	20	18
21	9.1	28	538	e27	e25	389	88	46	77	21	18	13
22	8.4	35	238	e24	e43	555	88	48	443	44	18	11
23	9.3	37	165	e22	e110	471	95	58	750	48	19	35
24	12	29	128	e23	e132	350	99	68	391	37	17	42
25	11	25	114	e22	e115	321	86	73	242	30	16	25
26	25	23	117	e22	e83	293	117	147	169	23	16	21
27	31	23	97	e22	e69	296	208	305	131	20	15	19
28	18	20	86	e23	e58	236	157	179	106	19	14	17
29	14	19	79	e21	---	209	122	129	90	16	13	18
30	12	20	73	e21	---	396	98	101	79	15	13	16
31	10	---	70	e22	---	353	---	87	---	14	14	---
TOTAL	387.7	665.9	2429	1545	1164	5952	4709	2711	4627	1144	1492	552
MEAN	12.5	22.2	78.4	49.8	41.6	192	157	87.5	154	36.9	48.1	18.4
MAX	39	53	538	142	132	555	314	305	750	77	481	42
MIN	2.4	8.1	13	21	21	51	86	46	77	14	13	11
CFSM	0.27	0.48	1.69	1.08	0.90	4.15	3.39	1.89	3.33	0.80	1.04	0.40
IN.	0.31	0.54	1.95	1.24	0.94	4.78	3.78	2.18	3.72	0.92	1.20	0.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	9.44	14.0	56.8	52.5	60.2	145	154	77.3	80.7	19.0	12.6	8.53
MAX	14.3	22.2	247	104	119	267	283	165	176	47.3	48.1	18.4
(WY)	1999	2003	1997	1997	1998	1998	2001	1998	1998	1998	2003	2003
MIN	3.25	4.35	8.81	7.65	11.6	22.7	28.4	31.1	6.31	2.10	1.16	3.48
(WY)	2002	2002	1999	2002	2002	2002	2002	1999	1999	1999	1999	1997

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL TOTAL	9051.5		27378.6			
ANNUAL MEAN	24.8		75.0		54.0	
HIGHEST ANNUAL MEAN					84.1	1998
LOWEST ANNUAL MEAN					16.7	2002
HIGHEST DAILY MEAN	538	Dec 21	750	Jun 23	1270	Mar 10 1998
LOWEST DAILY MEAN	1.2	Aug 19	2.4	Oct 8	0.57	Aug 10 1999
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 22	2.9	Oct 5	0.63	Aug 4 1999
MAXIMUM PEAK FLOW			895	Jun 23	1670	Mar 10 1998
MAXIMUM PEAK STAGE			11.29	Jun 23	13.76	Mar 10 1998
INSTANTANEOUS LOW FLOW			2.2	Oct 8	0.48	Aug 10 1999
ANNUAL RUNOFF (CFSM)	0.54		1.62		1.17	
ANNUAL RUNOFF (INCHES)	7.27		22.00		15.83	
10 PERCENT EXCEEDS	54		169		137	
50 PERCENT EXCEEDS	14		40		20	
90 PERCENT EXCEEDS	2.4		13		3.8	

e Estimated

MERRIMACK RIVER BASIN

01095375 QUINAPOXET RIVER AT CANADA MILLS NEAR HOLDEN, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--April 1997 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor.

REMARKS.--Specific conductance and water temperature records good. Extremes for period of daily record and current year are for those values reported.

EXTREMES FOR PERIOD OF DAILY RECORD, APRIL 1997 TO CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 659 µS/cm, Jan. 9, 1999; minimum, 61 µS/cm, June 18, 1998.

WATER TEMPERATURE: Maximum recorded, 29.5°C, Aug. 19, 2002; minimum, -0.8°C, Feb. 19, 2001.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 345 µS/cm, Nov. 12, Dec. 14; minimum, 103 µS/cm, Apr. 14.

WATER TEMPERATURE: Maximum recorded, 26.2°C, June 27; minimum, -0.2°C, many days during winter period.

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	298	292	295	271	263	268	329	314	323	175	157	162
2	301	294	297	272	265	270	335	312	324	196	145	166
3	307	301	304	279	269	274	332	305	317	169	147	161
4	302	299	301	295	279	287	326	299	311	166	141	154
5	311	297	304	296	279	287	319	310	313	168	154	161
6	310	297	304	282	276	279	335	307	321	166	151	158
7	297	292	295	290	277	283	321	298	308	169	153	160
8	298	290	293	294	290	292	329	302	315	177	151	163
9	294	287	290	298	288	292	317	296	305	189	163	174
10	301	290	296	314	289	300	330	303	317	202	172	186
11	303	296	301	316	309	313	337	312	325	187	168	176
12	296	241	282	345	306	322	334	308	322	184	171	176
13	262	241	254	344	268	303	343	320	332	175	164	170
14	262	255	258	268	256	259	345	259	313	171	158	166
15	264	254	258	261	256	258	287	255	274	174	163	167
16	278	264	270	264	257	259	282	264	273	169	160	166
17	280	278	279	286	261	270	265	244	254	167	160	163
18	278	271	275	314	278	296	265	232	248	172	163	167
19	271	231	253	319	314	317	248	227	235	176	166	171
20	233	230	231	324	316	320	227	141	205	171	161	165
21	233	230	231	324	313	319	142	134	137	181	163	173
22	234	231	232	314	294	306	143	133	136	191	177	184
23	237	233	235	294	287	291	138	134	136	185	166	178
24	258	235	244	294	289	292	140	136	138	170	160	165
25	261	250	256	294	289	292	142	115	133	170	161	165
26	251	205	237	294	290	292	144	120	136	165	159	163
27	225	204	216	299	291	295	147	134	140	169	162	166
28	226	221	224	296	280	289	151	138	145	172	163	168
29	245	225	235	304	285	296	154	144	148	167	163	165
30	255	244	252	319	304	312	153	137	145	168	164	166
31	263	255	258	---	---	---	167	146	156	168	164	165
MONTH	311	204	266	345	256	291	345	115	241	202	141	167

MERRIMACK RIVER BASIN

01095375 QUINAPOXET RIVER AT CANADA MILLS NEAR HOLDEN, MA--Continued

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	168	163	166	180	152	167	140	130	134	210	204	207
2	187	163	176	227	169	195	146	140	141	216	199	210
3	194	173	182	203	149	174	147	145	145	200	190	192
4	218	170	185	176	138	155	147	143	144	203	189	195
5	197	185	190	192	159	172	155	146	149	204	198	201
6	190	182	187	179	155	169	172	154	160	203	199	201
7	202	178	187	204	145	164	179	170	174	209	202	205
8	196	176	184	219	161	185	182	167	174	209	201	204
9	185	169	179	215	173	192	189	178	183	205	200	202
10	179	174	177	190	152	170	188	177	182	202	198	200
11	192	176	182	193	161	175	183	169	177	204	198	201
12	190	179	184	208	175	190	174	158	165	204	194	199
13	190	169	181	195	172	187	168	160	163	212	200	206
14	195	169	184	222	168	189	234	103	190	213	206	210
15	186	172	179	224	182	200	207	193	200	210	205	208
16	187	174	181	226	183	205	201	196	198	212	209	211
17	182	176	180	216	200	211	198	184	195	219	210	214
18	181	169	175	200	164	185	195	192	193	224	212	218
19	211	174	184	172	162	165	208	192	201	229	221	226
20	232	181	198	171	161	166	214	203	210	230	227	228
21	228	194	207	175	148	165	220	205	214	228	222	226
22	247	196	216	150	138	146	213	208	210	230	222	227
23	242	204	219	142	133	137	217	207	212	229	214	221
24	206	166	184	138	132	135	214	203	206	214	208	211
25	166	151	161	135	128	132	212	202	207	208	205	206
26	165	147	155	135	128	131	212	186	204	207	158	191
27	167	149	157	128	123	125	192	183	190	174	164	168
28	173	151	163	127	124	125	197	182	188	175	169	172
29	---	---	---	127	119	125	199	188	194	191	175	182
30	---	---	---	121	116	119	205	196	201	191	187	189
31	---	---	---	132	115	121	---	---	---	192	189	190
MONTH	247	147	182	227	115	164	234	103	183	230	158	204

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	189	175	181	181	178	179	226	218	222	201	195	198
2	187	176	181	188	180	183	220	212	216	198	189	192
3	194	184	189	192	186	189	225	217	218	214	198	203
4	198	192	195	194	189	192	223	196	213	213	184	197
5	198	183	186	198	187	192	223	211	217	200	194	198
6	195	186	191	209	190	200	217	209	212	194	189	191
7	191	171	184	213	203	210	224	217	220	191	188	189
8	179	174	176	216	202	211	225	198	207	203	191	198
9	198	178	188	219	206	214	212	204	206	206	201	203
10	197	182	189	225	211	216	219	212	217	203	200	202
11	187	185	187	225	188	208	226	219	222	208	202	206
12	188	181	185	194	177	189	234	112	216	216	206	209
13	181	170	175	195	190	193	134	110	118	220	211	215
14	170	163	166	204	194	198	133	121	126	211	207	209
15	171	163	166	207	201	204	151	133	139	209	205	207
16	181	171	177	218	207	211	161	151	155	207	198	200
17	187	181	184	217	205	211	172	161	168	221	204	214
18	188	180	186	214	205	211	181	172	177	224	218	221
19	182	180	181	212	205	208	186	180	183	221	197	209
20	182	180	181	219	209	212	193	186	190	222	197	213
21	185	178	182	224	219	222	196	193	194	223	219	221
22	178	132	151	224	186	205	197	193	195	221	219	220
23	137	129	132	196	181	185	193	177	186	221	150	198
24	161	138	149	219	196	210	180	170	176	215	191	211
25	162	145	151	221	217	219	187	171	181	214	209	212
26	165	153	157	226	218	223	191	185	188	210	209	209
27	171	145	159	228	223	225	193	188	190	209	207	209
28	170	164	168	225	214	222	194	188	192	208	202	204
29	178	170	173	226	214	222	191	188	189	202	199	201
30	180	175	176	228	221	224	190	188	189	202	198	200
31	---	---	---	229	223	225	203	188	193	---	---	---
MONTH	198	129	175	229	177	207	234	110	191	224	150	205
YEAR	345	103	207									

MERRIMACK RIVER BASIN

01095375 QUINAPOXET RIVER AT CANADA MILLS NEAR HOLDEN, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.2	14.7	15.8	6.2	5.1	5.7	2.2	0.8	1.7	2.0	1.1	1.6
2	19.0	16.5	17.7	5.5	4.0	4.6	1.8	.7	1.3	1.1	-.1	.5
3	18.4	16.5	17.7	5.1	3.5	4.1	1.6	.3	.8	.5	-.1	.3
4	16.5	14.8	15.4	4.8	3.4	4.1	.9	.1	.4	.6	-.1	.2
5	18.5	14.8	16.6	5.2	3.9	4.6	.6	.3	.4	.8	.0	.4
6	16.6	13.0	15.0	5.2	4.2	4.7	1.2	.2	.7	.6	.0	.4
7	14.5	12.3	13.3	5.3	3.5	4.6	.6	.0	.3	.8	-.2	.3
8	14.4	10.8	12.2	5.0	3.1	4.1	1.0	.1	.5	1.1	-.1	.4
9	12.2	9.9	10.9	6.8	4.8	5.8	.4	.0	.1	1.5	.5	.9
10	13.0	10.6	11.8	9.5	6.8	7.9	.6	.0	.3	1.4	-.2	.8
11	12.7	12.0	12.4	11.7	9.5	10.8	.7	.1	.4	.2	-.2	.0
12	12.8	12.6	12.7	11.5	9.7	10.4	.7	.0	.3	.5	-.1	.0
13	13.0	12.6	12.8	9.7	8.6	9.1	1.1	.3	.7	.2	-.2	-.1
14	12.8	10.3	12.0	8.6	7.4	7.9	.9	.6	.8	-.1	-.2	-.1
15	10.3	8.8	9.7	8.5	7.4	7.9	1.8	.7	1.2	.0	-.1	-.1
16	10.5	9.5	9.9	8.0	4.5	6.8	1.7	1.0	1.3	.0	-.1	-.1
17	11.3	9.9	10.7	4.5	3.3	3.6	1.0	.0	.5	.1	-.1	-.1
18	11.4	9.8	10.8	4.3	3.5	3.8	.7	.0	.2	-.1	-.1	-.1
19	10.6	8.9	9.8	3.9	2.9	3.5	.8	-.1	.3	-.1	-.1	-.1
20	10.6	9.3	10	4.8	3.3	4.0	2.1	.5	1.1	.0	-.1	-.1
21	9.6	8.2	8.8	4.1	3.3	3.8	1.7	1.0	1.3	.0	-.1	-.1
22	8.3	6.7	7.6	5.2	4.1	4.6	2.0	1.1	1.4	.0	-.1	-.1
23	8.1	6.5	7.4	5.2	3.7	4.7	2.0	1.4	1.6	.0	-.1	-.1
24	7.2	5.6	6.5	4.4	3.3	3.8	1.7	1.2	1.4	.0	-.1	-.1
25	7.1	5.7	6.5	4.2	3.3	3.8	1.4	-.1	.8	.0	-.1	-.1
26	7.0	6.2	6.6	4.4	3.6	4.0	1.0	-.1	.6	.0	-.1	-.1
27	8.0	6.5	7.3	3.6	1.8	2.7	1.0	.2	.5	.0	-.1	-.1
28	8.0	6.8	7.3	1.8	.8	1.2	1.1	.1	.6	.0	-.1	-.1
29	6.8	5.4	6.1	1.8	.8	1.4	1.3	.4	.8	-.1	-.1	-.1
30	6.5	5.6	6.1	2.7	1.7	2.1	1.0	.0	.5	.0	-.1	-.1
31	6.2	4.8	5.6	---	---	---	1.6	.7	1.2	.0	-.1	-.1
MONTH	19.0	4.8	10.7	11.7	0.8	5.0	2.2	-0.1	0.8	2.0	-0.2	0.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.0	-0.1	-0.1	1.1	-0.1	0.4	5.2	3.1	4.0	14.1	11.8	12.8
2	-.1	-.1	-.1	.9	.4	.6	5.6	3.6	4.6	17.1	12.4	14.4
3	.0	-.1	-.1	.8	-.2	.2	4.6	4.2	4.5	16.0	12.6	13.9
4	.0	-.1	-.1	1.2	-.1	.3	4.2	2.9	3.7	15.5	11.5	13.5
5	.0	-.1	-.1	1.8	.5	1.1	3.2	2.3	2.8	16.1	11.7	13.8
6	.0	-.1	-.1	1.0	-.2	.5	4.8	2.2	3.4	13.2	12.1	12.6
7	-.1	-.1	-.1	.7	-.1	.1	3.7	2.2	2.8	17.0	12.6	14.6
8	.0	-.1	-.1	2.6	.1	1.1	3.4	2.0	2.7	14.7	12.4	13.2
9	.0	-.1	-.1	3.0	-.1	1.3	3.1	2.4	2.7	16.1	12.2	13.9
10	.0	-.1	-.1	.7	-.2	.0	6.4	2.2	3.9	17.0	12.0	14.4
11	.0	-.1	-.1	.8	-.2	.2	4.1	3.1	3.6	16.4	12.3	14.2
12	.0	-.1	-.1	2.8	.2	1.3	5.8	3.6	4.4	13.8	12.5	13.1
13	-.1	-.1	-.1	1.4	.2	.8	7.3	3.9	5.3	14.6	12.2	13.3
14	-.1	-.1	-.1	1.9	-.2	.5	9.0	4.4	6.4	14.3	12.4	13.4
15	.0	-.1	-.1	2.5	.1	1.1	11.3	6.5	8.8	15.7	12.1	13.7
16	-.1	-.1	-.1	4.0	.2	1.7	12.8	9.2	10.5	13.1	11.6	12.5
17	-.1	-.1	-.1	4.1	1.2	2.1	10.7	7.6	8.9	15.2	10.9	12.7
18	-.1	-.1	-.1	2.8	.9	1.6	9.5	7.1	8.1	16.1	10.1	13.1
19	.0	-.1	-.1	2.7	.8	1.5	11.3	7.1	9.0	17.8	11.9	15.0
20	.0	-.1	-.1	2.2	.7	1.4	12.1	7.8	9.8	18.9	13.6	16.4
21	.0	-.1	-.1	2.4	1.1	1.5	13.9	8.4	10.9	16.8	14.3	15.1
22	-.1	-.1	-.1	3.1	1.1	2.0	11.1	9.9	10.3	14.3	13.1	13.8
23	-.1	-.1	-.1	2.8	1.4	2.0	11.0	9.1	10.0	13.1	12.5	12.9
24	.0	-.1	-.1	4.1	1.8	2.7	10.1	8.0	9.0	12.5	11.7	12.1
25	.2	-.1	.0	4.7	1.9	3.1	12.6	6.9	9.6	13.1	11.5	12.3
26	.2	-.2	.0	5.4	2.6	3.9	10.1	9.0	9.4	12.8	11.4	12.1
27	.1	-.1	.0	5.8	3.2	4.3	12.1	8.7	10.2	13.6	11.8	12.8
28	.6	-.1	.1	6.5	3.4	4.8	14.5	9.3	11.8	14.9	13.0	13.8
29	---	---	---	7.0	4.9	5.9	14.5	11.3	12.8	15.7	13.4	14.6
30	---	---	---	6.0	4.4	5.2	15.2	11.0	13.1	17.6	14.2	15.9
31	---	---	---	5.5	3.6	4.5	---	---	---	16.3	15.1	15.8
MONTH	0.6	-0.2	-0.1	7.0	-0.2	1.9	15.2	2.0	7.2	18.9	10.1	13.7

MERRIMACK RIVER BASIN

01095375 QUINAPOXET RIVER AT CANADA MILLS NEAR HOLDEN, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.7	14.3	15.1	22.7	19.6	21.3	20.3	18.5	19.0	17.2	16.5	16.9
2	16.3	13.4	14.8	23.3	19.6	21.6	19.9	18.0	18.9	17.2	16.3	16.7
3	16.5	13.3	15.0	23.4	20.8	22.2	21.8	19.8	20.8	17.7	16.4	17.1
4	15.5	14.5	15.0	24.2	20.7	22.6	21.3	20.7	21.0	17.5	16.7	17.1
5	14.9	14.3	14.6	25.0	22.4	23.7	22.6	21.0	21.8	19.1	17.3	18.1
6	17.7	14.2	16.0	25.4	22.7	24.0	23.7	21.4	22.4	18.8	16.4	17.6
7	16.7	15.6	16.0	25.0	21.6	23.5	22.5	21.3	21.9	19.0	15.9	17.6
8	16.4	15.5	15.9	25.2	22.1	23.7	22.0	20.8	21.3	19.4	17.2	18.2
9	16.7	15.5	16.0	23.6	19.9	21.6	23.0	21.3	22.1	17.8	15.4	16.7
10	18.8	15.5	17.1	21.7	18.5	20.1	23.4	22.1	22.7	17.1	13.8	15.5
11	18.2	16.6	17.5	20.1	18.3	19.1	24.4	22.1	23.1	17.9	14.9	16.3
12	19.2	17.5	18.3	22.0	18.2	20.3	23.5	21.8	22.6	18.0	15.6	16.6
13	18.7	16.8	17.7	22.4	19.4	20.9	25.1	23.5	24.7	17.2	15.7	16.4
14	19.1	16.6	17.7	21.4	19.3	20.4	25.4	23.8	24.6	18.6	16.6	17.5
15	20.1	17.6	18.9	22.7	18.9	20.7	25.4	23.1	24.2	19.1	17.7	18.4
16	18.9	17.3	18.1	21.1	19.6	20.4	24.6	22.5	23.5	19.9	18.1	18.9
17	19.9	16.6	18.2	22.4	19.2	20.8	23.3	21.4	22.4	18.8	16.3	17.6
18	18.5	17.1	17.6	21.0	19.5	20.2	22.0	20.5	21.2	17.4	15.4	16.5
19	19.6	17.5	18.5	22.5	19.6	20.9	23.0	19.9	21.4	17.5	16.0	16.6
20	19.2	18.2	18.6	22.7	18.6	20.6	23.4	19.8	21.6	19.8	17.4	18.5
21	18.9	17.1	17.9	21.9	19.6	20.8	23.8	20.2	22.0	18.8	16.7	17.8
22	17.1	15.4	16.5	22.9	20.0	21.5	24.3	21.1	22.6	17.8	15.9	16.9
23	19.0	16.5	17.7	22.6	21.9	22.2	22.8	19.8	21.5	17.3	16.2	16.7
24	21.1	18.5	19.8	22.8	21.2	21.9	19.8	17.4	18.7	17.4	15.4	16.4
25	24.0	20.5	22.1	23.6	20.7	22.0	19.7	17.4	18.5	17.3	15.0	16.2
26	25.2	22.2	23.7	23.3	19.9	21.7	21.5	18.4	20.0	16.8	15.9	16.3
27	26.2	23.2	24.6	23.5	21.2	22.2	22.5	19.9	21.1	16.7	15.7	16.1
28	24.6	22.2	23.2	23.6	20.9	22.1	20.5	18.3	19.5	17.2	16.2	16.7
29	23.6	21.2	22.4	23.2	19.9	21.5	19.8	16.7	18.5	16.9	15.0	16.1
30	22.6	20.9	21.7	22.9	19.4	21.2	20.7	19.0	20.0	15.4	13.3	14.5
31	---	---	---	22.8	19.4	21.1	19.3	16.8	18.1	---	---	---
MONTH	26.2	13.3	18.2	25.4	18.2	21.5	25.4	16.7	21.3	19.9	13.3	16.9
YEAR	26.2	-0.2	9.8									

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.--Total above gage is 65.9 mi^2; net above gage is 63.7 mi^2, excludes 2.16 mi^2, 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 poor. Occasional regulation at low flow by mill upstream; regulation greater prior to 1961. Entire flow from 2.16 mi^2 upstream from outlet of Ashby Reservoir diverted for municipal supply of Fitchburg except for occasional periods of spill. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years, 112 ft^3/s, 23.87 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,220 ft^3/s, Apr. 6, 1987, gage height, 8.16 ft; minimum daily, 2.0 ft^3/s, Sept. 7, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 858 ft^3/s, Mar. 22, gage height, 5.15 ft; minimum, 8.4 ft^3/s, Oct. 4-7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	22	67	99	52	e96	435	150	194	51	17	16
2	9.6	20	60	160	60	111	333	141	266	43	37	18
3	9.0	19	57	168	70	195	322	245	202	39	41	18
4	8.5	19	49	146	73	207	338	260	150	35	54	22
5	8.9	19	46	e138	e77	160	317	187	142	33	67	24
6	8.4	26	e47	127	e73	133	274	151	159	31	67	23
7	8.8	34	e46	113	e62	124	244	137	137	28	54	21
8	9.7	36	e41	e110	e56	111	219	133	145	27	55	20
9	11	33	e39	105	e52	116	203	146	143	26	59	18
10	13	30	e37	102	e49	e121	182	138	123	26	54	17
11	13	28	e39	e96	e47	e110	236	121	105	31	47	15
12	18	27	e52	90	e46	106	531	145	116	35	41	15
13	22	63	71	e86	e43	e103	651	218	123	31	46	14
14	26	85	115	e80	e42	e100	464	225	155	28	54	14
15	23	61	411	e76	e40	99	328	167	157	26	45	14
16	26	48	377	72	e37	96	257	138	118	24	35	22
17	47	63	225	72	e39	124	218	121	96	24	31	21
18	42	124	e174	67	e43	e236	185	108	89	24	30	19
19	29	132	e143	61	e51	e350	170	100	84	24	28	19
20	22	97	150	62	e54	322	156	89	82	24	26	28
21	20	83	435	61	e54	445	154	79	81	21	25	29
22	17	96	382	56	64	802	142	84	108	20	25	24
23	17	157	244	52	128	762	156	85	273	20	31	37
24	15	152	183	51	236	641	164	105	211	20	29	136
25	17	115	e155	51	252	581	142	130	130	19	24	88
26	23	95	139	51	e151	560	148	175	94	20	23	69
27	32	87	e140	53	e119	621	372	524	77	18	21	63
28	33	81	e123	53	e101	551	359	421	65	17	19	52
29	29	72	113	51	---	429	232	328	62	16	18	56
30	25	68	105	51	---	548	176	240	57	15	17	62
31	23	---	100	50	---	601	---	186	---	15	16	---
TOTAL	615.9	1992	4365	2610	2171	9561	8108	5477	3944	811	1136	994
MEAN	19.9	66.4	141	84.2	77.5	308	270	177	131	26.2	36.6	33.1
MAX	47	157	435	168	252	802	651	524	273	51	67	136
MIN	8.4	19	37	50	37	96	142	79	57	15	16	14
CFSM	0.31	1.04	2.21	1.32	1.22	4.84	4.24	2.77	2.06	0.41	0.58	0.52
IN.	0.36	1.16	2.55	1.52	1.27	5.58	4.73	3.20	2.30	0.47	0.66	0.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

MEAN	52.6	96.4	120	120	129	228	272	146	84.9	36.6	29.2	30.8
MAX	296	304	349	323	328	554	654	343	330	84.7	98.8	245
(WY)	1956	1956	1997	1956	1970	1983	1987	1954	1998	1951	1986	1954
MIN	9.41	12.6	22.7	20.1	33.6	81.5	75.8	51.9	18.5	8.26	6.21	6.80
(WY)	1965	1965	1966	1981	1980	1989	1985	1965	1999	1965	1966	1965

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1950 - 2003	
ANNUAL TOTAL	24871.5		41784.9			
ANNUAL MEAN	68.1		114		112	
HIGHEST ANNUAL MEAN					174	1956
LOWEST ANNUAL MEAN					35.9	1965
HIGHEST DAILY MEAN	678	May 14	802	Mar 22	3420	Apr 6 1987
LOWEST DAILY MEAN	4.0	Sep 14	8.4	Oct 6	2.0	Sep 7 1965
ANNUAL SEVEN-DAY MINIMUM	5.0	Sep 9	9.0	Oct 2	4.3	Aug 28 1966
MAXIMUM PEAK FLOW			858	Mar 22	4220	Apr 6 1987
MAXIMUM PEAK STAGE			5.15	Mar 22	8.16	Apr 6 1987
INSTANTANEOUS LOW FLOW			8.4	Oct 4		
ANNUAL RUNOFF (CFSM)	1.07		1.80		1.76	
ANNUAL RUNOFF (INCHES)	14.52		24.40		23.87	
10 PERCENT EXCEEDS	157		254		253	
50 PERCENT EXCEEDS	40		67		67	
90 PERCENT EXCEEDS	8.4		19		14	

e Estimated

MERRIMACK RIVER BASIN

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 mi^2, net above gage, 316 mi^2, excludes 119 mi^2 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Extremes and daily discharge include water released while diverting flow of Nashua River for use of Boston metropolitan district 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.

AVERAGE DISCHARGE.--68 years, 580 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,900 ft^3/s, Mar. 20, 1936, gage height, 19.1 ft, from floodmarks, from rating curve extended above 12,000 ft^3/s on basis of velocity-area studies; minimum daily, 1.1 ft^3/s, Aug. 13, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,020 ft^3/s, Mar. 24, gage height, 6.68 ft; minimum daily, 43 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	222	409	654	326	620	2450	823	1020	634	310	311
2	108	223	408	756	303	589	2110	762	1180	559	337	311
3	62	206	408	988	365	964	1870	852	1150	529	474	295
4	45	158	281	892	380	993	1820	994	930	521	505	219
5	43	139	339	880	587	922	1830	877	815	509	699	308
6	49	296	378	814	490	816	1740	768	832	482	655	290
7	96	366	365	744	377	730	1620	693	802	372	590	260
8	95	321	274	710	378	707	1510	681	821	286	636	229
9	46	309	417	670	378	695	1390	763	845	269	707	199
10	50	273	355	608	377	728	1300	738	833	275	623	184
11	44	200	278	658	378	704	1290	581	826	374	597	187
12	96	252	238	639	377	637	1600	777	791	457	646	224
13	170	482	522	586	376	672	2240	832	786	500	792	245
14	216	621	671	440	318	650	2380	856	926	475	753	333
15	209	490	1290	362	221	630	2020	773	1000	453	741	391
16	212	413	1640	374	249	611	1680	690	903	441	633	397
17	283	419	1290	542	319	605	1440	667	818	433	554	394
18	378	767	955	560	319	947	1170	544	786	376	513	393
19	207	895	811	445	335	1350	1010	452	770	320	492	387
20	208	747	789	303	363	1450	891	601	700	338	478	378
21	174	520	1340	307	442	1570	805	496	676	413	458	373
22	134	688	1820	312	375	2340	771	370	725	431	442	325
23	92	652	1490	315	609	2920	792	346	1270	418	438	301
24	120	771	1130	424	888	2860	793	573	1600	401	423	688
25	123	760	959	473	1080	2480	745	570	1300	322	247	813
26	152	583	905	392	902	2200	726	762	1010	285	406	570
27	300	631	850	310	762	2100	1070	1390	828	292	446	428
28	361	564	786	393	704	2100	1320	1880	752	317	349	436
29	229	489	741	323	---	1900	1110	1560	684	318	313	425
30	180	471	677	239	---	1980	934	1280	647	313	313	422
31	241	---	666	334	---	2400	---	1080	---	310	312	---
TOTAL	4831	13928	23482	16447	12978	40870	42427	25031	27026	12423	15882	10716
MEAN	156	464	757	531	464	1318	1414	807	901	401	512	357
MAX	378	895	1820	988	1080	2920	2450	1880	1600	634	792	813
MIN	43	139	238	239	221	589	726	346	647	269	247	184

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2003, BY WATER YEAR (WY)

MEAN	311	475	594	606	668	1139	1259	726	499	254	216	230
MAX	1356	1781	1616	1417	1544	3930	3676	1382	1976	1366	966	1671
(WY)	1956	1956	1997	1979	1970	1936	1987	1953	1982	1938	1938	1938
MIN	91.1	94.7	134	116	186	386	369	236	107	90.0	69.6	72.9
(WY)	1942	2002	1966	1981	1980	1989	1985	1965	1999	1966	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1936 - 2003	
ANNUAL TOTAL	133619		246041			
ANNUAL MEAN	366		674		580	
HIGHEST ANNUAL MEAN					969	1956
LOWEST ANNUAL MEAN					214	1965
HIGHEST DAILY MEAN	2450	May 15	2920	Mar 23	19400	Mar 20 1936
LOWEST DAILY MEAN	24	Sep 12	43	Oct 5	1.1	Aug 13 1939
ANNUAL SEVEN-DAY MINIMUM	27	Sep 10	60	Oct 5	14	Aug 1 1965
MAXIMUM PEAK FLOW			3020	Mar 24	20900	Mar 20 1936
MAXIMUM PEAK STAGE			6.68	Mar 24	19.10	Mar 20 1936
INSTANTANEOUS LOW FLOW			23	Oct 10		
10 PERCENT EXCEEDS	839		1330		1250	
50 PERCENT EXCEEDS	279		560		367	
90 PERCENT EXCEEDS	48		224		97	

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 mi^2.

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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--62 years, 189 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft^3/s, Aug. 20, 1955, gage height, 8.94 ft; maximum gage height, 8.96 ft, Aug. 20, 1955 (backwater from debris); minimum daily, 0.20 ft^3/s, Feb. 7, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1886, that of Aug. 20, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft^3/s, Mar. 23, gage height, 4.84 ft; minimum daily, 18 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	72	143	267	119	255	820	288	344	174	54	44
2	27	61	134	347	140	e235	698	264	486	152	78	54
3	24	56	127	401	154	403	625	243	499	132	96	67
4	23	55	117	359	165	e366	612	226	399	118	128	86
5	24	55	111	380	e186	e353	630	211	366	106	159	85
6	21	79	110	342	e180	e343	629	197	370	95	152	75
7	23	106	109	307	170	e286	594	189	353	90	147	62
8	20	107	107	284	e154	e299	554	184	398	81	187	55
9	19	91	105	271	e147	305	517	200	434	81	189	50
10	19	80	100	265	e142	320	492	201	389	83	165	46
11	18	73	97	248	e138	e292	492	180	319	93	151	42
12	31	75	138	234	e143	e271	602	216	289	106	140	41
13	49	135	184	216	e146	292	733	250	291	106	158	40
14	52	179	332	204	e146	283	668	235	320	94	267	40
15	44	171	697	187	e149	268	564	206	335	82	301	39
16	50	137	859	180	e149	263	489	184	295	74	216	93
17	120	190	704	179	e141	313	427	168	246	69	151	95
18	114	298	547	e173	e135	437	374	154	217	79	128	92
19	72	347	442	e167	e127	550	331	143	224	87	124	82
20	44	320	413	e155	e122	577	302	132	224	86	106	81
21	36	253	557	e141	123	659	288	136	225	81	94	75
22	32	242	643	e130	152	886	275	126	257	76	84	65
23	34	270	590	e121	329	999	296	128	481	90	94	74
24	45	256	495	e115	443	930	299	137	641	116	105	149
25	41	219	427	118	e460	808	285	165	591	119	94	173
26	64	185	393	118	e363	696	276	219	482	101	76	143
27	144	171	361	e118	e330	626	401	496	394	80	65	105
28	160	160	343	e117	300	571	469	618	309	64	57	84
29	124	150	317	e114	---	530	422	543	241	56	57	75
30	96	143	291	e115	---	636	338	434	196	51	50	70
31	87	---	271	116	---	849	---	328	---	46	46	---
TOTAL	1690	4736	10264	6489	5453	14901	14502	7401	10615	2868	3919	2282
MEAN	54.5	158	331	209	195	481	483	239	354	92.5	126	76.1
MAX	160	347	859	401	460	999	820	618	641	174	301	173
MIN	18	55	97	114	119	235	275	126	196	46	46	39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

MEAN	89.9	148	193	216	245	405	386	236	157	72.8	61.1	62.4
MAX	375	542	547	670	696	776	1052	443	788	254	561	542
(WY)	1956	1956	1997	1979	1970	1983	1987	1954	1982	1959	1955	1954
MIN	9.92	22.1	35.6	37.6	66.5	143	127	106	28.8	11.6	5.18	5.00
(WY)	1958	1950	1950	1966	2002	1989	1966	1999	1999	1966	1966	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	45031		85120			
ANNUAL MEAN	123		233		189	
HIGHEST ANNUAL MEAN					296	1984
LOWEST ANNUAL MEAN					73.3	1966
HIGHEST DAILY MEAN	859	Dec 16	999	Mar 23	3650	Aug 20 1955
LOWEST DAILY MEAN	12	Aug 23	18	Oct 11	0.20	Feb 7 1965
ANNUAL SEVEN-DAY MINIMUM	12	Aug 22	21	Oct 5	1.0	Feb 2 1965
MAXIMUM PEAK FLOW			1040	Mar 23	4250	Aug 20 1955
MAXIMUM PEAK STAGE			4.84	Mar 23	8.96	Aug 20 1955
INSTANTANEOUS LOW FLOW			18	Oct 8		
10 PERCENT EXCEEDS	283		522		423	
50 PERCENT EXCEEDS	81		165		126	
90 PERCENT EXCEEDS	20		55		25	

e Estimated

MERRIMACK RIVER BASIN

01097300 NASHOBA BROOK NEAR ACTON, MA

LOCATION.--Lat 42°30'45", long 71°24'17", Middlesex County, Hydrologic Unit 01070005, on right bank 500 ft downstream from dam at North Acton, 2.2 mi northeast of Acton, and 5 mi upstream from mouth. Prior to Jan. 8, 1997, lat. 42°30'39", long 71°24'25", on right bank 1,500 ft downstream from dam at North Acton.

DRAINAGE AREA.--12.8 mi^2.

PERIOD OF RECORD.--Discharge: 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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 8, 1997, at site 1,000 ft downstream, at same datum.

REMARKS.--Records poor (backwater from beaver dam). Occasional regulation since 1967 by pond upstream.

AVERAGE DISCHARGE.--40 years (water years 1964-2003), 20.1 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 679 ft^3/s, Jan. 26, 1979, gage height, 5.57 ft (at former site); maximum gage height, 7.10 ft, Mar. 23, 2001; minimum discharge, 0.01 ft^3/s, Sept. 4, 7, 8, 12, 13, 1995, Sept. 3, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 129 ft^3/s, Dec. 15; gage height, 5.80 ft; minimum, 0.23 ft^3/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	3.8	9.8	17	6.7	22	75	14	24	e14	3.6	1.1
2	1.9	3.3	8.7	30	8.0	25	54	11	44	e12	5.0	1.2
3	1.5	2.8	7.8	35	9.7	e46	49	10	33	e9.8	7.1	1.1
4	1.3	3.4	6.9	30	12	e53	52	9.3	21	e8.4	8.2	1.1
5	1.6	3.1	6.1	25	e14	e49	50	7.8	24	e7.3	13	1.9
6	1.4	5.0	6.1	23	e14	e40	46	7.2	32	e6.4	14	3.1
7	.83	10	6.0	20	e13	e34	45	7.5	25	e5.9	16	2.0
8	.67	8.9	6.0	19	e11	e28	40	8.0	31	e5.3	31	e1.6
9	.77	6.5	5.6	18	e11	e35	35	9.6	30	e5.3	44	e1.3
10	.57	5.7	5.2	e21	e10	e38	32	9.5	23	e5.7	20	e.89
11	.62	4.7	5.0	e20	e10	e30	36	8.6	19	e6.7	11	.44
12	.76	5.0	8.2	e18	e10	e27	70	13	17	e7.6	16	.32
13	.82	12	14	e16	e11	e29	74	18	16	e7.3	26	.25
14	1.5	19	36	e15	e11	e27	51	14	18	e6.1	32	.25
15	2.4	14	116	12	e11	e26	37	11	21	e5.2	19	.32
16	2.5	10	112	e11	e11	e23	30	8.9	17	e4.6	11	2.1
17	6.2	16	67	e12	e10	31	22	7.8	14	e4.5	7.4	15
18	7.5	43	38	e12	e9.4	62	20	7.9	13	e5.3	5.7	8.2
19	4.4	43	28	8.0	e8.9	72	18	8.2	14	e5.8	5.6	4.8
20	2.9	27	33	7.6	e8.2	55	16	7.4	14	e5.6	5.1	5.7
21	2.5	19	83	7.8	7.8	87	14	6.3	13	e5.2	5.0	4.9
22	2.3	21	76	7.6	10	105	13	7.5	18	e5.2	4.4	3.2
23	2.4	25	47	6.8	28	89	19	7.4	e69	e6.8	4.3	3.2
24	2.0	21	33	6.1	54	74	20	8.9	62	e8.6	5.0	15
25	2.4	16	27	e7.8	e71	e65	15	11	39	7.4	3.6	27
26	4.0	13	25	e9.7	e66	53	15	16	31	6.8	2.7	13
27	13	12	26	7.7	40	51	48	65	23	6.2	2.1	5.9
28	12	10	26	7.4	28	45	44	63	e22	5.4	1.5	2.4
29	6.8	9.6	20	6.9	---	37	26	38	e18	4.9	1.2	1.3
30	5.1	9.5	18	6.3	---	73	18	31	e16	4.1	1.1	1.6
31	4.2	---	16	6.3	---	97	---	22	---	3.7	1.0	---
TOTAL	98.94	402.3	922.4	450.0	514.7	1528	1084	474.8	761	203.1	332.6	130.17
MEAN	3.19	13.4	29.8	14.5	18.4	49.3	36.1	15.3	25.4	6.55	10.7	4.34
MAX	13	43	116	35	71	105	75	65	69	14	44	27
MIN	0.57	2.8	5.0	6.1	6.7	22	13	6.3	13	3.7	1.0	0.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

MEAN	9.38	16.8	22.2	24.7	28.1	45.3	41.0	24.1	15.7	5.92	4.30	4.09
MAX	64.0	47.3	55.2	101	88.7	96.9	93.6	57.0	72.5	19.2	19.2	15.7
(WY)	1997	1976	1987	1979	1976	1977	1987	1978	1982	1982	1991	1991
MIN	0.60	0.93	2.34	2.58	6.30	15.1	12.7	8.59	1.37	0.52	0.076	0.27
(WY)	1998	2002	1966	1966	1980	1989	1966	1965	1999	1999	1999	1965

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1963 - 2003	
ANNUAL TOTAL	5115.06		6902.01			
ANNUAL MEAN	14.0		18.9		20.1	
HIGHEST ANNUAL MEAN					36.1	1978
LOWEST ANNUAL MEAN					7.09	1965
HIGHEST DAILY MEAN	116	Dec 15	116	Dec 15	560	Jan 26 1979
LOWEST DAILY MEAN	0.02	Aug 19	0.25	Sep 13	0.01	Sep 8 1995
ANNUAL SEVEN-DAY MINIMUM	0.03	Aug 18	0.54	Sep 9	0.02	Sep 3 1995
MAXIMUM PEAK FLOW			129	Dec 15	679	Jan 26 1979
MAXIMUM PEAK STAGE			5.80	Dec 15	7.10	Mar 23 2001
INSTANTANEOUS LOW FLOW			0.23	Sep 14	0.01	Sep 4 1995
10 PERCENT EXCEEDS	30		46		49	
50 PERCENT EXCEEDS	8.9		11		11	
90 PERCENT EXCEEDS	0.17		2.1		1.2	

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 mi^2.

PERIOD OF RECORD.--November 1979 to current year.
Water-quality records: Water years 1994–95.

GAGE.--Water-stage recorder. Datum of gage is 110.55 ft above National Geodetic Vertical Datum of 1929 (Massachusetts Department of Public Works benchmark).

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

AVERAGE DISCHARGE.--23 years (water years 1981–2003), 193 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft^3/s, June 7, 1982, gage height, 13.30 ft; maximum gage height, 13.47 ft, Apr. 8, 1987; minimum daily, 4.0 ft^3/s, Sept. 12, 13, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 775 ft^3/s, Dec. 20, gage height, 9.43 ft; minimum daily, 9.3 ft^3/s, Oct. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	32	185	350	132	223	717	220	479	147	80	32
2	17	28	174	434	168	269	635	209	513	123	82	72
3	55	23	172	403	161	336	598	192	417	109	67	144
4	22	22	161	403	169	e320	596	176	370	100	95	132
5	13	23	159	371	178	316	586	161	367	92	161	60
6	11	71	142	352	146	e340	576	132	327	84	190	44
7	9.3	114	70	341	e101	e330	536	142	318	76	179	39
8	12	107	63	328	e101	e317	510	186	372	70	280	35
9	74	102	58	319	96	325	469	192	339	66	231	33
10	149	99	55	289	110	330	453	188	314	65	215	35
11	188	99	53	208	154	294	483	180	305	65	202	60
12	205	114	188	195	e149	257	630	185	320	85	213	54
13	206	237	216	181	e142	268	620	186	348	67	219	42
14	206	198	429	e172	e86	260	577	173	359	57	216	40
15	204	174	623	e169	76	247	527	158	340	54	206	39
16	249	159	568	e167	e68	250	472	132	279	50	188	145
17	281	297	596	e169	e67	277	364	90	176	49	173	147
18	296	336	531	e167	e78	340	314	82	161	51	178	174
19	294	283	502	e162	111	402	264	77	182	96	150	177
20	293	247	587	156	201	440	240	71	209	76	99	96
21	291	215	646	149	218	551	208	67	203	63	65	80
22	289	253	560	142	256	627	232	78	366	104	59	72
23	297	245	504	e131	377	654	291	139	611	163	67	90
24	292	219	442	e95	353	639	323	137	600	127	56	109
25	260	205	416	e72	268	600	313	148	548	158	50	160
26	140	207	430	e72	e250	565	343	245	463	145	48	143
27	112	213	381	73	e245	548	406	426	391	134	46	107
28	74	200	359	e70	e240	510	360	447	343	124	41	104
29	66	189	339	69	---	512	269	439	312	116	38	89
30	58	186	327	68	---	714	239	387	265	98	36	40
31	40	---	341	84	---	757	---	373	---	53	33	---
TOTAL	4716.3	4897	10277	6361	4701	12818	13151	6018	10597	2867	3963	2594
MEAN	152	163	332	205	168	413	438	194	353	92.5	128	86.5
MAX	297	336	646	434	377	757	717	447	611	163	280	177
MIN	9.3	22	53	68	67	223	208	67	161	49	33	32
CFSM	1.44	1.54	3.13	1.94	1.58	3.90	4.14	1.83	3.33	0.87	1.21	0.82
IN.	1.66	1.72	3.61	2.23	1.65	4.50	4.62	2.11	3.72	1.01	1.39	0.91

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

MEAN	108	160	236	219	250	348	370	213	184	72.8	76.6	62.9
MAX	376	385	572	471	480	757	920	415	739	156	192	147
(WY)	1997	1990	1997	1982	1990	1983	1987	1998	1982	1998	1989	1989
MIN	8.17	15.0	26.5	59.5	67.6	121	98.7	75.2	31.3	10.9	10.7	8.78
(WY)	2002	2002	2002	1981	1980	1985	1985	1986	1993	1993	1999	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1980 - 2003	
ANNUAL TOTAL	51214.7		82960.3			
ANNUAL MEAN	140		227		193	
HIGHEST ANNUAL MEAN					253	1984
LOWEST ANNUAL MEAN					90.0	2002
HIGHEST DAILY MEAN	646	Dec 21	757	Mar 31	2250	Jun 7 1982
LOWEST DAILY MEAN	7.2	Aug 19	9.3	Oct 7	4.0	Sep 12 2001
ANNUAL SEVEN-DAY MINIMUM	8.3	Aug 22	20	Oct 2	4.3	Sep 7 2001
MAXIMUM PEAK FLOW			775	Dec 20	2420	Jun 7 1982
MAXIMUM PEAK STAGE			9.43	Dec 20	13.47	Apr 8 1987
INSTANTANEOUS LOW FLOW			8.6	Oct 8		
ANNUAL RUNOFF (CFSM)	1.32		2.14		1.82	
ANNUAL RUNOFF (INCHES)	17.97		29.11		24.73	
10 PERCENT EXCEEDS	292		491		429	
50 PERCENT EXCEEDS	112		186		134	
90 PERCENT EXCEEDS	16		54		25	

e Estimated

MERRIMACK RIVER BASIN

01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK AT LOWELL, MA

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

DRAINAGE AREA.--Total above gage, 400 mi^2; net above gage, 307 mi^2 — diversion as needed from 92.6 mi^2 for use by Boston metropolitan district.

PERIOD OF RECORD.--Discharge: October 1936 to current year. October, November 1936, monthly discharge only, published in WSP 1301. Water-quality records: Water years 1953, 1967–74.

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

GAGE.--Water-stage recorder. Datum of gage is 67.41 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Low flow regulated by mills upstream. Daily discharge includes undiverted water from 92.6 mi^2 in basins of Sudbury River and Lake Cochituate. Prior to December 1961, diversion upstream for use of city of Lowell. Satellite and telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--67 years, 647 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,410 ft^3/s, Jan. 28, 1979, gage height, 9.60 ft; maximum gage height of 9.60 ft also occurred Apr. 10, 1987; minimum daily, 4.0 ft^3/s, Sept. 29, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,440 ft^3/s, Apr. 2; gage height, 7.43 ft; minimum daily, 57 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	332	659	1180	342	964	2400	1170	1220	1000	211	138
2	113	257	625	1210	371	1000	2430	1090	1300	896	233	145
3	96	229	588	1210	420	e1090	2410	1000	1350	798	257	160
4	98	194	555	1130	473	e1120	2350	942	1360	705	280	230
5	100	171	529	1200	527	1130	2300	885	1380	624	360	250
6	83	203	505	1240	e562	e1150	2260	857	1330	541	416	248
7	72	263	483	1210	567	e1120	2200	797	1310	480	512	220
8	62	315	457	1140	e533	1110	2130	731	1310	414	706	192
9	57	334	391	1130	511	1130	2050	700	1290	358	693	167
10	71	320	379	1090	507	1150	1970	672	1280	308	697	160
11	109	328	351	1030	e482	1130	1910	666	1240	319	675	143
12	176	312	410	989	e473	1100	1990	709	1170	347	766	139
13	219	426	505	913	e464	1080	2020	703	1100	331	868	131
14	260	501	762	851	e449	1030	2070	699	1080	304	750	128
15	277	539	1170	e771	e427	1010	2070	688	1050	280	738	136
16	314	532	1340	742	e414	972	1970	655	1020	259	745	229
17	394	626	1570	e709	502	997	1850	612	978	230	689	267
18	412	813	1660	e658	418	1100	1730	592	927	219	662	298
19	429	868	1640	e620	354	1220	1590	542	879	225	592	347
20	422	905	1670	603	361	1310	1480	508	820	240	544	366
21	405	905	1820	e557	392	1520	1340	463	781	242	500	349
22	392	939	1850	e517	461	1720	1240	438	842	231	458	325
23	392	932	1880	e479	663	1910	1170	426	1030	243	413	335
24	397	910	1840	e455	812	2070	1100	411	1170	298	356	367
25	400	881	1760	445	921	2170	1070	463	1320	316	307	365
26	484	835	1700	404	e1030	2180	1080	568	1390	319	280	399
27	553	799	1600	e398	e1040	2170	1170	821	1350	310	244	389
28	536	766	1510	e360	1020	2110	1220	960	1310	285	205	389
29	502	726	1410	362	---	2050	1260	1110	1210	261	184	343
30	446	689	1320	349	---	e2200	1230	1190	1100	240	176	314
31	377	---	1240	333	---	2310	---	1190	---	215	147	---
TOTAL	8777	16850	34179	24285	15496	44323	53060	23258	34897	11838	14664	7669
MEAN	283	562	1103	783	553	1430	1769	750	1163	382	473	256
MAX	553	939	1880	1240	1040	2310	2430	1190	1390	1000	868	399
MIN	57	171	351	333	342	964	1070	411	781	215	147	128

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2003, BY WATER YEAR (WY)

MEAN	321	518	704	727	852	1263	1313	813	539	266	233	229
MAX	1320	1866	1853	1996	1856	2510	3149	1599	2502	1512	1403	1694
(WY)	1997	1956	1997	1979	1970	1983	1987	1954	1982	1938	1955	1954
MIN	38.3	86.3	133	150	230	479	377	283	116	50.0	33.1	25.4
(WY)	1942	2002	1966	1981	1980	1989	1966	1941	1964	1949	1966	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1937 - 2003	
ANNUAL TOTAL	170058		289296			
ANNUAL MEAN	466		793		647	
HIGHEST ANNUAL MEAN					1112	1984
LOWEST ANNUAL MEAN					242	1966
HIGHEST DAILY MEAN	1880	Dec 23	2430	Apr 2	5340	Jan 28 1979
LOWEST DAILY MEAN	27	Aug 28	57	Oct 9	4.0	Sep 29 1957
ANNUAL SEVEN-DAY MINIMUM	31	Aug 22	78	Oct 4	16	Sep 26 1957
MAXIMUM PEAK FLOW			2440	Apr 2	5410	Jan 28 1979
MAXIMUM PEAK STAGE			7.43	Apr 2	9.60	Jan 28 1979
INSTANTANEOUS LOW FLOW			56	Oct 9		
10 PERCENT EXCEEDS	932		1650		1390	
50 PERCENT EXCEEDS	381		655		480	
90 PERCENT EXCEEDS	72		227		98	

e Estimated

MERRIMACK RIVER BASIN

01100000 MERRIMACK RIVER BELOW CONCORD RIVER AT LOWELL, MA
(National Water Quality Assessment Site)

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 mi^2; net above gage, 4,425 mi^2—excludes 210 mi^2 for use of Boston metropolitan district and city of Worcester.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: June 1923 to current year.
Water-quality records: Water years 1954, 1966–74, 2000–03.

GAGE.--Water-stage recorder. Datum of gage is 5.18 ft above National Geodetic Vertical Datum of 1929. 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 good except those for estimated daily discharge, which are fair. Daily discharge includes water released from 210 mi^2 in basins of Sudbury and Nashua Rivers and Lake Cochituate. Flow regulated by powerplants, by Franklin Falls Reservoir since 1942, and by Squam, Newfound, Winnipesaukee, Winnisquam, and other lakes and reservoirs upstream. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--81 years, 7,674 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 173,000 ft^3/s, Mar. 20, 1936, gage height, 68.4 ft, from floodmarks; minimum daily, 199 ft^3/s, Sept. 23, 1923.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1735, that of Mar. 20, 1936.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 37,200 ft^3/s, Mar. 31; gage height, 50.38 ft; minimum daily, 1,130 ft^3/s, Oct. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1710	3160	6270	6930	3630	5890	35400	16000	14000	3920	2430	1850
2	e1600	2830	5740	7480	3970	6230	32200	14100	13500	3540	3120	2220
3	e1540	2720	5180	8080	4200	6830	29800	13900	12600	3200	3730	2210
4	1330	2110	3940	7360	4350	7260	28300	17900	11900	2930	5490	2370
5	1160	1810	4320	7600	e4400	7320	25500	17800	10600	2800	5160	4110
6	1130	2700	4030	7830	e4300	6880	22200	15100	9430	2680	5750	4690
7	1210	3040	4260	7640	e4070	6360	20700	13200	9490	2440	7210	4140
8	1510	3280	4500	6990	e3860	6040	19900	12200	10300	2160	8070	2970
9	1340	3460	3970	6790	e3730	6090	18200	11300	9870	2120	7900	2710
10	1320	2760	3140	6690	e3780	6070	16800	11000	9000	1990	7220	2490
11	1290	3420	3640	6560	e3840	5870	16300	10400	7520	2260	9500	1910
12	1450	3860	4100	6090	e3860	5920	18400	10800	7650	2390	17400	1750
13	1590	6650	4240	5930	e3650	5940	22200	12500	7230	2350	16500	1870
14	1860	7280	5940	5750	e3270	5760	24200	14500	7190	2440	14800	2130
15	1750	7720	9250	5060	e3140	5490	23800	14000	8060	2390	12500	2890
16	2010	6760	10800	5170	e3010	5440	22600	13200	8390	2110	10400	3820
17	3840	6380	11000	5010	e2930	5570	23300	11000	7490	2450	8030	3570
18	3840	7050	8580	e4780	e3140	6780	23100	10000	6700	2930	7240	4240
19	3970	8100	7810	e4120	e3470	8840	20400	9730	6180	2360	7500	3660
20	3300	8170	8070	e3860	e3700	10600	18000	7870	5910	2040	6840	4050
21	3990	7210	10400	e3700	e3920	12300	16300	6910	5390	2500	6570	3270
22	2020	7340	11600	e3560	e4160	18800	14900	4550	5510	2150	5560	4280
23	2550	7620	12600	e3530	5510	24600	14900	5050	6300	2120	4950	5360
24	2550	10100	11400	e3400	6230	27900	15300	6860	6350	2910	4120	7090
25	2480	11400	9580	e3070	6810	28700	14700	7280	6680	3050	4040	8780
26	2910	10200	7780	e3010	6940	29400	13700	8260	6000	3060	4110	9760
27	2800	8710	7870	e3010	6420	32300	15400	12900	5420	3370	3810	6810
28	3600	7550	8080	e3010	6210	33700	19100	17000	4940	2500	2160	6170
29	3920	6730	7700	e3040	---	31900	19400	16800	4430	2120	2120	6670
30	3380	6260	7170	e3040	---	31900	17600	15800	4130	1970	2050	7270
31	3110	---	6920	e3040	---	35800	---	14500	---	2070	2120	---
TOTAL	72060	176380	219880	161130	120500	438480	622600	372410	238160	79320	208400	125110
MEAN	2325	5879	7093	5198	4304	14140	20750	12010	7939	2559	6723	4170
MAX	3990	11400	12600	8080	6940	35800	35400	17900	14000	3920	17400	9760
MIN	1130	1810	3140	3010	2930	5440	13700	4550	4130	1970	2050	1750

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2003, BY WATER YEAR (WY)

MEAN	4105	6523	7561	7051	7425	12950	19340	11600	6403	3382	2829	2972
MAX	12730	17690	20380	18530	18400	45780	37440	24770	23660	14520	11110	19650
(WY)	1978	1928	1997	1978	1970	1936	1987	1954	1984	1973	1990	1938
MIN	1036	1792	2127	1621	2105	4132	6979	4093	1825	1161	901	895
(WY)	1965	2002	1930	1925	1931	1940	1995	1941	1964	1965	1965	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1923 - 2003	
ANNUAL TOTAL	1977059		2834430			
ANNUAL MEAN	5417		7766		7674	
HIGHEST ANNUAL MEAN					12490	1984
LOWEST ANNUAL MEAN					3068	1965
HIGHEST DAILY MEAN	24200	May 15	35800	Mar 31	161000	Mar 20 1936
LOWEST DAILY MEAN	799	Aug 22	1130	Oct 6	199	Sep 23 1923
ANNUAL SEVEN-DAY MINIMUM	899	Aug 17	1280	Oct 5	581	Sep 12 1995
MAXIMUM PEAK FLOW			37200	Mar 31	173000	Mar 20 1936
MAXIMUM PEAK STAGE			50.38	Mar 31	68.40	Mar 20 1936
INSTANTANEOUS LOW FLOW			753	Oct 9		
10 PERCENT EXCEEDS	11100		16800		17200	
50 PERCENT EXCEEDS	3840		5930		5180	
90 PERCENT EXCEEDS	1190		2160		1640	

e Estimated

MERRIMACK RIVER BASIN

01100000 MERRIMACK RIVER BELOW CONCORD RIVER AT LOWELL, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954, 1966–74, 1999–2003.

REMARKS.--Selected samples were analyzed for pesticide compounds on schedule 2001 (listed with non-detection values or minimum reporting levels in the section "Explanation of the Records."); only pesticide compounds identified by the analyses (either as estimated values or as values at or above the non-detection level or minimum reporting level) for one or more samples are listed in the water-quality data tables.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE, CFS (00061)	BARO-METRIC PRES-SURE, MM HG (00025)	DIS-SOLVED OXYGEN, MG/L (00300)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUC-TANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, AIR, DEG C (00020)	TEMPER-ATURE, WATER, DEG C (00010)	ALKA-LINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)	BICAR-BONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)	CHLOR-IDE, WATER, FLTRD, MG/L (00940)	SULFATE WATER, FLTRD, MG/L (00945)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)
NOV 2002													
21...	0900	7,140	760	12.7	7.3	207	10.5	4.2	10	13	41.7	10.0	0.45
DEC													
09...	0930	3,580	763	11.1	7.2	225	-8.8	.1	12	14	46.6	10.2	.60
JAN 2003													
27...	1015	E3,263	763	E12.8	6.9	214	-9.7	.1	10	12	39.8	8.8	.69
FEB													
12...	0930	E3,851	744	13.6	6.6	257	3.4	.1	14	16	58.0	9.7	.71
APR													
10...	0945	16,800	764	13.0	6.7	195	7.3	3.4	8	9	44.0	7.4	.34
MAY													
08...	0945	12,400	758	9.6	7.0	148	9.2	15.4	8	10	30.9	6.4	.48
JUN													
11...	0930	7,030	757	8.6	6.6	207	21.1	19.1	12	14	41.3	6.7	.47
JUL													
08...	0945	2,020	752	6.8	7.0	287	27.8	27.8	22	27	60.9	7.7	.63
AUG													
25...	1000	4,570	755	8.6	7.2	170	21.0	22.6	17	21	36.6	6.2	.49
SEP													
02...	0945	2,120	760	9.0	7.1	228	19.0	21.3	22	27	47.1	8.5	.50

MERRIMACK RIVER BASIN

01100000 MERRIMACK RIVER BELOW CONCORD RIVER AT LOWELL, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOS-PHATE, WATER, FLTRD, MG/L AS P (00671)	PHOS-PHORUS, WATER, UNFLTRD MG/L (00665)	CIAT, WATER, FLTRD, UG/L (04040)	ATRA-ZINE, WATER, FLTRD, UG/L (39632)	CAR-BARYL, WATER, FLTRD 0.7U GF UG/L (82680)	FIPRO-NIL, WATER, FLTRD, UG/L (62166)	METOLA-CHLOR, WATER, FLTRD, UG/L (39415)	PROME-TON, WATER, FLTRD, UG/L (04037)	SIMA-ZINE, WATER, FLTRD, UG/L (04035)	SUS-PENDED SEDI-MENT CONCEN-TRATION MG/L (80154)
NOV 2002													
21...	0.16	0.31	0.008	0.02	0.053	<0.006	<0.007	<0.041	<0.007	<0.013	<0.01	<0.005	3
DEC													
09...	.35	.40	.013	.03	.067	--	--	--	--	--	--	--	2
JAN 2003													
27...	.42	.41	.008	.03	.059	--	--	--	--	--	--	--	1
FEB													
12...	.35	.42	.010	.03	.065	<.006	<.007	<.041	<.007	<.013	<.01	<.005	2
APR													
10...	.11	.28	E.005	E.01	.029	<.006	<.007	<.041	<.007	<.013	<.01	<.005	4
MAY													
08...	.10	.17	<.008	<.02	.040	<.006	<.007	<.041	<.007	<.013	<.01	<.005	6
JUN													
11...	.11	.29	E.005	E.01	.052	<.006	E.005	E.009	E.003	E.005	E.01	<.005	5
JUL													
08...	<.04	.50	.016	E.01	.081	E.003	E.005	E.011	E.003	<.013	<.01	E.004	5
AUG													
25...	.06	.32	.010	.02	.062	--	--	--	--	--	--	--	3
SEP													
02...	.12	.62	.014	.04	.085	<.006	E.005	E.018	<.007	<.013	E.004	<.005	4

< Less than
E Estimated value

MERRIMACK RIVER BASIN

01100568 SHAWSHEEN RIVER AT HANSCOM FIELD NEAR BEDFORD, MA

LOCATION.--Lat 42°28'01", long 71°16'22", Middlesex County, Hydrologic Unit 01070002, on left bank 300 ft downstream from FAA hangar, on Hanscom Field (revised), and 1.6 mi south of Bedford.

DRAINAGE AREA.--2.13 mi^2 (revised).

PERIOD OF RECORD.--Discharge: October 1995 to current year.
Precipitation: March 1996 to current year.
Water quality: September 1995 to September 2001.

GAGE.--Water-stage recorder and tipping bucket rain gage. Elevation of gage is 115 ft above National Geodetic Vertical Datum of 1929, from topographic map. Telephone gage-height and rainfall telemeter at station.

REMARKS.--Records poor (discharge affected by backwater from beaver dam all year). Collection, computation, and publication of precipitation data do not necessarily conform to standards used by the National Weather Service.

AVERAGE DISCHARGE.--8 years, 4.95 ft^3/s, 31.56 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 684 ft^3/s, June 13, 1998, gage height, 8.69 ft, from rating curve extended above 170 ft^3/s; minimum, 0.10 ft^3/s, many days in water years 2001 and 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 534 ft^3/s (estimated), Aug. 12, gage height, 7.55 ft (affected by backwater from beaver dam); minimum, 0.42 ft^3/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.59	2.2	6.3	22	3.0	2.8	10	8.8	51	3.7	18	3.3
2	.77	1.8	6.1	14	4.2	28	11	8.6	10	3.5	5.6	7.6
3	.84	1.8	5.1	7.9	3.9	5.5	9.9	8.0	7.6	3.2	5.9	3.6
4	.96	1.9	3.5	8.5	5.9	3.9	14	7.7	6.5	2.5	18	16
5	.93	1.9	3.7	8.1	3.2	5.4	14	8.0	15	2.0	9.4	3.8
6	.92	17	3.8	8.4	2.8	4.4	11	7.9	6.6	1.8	2.0	3.5
7	.98	2.5	3.8	7.4	3.2	4.1	9.9	7.9	22	1.6	1.2	4.2
8	.96	2.5	3.7	8.0	3.5	4.4	11	8.3	8.2	1.8	25	3.9
9	.98	2.5	3.6	8.3	3.3	6.8	11	7.5	7.1	3.4	1.3	3.9
10	1.0	2.6	3.3	10	3.6	4.8	10	7.1	6.3	1.6	1.0	4.7
11	1.2	3.1	3.9	8.0	3.4	4.0	31	7.2	8.1	6.1	.74	5.1
12	4.3	15	26	7.9	3.4	5.0	23	11	6.5	6.0	47	5.9
13	1.6	17	3.5	7.0	3.4	4.8	12	6.7	6.6	1.8	23	5.7
14	1.5	3.7	79	5.6	3.2	4.1	11	6.2	7.2	1.5	3.3	7.0
15	1.4	3.9	14	4.9	3.3	3.2	11	5.3	5.1	1.6	3.1	9.0
16	19	5.7	7.2	4.1	2.9	4.8	11	4.8	4.4	2.2	3.3	26
17	1.8	51	4.6	3.9	2.8	9.1	9.9	4.5	3.9	2.6	2.8	7.8
18	1.4	22	4.6	3.7	2.6	9.6	10	4.4	7.8	5.2	15	8.0
19	1.3	6.5	4.8	3.9	2.7	6.4	9.4	4.3	3.9	4.4	3.0	20
20	1.5	6.3	51	3.7	2.7	6.1	9.4	4.1	3.9	2.6	2.8	11
21	1.5	6.5	10	3.6	2.9	24	10	4.1	6.9	2.4	3.2	12
22	1.4	19	8.5	3.4	19	9.6	14	3.9	43	11	10	13
23	1.9	6.4	8.7	3.2	26	8.8	9.3	5.5	21	7.0	3.4	28
24	1.2	7.0	8.5	3.0	5.4	7.8	9.2	4.6	7.1	2.6	3.5	13
25	1.3	7.1	12	3.0	4.4	7.4	8.9	5.8	6.8	2.6	4.3	12
26	34	8.5	11	3.0	4.0	8.1	27	45	5.4	2.2	4.2	13
27	2.6	9.2	9.2	3.0	3.9	9.5	12	8.6	4.8	2.5	3.5	12
28	2.3	7.2	9.3	3.1	3.1	7.0	9.8	23	4.1	2.5	2.9	11
29	2.3	7.1	10	3.1	---	24	9.6	8.9	4.0	2.3	2.4	11
30	2.3	7.7	9.5	3.0	---	47	9.0	5.2	4.3	2.0	2.8	11
31	2.1	---	9.2	3.0	---	15	---	5.7	---	2.0	2.8	---
TOTAL	96.83	256.6	347.4	189.7	135.7	295.4	368.3	258.6	305.1	98.2	234.44	296.0
MEAN	3.12	8.55	11.2	6.12	4.85	9.53	12.3	8.34	10.2	3.17	7.56	9.87
MAX	34	51	79	22	26	47	31	45	51	11	47	28
MIN	0.59	1.8	3.3	3.0	2.6	2.8	8.9	3.9	3.9	1.5	0.74	3.3
CFSM	1.47	4.02	5.26	2.87	2.28	4.47	5.76	3.92	4.77	1.49	3.55	4.63
IN.	1.69	4.48	6.07	3.31	2.37	5.16	6.43	4.52	5.33	1.72	4.09	5.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

MEAN	5.31	4.51	4.75	5.03	4.62	6.70	6.55	5.12	6.69	3.03	2.78	4.33
MAX	19.6	8.55	11.2	7.57	7.65	15.8	12.3	8.65	21.9	6.62	7.56	9.87
(WY)	1997	2003	2003	1999	1998	2001	2003	1998	1998	1996	2003	2003
MIN	0.94	2.29	2.19	2.12	2.59	2.51	2.59	1.96	1.08	0.61	0.74	1.45
(WY)	2001	2001	1996	2001	2000	2002	2002	1999	1999	2002	2002	2000

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1995 - 2003	
ANNUAL TOTAL	1295.37		2882.27			
ANNUAL MEAN	3.55		7.90		4.95	
HIGHEST ANNUAL MEAN					7.90	2003
LOWEST ANNUAL MEAN					2.50	2002
HIGHEST DAILY MEAN	79	Dec 14	79	Dec 14	209	Oct 21 1996
LOWEST DAILY MEAN	0.10	Jul 5	0.59	Oct 1	0.10	Jul 5 2002
ANNUAL SEVEN-DAY MINIMUM	0.13	Jul 2	0.86	Oct 1	0.13	Jul 2 2002
MAXIMUM PEAK FLOW			e 534	Aug 12	684	Jun 13 1998
MAXIMUM PEAK STAGE			b 7.55	Aug 12	8.69	Jun 13 1998
INSTANTANEOUS LOW FLOW			0.42	Oct 1	0.10	Oct 2 2000
ANNUAL RUNOFF (CFSM)	1.67		3.71		2.32	
ANNUAL RUNOFF (INCHES)	22.62		50.34		31.56	
10 PERCENT EXCEEDS	6.7		15		9.0	
50 PERCENT EXCEEDS	1.9		5.3		3.0	
90 PERCENT EXCEEDS	0.31		1.9		1.0	

e Estimated
b Affected by backwater from beaver dam

MERRIMACK RIVER BASIN

01100568 SHAWSHEEN RIVER AT HANSCOM FIELD NEAR BEDFORD, MA--Continued

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.01	0.00	0.30	0.02	0.00	0.00	0.02	1.28	0.00	0.78	0.00
2	.00	.00	.01	.04	.26	.64	.11	.00	.00	.00	.15	.30
3	.00	.00	.00	.21	.00	.00	.02	.00	.00	.00	.18	.04
4	.03	.03	.00	.09	.09	.00	.19	.00	.14	.00	.60	.49
5	.00	.00	.00	.11	.00	.05	.16	.00	.18	.00	.30	.01
6	.00	.61	.02	.07	.00	.02	.00	.01	.01	.00	.05	.00
7	.00	.01	.00	.00	.18	.00	.00	.00	.57	.00	.12	.00
8	.00	.00	.00	.00	.02	.00	.08	.08	.00	.00	.92	.00
9	.00	.00	.00	.07	.00	.00	.02	.02	.00	.12	.00	.00
10	.00	.00	.00	.09	.03	.00	.00	.00	.00	.00	.01	.00
11	.08	.04	.16	.00	.01	.00	.45	.09	.10	.25	.00	.00
12	.53	.72	.36	.00	.00	.00	.04	.16	.00	.21	2.03	.00
13	.13	.38	.06	.00	.00	.05	.00	.00	.11	.00	.23	.00
14	.00	.00	1.59	.00	.00	.00	.00	.02	.05	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
16	.98	.17	.02	.00	.00	.00	.00	.00	.00	.00	.00	.79
17	.00	1.00	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00
18	.01	.19	.00	.00	.02	.00	.00	.00	.21	.13	.72	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.01	.09	.00	.41
20	.00	.00	1.20	.00	.00	.07	.00	.00	.00	.00	.00	.01
21	.00	.00	.00	.00	.00	.33	.00	.02	.36	.00	.00	.00
22	.00	.37	.00	.00	.48	.00	.25	.06	1.53	.41	.30	.00
23	.19	.00	.00	.01	.38	.00	.00	.07	.16	.21	.01	.67
24	.00	.00	.00	.00	.00	.00	.01	.11	.00	.05	.00	.01
25	.00	.02	.35	.00	.00	.00	.00	.06	.00	.00	.00	.00
26	1.32	.00	.00	.00	.00	.12	.56	1.65	.00	.00	.00	.02
27	.00	.07	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
28	.00	.00	.01	.00	.00	.00	.00	.51	.00	.00	.00	.02
29	.00	.00	.00	.00	---	.69	.00	.07	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.46	.00	.00	.02	.00	.00	.00
31	.00	---	.01	.00	---	.00	---	.09	---	.00	.00	---
TOTAL	3.27	3.62	3.79	0.99	1.57	2.43	1.89	3.05	4.73	1.47	6.40	2.79
MAX	1.32	1.00	1.59	0.30	0.48	0.69	0.56	1.65	1.53	0.41	2.03	0.79

CAL YR 2002 TOTAL 33.78 MAX 2.67
WTR YR 2003 TOTAL 36.00 MAX 2.03

MERRIMACK RIVER BASIN

01100600 SHAWSHEEN RIVER NEAR WILMINGTON, MA

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

DRAINAGE AREA.--36.5 mi^2.

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 National Geodetic Vertical Datum of 1929.

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. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--39 years (water years 1965–2003), 58.7 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft^3/s, Oct. 22, 1996, gage height, 10.49 ft, minimum, 0.70 ft^3/s, Aug. 19, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 448 ft^3/s, Dec. 15, gage height, 6.21 ft, minimum, 0.74 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	14	43	65	33	83	248	78	98	34	17	12
2	4.1	11	40	89	38	78	166	69	219	30	36	14
3	2.7	8.3	37	127	48	e129	140	64	224	27	42	18
4	1.9	7.1	e34	135	54	e132	134	61	143	20	42	18
5	1.7	8.6	32	136	66	130	138	57	109	19	46	27
6	1.4	21	32	114	63	114	140	55	105	16	59	26
7	1.0	47	31	86	62	93	138	57	96	14	58	20
8	.88	51	31	76	52	96	127	56	115	12	64	15
9	.77	39	e30	73	51	85	118	59	137	11	91	14
10	2.3	25	28	73	45	92	121	58	100	13	91	12
11	4.5	19	27	e71	43	95	121	54	73	19	64	11
12	6.9	18	51	e70	41	82	211	e59	61	30	62	10
13	17	47	84	e67	38	79	243	64	54	26	110	9.5
14	14	79	134	e63	37	81	173	59	52	20	188	9.0
15	10	91	367	58	34	74	137	50	51	15	156	9.2
16	6.1	70	358	51	31	70	115	44	44	12	92	21
17	37	81	212	48	31	76	99	40	37	11	56	34
18	45	183	145	44	31	112	88	38	42	9.9	42	25
19	29	211	102	41	33	161	81	35	51	18	44	21
20	12	151	89	39	35	158	76	32	49	17	46	30
21	5.9	97	206	37	38	162	72	30	42	16	38	27
22	3.7	80	263	34	49	231	70	30	66	17	23	20
23	3.4	86	179	32	105	212	77	35	181	25	27	18
24	9.4	85	131	30	188	176	83	38	253	35	25	36
25	7.6	70	101	30	191	151	79	44	169	32	21	52
26	17	59	93	30	149	133	75	55	101	24	19	47
27	68	52	98	31	126	127	113	158	72	19	18	32
28	99	49	89	29	99	122	153	221	64	16	15	23
29	68	45	79	29	---	110	122	170	51	14	14	20
30	38	43	71	30	---	198	93	139	37	12	13	16
31	20	---	66	31	---	347	---	100	---	11	12	---
TOTAL	544.05	1848.0	3283	1869	1811	3989	3751	2109	2896	594.9	1631	646.7
MEAN	17.6	61.6	106	60.3	64.7	129	125	68.0	96.5	19.2	52.6	21.6
MAX	99	211	367	136	191	347	248	221	253	35	188	52
MIN	0.77	7.1	27	29	31	70	70	30	37	9.9	12	9.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	32.7	52.5	65.7	71.8	80.6	118	102	63.8	50.4	24.6	22.6	21.1
MAX	204	128	156	289	208	279	269	130	251	72.4	56.9	56.4
(WY)	1997	1976	1997	1979	1984	1983	1987	1967	1982	1973	1976	1991
MIN	5.45	6.23	13.6	9.70	12.4	41.8	38.3	28.4	8.34	3.81	1.74	4.46
(WY)	1998	2002	1966	1981	1980	1989	1966	1999	1999	1965	1966	1965

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1964 - 2003	
ANNUAL TOTAL	16470.71		24972.65			
ANNUAL MEAN	45.1		68.4		58.7	
HIGHEST ANNUAL MEAN					107	1984
LOWEST ANNUAL MEAN					28.2	1966
HIGHEST DAILY MEAN	367	Dec 15	367	Dec 15	1610	Oct 22 1996
LOWEST DAILY MEAN	0.77	Oct 9	0.77	Oct 9	0.63	Oct 19 1997
ANNUAL SEVEN-DAY MINIMUM	1.4	Oct 4	1.4	Oct 4	1.0	Sep 2 1995
MAXIMUM PEAK FLOW			448	Dec 15	1850	Oct 22 1996
MAXIMUM PEAK STAGE			6.21	Dec 15	10.49	Oct 22 1996
INSTANTANEOUS LOW FLOW			0.74	Oct 9	0.70	Aug 19 1983
10 PERCENT EXCEEDS	95		150		127	
50 PERCENT EXCEEDS	31		51		37	
90 PERCENT EXCEEDS	3.7		12		7.7	

e Estimated

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 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year. October 1945 monthly discharge only, published in WSP 1301.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area; WDR MA-RI-00-1: 1999.

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

REMARKS.--Records good except those for estimated daily discharges and those for the periods, Oct. 17 to Nov. 8, July 18 to Sept. 30 (backwater from beaver dam) which are poor. Occasional regulation by mill and ponds upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--58 years, 36.9 ft^3/s, 23.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 883 ft^3/s, Oct. 22, 1996, gage height, 7.82 ft; minimum daily, 0.04 ft^3/s, Sept. 3–7, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 186 ft^3/s, Mar. 31, gage height, 3.41 ft; minimum, 0.07 ft^3/s, July 31, Sept. 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.67	3.4	24	55	e16	43	182	68	72	16	2.7	1.2
2	.45	2.7	23	60	e21	47	171	62	77	15	3.0	1.9
3	.56	2.1	22	64	e23	53	158	56	77	13	3.5	2.0
4	.60	2.1	19	60	e26	57	149	49	71	12	6.1	2.7
5	.75	2.1	17	65	e30	59	145	43	65	12	5.7	6.7
6	.74	6.3	17	67	e32	61	141	38	61	11	6.2	4.5
7	.70	8.1	17	67	e33	61	131	36	58	10	4.9	4.0
8	.77	7.5	17	64	e33	59	124	35	56	8.8	4.9	3.5
9	.84	6.4	16	61	e32	60	116	33	54	7.4	4.0	2.3
10	.94	6.3	15	59	e29	63	107	31	52	6.2	3.3	1.3
11	.96	5.4	14	e56	e15	61	103	30	48	7.2	3.7	1.0
12	1.1	5.9	26	51	e14	59	119	35	44	7.9	4.4	.76
13	1.3	13	34	48	e13	58	136	43	39	7.3	5.9	.41
14	1.6	16	56	44	e11	56	133	54	36	6.4	7.8	.21
15	1.5	16	109	41	e8.5	53	122	53	34	5.4	8.0	.12
16	5.0	14	135	37	e7.1	52	111	45	31	4.4	6.6	2.2
17	4.9	28	127	35	e9.3	56	98	38	27	3.5	6.2	2.6
18	5.4	46	112	e31	e16	70	88	32	25	3.1	6.3	1.0
19	5.3	51	96	e28	e22	86	78	28	24	3.1	6.1	1.1
20	3.7	50	96	e25	e20	95	69	26	23	5.8	5.6	1.9
21	2.8	45	117	e23	e21	119	62	26	21	5.2	4.9	1.0
22	2.2	44	127	e20	23	147	56	26	22	4.1	4.0	.45
23	2.5	45	119	e19	30	163	54	24	28	5.9	3.5	2.6
24	2.0	42	104	e18	34	164	52	23	31	7.0	3.1	9.3
25	1.7	38	90	e18	37	161	49	27	29	6.6	2.9	7.9
26	4.8	34	73	e17	40	155	52	35	25	5.0	2.8	5.4
27	8.2	31	76	e16	42	152	70	67	22	3.9	2.8	3.5
28	8.2	29	73	e15	42	143	86	86	19	3.2	2.4	2.4
29	6.0	26	68	e15	---	e126	84	84	18	2.1	2.4	2.3
30	4.5	25	61	e14	---	e165	76	79	17	1.5	2.0	2.4
31	4.0	---	56	e15	---	182	---	71	---	.68	1.0	---
TOTAL	84.68	651.3	1956	1208	679.9	2886	3122	1383	1206	210.68	136.7	78.65
MEAN	2.73	21.7	63.1	39.0	24.3	93.1	104	44.6	40.2	6.80	4.41	2.62
MAX	8.2	51	135	67	42	182	182	86	77	16	8.0	9.3
MIN	0.45	2.1	14	14	7.1	43	49	23	17	0.68	1.0	0.12
CFSM	0.13	1.02	2.96	1.83	1.14	4.37	4.89	2.09	1.89	0.32	0.21	0.12
IN.	0.15	1.14	3.42	2.11	1.19	5.04	5.45	2.42	2.11	0.37	0.24	0.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2003, BY WATER YEAR (WY)

MEAN	15.6	28.9	41.1	42.7	50.4	85.1	83.1	49.2	28.3	8.66	5.37	6.13
MAX	186	87.3	117	116	122	226	249	151	138	39.6	18.0	65.8
(WY)	1997	1973	1997	1958	1976	1983	1987	1983	1982	1972	1982	1954
MIN	0.15	0.76	1.74	2.98	5.25	25.4	25.2	14.8	2.86	0.43	0.13	0.11
(WY)	1998	2002	1966	1966	1980	2002	1985	2001	1999	1999	1995	1997

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1946 - 2003	
ANNUAL TOTAL	8076.23		13602.91			
ANNUAL MEAN	22.1		37.3		36.9	
HIGHEST ANNUAL MEAN					64.8	1984
LOWEST ANNUAL MEAN					13.2	1966
HIGHEST DAILY MEAN	135	Dec 16	182	Mar 31	858	Oct 22 1996
LOWEST DAILY MEAN	0.06	Aug 31	0.12	Sep 15	0.03	Sep 3 1999
ANNUAL SEVEN-DAY MINIMUM	0.06	Sep 4	0.64	Oct 1	0.04	Aug 31 1999
MAXIMUM PEAK FLOW			186	Mar 31	883	Oct 22 1996
MAXIMUM PEAK STAGE			3.41	Mar 31	7.82	Oct 22 1996
INSTANTANEOUS LOW FLOW			0.07	Jul 31		
ANNUAL RUNOFF (CFSM)	1.04		1.75		1.73	
ANNUAL RUNOFF (INCHES)	14.10		23.76		23.51	
10 PERCENT EXCEEDS	52		97		88	
50 PERCENT EXCEEDS	15		23		23	
90 PERCENT EXCEEDS	0.14		2.1		1.3	

e Estimated

PARKER RIVER BASIN

01101000 PARKER RIVER AT BYFIELD, MA--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Intermittent water-quality samples, water years 2003–04.

REMARKS.--Selected samples were analyzed for volatile organic compounds on schedule 2020 (listed with non-detection values or minimum reporting levels in the section "Explanation of the Records"); only volatile organic compounds identified by the analyses (either as estimated values or as values at or above the non-detection level or minimum reporting level) for one or more samples are listed in the water-quality data tables.

DATE	TIME	INSTAN-TANEOUS DISCHARGE, CFS (00061)	BARO-METRIC PRESSURE, MM HG (00025)	DISSOLVED OXYGEN, MG/L (00300)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, WATER, DEG C (00010)	CALCIUM WATER UNFLTRD RECOVERABLE, MG/L (00916)	MAGNESIUM, WATER, UNFLTRD RECOVERABLE, MG/L (00927)	POTASSIUM, WATER, UNFLTRD RECOVERABLE, MG/L (00937)
JAN 2003										
30...	1000	E12	778	6.6	6.6	260	0.0	--	--	--
FEB										
27...	0950	42	773	11.4	6.6	246	.0	--	3.12	1.8
MAR										
27...	1125	152	767	6.2	6.8	171	6.6	--	--	--
APR										
28...	1245	86	763	10.2	7.2	215	13.6	12.0	2.52	1.2
MAY										
29...	1110	84	754	9.7	7.2	199	14.6	--	--	--
JUN										
30...	1205	18	766	7.8	8.0	260	22.9	16.6	3.43	1.3
JUL										
31...	1150	E.68	772	4.8	6.7	306	22.1	--	--	--
AUG										
26...	1220	E2.8	763	7.6	7.0	290	20.5	--	--	--
SEP										
04...	0945	3.0	763	7.2	6.9	298	18.2	--	--	--
OCT										
23...	1035	12	751	9.8	6.9	233	8.3	--	--	--
NOV										
19...	0830	8.7	769	12.8	6.8	230	2.7	--	--	--

DATE	SODIUM, WATER, UNFLTRD RECOVERABLE, MG/L (00929)	ALKALINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)	BICARBONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PARTICULATE NITROGEN, SUSP, WATER, MG/L (49570)
JAN 2003									
30...	--	21	25	0.39	0.05	0.24	<0.008	<0.02	--
FEB									
27...	32.1	19	23	.37	.04	.22	E.004	<.02	<0.02
MAR									
27...	--	11	14	.26	<.04	.24	<.008	<.02	--
APR									
28...	23.0	16	20	.40	<.04	.07	<.008	<.02	.03
MAY									
29...	--	18	22	.49	<.04	<.06	<.008	<.02	--
JUN									
30...	27.6	32	39	.64	E.04	.07	<.008	<.02	.05
JUL									
31...	--	37	46	.61	E.02	.27	<.008	<.02	--
AUG									
26...	--	32	40	.62	<.04	.12	<.008	<.02	--
SEP									
04...	--	33	40	.55	<.04	.23	<.008	<.18	--
OCT									
23...	--	22	27	--	<.04	E.04	E.004	<.006	--
NOV									
19...	--	18	22	--	<.04	.10	<.008	<.006	--

PARKER RIVER BASIN

01101000 PARKER RIVER AT BYFIELD, MA--Continued

DATE	PHOS-PHORUS, WATER, UNFLTRD MG/L (00665)	TOTAL CARBON, SUSPND SEDIMNT TOTAL, MG/L (00694)	INORGANIC CARBON, SUSPND SEDIMNT TOTAL, MG/L (00688)	ORGANIC CARBON, SUSPND SEDIMNT TOTAL, MG/L (00689)	ORGANIC CARBON, WATER, FLTRD, MG/L (00681)	ORGANIC CARBON, WATER, UNFLTRD MG/L (00680)	E COLI, M-TEC MF, WATER, COL/ 100 ML (31633)	FECAL COLIFORM, M-FC 0.7U MF COL/ 100 ML (31625)	ALUMINUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01105)	ARSENIC WATER UNFLTRD UG/L (01002)
JAN 2003										
30...	0.009	--	--	--	--	--	2	1	--	--
FEB										
27...	.011	0.2	<0.1	0.2	6.6	8.4	1	6	50	<2
MAR										
27...	.013	--	--	--	--	--	7	4	--	--
APR										
28...	.011	.2	<.1	.2	6.9	8.1	8	9	50	<2
MAY										
29...	.015	--	--	--	--	--	88	80	--	--
JUN										
30...	.029	.5	<.1	.5	11.5	12.1	110	103	<50	E1
JUL										
31...	.024	--	--	--	--	--	96	73	--	--
AUG										
26...	.024	--	--	--	--	--	76	103	--	--
SEP										
04...	.022	--	--	--	--	--	78	120	--	--
OCT										
23...	.018	--	--	--	--	--	14	16	--	--
NOV										
19...	.013	--	--	--	--	--	9	13	--	--

DATE	BARIUM, WATER, UNFLTRD RECOVER-ABLE, UG/L (01007)	BERYLLIUM, WATER, UNFLTRD RECOVER-ABLE, UG/L (01012)	CADMIUM WATER, UNFLTRD UG/L (01027)	CHROMIUM, WATER, UNFLTRD RECOVER-ABLE, UG/L (01034)	COBALT WATER, UNFLTRD RECOVER-ABLE, UG/L (01037)	COPPER, WATER, UNFLTRD RECOVER-ABLE, UG/L (01042)	IRON, WATER, UNFLTRD RECOVER-ABLE, UG/L (01045)	LEAD, WATER, UNFLTRD RECOVER-ABLE, UG/L (01051)	LITHIUM WATER UNFLTRD RECOVER-ABLE, UG/L (01132)
JAN 2003									
30...	--	--	--	--	--	--	--	--	--
FEB									
27...	7.9	<2	<0.2	<0.8	<3.4	<10	260	E0.5	<4
MAR									
27...	--	--	--	--	--	--	--	--	--
APR									
28...	6.7	<2	<.2	<.8	<3.4	<10	170	E.5	<4
MAY									
29...	--	--	--	--	--	--	--	--	--
JUN									
30...	9.7	<.5	<.2	<.8	<3.4	<4.0	910	<1	<2
JUL									
31...	--	--	--	--	--	--	--	--	--
AUG									
26...	--	--	--	--	--	--	--	--	--
SEP									
04...	--	--	--	--	--	--	--	--	--
OCT									
23...	--	--	--	--	--	--	--	--	--
NOV									
19...	--	--	--	--	--	--	--	--	--

PARKER RIVER BASIN

01101000 PARKER RIVER AT BYFIELD, MA--Continued

DATE	MANGANESE, WATER, UNFLTRD RECOVER -ABLE, UG/L (01055)	MERCURY WATER, UNFLTRD RECOVER -ABLE, UG/L (71900)	MOLYBDENUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01062)	NICKEL, WATER, UNFLTRD RECOVER -ABLE, UG/L (01067)	SELEN-IUM, WATER, UNFLTRD UG/L (01147)	SILVER, WATER, UNFLTRD RECOVER -ABLE, UG/L (01077)	STRONTIUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01082)	ZINC, WATER, UNFLTRD RECOVER -ABLE, UG/L (01092)	1,2-DI-CHLORO-ETHANE, WATER, UNFLTRD UG/L (32103)	CHLORO-BENZENE WATER UNFLTRD UG/L (34301)
JAN 2003										
30...	--	--	--	--	--	--	--	--	--	--
FEB										
27...	54.8	<0.02	<2	E1.3	<3	<0.3	59	<25	E0.1	E0.01
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
28...	34.1	<.02	<2	<2.0	<3	<.3	51	E14	E.1	<.03
MAY										
29...	--	--	--	--	--	--	--	--	--	--
JUN										
30...	178	<.02	<2	E1.3	<3	<.3	79	E2	<.1	<.03
JUL										
31...	--	--	--	--	--	--	--	--	--	--
AUG										
26...	--	--	--	--	--	--	--	--	--	--
SEP										
04...	--	--	--	--	--	--	--	--	--	--
OCT										
23...	--	--	--	--	--	--	--	--	--	--
NOV										
19...	--	--	--	--	--	--	--	--	--	--

DATE	CHLORO-ETHANE, WATER, UNFLTRD UG/L (34311)	CHLORO-METHANE WATER UNFLTRD UG/L (34418)	CIS-1,2-DI-CHLORO-ETHENE, WATER, UNFLTRD UG/L (77093)	DI-CHLORO-METHANE WATER UNFLTRD UG/L (34423)	ISOBUTYL METHYL KETONE, WATER, UNFLTRD UG/L (78133)	METHYL T-BUTYL ETHER, WATER, UNFLTRD UG/L (78032)	TOLUENE WATER UNFLTRD UG/L (34010)	TRICHLORO-ETHENE, WATER, UNFLTRD UG/L (39180)	SUSPND. SEDIMENT, SIEVE DIAMETR PERCENT <.063MM (70331)	SUS-PENDED SEDIMENT CONCEN-TRATION MG/L (80154)
JAN 2003										
30...	--	--	--	--	--	--	--	--	71	2
FEB										
27...	0.3	E1.6	E0.03	E0.04	19.4	0.3	0.12	0.19	78	2
MAR										
27...	--	--	--	--	--	--	--	--	10	22
APR										
28...	E.1	E.7	<.04	<.2	<.4	E.04	<.05	<.04	78	2
MAY										
29...	--	--	--	--	--	--	--	--	56	2
JUN										
30...	<.1	<.2	<.04	<.2	<.4	<.2	E.02	<.04	80	3
JUL										
31...	--	--	--	--	--	--	--	--	78	5
AUG										
26...	--	--	--	--	--	--	--	--	59	5
SEP										
04...	--	--	--	--	--	--	--	--	90	4
OCT										
23...	--	--	--	--	--	--	--	--	93	3
NOV										
19...	--	--	--	--	--	--	--	--	83	1

< Less than
E Estimated value
M Presence verified, not quantified

IPSWICH RIVER BASIN

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA

LOCATION.--Lat 42°34'10", long 71°01'39", Essex County, Hydrologic Unit 01090001, on right bank in Peabody, 700 ft 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 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: June 1938 to current year.
Water-quality records: Water years 1957, 1959, 1999–2001, 2003.

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 National Geodetic Vertical Datum of 1929 (Massachusetts Geodetic Survey benchmark.)

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversions upstream for municipal supply of Reading, Lynn, and Peabody. Occasional regulation by mill upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--65 years, 63.9 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft^3/s, Mar. 23, 2001, gage height, 8.39 ft; minimum, 0.01 ft^3/s, Dec. 8, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 340 ft^3/s, Mar. 31, gage height, 5.08 ft; minimum, 0.14 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	18	66	117	24	102	292	122	139	57	9.2	3.0
2	.76	14	58	151	e30	116	272	114	198	50	17	3.1
3	.89	10	53	148	e32	e119	261	106	175	45	19	2.7
4	.81	9.3	47	149	e33	e137	247	97	162	39	25	5.7
5	2.7	8.9	43	149	e36	142	234	85	165	34	34	5.5
6	.44	23	40	144	e40	141	225	66	152	30	34	4.6
7	.33	36	38	141	e43	138	210	61	137	25	32	3.2
8	.40	30	36	136	e43	125	194	58	143	22	48	2.5
9	.35	25	36	129	e44	128	184	56	133	19	57	1.9
10	.24	23	33	122	e41	e129	173	54	121	18	52	1.4
11	.17	24	31	115	25	133	174	49	109	19	46	1.1
12	.87	25	62	106	25	115	251	54	100	30	45	.87
13	2.6	57	82	96	24	119	247	57	90	25	44	.85
14	4.9	61	131	89	22	117	224	56	84	19	46	1.0
15	3.9	58	264	80	20	104	206	55	78	15	43	1.6
16	14	57	262	71	17	102	187	59	71	13	40	6.0
17	31	95	250	65	16	112	165	65	64	11	40	5.6
18	21	146	227	62	27	e123	149	62	60	10	42	3.8
19	15	140	205	57	42	e149	136	57	61	13	40	4.8
20	13	139	200	53	38	168	126	52	58	12	35	5.8
21	10	134	270	49	37	217	118	46	54	11	30	4.3
22	8.6	143	252	45	43	261	113	42	70	19	28	2.7
23	8.9	143	233	40	76	261	116	41	116	19	24	8.6
24	12	129	211	36	98	249	110	43	121	23	19	25
25	11	113	192	33	99	231	105	51	112	21	15	16
26	22	102	169	30	95	213	107	63	105	16	12	11
27	43	94	165	28	95	201	160	129	96	12	9.2	10
28	28	86	155	27	98	181	153	128	87	9.6	6.7	11
29	22	74	145	25	---	163	141	137	74	7.4	4.6	12
30	23	69	131	24	---	259	133	137	64	5.6	3.6	13
31	22	---	117	23	---	325	---	125	---	4.2	3.7	---
TOTAL	324.86	2086.2	4204	2540	1263	5080	5413	2327	3199	653.8	904.0	178.62
MEAN	10.5	69.5	136	81.9	45.1	164	180	75.1	107	21.1	29.2	5.95
MAX	43	146	270	151	99	325	292	137	198	57	57	25
MIN	0.17	8.9	31	23	16	102	105	41	54	4.2	3.6	0.85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2003, BY WATER YEAR (WY)

MEAN	29.1	51.7	69.9	70.9	85.0	152	141	81.2	48.0	18.9	13.0	14.1
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	0.38	1.28	1.05	1.07	9.66	36.3	29.6	18.5	4.71	0.74	0.17	0.26
(WY)	1998	1966	1966	1966	1980	1989	1985	1965	1999	1966	1999	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1938 - 2003	
ANNUAL TOTAL	16912.72		28173.48			
ANNUAL MEAN	46.3		77.2		63.9	
HIGHEST ANNUAL MEAN					121	1984
LOWEST ANNUAL MEAN					18.6	1966
HIGHEST DAILY MEAN	270	Dec 21	325	Mar 31	1160	Mar 23 2001
LOWEST DAILY MEAN	0.04	Aug 28	0.17	Oct 11	0.02	Dec 7 2001
ANNUAL SEVEN-DAY MINIMUM	0.40	Sep 26	0.40	Oct 6	0.08	Sep 5 1997
MAXIMUM PEAK FLOW			340	Mar 31	1200	Mar 23 2001
MAXIMUM PEAK STAGE			5.08	Mar 31	8.39	Mar 23 2001
INSTANTANEOUS LOW FLOW			0.14	Oct 11	0.01	Dec 8 2001
10 PERCENT EXCEEDS	121		177		155	
50 PERCENT EXCEEDS	31		53		38	
90 PERCENT EXCEEDS	0.88		5.3		2.2	

e Estimated

IPSWICH RIVER BASIN

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1959, 1999–2001, 2003–04.

REMARKS.--Selected samples were analyzed for volatile organic compounds on schedule 2020 (listed with non-detection values or minimum reporting levels in the section “Explanation of the Records”); only volatile organic compounds identified by the analyses (either as estimated values or as values at or above the non-detection level or minimum reporting level) for one or more samples are listed in the water-quality data tables.

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE, CFS (00061)	BARO-METRIC PRES-SURE, MM HG (00025)	DIS-SOLVED OXYGEN, MG/L (00300)	DISSOLVED OXYGEN, PERCENT OF SAT-URATION (00301)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, AIR, DEG C (00020)	TEMPER-ATURE, WATER, DEG C (00010)	CALCIUM WATER UNFLTRD RECOVERABLE, MG/L (00916)	MAGNESIUM, WATER, UNFLTRD RECOVERABLE, MG/L (00927)
JAN 2003											
30...	1440	23	776	9.2	62	6.5	498	--	0.1	--	--
FEB											
27...	1520	95	771	8.0	54	6.1	423	-2.5	.0	--	3.67
MAR											
27...	0840	206	766	8.2	69	6.8	303	10.7	7.9	--	--
APR											
28...	0840	156	765	9.5	87	7.1	350	23.3	11.8	13.1	2.77
MAY											
29...	0825	137	755	9.1	88	6.7	308	--	13.4	--	--
JUN											
30...	0825	65	768	7.2	82	7.1	351	--	22.4	15.2	3.14
JUL											
31...	0815	4.5	772	6.5	75	6.8	368	--	23.0	--	--
31...	0830	4.5	772	6.5	75	6.8	368	--	23.0	--	--
AUG											
26...	0945	13	763	7.1	79	6.9	406	--	20.8	--	--
SEP											
04...	1215	9.1	763	7.7	83	6.9	351	--	19.3	--	--
OCT											
23...	0820	26	751	9.4	81	6.5	361	--	8.2	--	--
NOV											
19...	1100	33	769	11.6	87	6.6	350	--	3.8	--	--

IPSWICH RIVER BASIN

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA--Continued

DATE	TIME	POTASSIUM, WATER, UNFLTRD RECOVER -ABLE, MG/L (00937)	SODIUM, WATER, UNFLTRD RECOVER -ABLE, MG/L (00929)	ALKALINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)	BICARBONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PARTIC-ULATE NITROGEN, SUSP, WATER, MG/L (49570)
JAN 2003											
30...	1440	--	--	21	26	0.58	0.21	0.51	0.016	<0.02	--
FEB											
27...	1520	2.6	59.2	40	49	.50	.12	.48	E.006	<.02	<0.02
MAR											
27...	0840	--	--	8	10	.37	<.04	.38	<.008	<.02	--
APR											
28...	0840	2.2	45.9	15	18	.46	<.04	.11	<.008	<.02	.04
MAY											
29...	0825	--	--	11	13	.73	E.02	.07	<.008	<.02	--
JUN											
30...	0825	2.6	46.0	26	31	.92	.09	.11	.008	.02	.06
JUL											
31...	0815	--	--	24	29	.83	<.04	.22	E.004	.02	--
31...	0830	--	--	--	--	.87	.035	.190	--	--	--
AUG											
26...	0945	--	--	41	50	.89	.07	.12	.008	.03	--
SEP											
04...	1215	--	--	28	34	.90	E.03	.20	E.005	<.18	--
OCT											
23...	0820	--	--	13	16	--	<.04	E.03	E.004	E.003	--
NOV											
19...	1100	--	--	15	19	--	.04	.15	<.008	E.005	--

DATE	PHOSPHORUS, WATER, UNFLTRD MG/L (00665)	TOTAL CARBON, SUSPND SEDIMNT TOTAL, MG/L (00694)	INORGANIC CARBON, SUSPND SEDIMNT TOTAL, MG/L (00688)	ORGANIC CARBON, SUSPND SEDIMNT TOTAL, MG/L (00689)	ORGANIC CARBON, WATER, FLTRD, MG/L (00681)	ORGANIC CARBON, WATER, UNFLTRD MG/L (00680)	E COLI, M-TEC MF, WATER, COL/ 100 ML (31633)	FECAL COLIFORM, M-FC 0.7U MF COL/ 100 ML (31625)	CHLORO-PHYLL A PERIPHYTON, CHROMO-FLUORO, MG/M2 (70957)	ALUMINUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01105)	ARSENIC WATER UNFLTRD UG/L (01002)
JAN 2003											
30...	0.017	--	--	--	--	--	8	5	--	--	--
FEB											
27...	.013	0.2	<0.1	0.2	8.3	10.3	11	24	--	110	<2
MAR											
27...	.013	--	--	--	--	--	8	5	--	--	--
APR											
28...	.017	.3	<.1	.3	11.0	13.0	44	37	--	100	<2
MAY											
29...	.030	--	--	--	--	--	170	163	--	--	--
JUN											
30...	.072	.8	<.1	.8	18.2	19.0	72	70	--	110	3
JUL											
31...	.052	--	--	--	--	--	140	103	--	--	--
31...	.052	--	--	--	--	--	--	--	12.5	--	--
AUG											
26...	.072	--	--	--	--	--	100	117	--	--	--
SEP											
04...	.082	--	--	--	--	--	5,200	4,400	--	--	--
OCT											
23...	.029	--	--	--	--	--	17	20	--	--	--
NOV											
19...	.024	--	--	--	--	--	16	25	--	--	--

IPSWICH RIVER BASIN

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA--Continued

DATE	BARIUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01007)	BERYLLIUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01012)	CADMIUM WATER, UNFLTRD UG/L (01027)	CHROMIUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01034)	COBALT WATER, UNFLTRD RECOVER -ABLE, UG/L (01037)	COPPER, WATER, UNFLTRD RECOVER -ABLE, UG/L (01042)	IRON, WATER, UNFLTRD RECOVER -ABLE, UG/L (01045)	LEAD, WATER, UNFLTRD RECOVER -ABLE, UG/L (01051)	LITHIUM WATER UNFLTRD RECOVER -ABLE, UG/L (01132)	MANGANESE, WATER, UNFLTRD RECOVER- ABLE, UG/L (01055)	MERCURY WATER, UNFLTRD RECOVER- ABLE, UG/L (71900)
JAN 2003											
30...	--	--	--	--	--	--	--	--	--	--	--
FEB											
27...	18.1	<2	E0.1	<0.8	<3.4	<10	320	E0.9	<4	226	<0.02
MAR											
27...	--	--	--	--	--	--	--	--	--	--	--
APR											
28...	13.9	<2	<.2	<.8	<3.4	<10	310	E.8	E2	36.5	<.02
MAY											
29...	--	--	--	--	--	--	--	--	--	--	--
JUN											
30...	21.5	<.5	<.2	E.5	<3.4	<4.0	2,300	1	E2	343	E.01
JUL											
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	--	--	--	--	--	--	--	--	--	--	--
OCT											
23...	--	--	--	--	--	--	--	--	--	--	--
NOV											
19...	--	--	--	--	--	--	--	--	--	--	--

DATE	MOLYBDENUM, WATER, UNFLTRD RECOV- ERABLE, UG/L (01062)	NICKEL, WATER, UNFLTRD RECOV- ERABLE, UG/L (01067)	SELEN- IUM, WATER, UNFLTRD UG/L (01147)	SILVER, WATER, UNFLTRD RECOVER -ABLE, UG/L (01077)	STRONTIUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01082)	ZINC, WATER, UNFLTRD RECOVER -ABLE, UG/L (01092)	1,1,1-TRI- CHLORO- ETHANE, WATER, UNFLTRD UG/L (34506)	CFC-113 WATER UNFLTRD UG/L (77652)	1,2-DI- CHLORO- ETHANE, WATER, UNFLTRD UG/L (32103)	CHLORO- BENZENE WATER UNFLTRD UG/L (34301)	CHLORO- ETHANE, WATER, UNFLTRD UG/L (34311)
JAN 2003											
30...	--	--	--	--	--	--	--	--	--	--	--
FEB											
27...	<2	E1.1	<3	<0.3	87	E14	E0.01	E0.02	E0.1	E0.03	0.2
MAR											
27...	--	--	--	--	--	--	--	--	--	--	--
APR											
28...	<2	<2.0	<3	<.3	75	E15	<.03	<.06	<.1	<.03	E.1
MAY											
29...	--	--	--	--	--	--	--	--	--	--	--
JUN											
30...	<2	E1.5	<3	<.3	99	8	<.03	<.06	<.1	<.03	<.1
JUL											
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
AUG											
26...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	--	--	--	--	--	--	--	--	--	--	--
OCT											
23...	--	--	--	--	--	--	--	--	--	--	--
NOV											
19...	--	--	--	--	--	--	--	--	--	--	--

IPSWICH RIVER BASIN

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA--Continued

DATE	CHLORO-METHANE WATER UNFLTRD UG/L (34418)	CIS-1,2-DI-CHLORO-ETHENE, WATER, UNFLTRD UG/L (77093)	DI-CHLORO-METHANE WATER UNFLTRD UG/L (34423)	METHYL TERT-PENTYL ETHER, WATER, UNFLTRD UG/L (50005)	METHYL T-BUTYL ETHER, WATER, UNFLTRD UG/L (78032)	TETRA-CHLORO-ETHENE, WATER, UNFLTRD UG/L (34475)	TOLUENE WATER UNFLTRD UG/L (34010)	TRI-CHLORO-ETHENE, WATER, UNFLTRD UG/L (39180)	SUSPND. SEDIMENT, SIEVE DIAMETR PERCENT <.063 MM (70331)	SUS-PENDED SEDIMENT CONCEN-TRATION MG/L (80154)
JAN 2003										
30...	--	--	--	--	--	--	--	--	62	7
FEB										
27...	E1.6	E0.07	E0.04	E0.06	0.9	E0.09	E0.02	E0.05	62	4
MAR										
27...	--	--	--	--	--	--	--	--	71	2
APR										
28...	E.7	E.02	<.2	E.02	.2	E.03	E.01	<.04	82	3
MAY										
29...	--	--	--	--	--	--	--	--	86	4
JUN										
30...	<.2	E.06	<.2	<.08	.3	.13	E.03	E.03	90	8
JUL										
31...	--	--	--	--	--	--	--	--	56	4
31...	--	--	--	--	--	--	--	--	--	--
AUG										
26...	--	--	--	--	--	--	--	--	73	6
SEP										
04...	--	--	--	--	--	--	--	--	81	16
OCT										
23...	--	--	--	--	--	--	--	--	78	5
NOV										
19...	--	--	--	--	--	--	--	--	78	2

< Less than
E Estimated value

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 mi^2.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Diversions upstream for municipal supply of Reading, Lynn, Peabody, Danvers, Salem, and Beverly. Some regulation by reservoirs upstream. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--73 years, 188 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,550 ft^3/s, Apr. 8, 1987, gage height, 9.43 ft; minimum, 0.34 ft^3/s, Sept. 20, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1886, that of Apr. 8, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,000 ft^3/s, Apr. 1, gage height, 5.30 ft; minimum, 2.3 ft^3/s, Oct. 8, 9; minimum daily, 3.0 ft^3/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	62	190	306	69	300	993	373	396	182	33	18
2	11	51	173	317	77	301	939	338	449	161	45	18
3	10	44	152	323	85	353	838	305	481	142	53	18
4	8.4	39	129	362	95	357	762	286	489	129	61	21
5	7.2	34	105	392	107	372	715	271	489	125	70	25
6	6.3	42	90	406	118	375	679	245	469	106	75	28
7	5.3	55	73	390	125	350	642	217	444	91	77	25
8	3.0	65	64	367	126	324	604	194	432	78	85	23
9	3.1	68	56	335	130	330	563	180	413	68	90	19
10	4.1	65	64	315	131	347	526	177	389	61	95	17
11	3.5	60	67	296	131	334	497	164	362	58	99	14
12	4.1	57	95	278	128	329	644	162	335	73	103	12
13	5.1	71	115	253	119	323	726	159	309	77	105	14
14	7.7	87	184	226	108	304	720	159	294	75	108	12
15	7.1	98	329	205	98	295	675	159	276	62	112	9.5
16	13	113	465	188	93	292	604	157	249	55	115	11
17	29	144	564	175	96	312	542	152	222	52	112	12
18	42	192	576	158	94	373	488	149	205	48	102	14
19	46	236	521	140	90	435	442	147	194	50	93	16
20	45	257	484	130	89	471	407	142	186	47	84	20
21	34	268	529	118	90	548	376	133	176	44	77	25
22	26	277	547	105	94	662	354	117	173	43	70	25
23	22	275	556	93	124	761	343	102	198	59	65	30
24	23	269	531	82	141	779	335	91	240	74	56	41
25	23	260	486	79	169	739	324	106	291	82	49	53
26	32	253	428	77	262	703	321	130	308	82	42	60
27	58	246	469	76	341	699	365	190	297	75	36	55
28	74	226	429	73	336	668	395	256	272	63	30	50
29	78	210	368	71	---	624	416	348	233	50	26	46
30	77	200	351	69	---	715	409	389	206	39	22	44
31	71	---	313	68	---	936	---	387	---	31	19	---
TOTAL	792.9	4324	9503	6473	3666	14711	16644	6385	9477	2382	2209	775.5
MEAN	25.6	144	307	209	131	475	555	206	316	76.8	71.3	25.9
MAX	78	277	576	406	341	936	993	389	489	182	115	60
MIN	3.0	34	56	68	69	292	321	91	173	31	19	9.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2003, BY WATER YEAR (WY)

MEAN	77.6	134	191	206	241	450	435	240	150	57.5	37.3	41.0
MAX	749	525	621	566	627	1158	1233	833	821	518	356	390
(WY)	1997	1933	1997	1958	1984	1983	1987	1954	1982	1938	1938	1954
MIN	4.75	6.87	11.5	14.4	16.4	75.0	97.1	83.5	25.6	5.75	2.13	1.76
(WY)	1998	1966	1966	1966	1980	1989	1985	1999	1976	1957	1965	1965

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1930 - 2003	
ANNUAL TOTAL	38738.34		77342.4			
ANNUAL MEAN	106		212		188	
HIGHEST ANNUAL MEAN					351	1984
LOWEST ANNUAL MEAN					57.7	1966
HIGHEST DAILY MEAN	576	Dec 18	993	Apr 1	3520	Apr 8 1987
LOWEST DAILY MEAN	0.84	Aug 22	3.0	Oct 8	0.59	Sep 21 1978
ANNUAL SEVEN-DAY MINIMUM	0.98	Aug 18	4.0	Oct 7	0.94	Sep 1 1999
MAXIMUM PEAK FLOW			1000	Apr 1	3550	Apr 8 1987
MAXIMUM PEAK STAGE			5.30	Apr 1	9.43	Apr 8 1987
INSTANTANEOUS LOW FLOW			2.3	Oct 8	0.34	Sep 20 1978
10 PERCENT EXCEEDS	255		489		447	
50 PERCENT EXCEEDS	63		130		113	
90 PERCENT EXCEEDS	3.6		23		12	

SAUGUS RIVER BASIN

01102345 SAUGUS RIVER AT SAUGUS IRONWORKS AT SAUGUS, MA

LOCATION.--Lat 42°28'05", long 71°00'27", Essex County, Hydrologic Unit 01090001, on left bank 20 ft upstream from Bridge Street opposite Saugus Ironworks National Historic Site, at Saugus.

DRAINAGE AREA.--20.8 mi^2 (revised).

PERIOD OF RECORD.--Discharge: March 1994 to current year.
Water-quality records: Water Years 1999–2001.

REVISED RECORDS.--WDR MA-RI-03-1: Drainage area.

GAGE.--Water stage recorder. Elevation of gage is 15 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. There is evidence of seasonal regulation by ponds upstream. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--10 years, 29.8 ft^3/s, 19.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 942 ft^3/s, Oct. 21, 1996, gage height, 6.58 ft; minimum, about 0.60 ft^3/s, Sept. 5, 6, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 170 ft^3/s, Mar. 30, gage height, 3.90 ft; minimum, 2.8 ft^3/s, Oct. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	7.8	20	46	14	e26	107	52	93	16	17	5.2
2	3.9	7.0	18	68	19	60	100	50	108	15	22	9.9
3	3.6	6.6	16	57	22	78	103	48	73	13	26	10
4	3.4	6.3	e15	87	24	59	108	45	61	12	53	14
5	3.4	6.3	14	79	27	52	108	37	59	11	51	15
6	3.2	23	14	66	e21	e48	107	32	54	9.5	28	11
7	3.1	23	14	60	17	e37	100	32	51	8.2	22	9.7
8	3.0	14	14	55	e16	e38	96	31	59	7.5	40	8.8
9	2.9	11	e13	53	e16	e46	93	32	54	7.2	31	7.1
10	2.8	9.5	12	51	15	51	86	30	46	7.5	24	5.7
11	2.8	9.3	12	45	15	48	96	29	41	8.4	22	5.3
12	3.9	12	47	41	e15	49	152	31	39	18	22	4.9
13	5.2	38	41	36	e12	45	126	30	33	11	28	4.5
14	6.8	32	84	30	e9.9	39	110	29	31	7.2	28	5.4
15	4.6	20	141	e29	e12	38	101	28	29	7.5	20	6.1
16	16	19	125	27	e11	38	84	27	27	7.7	17	16
17	27	58	104	25	11	48	75	26	26	10	15	13
18	13	70	70	e22	11	62	63	25	26	12	15	8.9
19	7.3	54	70	e19	14	65	58	20	25	21	18	14
20	5.9	41	76	e16	16	64	56	23	21	15	16	14
21	5.2	35	103	e15	19	107	54	23	20	9.7	15	7.9
22	4.8	45	82	e15	33	105	58	23	42	13	21	11
23	6.3	43	71	e13	91	92	63	23	75	25	20	25
24	6.6	35	65	e13	79	85	56	24	57	19	15	36
25	5.7	29	65	e11	59	80	53	25	50	14	13	21
26	31	27	68	e10	e39	77	69	38	44	10	9.4	15
27	43	25	58	e11	e28	79	98	71	32	14	8.0	14
28	21	23	43	e12	e26	67	74	53	24	16	6.7	13
29	13	20	39	e12	---	66	66	52	21	15	6.5	13
30	11	20	36	14	---	142	62	45	19	13	6.5	12
31	9.0	---	37	14	---	139	---	47	---	11	5.8	---
TOTAL	282.6	769.8	1587	1052	691.9	2030	2582	1081	1340	384.4	641.9	356.4
MEAN	9.12	25.7	51.2	33.9	24.7	65.5	86.1	34.9	44.7	12.4	20.7	11.9
MAX	43	70	141	87	91	142	152	71	108	25	53	36
MIN	2.8	6.3	12	10	9.9	26	53	20	19	7.2	5.8	4.5
CFSM	0.44	1.23	2.46	1.63	1.19	3.15	4.14	1.68	2.15	0.60	1.00	0.57
IN.	0.51	1.38	2.84	1.88	1.24	3.63	4.62	1.93	2.40	0.69	1.15	0.64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

MEAN	21.9	22.9	33.9	36.5	38.3	64.3	55.8	30.7	28.5	10.5	7.53	10.2
MAX	122	49.2	108	62.3	80.7	139	96.3	65.3	117	24.1	20.7	25.5
(WY)	1997	1997	1997	1996	1998	2001	1997	1998	1998	1998	2003	1999
MIN	2.35	2.68	6.45	10.4	13.7	22.1	13.0	7.89	3.06	2.23	1.39	2.11
(WY)	1998	2002	1999	2002	2002	2002	1995	1995	1999	1997	1999	1997

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1994 - 2003	
ANNUAL TOTAL	7518.0		12799.0			
ANNUAL MEAN	20.6		35.1		29.8	
HIGHEST ANNUAL MEAN					45.0	1997
LOWEST ANNUAL MEAN					14.5	2002
HIGHEST DAILY MEAN	141	Dec 15	152	Apr 12	812	Oct 21 1996
LOWEST DAILY MEAN	1.1	Aug 19	2.8	Oct 10	0.50	Sep 5 1999
ANNUAL SEVEN-DAY MINIMUM	1.4	Aug 13	3.0	Oct 5	0.53	Aug 31 1999
MAXIMUM PEAK FLOW			170	Mar 30	942	Oct 21 1996
MAXIMUM PEAK STAGE			3.90	Mar 30	6.58	Oct 21 1996
INSTANTANEOUS LOW FLOW			2.8	Oct 10	0.06	Sep 5 1995
ANNUAL RUNOFF (CFSM)	0.99		1.69		1.43	
ANNUAL RUNOFF (INCHES)	13.45		22.89		19.44	
10 PERCENT EXCEEDS	47		79		71	
50 PERCENT EXCEEDS	14		25		15	
90 PERCENT EXCEEDS	2.8		7.1		2.7	

e Estimated

MYSTIC RIVER BASIN

01102500 ABERJONA RIVER AT WINCHESTER, MA
(National Water Quality Assessment Site)

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

DRAINAGE AREA.--Total above gage is 24.7 mi^2; net above gage is 24.1 mi^2, excludes 0.6 mi^2 drained by Winchester North Reservoir.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: April 1939 to current year.
Water-quality records: Water year 1958–59, 1973, 1999 to current year.

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

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

REMARKS.--Records good. Flow affected by diversions for industrial use and for municipal supply of Woburn and Winchester, and by wastage and leakage from Winchester North Reservoir. Some regulation by Winchester at dam 1,800 ft upstream. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--64 years, 29.8 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,590 ft^3/s, Mar. 22, 2001, gage height, 16.90 ft (affected by backwater from Upper Mystic Lake), from rating curve extended above 400 ft^3/s on basis of slope-area measurement of peak flow; no flow for part of Oct. 10, 12, 1950, caused by pumpage from gage pool; minimum daily discharge, 0.25 ft^3/s, Oct. 10, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1886, that of Mar. 22, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 315 ft^3/s, Dec. 14, gage height, 12.51 ft; minimum, 2.1 ft^3/s, June 19, Sept. 23,; minimum daily, 3.9 ft^3/s, Oct. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	11	27	50	15	32	115	40	161	17	41	6.1
2	5.0	9.4	23	102	25	87	87	38	164	15	41	12
3	4.5	9.1	22	79	33	112	82	35	87	14	55	9.6
4	4.2	9.0	21	88	38	66	85	32	57	13	70	21
5	4.3	8.8	20	72	41	58	86	29	71	12	79	16
6	4.0	44	20	60	31	56	84	29	57	11	40	10
7	3.9	41	19	54	28	46	75	28	60	11	27	7.9
8	4.8	18	18	49	25	44	68	29	76	9.8	78	6.6
9	5.2	14	18	49	23	52	67	30	55	11	55	5.8
10	4.1	12	17	49	21	55	63	28	43	10	36	5.5
11	4.2	11	16	46	20	46	91	25	37	17	20	5.5
12	7.8	18	77	42	19	47	192	41	36	49	58	5.7
13	8.9	76	60	38	17	45	126	33	33	25	78	5.3
14	9.6	51	161	34	16	45	88	23	35	15	97	5.3
15	7.1	29	266	32	15	41	72	21	31	12	55	16
16	55	20	143	30	13	38	63	21	26	11	35	52
17	73	117	92	28	13	48	55	21	22	10	26	34
18	25	141	69	26	15	67	49	20	32	13	13	10
19	12	85	65	25	15	71	46	19	29	58	21	14
20	9.2	60	98	23	17	63	44	18	15	29	17	14
21	8.2	45	178	22	20	110	40	16	21	17	14	9.4
22	7.3	72	106	20	52	106	49	16	91	36	20	4.5
23	11	60	74	19	162	86	54	16	173	72	18	29
24	10	43	65	18	113	75	46	17	87	46	11	46
25	7.9	36	59	17	68	65	44	29	52	28	9.7	18
26	62	34	73	17	48	59	63	80	37	18	9.1	12
27	76	35	63	17	40	64	118	161	31	13	9.5	10
28	36	32	53	16	35	56	76	90	26	12	7.7	8.4
29	16	28	47	16	---	59	54	72	21	9.7	7.0	7.9
30	13	27	44	15	---	200	45	56	19	8.7	7.7	6.8
31	11	---	40	15	---	189	---	40	---	8.1	7.2	---
TOTAL	515.9	1196.3	2054	1168	978	2188	2227	1153	1685	631.3	1062.9	414.3
MEAN	16.6	39.9	66.3	37.7	34.9	70.6	74.2	37.2	56.2	20.4	34.3	13.8
MAX	76	141	266	102	162	200	192	161	173	72	97	52
MIN	3.9	8.8	16	15	13	32	40	16	15	8.1	7.0	4.5
MED	8.2	33	59	30	24	59	68	29	37	13	26	9.9
CFSM	0.69	1.65	2.75	1.56	1.45	2.93	3.08	1.54	2.33	0.85	1.42	0.57
IN.	0.80	1.85	3.17	1.80	1.51	3.38	3.44	1.78	2.60	0.97	1.64	0.64
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)												
MEAN	14.7	23.8	32.1	36.9	41.2	65.2	54.3	33.8	24.1	10.8	10.4	10.3
MAX	125	102	95.7	169	104	172	175	134	159	40.4	79.4	78.2
(WY)	1997	1956	1970	1979	1984	2001	1987	1954	1982	1959	1955	1954
MIN	0.48	0.59	0.63	2.34	4.39	19.2	12.5	11.3	3.01	0.69	0.62	0.49
(WY)	1942	1942	1942	1966	1980	1989	1966	1965	1957	1950	1957	1957

MYSTIC RIVER BASIN

01102500 ABERJONA RIVER AT WINCHESTER, MA--Continued

WATER-DISCHARGE RECORDS--Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1939 - 2003	
ANNUAL TOTAL	10220.5		15273.7			
ANNUAL MEAN	28.0		41.8		29.8	
HIGHEST ANNUAL MEAN					58.3	1984
LOWEST ANNUAL MEAN					8.23	1966
HIGHEST DAILY MEAN	266	Dec 15	266	Dec 15	1110	Mar 23 2001
LOWEST DAILY MEAN	2.8	Aug 19	3.9	Oct 7	0.25	Oct 10 1950
ANNUAL SEVEN-DAY MINIMUM	3.0	Aug 14	4.4	Oct 4	0.31	Dec 6 1941
MAXIMUM PEAK FLOW			315	Dec 14	1590	Mar 22 2001
MAXIMUM PEAK STAGE			12.51	Dec 14	16.90	Mar 22 2001
INSTANTANEOUS LOW FLOW			2.1	Jun 19	0.00	Oct 10 1950
ANNUAL RUNOFF (CFSM)	1.16		1.74		1.24	
ANNUAL RUNOFF (INCHES)	15.78		23.58		16.79	
10 PERCENT EXCEEDS	64		86		69	
50 PERCENT EXCEEDS	18		31		17	
90 PERCENT EXCEEDS	4.6		8.9		1.6	

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958–59, 1973, October 1998 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1999 to September 2000 (discontinued).

WATER TEMPERATURE: July 1999 to September 2000 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 4,710 µS/cm, Jan. 31, 2000; minimum, 65 µS/cm, Sept. 14, 1999.

WATER TEMPERATURE: Maximum recorded, 26.0°C, July 7, 1999; minimum, 0.1°C, Jan. 31, 2000.

REMARKS.--Selected samples were analyzed for pesticide compounds on schedule 2001 (listed with non-detection values or minimum reporting levels in the section “Explanation of the Records.”); only pesticide compounds identified by the analyses (either as estimated values or as values at or above the non-detection level or minimum reporting level) for one or more samples are listed in the water-quality data tables.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	INSTAN-TANEOUS DISCHARGE, CFS (00061)	BAROMETRIC PRESSURE, MM HG (00025)	DISSOLVED OXYGEN, MG/L (00300)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, AIR, DEG C (00020)	TEMPER-ATURE, WATER, DEG C (00010)	ALKALINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)	BICARBONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)
NOV 2002										
21...	1030	44	762	10.6	7.2	554	13.4	6.2	42	51
DEC										
10...	0930	17	768	11.9	7.4	1,040	1.4	.9	63	77
JAN 2003										
27...	0845	17	763	11.3	7.2	914	-8.4	.8	48	59
FEB										
12...	0800	19	751	11.6	6.9	1,490	-5.1	.6	52	64
MAR										
19...	0830	72	770	12.0	6.9	861	1.9	.5	41	50
APR										
10...	0815	64	766	12.1	7.0	1,160	10.6	4.0	38	47
MAY										
08...	0830	27	759	7.7	6.9	858	10.3	15.3	50	61
JUN										
12...	0830	35	758	7.3	6.8	703	23.2	18.3	43	52
JUL										
08...	0830	9.4	755	6.1	6.8	848	32.9	23.7	71	87
AUG										
19...	1000	22	--	8.9	7.3	658	--	21.4	--	--
25...	0830	9.8	758	7.9	7.2	653	19.0	20.0	68	83
SEP										
02...	0830	14	763	7.0	6.9	756	17.3	17.7	76	93
25...	1100	17	767	7.5	7.2	569	--	17.8	--	--

MYSTIC RIVER BASIN

01102500 ABERJONA RIVER AT WINCHESTER, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	CHLORIDE, WATER, FLTRD, MG/L (00940)	SULFATE WATER, FLTRD, MG/L (00945)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PHOSPHORUS, WATER, UNFLTRD MG/L (00665)	CHLOROPHYLL A PERIPHYTON, CHROMO-FLUORO, MG/M2 (70957)
NOV 2002									
21...	112	21.4	0.88	0.46	1.10	0.015	<0.02	0.039	--
DEC									
10...	235	31.8	2.0	1.56	1.42	.009	<.02	.028	--
JAN 2003									
27...	201	29.7	1.7	1.47	1.74	.009	<.02	.018	--
FEB									
12...	406	34.5	1.6	1.40	1.46	.008	<.02	.018	--
MAR									
19...	210	23.7	1.5	1.15	1.29	.011	<.02	.022	--
APR									
10...	296	24.4	1.1	.78	1.60	.011	<.02	.018	--
MAY									
08...	206	25.1	1.3	.74	1.55	.056	<.02	.039	--
JUN									
12...	165	20.0	1.0	.44	1.39	.075	<.02	.048	--
JUL									
08...	188	26.4	.83	.29	2.27	.156	<.02	.038	--
AUG									
19...	--	--	--	--	--	--	--	--	30.9
25...	146	20.7	.70	.15	1.39	.038	<.02	.039	--
SEP									
02...	161	34.2	1.4	.93	2.40	.167	<.02	.049	--
25...	--	--	4.5	3.68	1.53	.113	--	E.03	34.0

MYSTIC RIVER BASIN

01102500 ABERJONA RIVER AT WINCHESTER, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	CIAT, WATER, FLTRD, UG/L (04040)	ATRA-ZINE, WATER, FLTRD, UG/L (39632)	CARBARYL, WATER, FLTRD 0.7U GF UG/L (82680)	DIAZI-NON, WATER, FLTRD, UG/L (39572)	FIPRO-NIL, WATER, FLTRD, UG/L (62166)	METOLA-CHLOR, WATER, FLTRD, UG/L (39415)	PROME-TON, WATER, FLTRD, UG/L (04037)	SIMA-ZINE, WATER, FLTRD, UG/L (04035)	SUSPENDED SEDIMENT CONCEN-TRATION MG/L (80154)
NOV 2002									
21...	<0.006	<0.007	<0.041	0.014	<0.007	E0.006	E0.01	0.005	5
DEC									
10...	--	--	--	--	--	--	--	--	5
JAN 2003									
27...	--	--	--	--	--	--	--	--	4
FEB									
12...	<.006	<.007	<.041	<.005	<.007	<.013	<.01	<.005	3
MAR									
19...	--	--	--	--	--	--	--	--	4
APR									
10...	<.006	<.007	<.041	E.003	<.007	E.008	<.01	<.005	4
MAY									
08...	<.006	<.007	<.041	<.005	<.007	<.013	<.01	<.005	9
JUN									
12...	<.006	E.005	E.017	.009	<.007	E.005	E.01	<.005	10
JUL									
08...	E.004	E.005	E.021	E.004	E.003	<.013	E.01	E.003	5
AUG									
19...	--	--	--	--	--	--	--	--	--
25...	<.006	E.004	E.039	.011	<.007	E.002	E.01	<.005	5
SEP									
02...	<.006	<.007	E.011	<.005	<.007	<.013	E.01	<.005	8
25...	--	--	--	--	--	--	--	--	--

< Less than
E Estimated value

CHARLES RIVER BASIN

01103220 MISCOE BROOK NEAR FRANKLIN, MA

LOCATION.--Lat 42°02'27", long 71°25'38", Norfolk County, Hydrologic Unit 01090001, on left bank 20 ft upstream from South Street and 3.5 mi southwest of Franklin, MA.

DRAINAGE AREA.--1.15 mi^2.

PERIOD OF RECORD.--October 2000 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is 260 ft above National Geodetic Vertical Datum of 1929 (from topographic map).

REMARKS.--Records fair except those for estimated daily discharge and those for discharges less than 0.30 ft^3/s, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24 ft^3/s, Mar. 22, 2001, gage height, 2.65 ft; minimum, 0.02 ft^3/s, Oct. 15, 2001, Aug. 16, 18, 19, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft^3/s, June 23, gage height, 1.99 ft; minimum, 0.12 ft^3/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.15	0.16	0.38	0.92	0.28	0.42	3.6	0.89	2.2	0.78	0.70	0.23
2	.14	.15	.34	2.0	.37	.80	2.3	.87	2.6	.71	1.0	.82
3	.14	.14	.31	1.6	e.38	1.2	2.0	.79	1.4	.68	.67	.51
4	.15	.13	.27	1.4	.48	.74	2.2	.71	.86	.70	.54	1.0
5	.15	.13	.26	1.2	.57	.63	2.2	.67	1.0	.62	.51	.73
6	.14	.34	.25	1.1	.41	.64	2.1	.66	.81	.57	.47	.47
7	.14	.33	.25	.91	e.35	.55	1.7	.66	.89	.51	.39	.36
8	.14	.24	.25	.83	e.31	.51	1.5	.63	1.5	.49	3.3	.31
9	.14	.21	.24	.80	e.30	.65	1.6	.65	1.1	.58	2.4	.29
10	.15	.19	.22	.81	.30	.68	1.8	.60	.75	.62	1.1	.27
11	.17	.22	.24	.73	.28	.53	2.2	.54	.58	.66	.66	.26
12	.26	.36	1.6	.65	.28	.53	5.0	.56	.53	.62	.54	.25
13	.33	1.2	1.3	.59	.25	.60	3.5	.57	1.3	.50	.48	.24
14	.33	.94	3.1	e.51	.24	.52	2.1	.54	1.5	.46	.43	.25
15	.26	.63	4.0	e.43	.23	.50	1.5	.47	1.1	.43	.36	.24
16	.44	.49	2.4	.40	.22	.67	1.3	.44	.66	.48	.34	.55
17	.48	2.3	1.5	.40	e.21	1.1	1.1	.42	.50	.49	.40	.35
18	.30	2.8	.94	e.38	e.22	1.6	1.0	.40	.59	.50	.77	.29
19	.23	1.9	.71	e.35	.30	1.6	.98	.37	.64	.52	.67	.47
20	.20	1.1	1.9	e.36	.39	1.3	.94	.34	.48	.40	.44	.44
21	.20	.81	4.1	e.32	.38	3.7	.90	.34	.40	.35	.34	.32
22	.19	1.2	2.6	e.28	.64	5.3	1.2	.35	4.5	.40	.31	.28
23	.20	1.0	1.6	.24	1.8	3.8	1.5	.47	12	1.9	.30	.61
24	.24	.77	1.1	.23	1.2	2.8	1.2	.45	5.1	1.7	.26	.71
25	.17	.61	1.1	.22	.79	2.4	1.0	.47	2.3	1.0	.25	.45
26	.50	.48	1.3	.21	.60	2.1	1.4	1.6	1.5	.59	.25	.38
27	.58	.44	1.2	.22	.51	2.1	2.2	4.0	1.2	.46	.23	.37
28	.33	.38	.96	.18	.46	1.7	1.6	2.4	.95	.37	.21	.35
29	.24	.35	.82	.18	---	1.6	1.1	1.3	.89	.34	.21	.34
30	.20	.37	.71	.19	---	5.0	.94	.82	.85	.32	.22	.31
31	.18	---	.69	.23	---	7.0	---	.63	---	.29	.21	---
TOTAL	7.47	20.37	36.64	18.87	12.75	53.27	53.66	24.61	50.68	19.04	18.96	12.45
MEAN	0.24	0.68	1.18	0.61	0.46	1.72	1.79	0.79	1.69	0.61	0.61	0.41
MAX	0.58	2.8	4.1	2.0	1.8	7.0	5.0	4.0	12	1.9	3.3	1.0
MIN	0.14	0.13	0.22	0.18	0.21	0.42	0.90	0.34	0.40	0.29	0.21	0.23
CFSM	0.21	0.59	1.03	0.53	0.40	1.49	1.56	0.69	1.47	0.53	0.53	0.36
IN.	0.24	0.66	1.19	0.61	0.41	1.72	1.74	0.80	1.64	0.62	0.61	0.40
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)												
MEAN	0.23	0.49	0.80	0.48	0.45	1.81	1.41	0.94	1.26	0.43	0.36	0.24
MAX	0.33	0.68	1.18	0.61	0.54	3.10	1.79	1.32	1.69	0.61	0.61	0.41
(WY)	2001	2003	2003	2003	2001	2001	2003	2002	2003	2003	2003	2003
MIN	0.11	0.21	0.36	0.36	0.37	0.61	0.65	0.70	0.72	0.15	0.11	0.14
(WY)	2002	2002	2002	2002	2002	2002	2002	2001	2002	2002	2002	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL TOTAL	199.87		328.77			
ANNUAL MEAN	0.55		0.90		0.74	
HIGHEST ANNUAL MEAN					0.90	2003
LOWEST ANNUAL MEAN					0.43	2002
HIGHEST DAILY MEAN	4.7	May 14	12	Jun 23	16	Mar 23 2001
LOWEST DAILY MEAN	0.03	Aug 19	0.13	Nov 4	0.03	Aug 19 2002
ANNUAL SEVEN-DAY MINIMUM	0.04	Aug 13	0.14	Oct 2	0.04	Aug 13 2002
MAXIMUM PEAK FLOW			14	Jun 23	24	Mar 22 2001
MAXIMUM PEAK STAGE			1.99	Jun 23	2.65	Mar 22 2001
INSTANTANEOUS LOW FLOW			0.12	Oct 8	0.02	Oct 15 2001
ANNUAL RUNOFF (CFSM)	0.48		0.78		0.65	
ANNUAL RUNOFF (INCHES)	6.47		10.63		8.76	
10 PERCENT EXCEEDS	1.2		2.0		1.5	
50 PERCENT EXCEEDS	0.35		0.54		0.43	
90 PERCENT EXCEEDS	0.12		0.22		0.15	

e Estimated

CHARLES RIVER BASIN

01103280 CHARLES RIVER AT MEDWAY, MA

LOCATION.--Lat 42°08'23", long 71°23'24", Norfolk County, Hydrologic Unit 01090001, on right bank at upstream side of Walker Street bridge at intersection with Populatic Street, 0.5 mi east of Medway, MA.

DRAINAGE AREA.--65.7 mi^2.

PERIOD OF RECORD.--November 1997 to current year.

GAGE.--Water-stage recorder with satellite and telephone telemeter. Elevation of gage is 175 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--5 years (water years 1999–2003), 104 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft^3/s, Mar. 23, 2001, gage height, 6.35 ft; minimum, 2.0 ft^3/s, Sept. 5, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 757 ft^3/s, June 24, gage height, 3.88 ft; minimum, 10 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	27	83	e146	100	163	603	182	294	104	33	13
2	15	25	76	e201	116	185	469	166	353	91	49	23
3	16	22	71	e250	129	e224	371	148	350	80	57	32
4	14	20	e58	245	128	e258	336	134	288	71	56	42
5	14	19	53	261	143	e243	320	120	254	64	58	44
6	13	32	52	239	e115	231	315	113	230	55	56	40
7	12	50	e52	208	e106	206	288	105	198	48	50	34
8	12	46	52	192	e111	186	268	101	250	43	129	28
9	11	38	e52	175	105	e170	257	99	252	39	164	22
10	11	33	e84	166	100	e193	253	96	227	39	175	17
11	10	33	e41	e146	96	e170	287	88	186	38	137	15
12	12	41	136	e136	e85	169	528	85	163	41	106	14
13	18	116	161	e127	e74	174	555	89	161	39	82	14
14	26	129	347	e132	e76	165	462	93	183	36	66	14
15	22	125	554	e160	e78	151	355	88	180	34	51	13
16	28	108	543	e166	82	160	285	80	157	32	41	30
17	54	194	e387	e148	e79	221	240	73	138	32	34	39
18	55	256	e247	e132	88	328	209	68	127	36	40	44
19	44	250	e222	e141	114	e369	188	63	123	47	59	54
20	31	212	e242	e116	114	e350	171	57	116	44	35	50
21	23	169	431	e92	110	511	158	52	106	42	30	43
22	19	171	453	e90	129	607	167	51	279	45	28	37
23	18	162	397	e78	256	596	189	62	700	98	27	47
24	19	149	299	83	e258	502	189	70	723	127	24	69
25	18	129	253	83	e390	388	174	74	591	143	23	68
26	38	110	245	87	e357	308	184	146	390	116	22	67
27	80	99	228	91	e258	277	245	368	257	87	22	52
28	82	90	216	94	193	244	255	449	186	66	25	40
29	67	83	183	99	---	222	235	429	145	49	17	32
30	46	82	166	100	---	e558	207	310	121	38	15	26
31	34	---	151	100	---	632	---	236	---	29	14	---
TOTAL	879	3020	6535	4484	3990	9161	8763	4295	7728	1853	1725	1063
MEAN	28.4	101	211	145	142	296	292	139	258	59.8	55.6	35.4
MAX	82	256	554	261	390	632	603	449	723	143	175	69
MIN	10	19	41	78	74	151	158	51	106	29	14	13
CFSM	0.43	1.53	3.21	2.20	2.17	4.50	4.45	2.11	3.92	0.91	0.85	0.54
IN.	0.50	1.71	3.70	2.54	2.26	5.19	4.96	2.43	4.38	1.05	0.98	0.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	41.8	59.1	90.3	125	155	269	206	143	169	54.4	25.0	33.5
MAX	82.8	101	211	227	257	406	292	271	339	138	55.6	94.8
(WY)	1999	2003	2003	1999	1998	2001	2003	1998	1998	1998	2003	1999
MIN	10.6	13.3	33.8	47.4	61.9	103	99.7	64.8	15.7	13.5	4.63	13.5
(WY)	2002	2002	2002	2002	2002	2002	1999	2001	1999	2002	1999	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL TOTAL	29433.2		53496			
ANNUAL MEAN	80.6		147		104	
HIGHEST ANNUAL MEAN					147	2003
LOWEST ANNUAL MEAN					56.9	2002
HIGHEST DAILY MEAN	554	Dec 15	723	Jun 24	1410	Mar 23 2001
LOWEST DAILY MEAN	4.0	Aug 19	10	Oct 11	2.1	Sep 4 1999
ANNUAL SEVEN-DAY MINIMUM	4.4	Aug 13	12	Oct 6	3.0	Sep 1 1999
MAXIMUM PEAK FLOW			757	Jun 24	1490	Mar 23 2001
MAXIMUM PEAK STAGE			3.88	Jun 24	6.35	Mar 23 2001
INSTANTANEOUS LOW FLOW			10	Oct 11	2.0	Sep 5 1999
ANNUAL RUNOFF (CFSM)	1.23		2.23		1.59	
ANNUAL RUNOFF (INCHES)	16.67		30.29		21.57	
10 PERCENT EXCEEDS	181		323		252	
50 PERCENT EXCEEDS	58		105		60	
90 PERCENT EXCEEDS	11		23		12	

e Estimated

CHARLES RIVER BASIN

01103500 CHARLES RIVER AT DOVER, MA

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 mi^2.

PERIOD OF RECORD.--Discharge: October 1937 to current year. Prior to October 1977, published as "at Charles River Village." Water-quality records: Water years 1975–95 (National stream-quality accounting network station).

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 89.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Flow affected by diversions to and from basin for municipal supplies. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--66 years, 304 ft^3/s.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,150 ft^3/s, Apr. 2; gage height, 4.26 ft; minimum 24 ft^3/s, Oct. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	118	273	569	165	563	1100	557	746	521	137	57
2	51	98	252	612	181	565	1130	532	775	452	149	69
3	44	85	236	608	199	618	1140	496	733	394	171	76
4	42	78	210	676	226	e610	1120	460	698	343	214	95
5	41	71	191	685	257	e608	1080	426	704	294	253	107
6	33	94	175	679	272	e621	1040	395	681	252	232	114
7	31	107	162	665	277	e639	976	364	655	213	216	110
8	28	125	166	636	e273	575	929	337	679	183	265	100
9	26	131	152	619	e267	576	883	317	640	163	289	91
10	25	124	151	588	250	e581	841	295	616	150	315	82
11	24	120	145	548	239	e584	832	282	598	146	330	72
12	27	119	225	527	230	e550	985	276	580	152	339	65
13	32	198	287	e482	e224	538	1010	268	547	145	342	60
14	37	243	474	e441	e210	524	1030	265	530	137	313	56
15	39	281	696	e431	e190	492	1040	264	505	128	289	56
16	58	315	758	e386	e185	480	999	253	480	119	244	77
17	76	406	833	e360	e177	502	921	241	462	113	197	84
18	83	453	838	e332	e182	571	847	227	435	116	e171	96
19	90	471	794	e304	170	649	775	211	413	136	e147	129
20	88	501	800	269	171	706	709	196	383	144	138	138
21	78	506	899	245	179	840	652	181	357	141	135	133
22	68	523	875	224	209	951	619	172	418	155	125	116
23	63	502	883	205	344	1030	595	175	550	206	124	116
24	58	474	874	195	420	1080	557	190	634	244	109	138
25	54	446	856	184	464	1090	543	212	748	261	99	156
26	98	417	855	177	e530	1060	546	266	814	260	90	157
27	135	396	797	174	e577	1010	574	417	820	258	83	151
28	158	360	746	173	583	928	572	508	770	235	76	137
29	168	322	696	163	---	861	576	635	695	200	73	120
30	159	294	644	161	---	995	568	673	615	166	67	103
31	139	---	599	161	---	1060	---	693	---	135	60	---
TOTAL	2112	8378	16542	12479	7651	22457	25189	10784	18281	6562	5792	3061
MEAN	68.1	279	534	403	273	724	840	348	609	212	187	102
MAX	168	523	899	685	583	1090	1140	693	820	521	342	157
MIN	24	71	145	161	165	480	543	172	357	113	60	56
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2003, BY WATER YEAR (WY)												
MEAN	140	244	340	364	423	615	587	360	247	127	113	99.1
MAX	600	892	866	1180	998	1172	1474	746	1129	1060	956	640
(WY)	1956	1956	1997	1979	1970	1983	1987	1954	1982	1938	1955	1954
MIN	13.4	33.1	54.6	45.3	86.7	227	169	138	57.5	19.5	9.01	7.78
(WY)	1958	1966	1966	1981	1980	1985	1966	1986	1999	1957	1957	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1938 - 2003	
ANNUAL TOTAL	77201.1		139288			
ANNUAL MEAN	212		382		304	
HIGHEST ANNUAL MEAN					496	1984
LOWEST ANNUAL MEAN					117	1966
HIGHEST DAILY MEAN	899	Dec 21	1140	Apr 3	3190	Mar 22 1968
LOWEST DAILY MEAN	9.1	Aug 29	24	Oct 11	0.90	Oct 24 1952
ANNUAL SEVEN-DAY MINIMUM	12	Aug 16	28	Oct 7	4.3	Sep 10 1995
MAXIMUM PEAK FLOW			1150	Apr 2	3220	Aug 23 1955
MAXIMUM PEAK STAGE			4.26	Apr 2	9.24	Aug 23 1955
INSTANTANEOUS LOW FLOW			24	Oct 10	0.50	Oct 24 1952
10 PERCENT EXCEEDS	470		832		685	
50 PERCENT EXCEEDS	162		273		210	
90 PERCENT EXCEEDS	28		78		42	

e Estimated

CHARLES RIVER BASIN

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 National Geodetic Vertical Datum of 1929. Dec. 9, 1931, to June 9, 1960, nonrecording gage at site 200 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily dischage, which are poor. Mother Brook is a diversion from Charles River to Neponset River through Dedham and Hyde Park.

AVERAGE DISCHARGE.--72 years, 75.2 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft^3/s, Mar. 21, 1968, gage height, 87.18 ft; maximum gage height, 92.90 ft, Aug. 24, 1955, from graph based on gage readings; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 269 ft^3/s, Dec. 21, gage height, 83.39 ft; maximum gage height, 83.44 ft, Mar. 31; minimum, 0.83 ft^3/s, Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	7.1	18	113	3.6	124	233	120	211	131	30	4.5
2	1.8	4.5	12	135	7.9	140	234	111	231	110	29	6.3
3	2.5	2.2	12	145	11	e144	239	101	197	91	25	8.1
4	2.2	1.5	14	205	15	e120	241	88	173	82	32	14
5	1.9	1.5	8.0	198	22	129	230	77	164	68	46	13
6	1.5	5.6	5.2	186	28	139	221	67	154	52	48	11
7	1.4	4.7	3.1	174	32	e122	196	68	145	41	42	9.4
8	1.3	3.7	2.9	166	32	119	179	88	154	39	66	7.3
9	1.2	3.6	3.8	169	27	e122	166	85	135	33	58	5.6
10	e1.1	2.7	9.5	161	26	e118	153	76	121	31	53	4.1
11	e1.5	1.9	12	144	e21	e114	154	66	109	27	53	3.1
12	1.6	4.5	45	e77	e13	95	213	66	108	25	52	3.0
13	1.5	18	59	e56	e12	e123	220	63	99	20	51	3.7
14	1.1	22	130	e40	e6.8	e128	208	59	92	16	41	4.6
15	1.1	22	249	e33	e5.1	114	203	54	84	20	33	20
16	3.5	33	211	e26	e5.1	105	196	53	84	18	22	47
17	1.1	89	219	e22	6.1	86	176	60	110	18	10	43
18	1.2	111	228	e17	10	88	154	55	107	19	5.5	41
19	4.0	95	214	e14	12	107	131	49	100	24	5.0	45
20	6.3	91	216	e11	11	120	111	42	86	22	13	50
21	6.3	91	264	e8.7	14	161	93	38	75	18	15	46
22	5.9	102	246	e7.5	e20	200	102	36	93	23	21	44
23	7.1	98	236	e6.7	e74	213	156	42	135	42	21	59
24	5.6	83	229	e6.1	e93	223	149	44	133	44	14	42
25	4.0	71	226	e5.3	e102	219	133	50	146	49	10	18
26	24	61	239	e4.6	e107	221	132	66	160	50	12	28
27	36	55	210	e4.2	e117	216	148	111	163	46	10	25
28	31	42	184	e3.8	e123	189	134	127	156	45	10	20
29	24	28	162	e3.4	---	167	126	170	136	43	7.8	15
30	20	21	141	e3.1	---	e227	125	178	123	34	6.5	10
31	12	---	121	e3.0	---	248	---	179	---	28	5.4	---
TOTAL	215.0	1176.5	3929.5	2148.4	956.6	4641	5156	2489	3984	1309	847.2	650.7
MEAN	6.94	39.2	127	69.3	34.2	150	172	80.3	133	42.2	27.3	21.7
MAX	36	111	264	205	123	248	241	179	231	131	66	59
MIN	1.1	1.5	2.9	3.0	3.6	86	93	36	75	16	5.0	3.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

MEAN	26.3	53.5	82.8	94.1	109	173	158	88.0	56.4	22.4	20.8	20.0
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	0.000	0.60	0.43	0.14	0.14	0.54	25.3	0.000	0.000	0.061	0.000	0.097
(WY)	1942	1999	1959	1959	1959	1959	1999	1960	1955	1957	1949	1943

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1932 - 2003	
ANNUAL TOTAL	13665.50		27502.9			
ANNUAL MEAN	37.4		75.4		75.2	
HIGHEST ANNUAL MEAN					149	1938
LOWEST ANNUAL MEAN					20.6	1960
HIGHEST DAILY MEAN	264	Dec 21	264	Dec 21	1010	Mar 21 1968
LOWEST DAILY MEAN	0.57	Sep 18	1.1	Oct 10	0.00	Sep 12 1941
ANNUAL SEVEN-DAY MINIMUM	0.72	Sep 16	1.3	Oct 9	0.00	Sep 12 1941
MAXIMUM PEAK FLOW			269	Dec 21	1040	Mar 21 1968
MAXIMUM PEAK STAGE			83.44	Mar 31	92.90	Aug 24 1955
INSTANTANEOUS LOW FLOW			0.83	Oct 1	0.00	Sep 12 1941
10 PERCENT EXCEEDS	96		196		200	
50 PERCENT EXCEEDS	15		48		37	
90 PERCENT EXCEEDS	1.3		3.9		1.4	

e Estimated

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 mi^2.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Flow affected by diversion to Mother Brook (station 01104000), and by diversions to and from basin for municipal supplies. Occasional regulation at dam 0.2 mi upstream and by other ponds upstream.

AVERAGE DISCHARGE.--44 years, 287 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,050 ft^3/s, Mar. 30, Apr. 4, gage height, 4.17 ft; minimum daily, 33 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SEPFCOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	137	318	571	e180	455	1010	547	665	450	139	71
2	60	119	301	623	203	488	1010	536	723	421	157	74
3	58	104	269	605	228	535	1020	510	687	356	161	65
4	53	94	233	661	244	521	1030	485	655	316	207	98
5	51	87	230	652	276	520	1020	460	643	285	228	110
6	47	119	210	628	273	538	986	435	634	249	206	112
7	41	134	192	609	271	519	948	327	633	194	200	113
8	37	138	186	579	263	515	915	300	667	164	299	108
9	36	145	150	571	257	543	884	306	634	143	300	99
10	34	145	145	536	253	550	854	289	603	136	304	91
11	33	140	152	501	242	525	862	284	590	136	318	84
12	37	142	254	469	229	540	996	278	584	144	342	51
13	42	237	291	442	213	541	1000	273	555	140	346	38
14	46	266	472	385	206	478	984	269	543	115	324	50
15	34	283	687	e400	201	471	972	273	520	113	308	52
16	52	315	683	e365	190	466	953	234	407	107	275	69
17	86	463	714	e345	185	512	917	219	388	105	233	55
18	55	513	712	e320	189	615	867	213	398	109	195	57
19	63	489	694	e295	195	670	814	204	387	130	112	78
20	80	489	726	e265	191	700	760	194	365	132	109	93
21	75	493	795	e240	199	805	712	180	348	121	105	93
22	67	529	774	e220	240	888	551	157	426	137	108	63
23	69	515	754	e200	395	920	534	158	556	195	119	70
24	66	489	746	e190	413	952	524	170	566	217	109	106
25	53	459	743	e180	410	973	517	202	612	218	81	115
26	97	436	754	e175	422	967	532	268	662	221	77	126
27	144	420	722	e173	449	946	574	435	683	226	69	133
28	159	397	683	e170	461	906	563	469	675	196	68	132
29	165	369	649	e165	---	870	557	545	649	173	74	125
30	164	345	613	e160	---	984	556	563	507	144	90	113
31	153	---	580	e165	---	1030	---	585	---	126	71	---
TOTAL	2207	9011	15432	11860	7478	20943	24422	10368	16965	5919	5734	2644
MEAN	71.2	300	498	383	267	676	814	334	566	191	185	88.1
MAX	165	529	795	661	461	1030	1030	585	723	450	346	133
MIN	33	87	145	160	180	455	517	157	348	105	68	38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2003, BY WATER YEAR (WY)

MEAN	149	238	328	340	395	553	552	342	251	117	101	91.4
MAX	495	561	805	1018	766	1048	1223	697	951	439	430	253
(WY)	1997	1990	1997	1979	1970	1983	1987	1998	1982	1998	1990	1961
MIN	23.2	34.0	52.6	43.8	95.7	211	154	124	64.7	24.5	13.0	14.9
(WY)	1966	1966	1966	1981	1980	1985	1985	1986	1999	1997	1965	1965

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1959 - 2003	
ANNUAL TOTAL	79167.8		132983			
ANNUAL MEAN	217		364		287	
HIGHEST ANNUAL MEAN					458	1984
LOWEST ANNUAL MEAN					108	1966
HIGHEST DAILY MEAN	795	Dec 21	1030	Mar 31	2330	Mar 22 1968
LOWEST DAILY MEAN	6.8	Aug 22	33	Oct 11	1.0	Aug 24 1965
ANNUAL SEVEN-DAY MINIMUM	8.4	Aug 18	37	Oct 7	4.1	Aug 20 1965
MAXIMUM PEAK FLOW			1050	Mar 30	2410	Mar 21 1968
MAXIMUM PEAK STAGE			4.64	Mar 30	6.20	Mar 21 1968
INSTANTANEOUS LOW FLOW			20	Oct 15	0.00	Sep 15 1959
10 PERCENT EXCEEDS	493		744		630	
50 PERCENT EXCEEDS	166		278		209	
90 PERCENT EXCEEDS	34		73		44	

e Estimated

CHARLES RIVER BASIN

01104430 HOBBS BROOK BELOW CAMBRIDGE RESERVOIR NEAR KENDAL GREEN, MA

LOCATION.--Lat 42°23'53", Long 71°16'26", Middlesex County, Hydrologic Unit 01090001, 50 ft downstream of culvert on Winter Street, 300 ft downstream of gate house outlet from Cambridge Reservoir, and 1.3 mi north of Kendal Green.

DRAINAGE AREA.--6.86 mi^2

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharge, which are fair.. Flow affected by regulation of dam 300 ft upstream at outflow of Cambridge Reservoir.

AVERAGE DISCHARGE.--6 years, 9.58 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46 ft^3/s, Sept. 17, 18, 20, 2002, gage height, 1.86 ft; maximum gage height, 1.93 ft, Apr. 22, 2000; minimum, no flow, many days for period of record; minimum daily, no flow, Jan. 5–7, 19, 20, 24–26, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40 ft^3/s, Oct. 7–11, gage height, 1.75 ft; minimum, 0.04 ft^3/s, Dec 4–11; minimum daily, 0.04 ft^3/s, Dec. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	16	0.08	0.15	0.45	0.86	9.3	16	25	8.8	21	19
2	31	16	.07	.15	.46	.88	9.5	15	37	7.7	21	16
3	31	16	.07	.16	.50	.94	9.6	14	33	6.6	20	14
4	30	16	.05	.19	.52	.97	9.6	13	28	6.0	16	12
5	30	16	.04	.20	.52	.99	9.6	12	28	17	9.4	12
6	31	16	.05	.20	.52	1.0	9.7	11	26	26	7.7	12
7	35	16	.05	.20	.52	1.1	9.7	11	25	23	7.6	13
8	38	16	.05	.22	.58	1.1	9.9	11	28	20	7.8	20
9	38	16	.05	.21	.60	1.1	10	10	26	23	7.8	23
10	38	16	.05	.22	.61	1.1	10	10	23	24	7.7	23
11	35	16	.05	.22	.64	1.2	13	10	20	19	7.5	20
12	32	16	.08	.22	.65	1.2	24	10	18	13	7.7	19
13	32	9.0	.07	.23	.66	1.3	27	10	16	9.6	7.7	19
14	31	.30	.12	.25	.65	1.3	25	10	16	9.5	7.1	19
15	19	.19	.10	.28	.65	1.3	24	6.6	14	9.4	7.0	9.0
16	3.4	.11	.08	.30	.65	1.3	23	4.0	12	9.4	7.0	3.8
17	14	.12	.07	.35	.66	1.3	21	3.8	11	14	7.0	11
18	19	.10	.07	.37	.68	1.4	19	3.0	10	16	7.0	20
19	19	.09	.07	.38	.71	1.4	17	2.3	11	16	12	20
20	19	.08	.09	.39	.71	1.4	16	2.3	9.9	16	14	20
21	19	.07	.08	.40	.74	1.5	15	2.3	9.0	16	20	20
22	19	.07	.08	.40	.79	1.6	16	2.4	14	15	25	20
23	18	.06	.08	.46	.82	1.6	17	2.6	29	15	24	20
24	18	.05	.08	e0.39	.81	1.7	15	2.8	30	16	25	20
25	17	.08	.09	.35	.84	1.8	14	2.5	26	16	24	20
26	17	.09	.09	.37	.84	1.9	16	4.9	22	16	24	18
27	17	.10	.09	.40	.83	2.0	21	19	19	16	20	16
28	16	.11	.10	.40	.84	6.2	21	22	14	16	17	16
29	16	.10	.10	.40	---	10	19	21	12	16	22	16
30	16	.10	.11	.40	---	10	18	19	10	19	24	16
31	16	---	.13	.42	---	9.2	---	17	---	21	24	---
TOTAL	746.4	202.82	2.39	9.28	18.45	70.64	477.9	300.5	601.9	476.0	459.0	506.8
MEAN	24.1	6.76	0.077	0.30	0.66	2.28	15.9	9.69	20.1	15.4	14.8	16.9
MAX	38	16	0.13	0.46	0.84	10	27	22	37	26	25	23
MIN	3.4	0.05	0.04	0.15	0.45	0.86	9.3	2.3	9.0	6.0	7.0	3.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	15.2	9.25	6.96	2.88	2.14	4.00	10.7	8.93	9.87	13.4	15.6	15.6
MAX	29.7	24.0	19.1	6.11	6.74	16.1	25.6	17.9	20.1	23.9	26.0	22.5
(WY)	2001	1999	2001	2000	2000	2000	2000	2000	2003	1998	1998	2001
MIN	0.75	0.42	0.077	0.040	0.32	0.23	1.67	2.76	4.26	3.25	4.48	1.62
(WY)	2000	2000	2003	2002	1999	1999	1999	2002	2000	2000	1999	1999

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL TOTAL	3297.50		3872.08			
ANNUAL MEAN	9.03		10.6		9.58	
HIGHEST ANNUAL MEAN					12.8	1998
LOWEST ANNUAL MEAN					6.14	1999
HIGHEST DAILY MEAN	43	Sep 18	38	Oct 8	43	Sep 18 2002
LOWEST DAILY MEAN	0.00	Jan 5	0.04	Dec 5	0.00	Jan 5 2002
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 23	0.05	Dec 4	0.00	Jan 23 2002
MAXIMUM PEAK FLOW			40	Oct 7	46	Sep 17 2002
MAXIMUM PEAK STAGE			1.75	Oct 7	1.98	Oct 10 1997
INSTANTANEOUS LOW FLOW			0.04	Dec 4	0.00	Apr 10 2001
10 PERCENT EXCEEDS	30		24		26	
50 PERCENT EXCEEDS	2.9		9.9		5.2	
90 PERCENT EXCEEDS	0.06		0.10		0.28	

e Estimated

CHARLES RIVER BASIN

01104430 HOBBS BROOK BELOW CAMBRIDGE RESERVOIR NEAR KENDAL GREEN, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1997 to current year.
WATER TEMPERATURE: July 1997 to current year.
PRECIPITATION: October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor and heated precipitation gage.

REMARKS.--Records good. Specific conductance and water temperature water-quality probes located in brook at outflow below Cambridge Reservoir.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,940 µS/cm, Mar. 20, 2001; minimum, 163 µS/cm, Nov. 26, 2000.
WATER TEMPERATURE: Maximum recorded, 26.5°C, June 26, 2001; minimum, 0.2°C, Jan. 18, 2001.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,200 µS/cm, Mar. 29; minimum, 576 µS/cm, Nov. 17.
WATER TEMPERATURE: Maximum recorded, 25.0°C, June 26; minimum, 0.3°C, Dec. 9.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	851	828	842	811	801	806	729	717	723	745	707	736
2	872	845	852	813	797	803	729	719	724	742	706	731
3	869	844	855	804	795	799	729	712	721	727	691	714
4	861	842	850	804	789	795	736	723	729	697	684	692
5	862	676	766	799	788	794	740	728	735	701	692	697
6	800	730	761	794	775	782	743	732	737	704	697	701
7	854	800	828	789	773	778	748	736	741	713	702	707
8	863	840	852	776	766	773	741	735	739	736	712	726
9	948	847	907	776	769	773	755	737	748	753	735	745
10	934	915	922	780	771	776	750	735	741	768	753	760
11	918	903	911	801	776	783	745	692	738	780	767	773
12	908	897	903	792	772	787	742	652	716	787	778	784
13	903	894	898	797	770	776	751	736	744	783	775	779
14	901	892	897	854	787	813	736	580	661	786	775	780
15	896	889	892	794	784	789	727	608	688	797	786	793
16	896	870	885	787	679	774	745	717	734	805	794	801
17	881	868	873	716	576	660	767	745	756	810	804	807
18	874	865	870	737	614	714	784	767	777	820	809	815
19	869	861	864	752	734	744	800	781	792	832	820	827
20	868	857	862	757	744	750	810	608	757	842	832	837
21	867	857	862	756	745	751	782	740	764	854	841	848
22	860	853	857	753	589	689	810	781	796	863	854	858
23	857	843	850	741	726	734	817	804	810	871	862	864
24	848	836	841	750	728	739	834	814	825	896	870	879
25	848	837	841	753	735	744	834	756	807	897	883	890
26	846	813	829	747	737	741	820	780	803	900	891	895
27	829	813	818	741	706	724	789	764	775	908	897	903
28	833	815	821	729	722	725	776	763	769	918	907	912
29	826	810	816	729	721	725	769	747	754	920	913	917
30	829	811	817	733	724	728	749	738	744	923	916	920
31	824	807	812	---	---	---	749	743	746	927	916	923
MONTH	948	676	853	854	576	759	834	580	751	927	684	807

CHARLES RIVER BASIN

01104430 HOBBS BROOK BELOW CAMBRIDGE RESERVOIR NEAR KENDAL GREEN, MA--Continued

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	928	917	924	894	883	891	876	822	842	825	819	822
2	923	914	919	893	866	887	837	823	829	834	820	825
3	924	914	918	883	864	877	835	813	823	837	829	832
4	923	907	917	886	879	882	817	804	808	835	829	832
5	921	911	917	883	877	880	808	794	802	835	827	831
6	920	910	916	881	872	878	809	795	802	834	827	830
7	921	908	914	883	874	878	805	795	800	836	827	831
8	914	908	911	881	875	878	799	788	794	835	826	831
9	912	905	909	882	869	877	800	791	794	837	828	831
10	915	908	912	870	862	866	801	792	796	835	827	831
11	913	904	908	868	860	864	800	788	795	836	828	831
12	914	906	910	868	858	864	797	790	793	833	823	828
13	912	906	909	869	863	866	803	792	796	833	821	828
14	914	904	910	872	864	867	801	796	799	833	823	828
15	917	910	913	870	861	865	822	801	808	839	823	830
16	919	913	915	863	852	858	822	808	815	839	827	835
17	919	910	915	855	841	849	822	815	818	845	831	837
18	922	912	917	844	833	840	823	814	818	847	830	838
19	919	904	915	842	831	835	825	817	821	854	833	844
20	919	907	912	841	830	836	827	820	823	850	837	844
21	924	911	917	848	833	842	832	819	823	854	837	846
22	925	900	917	843	831	838	824	817	820	855	846	851
23	912	863	890	846	831	838	822	816	819	852	844	847
24	892	876	883	843	829	839	824	817	820	848	836	844
25	894	885	889	855	836	846	826	818	821	844	837	842
26	891	881	885	853	840	846	823	815	820	842	816	834
27	887	878	883	844	833	838	822	813	817	833	822	826
28	892	881	888	1,140	830	973	820	814	817	832	815	826
29	---	---	---	1,200	1,050	1,110	824	816	820	829	817	826
30	---	---	---	1,050	791	910	831	820	825	834	822	828
31	---	---	---	823	802	813	---	---	---	838	822	832
MONTH	928	863	908	1,200	791	872	876	788	813	855	815	834

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	839	799	825	840	827	832	813	801	806	806	798	802
2	818	746	792	834	826	831	808	799	804	803	795	799
3	804	729	764	832	817	824	807	799	802	802	793	798
4	751	723	737	832	821	825	809	799	802	800	793	796
5	810	725	773	830	817	824	809	799	804	799	792	796
6	828	806	819	825	818	822	811	801	806	799	792	795
7	825	810	820	829	818	823	809	800	805	797	791	794
8	814	802	808	827	818	823	806	801	804	809	790	796
9	811	801	807	829	815	820	808	803	805	798	789	795
10	816	804	810	821	812	816	805	798	802	799	789	793
11	814	805	810	820	805	811	804	796	801	801	790	796
12	814	805	809	819	800	806	804	795	801	800	792	796
13	810	800	805	819	801	806	803	794	800	802	795	798
14	805	796	801	808	796	803	804	797	800	801	792	796
15	807	800	803	811	792	800	805	799	803	805	794	799
16	813	803	808	816	796	808	804	799	802	802	789	794
17	812	805	809	810	799	805	804	798	801	802	787	793
18	813	806	810	808	798	802	803	797	800	799	787	796
19	816	806	811	802	783	795	802	795	798	800	790	794
20	820	811	815	799	784	792	799	793	796	796	790	793
21	821	812	815	800	789	794	797	790	794	798	791	795
22	816	802	812	798	787	792	839	788	808	800	793	796
23	809	799	803	797	787	793	837	827	832	807	794	802
24	803	783	795	796	787	791	831	823	827	804	797	800
25	814	793	802	799	788	794	826	817	821	806	797	800
26	818	800	808	802	794	798	821	814	817	806	800	804
27	813	800	806	806	797	801	817	810	813	807	800	803
28	813	802	807	809	801	805	813	803	809	805	798	802
29	811	801	805	809	802	805	810	798	803	804	795	799
30	899	803	820	810	804	807	805	796	800	800	793	797
31	---	---	---	810	799	806	804	797	801	---	---	---
MONTH	899	723	804	840	783	808	839	788	805	809	787	797
YEAR	1,200	576	817									

CHARLES RIVER BASIN

01104430 HOBBS BROOK BELOW CAMBRIDGE RESERVOIR NEAR KENDAL GREEN, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.5	19.2	19.4	8.8	8.4	8.6	4.3	1.6	2.9	5.1	4.0	4.5
2	20.0	19.3	19.6	8.4	7.7	8.0	4.0	1.6	2.9	4.4	3.3	3.6
3	20.2	19.6	19.9	7.9	7.2	7.6	2.9	.6	1.2	3.8	2.5	3.4
4	19.7	19.0	19.2	7.6	7.2	7.3	2.1	.4	1.1	3.8	2.1	3.1
5	19.4	18.9	19.1	7.5	6.8	7.2	1.8	.9	1.2	3.3	2.4	2.8
6	19.4	18.7	19.1	7.4	7.0	7.2	2.6	.7	1.5	3.4	2.4	3.0
7	19.0	18.4	18.7	7.1	6.5	6.8	2.4	.6	1.3	3.6	2.6	3.0
8	18.7	17.9	18.2	6.7	6.3	6.5	3.1	1.0	1.9	4.1	2.5	3.3
9	18.0	16.9	17.6	6.7	6.5	6.6	1.9	.3	.9	4.2	3.3	3.7
10	17.4	16.9	17.1	7.5	6.6	6.9	2.8	.8	1.6	4.0	2.7	3.5
11	17.0	16.4	16.7	9.2	7.4	8.2	3.1	1.2	2.1	3.3	2.3	2.7
12	16.5	16.0	16.3	9.9	9.2	9.6	4.2	1.3	3.0	3.5	2.6	2.8
13	16.1	15.8	15.9	9.7	8.6	9.4	4.6	2.7	3.5	3.2	2.3	2.6
14	15.9	15.1	15.6	9.6	7.7	8.6	5.7	3.8	4.7	2.8	1.8	2.2
15	15.1	14.5	14.8	10.1	8.7	9.1	6.1	4.8	5.2	2.6	1.8	2.1
16	14.6	13.9	14.2	8.8	5.6	7.6	4.9	3.5	4.4	2.6	1.9	2.2
17	14.1	13.5	13.8	7.0	5.5	6.4	4.2	2.9	3.3	2.8	1.8	2.3
18	14.0	13.5	13.7	7.8	5.7	6.8	4.6	2.6	3.3	2.4	1.5	1.8
19	13.6	13.2	13.4	7.7	5.5	6.6	5.1	2.6	3.9	2.7	1.6	2.1
20	13.6	13.0	13.3	8.8	5.8	6.8	7.1	4.7	5.8	3.1	2.0	2.4
21	13.5	12.6	13.0	7.5	5.4	6.6	6.0	4.7	5.3	2.6	1.9	2.1
22	12.7	12.1	12.3	8.0	5.6	7.3	6.1	4.5	5.1	2.5	1.1	2.0
23	12.2	11.4	11.8	7.7	4.4	6.2	6.2	4.5	5.0	2.6	1.5	1.9
24	11.8	10.9	11.3	7.8	4.4	5.6	5.3	4.0	4.5	3.0	2.0	2.5
25	11.3	10.6	11.0	7.9	4.2	5.9	4.8	1.5	4.0	3.3	2.2	2.8
26	11.0	10.6	10.8	6.8	5.2	5.7	4.8	2.3	3.8	3.4	2.7	3.1
27	11.0	10.3	10.5	5.4	3.0	4.1	4.6	3.1	3.6	3.3	2.4	2.9
28	10.8	10.0	10.3	3.8	2.0	2.8	4.5	3.2	3.7	3.3	2.3	2.7
29	10.0	9.4	9.7	4.4	2.5	3.4	4.9	3.3	3.8	3.5	2.9	3.2
30	9.6	9.0	9.3	5.2	3.6	4.2	4.4	3.0	3.5	3.6	2.9	3.2
31	9.3	8.5	8.9	---	---	---	4.8	3.7	4.3	3.8	3.0	3.4
MONTH	20.2	8.5	14.7	10.1	2.0	6.8	7.1	0.3	3.3	5.1	1.1	2.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.6	3.1	3.4	4.2	3.2	3.6	5.9	5.5	5.7	11.4	11.0	11.2
2	3.8	3.2	3.6	4.2	3.7	3.9	6.4	5.7	6.0	12.9	11.1	11.6
3	4.1	3.3	3.6	4.1	3.2	3.5	6.7	6.1	6.4	13.8	12.8	13.1
4	3.8	3.1	3.4	4.2	3.0	3.6	6.3	5.6	6.0	13.3	12.8	13.1
5	3.7	2.8	3.2	4.4	4.0	4.2	5.6	5.1	5.3	13.5	12.5	12.9
6	3.4	2.6	2.9	4.2	3.5	4.0	5.8	4.8	5.3	13.0	12.5	12.8
7	3.1	2.7	3.0	4.6	3.3	3.9	5.4	4.9	5.2	13.6	12.6	13.0
8	3.3	2.3	2.7	5.0	4.0	4.4	5.1	4.7	4.9	13.6	12.7	13.1
9	3.4	2.4	2.9	5.0	3.8	4.4	5.0	4.7	4.8	13.8	12.7	13.1
10	3.4	2.7	3.1	4.4	3.6	3.9	5.8	4.5	5.1	13.6	12.8	13.2
11	3.2	2.5	2.8	4.5	3.7	4.1	5.7	5.3	5.5	14.0	13.0	13.3
12	3.4	2.6	2.8	5.0	4.1	4.5	6.2	5.3	5.6	14.1	13.0	13.4
13	3.0	2.5	2.6	4.7	4.2	4.5	7.1	5.6	6.1	13.5	12.8	13.2
14	3.1	2.4	2.6	4.8	4.0	4.3	6.6	5.8	6.1	13.8	12.9	13.3
15	3.0	2.2	2.5	4.8	4.3	4.5	6.9	5.9	6.3	14.6	13.1	13.8
16	2.9	2.2	2.6	5.1	4.2	4.5	8.4	6.7	7.4	14.3	13.7	13.9
17	2.7	2.1	2.5	5.5	4.4	4.8	8.6	7.8	8.2	14.6	13.6	13.9
18	3.2	2.5	2.9	5.2	4.5	4.7	9.0	8.0	8.5	15.1	13.6	14.2
19	3.6	2.8	3.1	5.1	4.3	4.6	9.5	8.5	8.9	15.9	14.3	15.1
20	3.7	2.6	3.0	5.1	4.3	4.7	9.7	9.0	9.3	15.9	14.4	15.0
21	3.8	2.7	3.1	5.7	4.9	5.2	10.8	9.0	9.5	16.3	14.4	15.2
22	3.4	3.1	3.2	5.6	5.1	5.3	10.2	9.0	9.5	16.3	15.6	16.0
23	3.6	3.0	3.4	5.6	5.0	5.3	9.9	9.3	9.5	15.9	15.4	15.7
24	3.7	2.8	3.1	5.8	5.1	5.3	9.8	9.2	9.5	15.4	14.7	15.0
25	3.6	2.8	3.0	6.0	5.2	5.5	9.9	9.3	9.5	14.8	14.4	14.6
26	3.5	2.6	2.9	6.3	5.5	5.9	10.4	9.5	10	14.6	14.2	14.4
27	4.0	2.6	3.2	6.4	5.8	6.1	11.2	9.9	10.4	14.9	14.0	14.4
28	4.0	3.2	3.5	6.7	5.4	6.0	10.7	10.2	10.5	15.4	14.0	14.6
29	---	---	---	5.9	5.4	5.7	11.2	10.4	10.8	14.6	13.9	14.3
30	---	---	---	6.5	5.9	6.3	12.3	11.1	11.6	15.6	14.4	15.0
31	---	---	---	6.2	5.7	5.9	---	---	---	16.1	15.1	15.4
MONTH	4.1	2.1	3.0	6.7	3.0	4.7	12.3	4.5	7.6	16.3	11.0	13.9

CHARLES RIVER BASIN

01104430 HOBBS BROOK BELOW CAMBRIDGE RESERVOIR NEAR KENDAL GREEN, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.6	15.4	15.9	19.2	18.5	18.8	20.6	19.2	19.9	22.9	22.0	22.4
2	16.7	15.3	15.9	19.4	18.0	18.8	20.2	19.6	19.9	22.5	21.9	22.2
3	16.1	15.4	15.7	18.6	17.6	18.1	20.1	19.5	19.8	22.3	21.6	21.9
4	16.6	15.6	16.1	18.7	18.0	18.4	20.1	18.6	19.3	22.0	21.6	21.8
5	16.4	15.9	16.1	18.5	16.6	17.5	19.3	18.0	18.6	22.0	21.4	21.7
6	17.4	15.5	16.4	17.4	16.7	17.1	18.9	18.0	18.5	21.8	21.4	21.6
7	16.7	16.0	16.4	17.9	16.9	17.2	19.2	18.2	18.6	21.8	21.3	21.5
8	17.3	16.6	16.9	18.0	16.9	17.2	19.4	18.4	18.9	22.3	21.6	22.0
9	17.0	16.2	16.6	17.5	16.9	17.3	19.2	18.5	18.9	22.3	21.7	22.0
10	17.5	15.9	16.6	17.6	17.0	17.3	19.3	18.6	18.9	22.0	21.3	21.6
11	17.4	16.1	16.6	17.4	16.7	17.1	19.5	18.6	19.0	22.1	21.2	21.7
12	17.3	16.4	16.8	17.6	16.8	17.1	19.8	18.6	19.2	21.9	21.5	21.7
13	17.0	16.4	16.6	17.5	16.9	17.1	20.4	18.6	19.4	21.8	21.4	21.6
14	16.9	16.2	16.5	17.6	16.9	17.2	20.5	19.0	19.6	21.6	21.1	21.3
15	17.5	16.2	16.8	17.8	16.9	17.3	19.9	19.1	19.5	21.4	20.6	21.1
16	17.0	16.3	16.7	17.6	17.0	17.3	20.2	19.1	19.5	21.2	20.6	20.9
17	16.7	15.9	16.2	18.1	16.9	17.4	19.9	19.2	19.6	21.8	20.4	21.1
18	16.4	15.8	16.0	18.1	17.1	17.5	19.9	19.3	19.6	22.2	21.3	21.8
19	16.8	15.8	16.2	18.0	17.2	17.6	20.8	19.4	20.2	21.9	21.2	21.5
20	17.1	16.4	16.6	18.0	17.4	17.6	21.1	20.1	20.6	21.5	21.1	21.3
21	17.0	16.4	16.8	18.1	17.4	17.7	22.2	20.3	21.2	21.7	21.2	21.5
22	17.9	16.5	16.8	18.2	17.3	17.8	22.4	21.6	21.9	21.6	21.2	21.4
23	20.5	17.8	19.1	18.2	17.8	18.0	22.8	21.7	22.1	21.5	20.9	21.2
24	22.1	19.4	20.6	18.4	17.7	18.0	22.7	21.8	22.2	21.2	20.5	20.8
25	24.3	19.4	21.5	18.8	17.8	18.2	22.8	22.1	22.4	20.7	20.3	20.5
26	25.0	21.4	23.1	18.8	17.9	18.3	22.9	22.2	22.5	20.7	20.2	20.4
27	21.7	19.7	20.7	19.1	18.0	18.4	22.7	21.6	22.3	20.6	20.0	20.3
28	21.8	19.9	20.6	19.2	18.2	18.6	22.9	22.0	22.4	20.7	20.2	20.4
29	19.9	18.2	19.2	19.1	18.3	18.6	22.9	22.3	22.6	20.7	20.1	20.3
30	19.0	18.2	18.6	19.8	18.4	19.2	23.2	22.6	22.9	20.3	19.6	19.9
31	---	---	---	20.2	19.2	19.7	23.1	22.6	22.9	---	---	---
MONTH	25.0	15.3	17.5	20.2	16.6	17.9	23.2	18.0	20.4	22.9	19.6	21.3
YEAR	25.0	0.3	11.2									

CHARLES RIVER BASIN

01104430 HOBBS BROOK BELOW CAMBRIDGE RESERVOIR NEAR KENDAL GREEN, MA--Continued

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.01	0.00	0.65	0.15	0.00	0.03	0.03	1.55	0.00	1.07	0.00
2	.00	.00	.03	.02	.72	1.02	.24	.00	.00	.00	.09	.47
3	.00	.00	.03	.00	.31	.00	.05	.00	.00	.00	.07	.01
4	.04	.03	.00	.01	.76	.00	.20	.00	.14	.00	.67	.23
5	.01	.00	.11	.04	.07	.13	.20	.00	.22	.00	.13	.01
6	.00	.93	.13	.00	.04	.00	.28	.02	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.25	.04	.00	.80	.00	.19	.00
8	.00	.00	.00	.05	.08	.05	.27	.21	.00	.00	1.04	.00
9	.00	.00	.00	.17	.11	.00	.20	.04	.00	.11	.00	.00
10	.00	.00	.00	.12	.06	.00	.00	.00	.00	.01	.03	.00
11	.16	.06	.38	.00	.05	.00	1.07	.04	.10	.27	.00	.00
12	.32	1.03	.52	.00	.17	.00	.27	.10	.01	.37	1.08	.00
13	.16	.45	.09	.00	.00	.01	.00	.01	.18	.00	.03	.00
14	.00	.00	2.66	.00	.00	.17	.00	.04	.09	.00	.00	.00
15	.00	.00	.00	.00	.00	.07	.00	.00	.00	.00	.00	.06
16	1.15	.45	.20	.00	.00	.00	.00	.00	.00	.00	.00	.77
17	.00	1.40	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
18	.00	.14	.00	.00	.00	.00	.00	.00	.26	.20	.09	.00
19	.00	.00	.00	.00	.50	.00	.00	.00	.00	.45	.00	.54
20	.00	.00	1.66	.00	.23	.15	.00	.00	.00	.00	.00	.00
21	.00	.01	.00	.00	.09	.46	.01	.09	.21	.00	.00	.00
22	.00	.61	.00	.00	.89	.01	.46	.08	.45	.14	.10	.00
23	.27	.01	.00	.00	.70	.00	.00	.12	.47	.08	.00	1.31
24	.00	.00	.00	.00	.00	.00	.05	.18	.23	.12	.00	.00
25	.00	.06	.40	.00	.00	.00	.00	.11	.05	.00	.00	.00
26	1.81	.01	.29	.00	.00	.23	.94	1.96	.02	.00	.00	.04
27	.00	.38	.33	.00	.00	.00	.02	.01	.00	.00	.00	.01
28	.00	.00	.08	.00	.00	.00	.00	.10	.00	.00	.00	.03
29	.00	.01	.02	.00	---	.98	.00	.00	.00	.00	.00	.01
30	.00	.00	.00	.01	---	1.05	.00	.00	.00	.00	.00	.00
31	.00	---	.04	.07	---	.06	---	.11	---	.00	.00	---
TOTAL	3.92	5.59	6.97	1.14	4.93	4.64	4.33	3.25	4.78	1.75	4.60	3.49
MAX	1.81	1.40	2.66	0.65	0.89	1.05	1.07	1.96	1.55	0.45	1.08	1.31

CAL YR 2002 TOTAL 46.77 MAX 2.66
WTR YR 2003 TOTAL 49.39 MAX 2.66

CHARLES RIVER BASIN

01104430 HOBBS BROOK BELOW CAMBRIDGE RESERVOIR NEAR KENDAL GREEN, MA--Continued

PERIOD OF RECORD: March–September 1997; June–September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

BEGIN DATE (MONTH/ DAY)	BEGIN TIME (HRMN)	END DATE (MONTH/ DAY)	END TIME (HRMN)	TURBIDITY FIELD WATER UNFILTERED (61028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	SEDIMENT, SUSPENDED SIEVE DIAMETER% FINER THAN 0.062 MM (70331)	SEDIMENT, SUSPENDED (MG/L) (80154)
6-12	0910	6-12	0910	2.6	845	90	3
6-12	1245	6-21	0557	3.0	829	60	5
6-21	0800	6-28	0830	2.6	837	84	3
6-28	1033	7-01	0254	1.9	829	63	3
7-01	0533	7-08	1939	1.3	840	75	3
7-08	2253	7-09	2057	1.5	836	77	3
7-09	2130	7-10	1245	1.8	835	68	4
7-10	1306	7-16	1951	1.3	834	58	2
7-16	2246	7-18	1725	.9	827	74	2
7-17	1530	7-17	1530	1.9	837	86	2
7-18	2016	7-19	2136	1.7	830	78	3
7-20	0025	7-21	0150	1.5	825	85	2
7-21	0440	8-01	1022	1.0	825	72	3
8-01	1332	8-02	1801	1.5	825	68	3
8-02	2112	8-04	0207	1.4	824	84	2
8-04	0522	8-19	0815	1.2	833	63	1
8-14	1608	8-14	1608	1.0	827	82	1
8-19	1107	8-20	1323	.4	831	60	1
8-20	1621	8-21	1733	.6	833	79	1
8-21	2124	8-22	2013	.9	832	90	2
8-23	0155	8-24	0347	.5	835	75	1
8-24	0640	8-25	0742	.6	837	85	1
8-25	1138	8-26	1421	.8	836	88	2
8-26	1722	8-27	0819	1.1	838	53	3
9-04	1430	9-04	1430	1.6	832	85	2

CHARLES RIVER BASIN

01104455 STONY BROOK, UNNAMED TRIBUTARY 1, NEAR WALTHAM, MA

LOCATION.--Lat 42°22'21", Long 71°16'15", Middlesex County, Hydrologic Unit 01090001, 20 ft downstream of culvert on ramp from southbound lane of State Highway 128 to State Highway 20, 800 ft upstream from mouth, 1.8 mi west of Waltham.

DRAINAGE AREA.--0.48 mi^2

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1997 to September 1998; October 2000 to current year.
Water-quality records: Water years 1998; October 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 85 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 119 ft^3/s, June 17, 2001, gage height, 3.82 ft; minimum, 0.12 ft^3/s, Sept. 26, 2001; minimum daily, 0.07 ft^3/s, Oct. 1, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 81 ft^3/s, Sept. 23, gage height, 3.29 ft; minimum, 0.15 ft^3/s, many days during year; minimum daily, 0.15 ft^3/s, many days during year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.23	0.23	0.46	2.8	0.41	0.86	2.3	0.80	5.0	0.38	2.2	0.16
2	.23	.21	.42	2.2	1.2	4.4	2.3	.75	1.3	.36	.26	.75
3	.23	.21	.43	1.8	.73	1.6	1.9	.67	1.0	.35	.23	.15
4	.26	.22	.38	1.7	1.2	1.2	2.6	.66	1.2	.35	1.5	.54
5	.24	.23	.42	1.5	.58	1.7	2.5	.64	1.8	.32	e.20	.15
6	.24	2.0	.51	1.4	.43	1.3	1.9	.62	.91	.31	e.17	.15
7	.25	.29	.38	e1.3	.51	1.2	1.6	.61	2.9	.32	e.20	.15
8	.26	.28	.37	1.2	.44	1.4	1.8	.81	1.2	.32	3.2	.15
9	.23	.27	.33	1.2	.41	1.6	1.8	.64	.98	.32	.19	.15
10	.19	.83	.33	1.3	.45	1.3	1.6	.58	.83	.20	.26	.15
11	.24	.47	.81	.99	.41	1.2	4.5	.60	.92	.48	.18	.15
12	.61	2.4	2.5	.87	.37	1.3	3.9	.65	.71	.74	1.3	.16
13	.36	1.8	.66	.85	.35	1.3	2.3	.55	.91	.20	.19	.16
14	.21	.47	11	.75	.35	1.1	2.0	.53	.94	.19	.18	.16
15	.19	.39	3.5	.67	.33	1.1	1.9	.48	.61	.19	.18	.21
16	2.9	.84	2.6	.66	.32	1.2	1.7	.46	.51	.19	.17	1.7
17	.30	4.7	1.9	.66	.32	1.5	1.5	.43	.49	.19	.17	.15
18	.23	1.7	1.6	.56	.34	1.8	1.4	.42	.84	.45	.18	.15
19	.23	.72	1.5	.50	.48	1.7	1.2	.42	.47	.38	.17	1.0
20	.22	.62	6.7	.52	.65	1.7	1.2	.42	.40	.18	.17	.15
21	.20	.55	2.8	.49	.73	3.7	1.1	.46	.82	.17	.17	.16
22	.18	2.2	2.2	.44	3.2	2.4	1.9	.38	5.3	.94	.44	.15
23	.52	.67	1.9	.42	4.1	2.0	1.1	.64	2.6	.95	.17	2.7
24	.19	.56	1.6	.40	1.6	1.8	.98	.58	.98	.32	.17	.16
25	.18	.55	2.1	.36	1.2	1.6	.84	.77	.76	.18	.16	.15
26	4.7	.52	1.7	.36	1.1	1.7	3.0	6.0	.63	.17	.16	.15
27	.32	.84	1.4	.37	1.0	1.6	1.3	1.2	.54	.17	.15	.15
28	.24	.51	1.3	.35	.92	1.3	1.0	.94	.47	.17	.15	.15
29	.22	.49	1.2	.33	---	3.7	.92	.68	.42	.17	.15	.15
30	.22	.53	1.1	.30	---	6.0	.81	.59	.41	.16	.15	.15
31	.22	---	1.1	.31	---	2.8	---	.64	---	.16	.16	---
TOTAL	15.04	26.30	55.20	27.56	24.13	59.06	54.85	24.62	36.85	9.98	13.33	10.56
MEAN	0.49	0.88	1.78	0.89	0.86	1.91	1.83	0.79	1.23	0.32	0.43	0.35
MAX	4.7	4.7	11	2.8	4.1	6.0	4.5	6.0	5.3	0.95	3.2	2.7
MIN	0.18	0.21	0.33	0.30	0.32	0.86	0.81	0.38	0.40	0.16	0.15	0.15
MED	0.23	0.54	1.3	0.66	0.49	1.6	1.7	0.62	0.87	0.31	0.18	0.15
CFSM	1.01	1.83	3.71	1.85	1.80	3.97	3.81	1.65	2.56	0.67	0.90	0.73
IN.	1.17	2.04	4.28	2.14	1.87	4.58	4.25	1.91	2.86	0.77	1.03	0.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	0.45	0.73	0.78	0.95	1.06	1.85	1.23	1.15	1.65	0.48	0.41	0.33
MAX	0.92	1.18	1.78	1.51	1.90	3.41	1.83	2.06	3.19	0.82	0.47	0.39
(WY)	1999	1998	2003	1999	1998	2001	2003	1998	1998	1998	1998	2002
MIN	0.17	0.29	0.23	0.38	0.42	0.73	0.79	0.56	0.83	0.30	0.31	0.24
(WY)	1998	2002	1999	2002	2002	2002	2002	2001	2002	2002	2002	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL TOTAL	258.68		357.48			
ANNUAL MEAN	0.71		0.98		0.80	
HIGHEST ANNUAL MEAN					0.98	2003
LOWEST ANNUAL MEAN					0.52	2002
HIGHEST DAILY MEAN	11	Dec 14	11	Dec 14	50	Jun 13 1998
LOWEST DAILY MEAN	0.17	Aug 19	0.15	Aug 27	0.07	Oct 1 1997
ANNUAL SEVEN-DAY MINIMUM	0.18	Aug 4	0.15	Sep 5	0.07	Oct 13 1997
MAXIMUM PEAK FLOW			81	Sep 23	119	Jun 17 2001
MAXIMUM PEAK STAGE			3.29	Sep 23	3.82	Jun 17 2001
INSTANTANEOUS LOW FLOW			0.15	Oct 21	0.11	Oct 1 2001
ANNUAL RUNOFF (CFSM)	1.48		2.04		1.68	
ANNUAL RUNOFF (INCHES)	20.05		27.70		22.77	
10 PERCENT EXCEEDS	1.6		2.2		1.7	
50 PERCENT EXCEEDS	0.38		0.56		0.42	
90 PERCENT EXCEEDS	0.19		0.17		0.19	

e Estimated

CHARLES RIVER BASIN

01104455 STONY BROOK, UNNAMED TRIBUTARY 1, NEAR WALTHAM, MA--Continued

PERIOD OF RECORD.-- Water year 1998, October 2000 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 2000 to current year.

WATER TEMPERATURE: October 2000 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 72,700 µS/cm, Jan.20, 2002; minimum, 13.0 µS/cm, Dec. 24, 2001

WATER TEMPERATURE: Maximum recorded, 27.1°C, Aug. 22, 2003; minimum, 0.1°C, Jan. 13, 2002.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 29,900 µS/cm, Feb. 7; minimum, 27.0 µS/cm, Oct. 26.

WATER TEMPERATURE: Maximum recorded, 27.1°C, Aug. 22; minimum, 1.5°C, Feb. 22.

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	971	933	954	1,120	1,000	1,080	1,170	1,140	1,150	2,260	378	989
2	983	970	978	1,140	1,110	1,130	1,170	1,030	1,070	21,500	394	4,000
3	987	983	986	1,140	1,130	1,140	18,600	1,170	5,410	17,800	988	3,630
4	985	973	983	1,140	1,110	1,140	1,400	1,200	1,280	9,400	070	3,050
5	973	954	959	1,110	1,060	1,090	22,800	995	6,060	2,590	1,080	1,620
6	967	955	960	1,110	69	421	25,600	2,780	15,800	5,040	1,090	2,240
7	975	966	971	1,030	712	942	2,780	1,500	1,760	2,240	1,060	1,580
8	977	973	975	1,050	1,030	1,040	1,500	1,020	1,110	8,120	1,040	2,850
9	1,180	973	1,070	1,040	1,020	1,030	1,020	981	995	17,400	1,170	4,530
10	1,180	1,170	1,180	1,040	192	860	981	951	969	4,700	1,140	1,520
11	1,170	858	1,090	979	440	687	3,990	897	1,130	1,180	1,120	1,150
12	916	160	547	1,030	40	747	2,840	804	1,160	1,140	1,110	1,120
13	1,050	376	864	550	92	282	3,060	986	1,100	1,110	1,080	1,100
14	1,080	377	918	832	550	749	2,930	133	630	1,110	1,090	1,100
15	1,130	1,080	1,110	893	832	859	616	397	504	1,120	1,090	1,100
16	1,130	51	582	2,170	225	883	2,810	576	1,040	1,190	1,050	1,100
17	986	329	813	723	53	236	889	741	799	4,550	1,080	1,590
18	1,090	986	1,040	687	109	479	816	686	714	1,120	1,100	1,110
19	1,120	1,080	1,110	771	687	738	876	692	738	1,130	1,100	1,120
20	1,110	1,110	1,110	829	771	801	2,310	155	809	1,110	1,070	1,090
21	1,120	1,110	1,110	853	829	841	700	472	632	1,110	1,070	1,090
22	1,120	1,110	1,110	864	157	420	747	700	724	1,110	1,080	1,100
23	1,130	181	750	763	639	710	851	746	802	1,120	1,110	1,110
24	1,060	969	1,040	831	763	806	877	851	866	1,120	1,110	1,120
25	1,080	1,060	1,070	870	831	853	12,100	472	2,240	1,120	1,110	1,120
26	1,130	27	470	856	797	809	10,500	1,010	3,070	1,120	1,100	1,110
27	1,010	548	871	27,800	823	8,300	1,050	976	1,000	5,230	1,100	2,520
28	1,050	1,010	1,030	1,750	1,140	1,290	981	962	974	1,180	1,120	1,140
29	1,090	1,040	1,070	1,550	1,080	1,190	1,060	967	982	2,330	1,110	1,280
30	1,080	1,060	1,070	1,550	1,170	1,350	1,000	974	990	1,890	1,100	1,190
31	1,090	1,080	1,080	---	---	---	5,250	991	1,820	1,620	1,090	1,120
MONTH	1,180	27	964	27,800	40	1,100	25,600	133	1,880	21,500	378	1,660

CHARLES RIVER BASIN

01104455 STONY BROOK, UNNAMED TRIBUTARY 1, NEAR WALTHAM, MA--Continued

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6,180	1,110	1,730	1,020	936	985	819	681	714	1,120	1,010	1,090
2	18,900	2,130	10,700	4,210	337	1,020	815	634	720	1,130	1,090	1,100
3	3,190	1,190	1,780	830	579	737	725	643	691	1,160	1,130	1,140
4	2,920	984	1,220	854	830	842	5,150	473	1,920	1,170	1,160	1,160
5	1,150	1,000	1,090	1,320	707	879	10,700	1,070	4,300	1,210	980	1,170
6	1,140	1,110	1,130	7,160	739	1,870	1,160	700	853	1,350	1,160	1,210
7	29,900	1,120	15,900	3,450	988	1,770	775	744	764	1,350	1,180	1,240
8	13,700	1,600	4,360	1,560	885	1,060	12,300	775	4,700	1,280	658	1,100
9	1,780	1,210	1,420	1,310	712	921	1,530	895	1,210	1,250	899	1,160
10	14,200	1,150	4,490	874	818	847	927	895	909	1,290	1,250	1,270
11	17,300	1,490	6,620	868	836	855	1,140	509	804	1,300	992	1,260
12	7,490	1,250	2,510	916	705	793	857	546	678	1,260	749	1,140
13	1,470	1,170	1,250	8,440	766	2,900	975	857	927	1,270	1,240	1,250
14	1,170	1,140	1,150	2,700	899	1,410	1,050	975	1,010	1,310	1,170	1,240
15	1,150	1,120	1,140	929	849	872	1,110	1,050	1,070	1,330	1,310	1,320
16	1,140	1,110	1,120	886	733	817	1,170	1,110	1,140	1,350	1,320	1,340
17	1,240	1,090	1,120	796	579	701	1,200	812	1,170	1,370	1,340	1,350
18	5,090	1,070	2,350	653	536	602	1,200	1,170	1,190	1,380	1,350	1,360
19	7,570	1,310	4,090	663	589	642	1,200	1,160	1,190	1,400	1,360	1,380
20	7,470	1,680	4,220	3,380	661	905	1,210	1,190	1,200	1,400	1,390	1,390
21	3,620	1,350	2,180	1,500	468	596	1,220	1,200	1,210	1,410	1,090	1,320
22	6,280	555	1,650	593	531	570	1,510	289	897	1,390	1,270	1,350
23	1,180	403	789	645	593	623	1,150	1,000	1,110	1,310	642	995
24	1,150	1,020	1,080	693	645	671	1,170	1,090	1,150	1,330	422	1,130
25	1,090	1,050	1,070	713	693	704	1,200	1,170	1,180	1,170	390	713
26	1,080	1,030	1,060	1,100	593	734	1,200	143	777	1,250	69	627
27	1,050	999	1,020	753	534	690	978	556	858	760	318	616
28	1,020	947	999	763	749	758	1,050	956	1,010	827	402	717
29	---	---	---	952	256	712	1,620	1,030	1,080	923	788	863
30	---	---	---	512	178	357	1,110	1,080	1,100	979	922	945
31	---	---	---	691	431	621	---	---	---	1,020	600	946
MONTH	29,900	403	2,830	8,440	178	918	12,300	143	1,250	1,410	69	1,130

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	782	72	372	1,090	1,070	1,080	1,220	57	700	1,190	1,190	1,190
2	855	584	751	1,090	1,080	1,090	1,140	300	903	1,190	140	699
3	928	853	877	1,090	1,080	1,090	1,170	367	1,010	1,170	1,110	1,150
4	948	225	912	1,090	1,060	1,080	1,160	50	864	1,170	109	795
5	863	127	666	1,080	1,080	1,080	972	533	864	1,150	1,080	1,130
6	973	862	910	1,110	1,080	1,100	975	722	929	1,160	1,150	1,160
7	977	86	716	1,130	1,070	1,110	1,020	234	962	1,160	1,160	1,160
8	800	478	689	1,110	1,090	1,110	817	41	442	1,160	1,160	1,160
9	856	800	825	1,490	909	1,200	897	817	863	1,160	1,160	1,160
10	947	853	891	1,480	1,420	1,470	911	393	744	1,180	1,160	1,160
11	947	439	862	1,480	251	1,220	925	741	873	1,160	1,160	1,160
12	971	888	927	1,420	108	1,040	1,110	60	720	1,160	1,150	1,150
13	975	570	881	1,310	1,300	1,310	1,260	1,110	1,210	1,160	1,150	1,150
14	838	442	675	1,320	1,310	1,310	1,270	1,200	1,250	1,160	1,150	1,150
15	983	838	939	1,370	1,290	1,320	1,270	1,270	1,270	1,150	777	1,080
16	1,070	983	1,040	1,440	1,300	1,390	1,270	1,270	1,270	1,110	53	647
17	1,120	1,070	1,080	1,500	1,230	1,390	1,270	1,270	1,270	1,060	1,030	1,050
18	1,150	397	827	1,340	173	1,050	1,380	1,060	1,220	1,080	1,060	1,070
19	965	724	857	1,350	215	1,070	1,260	1,200	1,250	1,080	62	696
20	1,070	965	1,030	1,370	1,350	1,360	1,270	1,250	1,260	1,030	847	985
21	1,200	254	1,030	1,370	1,360	1,360	1,250	1,240	1,240	1,060	1,030	1,050
22	897	62	372	1,370	115	869	1,240	178	1,050	1,060	1,060	1,060
23	637	84	454	1,140	104	746	1,190	869	1,120	1,060	44	818
24	779	637	704	1,160	245	974	1,200	1,190	1,200	1,190	718	1,080
25	868	750	806	1,180	1,150	1,170	1,200	1,200	1,200	1,200	1,190	1,190
26	938	808	884	1,190	1,170	1,180	1,200	1,190	1,200	1,210	1,190	1,200
27	994	923	948	1,190	1,180	1,190	1,200	1,190	1,200	1,210	1,190	1,200
28	1,050	903	1,000	1,190	1,170	1,180	1,200	1,190	1,190	1,210	1,190	1,200
29	1,050	1,010	1,030	1,180	1,160	1,170	1,200	1,190	1,190	1,210	1,190	1,200
30	1,070	1,040	1,050	1,170	1,160	1,160	1,190	1,190	1,190	1,200	1,190	1,190
31	---	---	---	1,190	1,170	1,180	1,190	1,190	1,190	---	---	---
MONTH	1,200	62	834	1,500	104	1,160	1,380	41	1,060	1,210	44	1,070
YEAR	29,900	27	1,310									

CHARLES RIVER BASIN

01104455 STONY BROOK, UNNAMED TRIBUTARY 1, NEAR WALTHAM, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.4	14.1	14.3	12.6	11.7	12.3	11.8	10.7	11.3	9.8	3.2	7.9
2	14.5	14.3	14.4	12.6	11.6	12.0	11.8	10.7	11.3	8.0	3.5	6.7
3	14.5	14.1	14.3	12.0	11.6	11.8	11.6	9.9	10.4	8.5	4.0	7.5
4	15.1	13.9	14.2	12.3	11.5	11.9	10.9	10.1	10.5	8.3	6.8	7.6
5	14.6	14.1	14.4	12.4	11.9	12.2	11.0	9.1	10.6	8.7	8.3	8.5
6	14.2	13.6	13.9	12.3	7.4	10.2	10.5	9.1	9.9	8.8	8.4	8.6
7	14.0	13.5	13.7	11.9	11.2	11.5	11.0	10.0	10.6	8.8	8.4	8.7
8	13.7	13.2	13.5	12.5	11.2	11.9	11.5	10.8	11.1	9.3	8.3	8.8
9	13.6	12.9	13.3	13.1	12.5	12.8	11.1	9.9	10.2	9.5	7.3	8.9
10	13.7	13.4	13.5	13.8	11.6	13.0	11.1	10.0	10.6	9.5	6.3	8.7
11	15.1	13.5	13.9	14.4	12.9	13.5	11.3	3.3	10.4	8.9	8.3	8.6
12	15.8	14.3	15.1	13.7	9.8	12.7	9.1	2.4	6.5	9.1	8.6	8.8
13	15.8	14.0	14.6	12.3	10.0	11.3	10.4	7.8	9.7	9.3	8.6	8.9
14	15.4	13.0	13.8	12.8	12.1	12.5	8.0	4.3	6.3	8.9	8.3	8.6
15	13.4	12.6	13.0	13.3	12.5	13.0	8.4	6.5	7.7	8.9	8.2	8.6
16	14.1	12.2	13.3	13.1	4.6	11.9	8.6	6.9	8.1	8.9	8.4	8.6
17	14.1	13.4	13.7	10.3	4.2	7.2	8.7	8.2	8.4	9.0	8.4	8.8
18	13.8	13.1	13.5	11.4	4.8	9.7	9.2	8.2	8.6	8.5	7.8	8.1
19	13.6	12.9	13.2	12.2	11.3	11.8	9.6	8.5	9.1	9.0	7.8	8.4
20	13.6	13.1	13.4	12.8	11.9	12.3	13.1	8.3	10.0	9.1	8.2	8.7
21	13.2	12.7	12.9	12.6	12.0	12.3	9.0	7.6	8.6	8.4	8.0	8.2
22	13.0	12.3	12.7	12.6	6.9	10.4	9.6	8.8	9.1	8.2	7.9	8.0
23	12.8	6.2	10.7	12.1	11.6	11.8	9.6	9.2	9.4	8.5	7.8	8.2
24	12.6	11.9	12.3	12.3	11.6	11.9	9.6	9.2	9.4	8.7	8.2	8.5
25	12.9	12.0	12.5	12.6	11.1	12.2	9.6	4.2	8.1	9.3	8.3	8.8
26	12.6	8.8	11.0	12.5	11.1	12.1	8.7	6.9	8.1	9.6	8.7	9.2
27	13.0	11.9	12.6	12.2	6.5	9.7	9.3	8.6	8.9	9.4	8.1	8.7
28	12.9	12.3	12.7	11.1	10.6	10.8	9.6	8.8	9.1	8.6	7.7	8.1
29	12.5	12.0	12.3	11.6	10.9	11.3	9.8	9.2	9.5	9.3	8.3	8.9
30	12.5	12.2	12.4	12.2	11.5	11.8	9.7	9.1	9.4	9.4	8.4	8.9
31	12.5	11.8	12.2	---	---	---	9.9	9.5	9.7	9.8	9.1	9.5
MONTH	15.8	6.2	13.3	14.4	4.2	11.7	13.1	2.4	9.4	9.8	3.2	8.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.7	7.3	9.4	7.7	6.6	7.2	8.7	6.8	7.6	11.4	10.5	11.0
2	8.0	2.6	5.5	7.6	2.3	5.2	9.3	7.6	8.2	13.2	11.1	11.9
3	8.0	5.6	7.1	5.6	4.2	4.8	8.4	8.0	8.2	12.3	10.8	11.4
4	8.7	3.8	7.0	6.8	5.0	5.8	8.0	4.0	6.6	12.0	10.3	11.0
5	7.7	6.5	7.4	7.0	5.2	6.2	7.2	4.1	6.1	12.4	10.3	11.0
6	8.2	7.4	7.8	6.5	5.4	6.0	8.7	6.7	7.5	11.2	10.7	10.9
7	8.3	6.1	7.5	6.7	5.4	6.1	8.0	7.1	7.6	12.4	11.0	11.5
8	7.9	7.3	7.7	7.7	6.5	6.9	7.6	4.4	6.8	11.7	11.0	11.3
9	8.6	7.4	8.0	6.9	5.4	6.4	7.8	6.5	7.4	12.1	10.9	11.4
10	9.0	7.1	8.1	6.5	5.4	5.8	9.8	7.2	8.2	12.0	10.8	11.2
11	8.1	7.7	7.9	7.1	5.7	6.4	8.5	5.0	7.2	12.3	10.9	11.3
12	8.4	7.7	8.0	7.6	6.6	6.9	8.9	5.7	7.3	11.5	10.9	11.1
13	8.0	7.3	7.6	7.2	4.8	6.4	9.8	7.6	8.4	11.6	10.9	11.2
14	7.9	6.8	7.4	7.2	5.3	6.4	10.2	7.7	8.8	11.6	11.2	11.4
15	8.0	7.3	7.6	7.7	6.6	7.1	11.4	8.7	9.8	11.5	10.8	11.2
16	7.9	7.0	7.5	8.4	6.7	7.3	11.8	9.7	10.5	11.1	10.8	11.0
17	8.0	7.0	7.6	8.5	5.8	6.9	10.3	8.6	9.3	11.4	10.7	11.0
18	8.3	7.1	8.0	7.5	5.5	6.2	10.2	8.5	9.2	11.5	10.3	10.9
19	8.7	6.0	7.7	7.6	5.4	6.2	10.9	8.8	9.7	11.7	10.7	11.2
20	8.3	5.8	7.4	7.2	5.7	6.4	11.0	9.0	9.8	11.7	11.0	11.3
21	8.1	6.5	7.4	7.8	5.2	6.4	11.4	9.2	10.1	12.6	11.1	11.5
22	8.1	1.5	5.4	8.0	6.3	7.0	11.0	10.0	10.3	11.5	11.2	11.3
23	4.6	1.9	3.5	8.6	6.6	7.4	10.5	9.6	10	11.8	11.1	11.5
24	5.7	4.3	5.1	9.4	6.9	7.9	10.0	9.0	9.6	11.6	11.0	11.2
25	6.4	5.4	5.8	9.6	7.5	8.3	11.2	8.8	9.8	11.4	10.9	11.2
26	6.5	5.1	5.7	10.4	8.0	9.0	10.3	9.8	10	13.7	10.5	11.8
27	7.1	5.5	6.2	10.3	8.4	9.2	11.9	9.4	10.4	12.7	11.3	11.8
28	7.3	6.2	6.8	10.5	8.3	9.2	12.5	9.8	10.9	16.6	11.8	12.9
29	---	---	---	13.9	9.1	10.3	12.5	10.4	11.2	13.0	12.1	12.5
30	---	---	---	12.0	6.3	8.9	12.1	10.3	11.0	13.0	12.1	12.5
31	---	---	---	8.1	6.8	7.3	---	---	---	14.4	12.1	12.5
MONTH	9.7	1.5	7.1	13.9	2.3	7.0	12.5	4.0	8.9	16.6	10.3	11.4

CHARLES RIVER BASIN

01104455 STONY BROOK, UNNAMED TRIBUTARY 1, NEAR WALTHAM, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.2	13.0	14.2	13.4	13.0	13.2	20.9	13.1	16.5	13.4	13.3	13.4
2	13.9	12.2	12.9	13.4	12.9	13.1	18.4	13.9	15.1	17.7	13.4	15.4
3	13.2	12.1	12.6	13.5	13.0	13.2	22.0	13.7	15.2	13.9	13.5	13.6
4	14.9	12.4	12.7	13.5	13.0	13.2	26.7	14.0	16.9	19.0	13.4	15.5
5	14.7	12.8	13.3	13.7	13.1	13.3	18.9	14.4	15.5	14.2	13.7	13.8
6	13.8	12.6	13.1	13.6	13.2	13.4	22.8	14.2	15.0	13.7	13.4	13.5
7	19.4	12.7	14.4	13.7	13.1	13.3	23.3	13.9	14.2	13.5	13.3	13.4
8	14.7	13.2	13.7	13.6	13.2	13.4	24.2	15.6	19.4	13.5	13.3	13.4
9	13.5	13.0	13.1	18.1	13.1	14.0	15.6	14.6	14.9	13.4	13.0	13.3
10	13.9	12.8	13.2	13.6	13.1	13.2	24.4	14.4	15.9	13.3	12.8	13.1
11	19.2	12.8	13.9	20.6	13.1	14.5	14.9	14.3	14.5	13.3	13.2	13.2
12	13.7	13.1	13.4	18.3	13.4	14.4	25.0	14.2	18.2	13.3	13.2	13.2
13	14.2	13.0	13.4	13.6	13.2	13.4	16.0	14.6	15.0	13.3	13.2	13.3
14	14.3	13.1	13.6	13.4	13.1	13.2	14.6	14.3	14.4	13.4	13.2	13.3
15	13.6	12.8	13.1	13.6	13.0	13.3	14.3	14.1	14.2	21.4	13.3	14.4
16	13.0	12.4	12.7	13.4	13.1	13.2	14.2	14.0	14.1	21.7	14.0	17.2
17	13.7	12.2	12.6	14.0	13.1	13.4	14.1	13.9	13.9	14.4	13.7	13.9
18	17.6	12.4	13.9	23.1	13.2	15.1	16.2	13.7	14.3	13.7	13.5	13.6
19	13.5	12.9	13.2	20.6	13.5	14.9	14.1	13.8	13.9	21.2	13.5	16.2
20	13.1	12.6	12.8	13.5	13.2	13.3	14.0	13.7	13.8	15.2	13.9	14.2
21	17.1	12.4	13.2	13.5	13.2	13.3	14.1	13.8	13.9	13.9	13.7	13.8
22	17.9	13.3	15.3	26.7	13.2	17.2	27.1	13.9	15.7	13.7	13.6	13.6
23	16.2	14.8	15.3	23.7	14.6	17.6	16.8	13.9	14.6	22.5	13.6	15.8
24	15.1	14.4	14.7	21.8	14.2	15.7	13.9	13.5	13.6	17.1	14.2	14.9
25	15.0	14.2	14.5	14.4	13.8	14.0	13.7	13.5	13.6	14.2	14.0	14.1
26	14.8	14.2	14.4	13.8	13.5	13.6	13.8	13.6	13.7	14.1	13.9	14.0
27	14.4	14.0	14.1	13.6	13.4	13.5	13.8	13.6	13.8	13.9	13.8	13.9
28	14.3	13.4	13.8	13.6	13.4	13.4	13.8	13.5	13.6	14.0	13.9	13.9
29	13.6	13.2	13.4	13.4	13.2	13.3	13.8	13.3	13.5	14.0	13.6	13.8
30	13.6	13.2	13.3	13.4	13.2	13.2	13.7	13.6	13.6	13.7	13.4	13.5
31	---	---	---	13.4	13.1	13.2	13.6	13.3	13.4	---	---	---
MONTH	19.4	12.1	13.6	26.7	12.9	13.9	27.1	13.1	14.8	22.5	12.8	14.1
YEAR	27.1	1.5	11.2									

CHARLES RIVER BASIN

01104455 STONY BROOK, UNNAMED TRIBUTARY 1, NEAR WALTHAM, MA--Continued

PERIOD OF RECORD.--October 1997–September 1998; June 2002 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

BEGIN DATE (MONTH/ DAY)	BEGIN TIME (HRMN)	END DATE (MONTH/ DAY)	END TIME (HRMN)	TURBIDITY FIELD WATER UNFILTERED (61028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	SEDIMENT, SUSPENDED SIEVE DIAMETER% FINER THAN 0.062 MM (70331)	SEDIMENT, SUSPENDED (MG/L) (80154)
6-12	1506	6-15	0025	2.7	1,200	80	4
6-15	0440	6-15	1631	17	359	83	35
6-15	2056	6-16	1238	1.4	1,137	75	1
6-16	1809	6-16	1903	28	217	75	78
6-16	2006	6-17	0919	1.3	1,026	78	1
6-17	1534	6-17	2330	8.9	772	82	16
6-18	0338	6-27	1209	3.6	1,338	84	9
6-27	1810	6-28	0132	81	172	53	386
6-28	0708	7-07	0227	0.9	1,433	73	1
7-07	1254	7-09	1952	8.3	1,131	77	24
7-09	2139	7-10	0042	15	248	81	28
7-10	0732	7-15	1212	.9	1,405	80	1
7-15	1927	7-16	1411	14	788	82	50
7-17	0226	7-18	0822	1.9	1,439	67	1
7-18	0822	7-19	0214	12	860	72	51
7-19	0454	7-22	2059	1.1	1,310	89	2
7-23	0932	7-24	2237	17	616	59	119
7-25	1009	8-01	1818	.8	1,359	50	1
8-02	0645	8-03	0024	8.3	919	83	30
8-03	1326	8-13	2239	.7	1,335	50	1
8-07	1445	8-07	1445	.4	1,346	56	1
8-14	1219	8-15	2036	1.5	511	81	3
8-16	0559	8-20	0044	1.2	1,152	58	1
8-20	0728	8-21	0600	18	770	90	28
8-21	2001	8-24	1609	4.8	927	90	12
8-24	2117	8-28	0830	1.2	1,050	80	2
8-28	2239	8-30	0036	13	177	77	41
8-29	1505	8-29	1505	21	163	93	45
8-29	1530	8-29	1530	21	61	81	93
8-30	0928	9-01	0044	.6	1,139	63	1
9-01	1233	9-03	2000	2.2	665	85	3

CHARLES RIVER BASIN

01104455 STONY BROOK, UNNAMED TRIBUTARY 1, NEAR WALTHAM, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	INSTAN-TANEOUS DIS-CHARGE, (CFS) (00061)	DRAINAGE AREA, (MI^2) (81024)	TUR-BIDITY, NTU (00076)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	PH, WATER, UNFLTRD LAB, STD UNITS (00403)	SPECIF. CONDUC-TANCE, WAT UNF LAB, US/CM 25 DEG C (90095)	SPECIF. CONDUC-TANCE, WAT UNF US/CM 25 DEG C (00095)	CALCIUM, WATER, FLTRD, MG/L (00915)	MAGNES-SIUM, WATER, FLTRD, MG/L (00925)	POTAS-SIUM, WATER, FLTRD, MG/L (00935)
MAR 2003										
05	2.4	0.48	120	6.7	7.0	1,450	1,480	29.2	3.91	2.49

DATE	SODIUM, WATER, FLTRD, MG/L (00930)	ALKALINITY, WAT FLT FXD END LAB, MG/L AS CACO3 (29801)	CHLOR-IDE, WATER, FLTRD, MG/L (00940)	SULFATE WATER, FLTRD, MG/L (00945)	AMMONIA + ORG-N, WATER, UNFLTRD AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	PHOS-PHORUS, WATER, UNFLTRD MG/L (00665)	CADMIUM WATER, UNFLTRD UG/L (01027)	CHROMIUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01034)
MAR 2003										
05	238	30	418	18.0	1.1	0.53	0.78	0.13	0.6	10.2

DATE	COPPER, WATER, UNFLTRD RECOVER -ABLE, UG/L (01042)	IRON, WATER, UNFLTRD RECOVER -ABLE, UG/L (01045)	LEAD, WATER, UNFLTRD RECOVER -ABLE, UG/L (01051)	NICKEL, WATER, UNFLTRD RECOVER -ABLE, UG/L (01067)	ZINC, WATER, UNFLTRD RECOVER -ABLE, UG/L (01092)	9H-FLUOR-ENE, WATER, UNFLTRD UG/L (34381)	ACE-NAPHTH-ENE, WATER, UNFLTRD UG/L (34205)	ACE-NAPHTH-YLENE, WATER, UNFLTRD UG/L (34200)	ANTHRA-CENE, WATER, UNFLTRD UG/L (34220)	BENZO-[A]-ANTHRA-CENE, WATER, UNFLTRD UG/L (34526)
MAR 2003										
05	32.8	<20	21	6.6	166	E0.3	E0.2	<2	E0.2	E1

DATE	BENZO-[A]-PYRENE, WATER, UNFLTRD UG/L (34247)	BENZO-[B]-FLUOR-ANTHENE WATER UNFLTRD UG/L (34230)	BENZO-[G,H,I]-PER-YLENE, WATER, UNFLTRD UG/L (34521)	BENZO-[K]-FLUOR-ANTHENE WATER UNFLTRD UG/L (34242)	CHRYS-ENE, WATER, UNFLTRD UG/L (34320)	DI-BENZO-[A,H]-ANTHRA-CENE, WAT UNF UG/L (34556)	FLUOR-ANTHENE WATER UNFLTRD UG/L (34376)	INDENO-[1,2,-3-CD]-PYRENE, WATER, UNFLTRD UG/L (34403)	NITRO-BENZENE WATER UNFLTRD UG/L (34447)
MAR 2003									
05	E2	E3	E1	E1	E2	E0.5	5	E1	<2

DATE	PETROL-EUM HYDRO-CARBONS WAT UNF FRN EXT MG/L (45501)	PHENAN-THRENE, WATER, UNFLTRD UG/L (34461)	PHEN-OLIC COM-POUNDS, WATER, UNFLTRD UG/L (32730)	PYRENE, WATER, UNFLTRD UG/L (34469)	NAPHTH-ALENE, WATER, UNFLTRD UG/L (34696)	SUSPND. SEDIMENT, SIEVE DIAMETR PERCENT <.063 MM (70331)	SUS-PENDED SEDIMENT CONCEN-TRATION MG/L (80154)
MAR 2003							
05	3	3	<16	4	M	98	73

E Estimated

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA

LOCATION.--Lat 42°22'08", Long 71°16'16", Middlesex County, Hydrologic Unit 01090001, 200 ft downstream of State Highway 20, 1,000 ft upstream from Stony Brook Reservoir, and 1.8 mi west of Waltham.

DRAINAGE AREA.--22.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1997 to September 1998, May 2002 to current year.
Water-quality records: Water years 1998; April 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 90 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Flow affected by regulation of dam 2.6 mi upstream on Hobbs Brook at Outflow of Cambridge Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 428 ft^3/s, June 14, 1998, gage height, 8.98 ft; minimum, 3.4 ft^3/s, Sept. 11, 2002; minimum daily, 3.8 ft^3/s, Sept. 10, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 162 ft^3/s, Mar. 30, gage height, 7.07 ft; minimum, 7.7 ft^3/s, Oct. 16; minimum daily, 12 ft^3/s, Dec. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	35	14	31	5.3
2	---	---	---	---	---	---	---	---	27	13	32	6.4
3	---	---	---	---	---	---	---	---	23	12	30	8.4
4	---	---	---	---	---	---	---	---	20	11	29	6.2
5	---	---	---	---	---	---	---	---	19	11	29	5.3
6	---	---	---	---	---	---	---	---	46	10	28	4.9
7	---	---	---	---	---	---	---	---	70	9.6	28	4.7
8	---	---	---	---	---	---	---	---	61	9.5	28	4.6
9	---	---	---	---	---	---	---	---	44	13	28	4.2
10	---	---	---	---	---	---	---	---	33	36	28	3.8
11	---	---	---	---	---	---	---	---	26	47	28	3.8
12	---	---	---	---	---	---	---	---	24	46	28	4.0
13	---	---	---	---	---	---	---	---	23	45	27	19
14	---	---	---	---	---	---	---	---	21	43	27	21
15	---	---	---	---	---	---	---	---	31	42	27	21
16	---	---	---	---	---	---	---	---	35	39	28	34
17	---	---	---	---	---	---	---	---	38	36	28	49
18	---	---	---	---	---	---	---	---	33	36	28	50
19	---	---	---	---	---	---	---	---	28	41	27	50
20	---	---	---	---	---	---	---	---	23	38	28	49
21	---	---	---	---	---	---	---	---	20	37	27	49
22	---	---	---	---	---	---	---	---	18	36	27	49
23	---	---	---	---	---	---	---	---	17	40	28	46
24	---	---	---	---	---	---	---	---	16	40	28	16
25	---	---	---	---	---	---	---	---	14	34	28	23
26	---	---	---	---	---	---	---	---	12	33	26	39
27	---	---	---	---	---	---	---	---	19	33	21	38
28	---	---	---	---	---	---	---	e35	22	32	5.6	39
29	---	---	---	---	---	---	---	38	14	33	10	37
30	---	---	---	---	---	---	---	46	14	32	11	36
31	---	---	---	---	---	---	---	38	---	31	6.2	---
TOTAL	---	---	---	---	---	---	---	---	826	933.1	784.8	726.6
MEAN	---	---	---	---	---	---	---	---	27.5	30.1	25.3	24.2
MAX	---	---	---	---	---	---	---	---	70	47	32	50
MIN	---	---	---	---	---	---	---	---	12	9.5	5.6	3.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2002, BY WATER YEAR (WY)

MEAN	27.5	28.1	19.1	46.9	56.2	59.1	49.5	76.1	68.1	39.4	31.2	25.2
MAX	27.6	34.5	22.4	51.4	65.0	74.2	49.5	76.1	109	48.7	37.0	26.3
(WY)	1999	1999	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	27.5	21.6	15.7	42.3	47.4	44.0	49.5	76.1	27.5	30.1	25.3	24.2
(WY)	1998	1998	1999	1999	1999	1999	1998	1998	2002	2002	2002	2002

SUMMARY STATISTICS	WATER YEARS 1998 - 2002		
ANNUAL MEAN	50.6		
HIGHEST ANNUAL MEAN	50.6		1998
LOWEST ANNUAL MEAN	50.6		1998
HIGHEST DAILY MEAN	396	Jun 15	1998
LOWEST DAILY MEAN	3.8	Sep 10	2002
ANNUAL SEVEN-DAY MINIMUM	4.3	Sep 6	2002
MAXIMUM PEAK FLOW	428	Jun 14	1998
MAXIMUM PEAK STAGE	8.98	Jun 14	1998
INSTANTANEOUS LOW FLOW	3.4	Sep 11	2002
10 PERCENT EXCEEDS	92		
50 PERCENT EXCEEDS	37		
90 PERCENT EXCEEDS	20		

e Estimated

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	22	19	49	16	29	116	54	87	25	34	25
2	35	22	16	70	20	44	100	51	119	22	33	24
3	35	21	16	61	21	56	95	47	98	20	30	21
4	34	21	14	56	24	48	96	42	77	18	32	19
5	34	21	13	52	26	45	94	40	76	20	32	19
6	34	33	13	48	23	44	91	38	68	36	26	18
7	36	30	13	44	22	39	83	36	67	34	21	18
8	41	27	13	40	21	37	79	38	83	26	53	22
9	41	24	12	39	19	42	77	37	74	26	39	27
10	41	24	12	37	19	43	75	35	62	33	29	26
11	40	23	12	34	18	38	83	32	55	28	23	25
12	38	28	32	31	18	37	130	33	54	31	40	22
13	37	e49	30	29	17	39	123	33	48	19	58	22
14	36	e24	80	27	16	37	103	32	49	17	56	22
15	31	e20	144	24	15	35	95	28	43	17	34	18
16	15	e21	111	23	14	36	85	20	37	16	25	15
17	18	e55	82	22	14	46	77	19	32	18	20	12
18	25	e63	61	21	16	61	70	18	31	22	19	25
19	24	e45	51	19	16	69	65	17	31	31	20	30
20	23	36	72	19	16	65	62	15	28	25	23	29
21	22	29	122	18	17	90	58	14	25	23	24	27
22	21	38	101	17	25	112	61	14	53	27	33	26
23	23	34	85	15	57	106	68	16	113	36	33	38
24	22	27	79	15	53	98	64	16	97	33	31	42
25	20	23	76	15	47	90	59	19	76	29	31	32
26	39	e22	79	15	43	84	63	38	60	24	34	28
27	37	22	71	15	37	83	88	86	48	22	28	24
28	27	21	62	15	32	76	79	77	39	21	20	24
29	25	19	56	15	---	80	68	62	33	20	24	23
30	23	20	50	15	---	139	60	51	29	21	28	22
31	23	---	48	15	---	146	---	56	---	24	28	---
TOTAL	935	864	1645	915	682	1994	2467	1114	1792	764	961	725
MEAN	30.2	28.8	53.1	29.5	24.4	64.3	82.2	35.9	59.7	24.6	31.0	24.2
MAX	41	63	144	70	57	146	130	86	119	36	58	42
MIN	15	19	12	15	14	29	58	14	25	16	19	12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	28.4	28.3	30.4	41.1	45.6	60.8	65.9	56.0	65.3	34.5	31.1	24.9
MAX	30.2	34.5	53.1	51.4	65.0	74.2	82.2	76.1	109	48.7	37.0	26.3
(WY)	2003	1999	2003	1998	1998	1998	2003	1998	1998	1998	1998	1998
MIN	27.5	21.6	15.7	29.5	24.4	44.0	49.5	35.9	27.5	24.6	25.3	24.2
(WY)	1998	1998	1999	2003	2003	1999	1998	2003	2002	2003	2002	2003

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL TOTAL	14858			
ANNUAL MEAN	40.7		45.6	
HIGHEST ANNUAL MEAN			50.6	1998
LOWEST ANNUAL MEAN			40.7	2003
HIGHEST DAILY MEAN	146	Mar 31	396	Jun 15 1998
LOWEST DAILY MEAN	12	Dec 9	3.8	Sep 10 2002
ANNUAL SEVEN-DAY MINIMUM	13	Dec 5	4.3	Sep 6 2002
MAXIMUM PEAK FLOW	162	Mar 30	428	Jun 14 1998
MAXIMUM PEAK STAGE	7.07	Mar 30	8.98	Jun 14 1998
INSTANTANEOUS LOW FLOW	7.7	Oct 16	3.4	Sep 11 2002
10 PERCENT EXCEEDS	81		85	
50 PERCENT EXCEEDS	32		35	
90 PERCENT EXCEEDS	17		18	

e Estimated

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water year 1998, October 2000 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 2002 to current year.
WATER TEMPERATURE: August 2002 to current year.
pH: August 2002 to current year.
TURBIDITY: October 2002 to current year.

INSTRUMENTATION.--Specific conductance, water temperature, pH, and turbidity water-quality monitor.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 2,470 µS/cm, Dec. 6, 2002; minimum, 225 µS/cm, Dec. 15, 2002.
WATER TEMPERATURE: Maximum recorded, 25.0°C, June 27, 2003; minimum, -0.1°C, Feb. 14–18, 2003.
pH: Maximum recorded, 7.0, Oct. 8, 2002; minimum, 6.3, Dec. 15, 16, 20–25, 2002.
TURBIDITY: Maximum recorded, 300 NTU, Dec. 11, 2002; minimum, 0.5 NTU, Apr. 15, 16, 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 2,470 mS/cm, Dec. 6, 2002; minimum, 225 mS/cm, Dec. 15, 2002.
WATER TEMPERATURE: Maximum recorded, 25.0°C, June 27, 2003; minimum, -0.1°C, Feb. 14-18, 2003.
pH: Maximum recorded, 7.0, Oct. 8, 2002; minimum, 6.3, Dec. 15, 16, 20–25, 2002.
TURBIDITY: Maximum recorded, 300 NTU, Dec. 11, 2002; minimum, 0.5 NTU, Apr. 15, 16, 2003.

SPECIFIC CONDUCTANCE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	666	651	659
2	---	---	---	---	---	---	---	---	---	713	562	644
3	---	---	---	---	---	---	---	---	---	663	492	619
4	---	---	---	---	---	---	---	---	---	670	658	662
5	---	---	---	---	---	---	---	---	---	681	665	673
6	---	---	---	---	---	---	---	---	---	689	676	681
7	---	---	---	---	---	---	---	---	---	699	685	692
8	---	---	---	---	---	---	---	---	---	709	696	703
9	---	---	---	---	---	---	---	---	---	716	704	711
10	---	---	---	---	---	---	---	---	---	717	539	681
11	---	---	---	---	---	---	---	---	---	743	454	664
12	---	---	---	---	---	---	---	---	---	759	399	674
13	---	---	---	---	---	---	---	---	---	839	744	820
14	---	---	---	---	---	---	834	804	823	839	836	837
15	---	---	---	---	---	---	826	797	815	844	791	833
16	---	---	---	---	---	---	830	826	828	825	551	789
17	---	---	---	---	---	---	831	829	831	813	797	803
18	---	---	---	---	---	---	832	827	830	823	813	819
19	---	---	---	---	---	---	827	823	826	824	822	823
20	---	---	---	---	---	---	834	765	813	834	823	826
21	---	---	---	---	---	---	820	815	818	836	833	835
22	---	---	---	---	---	---	837	735	826	836	834	835
23	---	---	---	---	---	---	832	762	823	835	489	723
24	---	---	---	---	---	---	836	812	832	719	701	706
25	---	---	---	---	---	---	831	812	826	806	657	748
26	---	---	---	---	---	---	835	830	833	821	806	817
27	---	---	---	---	---	---	837	823	834	810	734	789
28	---	---	---	---	---	---	823	771	794	802	730	782
29	---	---	---	---	---	---	814	314	633	812	793	805
30	---	---	---	---	---	---	687	570	667	820	812	818
31	---	---	---	---	---	---	667	650	654	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	844	399	749

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

SPECIFIC CONDUCTANCE, in US/CM @ 25C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	822	819	821	748	735	740	352	325	343	541	361	380
2	828	822	824	751	734	742	358	349	355	1,510	373	553
3	827	824	825	759	750	755	1,330	356	549	1,480	357	535
4	832	824	826	764	758	762	404	366	376	778	398	488
5	828	825	826	774	761	768	1,800	369	651	454	391	416
6	832	827	830	784	585	667	2,470	437	1,370	565	392	439
7	835	831	834	639	608	631	437	381	403	447	394	409
8	838	835	836	669	603	633	385	372	378	716	393	474
9	840	837	838	701	669	688	386	369	375	1,380	404	607
10	840	837	839	738	615	696	390	383	386	763	416	449
11	840	830	837	711	699	705	2,400	384	438	429	419	424
12	832	783	822	716	418	665	1,570	377	464	422	417	420
13	825	806	821	517	481	502	482	347	363	427	420	423
14	828	809	821	509	373	444	777	258	349	437	411	427
15	832	815	829	463	406	437	277	225	237	447	418	441
16	816	353	642	644	358	464	361	230	266	453	441	448
17	657	595	629	359	268	317	274	258	264	579	446	469
18	726	657	699	290	282	287	297	273	286	474	439	457
19	765	726	750	296	271	296	309	297	304	474	464	471
20	791	765	781	319	296	307	541	268	326	473	467	470
21	803	791	798	339	319	330	304	243	259	484	470	479
22	810	803	807	383	239	306	274	246	257	501	484	492
23	818	746	795	330	314	322	306	273	287	510	500	507
24	803	796	800	348	325	337	329	305	317	513	492	506
25	804	801	802	373	339	350	885	329	389	508	492	501
26	808	415	656	296	271	289	647	336	403	502	487	496
27	588	574	578	1,910	359	800	344	334	337	658	487	542
28	645	588	619	391	371	376	353	344	350	513	490	499
29	690	645	669	410	371	377	358	353	355	515	481	491
30	719	690	707	383	332	366	365	355	361	503	478	486
31	735	719	727	---	---	---	479	360	383	478	466	471
MONTH	840	353	771	1,910	239	512	2,470	225	393	1,510	357	473

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	664	462	487	414	392	405	375	342	357	543	526	535
2	2,430	551	1,140	1,150	336	465	411	367	379	542	534	538
3	745	513	578	520	400	445	400	387	393	547	536	543
4	1,250	509	567	416	340	380	837	382	466	552	541	546
5	608	510	565	470	368	399	1,120	408	601	554	539	545
6	518	460	479	873	395	460	449	428	439	556	547	552
7	1,640	462	724	538	399	444	455	443	448	553	547	550
8	648	469	530	505	407	431	1,580	454	658	584	546	552
9	483	455	471	476	430	448	537	471	482	570	542	549
10	1,150	460	601	467	420	441	493	478	487	560	543	554
11	1,160	476	582	445	420	434	632	441	488	590	555	563
12	622	457	494	448	428	435	491	449	461	612	562	569
13	500	459	476	1,180	430	583	478	454	465	563	551	556
14	494	467	480	523	436	463	499	478	489	562	551	556
15	492	470	480	450	438	442	507	492	497	571	518	557
16	500	481	489	447	435	443	525	506	513	518	485	493
17	510	487	492	454	415	438	528	525	527	497	490	492
18	609	487	530	432	376	404	532	527	529	503	496	499
19	1,040	480	642	377	349	359	533	527	530	500	477	485
20	1,300	505	730	706	349	371	536	529	533	489	477	482
21	846	512	604	474	346	388	543	534	538	537	484	490
22	1,250	517	644	346	299	312	584	507	538	500	489	494
23	706	601	654	300	296	298	526	514	521	549	482	492
24	622	464	538	301	297	298	519	509	512	521	471	484
25	464	418	436	307	299	304	515	508	512	494	460	470
26	460	365	411	375	303	310	525	436	498	530	274	394
27	419	383	401	324	302	310	484	462	473	389	351	369
28	404	396	400	387	308	327	491	463	476	452	389	419
29	---	---	---	514	372	428	511	491	502	499	452	478
30	---	---	---	430	342	385	526	509	518	528	499	514
31	---	---	---	348	335	340	---	---	---	612	528	573
MONTH	2,430	365	558	1,180	296	400	1,580	342	494	612	274	513

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

SPECIFIC CONDUCTANCE, in US/CM @ 25C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	608	443	523	568	554	564	773	392	684	764	751	760
2	479	444	456	571	562	566	683	649	656	773	666	714
3	523	469	498	576	565	569	707	657	670	727	709	723
4	551	503	533	582	573	576	681	382	635	733	548	683
5	528	481	524	714	581	602	554	437	511	686	681	682
6	532	525	528	736	714	729	474	427	445	696	686	691
7	558	426	517	751	732	739	519	464	491	716	696	701
8	498	478	488	735	723	728	557	283	382	752	716	728
9	505	479	492	767	720	732	374	354	366	760	751	755
10	525	504	513	756	734	752	452	370	408	763	759	762
11	546	508	522	792	655	724	497	429	458	764	758	762
12	514	501	506	720	536	652	528	287	458	763	758	760
13	530	507	514	641	616	625	453	401	432	763	758	761
14	520	508	514	663	641	651	465	431	443	761	758	760
15	520	513	518	695	660	670	496	465	482	767	712	751
16	533	520	528	680	674	677	527	496	513	722	265	587
17	545	531	536	727	676	691	562	527	545	638	575	591
18	573	518	536	755	612	718	579	561	570	716	638	701
19	534	522	525	762	585	630	650	568	590	721	504	684
20	532	523	528	677	609	649	676	650	665	674	660	666
21	572	461	536	700	676	690	725	675	687	696	673	685
22	513	317	453	747	465	682	730	625	722	708	695	701
23	391	337	375	660	426	607	733	719	723	714	303	646
24	452	380	417	632	575	599	742	733	736	572	517	544
25	501	452	477	662	612	638	743	738	741	626	572	602
26	537	501	519	695	661	675	743	643	695	654	626	645
27	559	537	550	715	695	703	738	723	732	680	648	658
28	571	557	562	730	714	718	752	726	735	690	680	686
29	565	559	563	743	730	735	761	747	755	700	688	692
30	568	560	563	765	743	749	761	755	757	715	700	708
31	---	---	---	769	764	766	764	759	761	---	---	---
MONTH	608	317	510	792	426	671	773	283	595	773	265	693
YEAR	2470	225	548									

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	17.7	15.8	16.8
2	---	---	---	---	---	---	---	---	---	18.0	17.0	17.5
3	---	---	---	---	---	---	---	---	---	19.0	18.0	18.5
4	---	---	---	---	---	---	---	---	---	21.0	18.9	19.5
5	---	---	---	---	---	---	---	---	---	20.0	18.4	19.2
6	---	---	---	---	---	---	---	---	---	18.7	16.3	17.7
7	---	---	---	---	---	---	---	---	---	19.2	16.5	17.9
8	---	---	---	---	---	---	---	---	---	20.6	17.8	19.2
9	---	---	---	---	---	---	---	---	---	22.0	19.2	20.6
10	---	---	---	---	---	---	---	---	---	23.0	20.6	21.7
11	---	---	---	---	---	---	---	---	---	22.2	18.8	21.4
12	---	---	---	---	---	---	---	---	---	18.9	16.4	17.5
13	---	---	---	---	---	---	---	---	---	20.1	16.4	18.4
14	---	---	---	---	---	---	26.4	25.7	26.1	21.4	19.0	20.2
15	---	---	---	---	---	---	26.1	24.4	25.4	21.7	20.9	21.3
16	---	---	---	---	---	---	26.5	24.9	25.6	21.9	20.7	21.4
17	---	---	---	---	---	---	26.7	24.9	25.8	21.8	20.3	21.0
18	---	---	---	---	---	---	26.5	24.5	25.6	21.7	19.7	20.8
19	---	---	---	---	---	---	26.4	24.9	25.7	22.0	20.0	21.0
20	---	---	---	---	---	---	25.4	23.4	24.3	21.9	20.2	21.1
21	---	---	---	---	---	---	24.9	22.7	23.8	22.4	20.7	21.6
22	---	---	---	---	---	---	24.7	22.8	23.9	22.9	21.3	22.1
23	---	---	---	---	---	---	24.0	22.7	23.5	22.6	21.2	22.0
24	---	---	---	---	---	---	22.7	21.3	21.8	21.2	19.2	20.1
25	---	---	---	---	---	---	23.6	21.1	22.2	20.2	17.7	19.0
26	---	---	---	---	---	---	23.9	21.5	22.8	19.9	19.2	19.6
27	---	---	---	---	---	---	23.8	22.1	22.9	19.5	18.7	19.0
28	---	---	---	---	---	---	22.1	19.8	20.5	20.1	19.0	19.6
29	---	---	---	---	---	---	20.0	17.6	19.0	19.1	17.4	18.4
30	---	---	---	---	---	---	19.1	18.0	18.5	18.8	17.3	18.1
31	---	---	---	---	---	---	19.0	17.7	18.3	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	23.0	15.8	19.7

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.8	17.9	18.9	8.2	6.8	7.4	3.2	1.4	2.5	3.0	2.2	2.6
2	20.7	19.0	19.9	7.1	5.4	6.2	2.5	1.1	1.8	2.5	1.0	1.5
3	20.5	18.5	19.7	6.2	5.1	5.5	2.5	.3	1.2	1.3	.6	1
4	18.5	17.6	17.8	6.5	4.8	5.7	.7	.2	.4	1.1	.4	.7
5	19.9	17.9	19.0	7.1	5.5	6.3	.8	.4	.6	1.4	.9	1.2
6	18.9	17.0	17.8	7.3	6.6	7.0	1.3	.6	.9	1.3	.9	1.1
7	18.0	16.2	17.1	7.1	4.9	6.3	.8	.2	.5	1.4	.7	1.1
8	17.3	15.8	16.4	6.4	4.5	5.5	2.0	.7	1.3	1.5	.4	1
9	16.0	14.7	15.5	7.7	6.0	6.8	1.6	.2	.5	2.2	1.2	1.7
10	16.5	15.4	15.9	10.3	7.5	8.6	.8	.2	.5	2.3	.7	1.6
11	16.0	15.6	15.8	11.6	9.9	10.9	3.4	.3	.9	1.0	.3	.6
12	15.9	15.4	15.7	11.1	10.0	10.6	2.8	1.2	1.8	1.4	.5	.8
13	15.5	15.2	15.4	10.1	9.6	9.7	2.5	.9	1.7	1.1	.3	.7
14	15.4	13.4	14.5	9.6	7.8	8.8	3.7	2.4	3.1	.7	.2	.4
15	13.4	11.9	12.8	9.0	7.5	8.6	2.6	1.7	2.1	.7	.2	.4
16	12.7	11.9	12.3	8.9	5.9	7.3	2.0	1.5	1.8	.8	.2	.4
17	13.1	11.4	12.4	6.0	5.2	5.6	1.5	.4	.9	1.0	.2	.6
18	13.2	12.1	12.8	5.3	4.9	5.2	1.3	.3	.7	.5	.1	.2
19	12.5	10.9	11.8	4.8	3.6	4.4	1.9	.2	1.2	.6	.1	.3
20	12.5	11.5	12.0	5.7	4.2	4.9	7.5	1.9	3.7	.7	.1	.3
21	11.8	10.3	11.1	5.3	4.0	4.7	4.6	2.5	3.1	.5	.1	.2
22	10.7	9.3	10.1	6.2	5.3	5.9	3.4	2.2	2.8	.4	.1	.2
23	10.2	9.0	9.7	6.2	4.5	5.6	3.5	2.4	3.0	.5	.1	.2
24	9.7	8.0	8.9	5.3	4.1	4.7	3.1	2.4	2.8	.5	.1	.2
25	9.5	7.9	8.8	5.6	3.8	4.6	3.0	1.5	2.5	.6	.1	.3
26	9.9	8.7	9.1	5.7	4.9	5.3	1.8	1.0	1.4	.6	.2	.4
27	10.1	8.7	9.4	4.9	2.1	3.4	1.8	1.0	1.4	.5	.0	.2
28	9.8	8.3	9.1	2.1	.9	1.4	2.0	1.0	1.5	.4	.0	.1
29	8.3	7.1	7.8	2.7	1.1	1.8	2.2	1.4	1.7	.5	.1	.3
30	8.1	7.3	7.6	3.9	2.7	3.3	1.8	.9	1.5	.5	.0	.3
31	7.9	6.4	7.2	---	---	---	2.4	1.7	2.1	.9	.3	.6
MONTH	20.7	6.4	13.3	11.6	0.9	6.1	7.5	0.2	1.7	3.0	0.0	0.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.1	0.8	1	2.0	0.1	1	6.7	3.3	4.9	14.3	12.6	13.1
2	1.0	.1	.4	2.0	.5	1.2	7.8	4.6	6.1	17.6	12.7	14.9
3	1.7	.5	1.1	1.2	.0	.4	6.5	5.5	6.0	17.1	13.5	15.1
4	2.2	.9	1.3	.6	.0	.3	5.5	3.3	4.2	16.2	12.0	14.1
5	1.4	.1	.8	2.1	.4	1.2	3.3	2.3	2.8	16.0	12.0	14.1
6	.7	.0	.3	1.1	.0	.6	6.4	2.2	4.1	14.6	12.8	13.3
7	.4	.0	.2	.9	.0	.4	4.7	3.1	3.9	18.1	12.9	15.3
8	.6	.0	.2	3.4	.4	1.7	3.9	2.4	3.1	16.7	12.8	14.3
9	.7	.0	.2	3.8	.4	2.0	3.9	3.2	3.5	16.2	12.3	13.9
10	.7	.0	.4	1.4	.1	.5	7.8	2.4	4.9	17.0	12.4	14.7
11	.8	.0	.4	1.4	.1	.7	6.2	4.7	5.2	16.2	13.2	14.8
12	.8	.0	.2	3.7	.7	2.0	7.5	4.9	5.9	14.6	12.6	13.2
13	.3	.0	.1	1.9	.4	1.3	9.5	5.7	7.4	14.1	12.2	13.1
14	.3	-0.1	.1	2.3	.1	1	10.8	5.8	8.1	15.1	12.4	13.7
15	.4	-0.1	.1	2.8	.5	1.5	13.3	7.9	10.4	15.1	12.4	13.9
16	.2	-0.1	.0	4.6	.4	2.3	14.6	10.9	12.6	13.8	11.6	12.6
17	.1	-0.1	.0	5.4	1.1	2.8	12.0	9.0	10.3	15.3	10.6	12.6
18	.1	-0.1	.0	4.1	1.1	2.3	10.4	7.3	8.8	16.2	10.4	13.3
19	.6	.0	.2	3.4	.5	1.6	11.8	7.6	9.6	18.2	12.3	15.2
20	1.0	.1	.4	2.7	.4	1.6	12.6	8.4	10.5	18.9	14.4	16.7
21	1.5	.1	.6	4.1	1.8	2.7	13.6	9.0	11.4	17.1	14.7	15.6
22	1.4	.4	.8	3.9	1.8	2.6	12.5	10.3	11.2	14.7	13.0	13.9
23	1.1	.3	.6	5.6	1.8	3.6	11.0	9.7	10.2	13.0	11.9	12.4
24	1.3	.0	.5	6.6	2.2	4.2	10.0	8.5	9.3	11.9	11.0	11.4
25	1.4	.0	.4	7.7	3.3	5.3	12.4	7.0	9.6	12.2	10.7	11.4
26	.4	.0	.1	9.3	4.5	6.7	11.2	9.7	10.3	12.2	10.9	11.7
27	.8	.0	.3	9.8	6.0	7.7	13.8	9.0	11.1	13.5	10.9	12.0
28	1.1	.1	.5	9.7	5.1	7.3	16.1	10.4	13.2	15.0	12.7	13.8
29	---	---	---	11.2	7.1	8.8	16.5	12.8	14.7	16.5	13.7	15.1
30	---	---	---	10.4	6.6	8.7	16.3	12.7	14.5	17.9	14.9	16.4
31	---	---	---	6.6	4.5	5.7	---	---	---	17.3	15.7	16.6
MONTH	2.2	-0.1	0.4	11.2	0.0	2.9	16.5	2.2	8.3	18.9	10.4	13.9

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.7	14.6	15.4	22.5	19.6	21.1	21.3	19.2	19.9	20.8	20.0	20.3
2	16.8	13.5	15.1	22.4	19.6	21.1	20.3	18.5	19.3	20.0	18.9	19.4
3	17.1	14.4	15.9	23.0	20.4	21.6	21.1	19.8	20.4	20.2	18.7	19.3
4	16.4	15.4	15.9	24.1	20.9	22.4	22.9	20.4	21.1	19.7	18.5	19.4
5	15.5	14.9	15.1	24.7	21.9	23.2	22.1	21.0	21.5	21.1	19.3	20.1
6	18.6	14.6	16.5	23.1	21.3	22.1	23.1	21.3	22.1	21.0	18.4	19.8
7	17.9	16.4	17.0	22.5	20.0	21.3	22.9	21.4	22.1	20.9	17.9	19.5
8	17.0	15.9	16.3	22.9	20.3	21.5	22.4	21.1	21.6	21.1	19.6	20.3
9	16.7	15.9	16.3	21.6	18.9	20.2	22.6	21.4	22.0	20.3	18.8	19.5
10	19.2	15.7	17.3	20.4	17.7	19.0	23.3	21.8	22.4	20.1	17.1	18.7
11	18.4	17.1	17.9	19.5	17.9	18.6	23.9	22.1	22.9	20.8	18.6	19.7
12	18.4	17.5	18.0	20.4	17.1	18.6	23.7	21.8	23.0	20.7	19.2	19.9
13	18.0	16.3	17.2	21.7	18.9	20.1	24.1	22.6	23.4	20.8	18.8	19.8
14	17.5	15.8	16.5	20.5	18.9	19.7	24.2	22.5	23.4	21.7	20.0	20.8
15	19.6	16.1	17.7	21.6	18.4	19.9	24.1	22.0	23.1	22.1	20.7	21.3
16	18.7	16.8	17.6	20.5	18.6	19.4	23.8	22.1	22.9	21.3	19.8	20.6
17	19.0	15.6	17.2	21.9	18.4	20.0	23.0	21.1	22.1	19.8	17.5	18.8
18	17.7	16.4	16.8	20.4	18.9	19.3	21.2	20.0	20.6	20.2	18.3	19.3
19	18.3	16.4	17.3	20.9	18.2	19.6	22.2	19.4	20.8	20.1	19.0	19.7
20	19.4	17.2	18.1	21.4	18.6	20.0	23.1	20.3	21.7	21.7	19.8	20.7
21	18.0	16.6	17.3	21.4	19.2	20.4	23.6	21.1	22.3	21.2	19.6	20.4
22	17.0	15.6	16.3	22.4	19.6	20.7	24.0	22.0	23.0	20.3	18.8	19.7
23	18.7	15.5	16.9	21.2	20.1	20.7	23.3	21.6	22.5	20.9	19.0	19.4
24	21.1	18.0	19.5	21.9	20.1	21.1	21.6	19.4	20.5	19.3	17.6	18.6
25	22.9	19.8	21.4	22.7	20.4	21.4	21.8	19.6	20.7	19.3	17.4	18.4
26	24.6	21.7	23.1	22.3	19.9	21.2	22.8	20.0	21.6	19.0	18.5	18.8
27	25.0	22.9	24.0	22.2	20.5	21.3	23.5	21.7	22.6	20.0	18.2	19.0
28	24.2	21.9	22.9	22.7	20.4	21.5	22.4	20.4	21.4	20.0	19.1	19.6
29	22.8	20.8	21.8	22.4	20.1	21.3	21.9	19.2	20.7	19.8	18.0	18.9
30	22.7	20.5	21.6	22.3	19.7	21.1	22.8	21.8	22.2	18.1	16.5	17.3
31	---	---	---	22.4	19.7	21.1	21.8	19.8	20.9	---	---	---
MONTH	25.0	13.5	18.0	24.7	17.1	20.7	24.2	18.5	21.8	22.1	16.5	19.6
YEAR	25.0	-0.1	10.7									

PH, WH, FIELD, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEDIAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	6.7
2	---	---	---	---	---	---	---	---	---	---	---	6.7
3	---	---	---	---	---	---	---	---	---	---	---	6.7
4	---	---	---	---	---	---	---	---	---	---	---	6.7
5	---	---	---	---	---	---	---	---	---	---	---	6.7
6	---	---	---	---	---	---	---	---	---	---	---	6.7
7	---	---	---	---	---	---	---	---	---	---	---	6.7
8	---	---	---	---	---	---	---	---	---	---	---	6.7
9	---	---	---	---	---	---	---	---	---	---	---	6.6
10	---	---	---	---	---	---	---	---	---	---	---	6.6
11	---	---	---	---	---	---	---	---	---	---	---	6.6
12	---	---	---	---	---	---	---	---	---	---	---	6.6
13	---	---	---	---	---	---	---	---	---	---	---	6.7
14	---	---	---	---	---	---	---	---	---	---	---	6.7
15	---	---	---	---	---	---	---	---	---	---	6.8	6.6
16	---	---	---	---	---	---	---	---	---	---	6.8	6.6
17	---	---	---	---	---	---	---	---	---	---	6.8	6.7
18	---	---	---	---	---	---	---	---	---	---	6.8	6.8
19	---	---	---	---	---	---	---	---	---	---	6.8	6.8
20	---	---	---	---	---	---	---	---	---	---	6.8	6.8
21	---	---	---	---	---	---	---	---	---	---	6.8	6.8
22	---	---	---	---	---	---	---	---	---	---	---	6.8
23	---	---	---	---	---	---	---	---	---	---	6.8	6.7
24	---	---	---	---	---	---	---	---	---	---	6.8	6.7
25	---	---	---	---	---	---	---	---	---	---	6.9	6.7
26	---	---	---	---	---	---	---	---	---	---	6.8	6.8
27	---	---	---	---	---	---	---	---	---	---	6.8	6.8
28	---	---	---	---	---	---	---	---	---	---	6.8	6.9
29	---	---	---	---	---	---	---	---	---	---	6.7	6.9
30	---	---	---	---	---	---	---	---	---	---	6.7	6.9
31	---	---	---	---	---	---	---	---	---	---	6.7	---
MED	---	---	---	---	---	---	---	---	---	---	---	6.7

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

PH, WH, FIELD, in (STANDARD UNITS), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEDIAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	6.8	6.6	6.4	6.5	6.5	6.5	6.7	6.6	6.4	6.6	6.7
2	6.9	6.8	6.6	6.4	6.5	6.5	6.5	6.7	6.6	6.4	6.6	6.7
3	6.8	6.8	6.6	6.4	6.5	6.5	6.5	6.7	6.6	6.5	6.6	6.7
4	6.9	6.8	6.6	6.4	6.5	6.4	6.6	6.7	6.6	6.5	6.6	6.6
5	6.9	6.8	6.6	6.4	6.6	6.5	6.6	6.7	6.6	6.5	6.6	6.6
6	6.9	6.6	6.7	6.4	6.5	6.5	6.6	6.7	6.6	6.5	6.6	6.6
7	6.9	6.6	6.6	6.4	6.5	6.5	6.6	6.7	6.6	6.5	6.7	6.6
8	6.9	6.7	6.7	6.4	6.5	6.5	6.6	6.6	6.5	6.5	6.5	6.6
9	6.9	6.7	6.6	6.4	6.5	6.5	6.6	6.6	6.5	6.5	6.6	6.7
10	6.9	6.6	6.6	6.4	6.5	6.5	6.7	6.6	6.6	6.6	6.6	6.7
11	6.9	6.6	6.6	6.4	6.6	6.5	6.6	6.6	6.6	6.5	6.6	6.6
12	6.9	6.6	6.6	6.4	6.6	6.5	6.6	6.6	6.6	6.5	6.6	6.6
13	6.9	6.5	6.6	6.4	6.5	6.6	6.6	6.6	6.6	6.5	6.4	6.6
14	7.0	6.5	6.5	6.4	6.5	6.6	6.7	6.6	6.6	6.5	6.4	6.6
15	7.0	6.5	6.3	6.4	6.5	6.6	6.6	6.6	6.6	6.6	6.5	6.5
16	6.8	6.5	6.3	6.4	6.5	6.6	6.6	6.6	6.6	6.4	6.6	6.4
17	6.8	6.5	6.4	6.5	6.4	6.5	6.6	6.6	6.6	6.5	6.6	6.4
18	6.9	6.4	6.4	6.4	6.4	6.5	6.7	6.6	6.6	6.5	6.6	6.5
19	6.9	6.5	6.5	6.4	6.5	6.5	6.7	6.6	6.6	6.5	6.7	6.5
20	6.9	6.5	6.5	6.4	6.5	6.5	6.7	6.5	6.6	6.5	6.7	6.5
21	6.9	6.5	6.3	6.4	6.6	6.5	6.7	6.5	6.6	6.5	6.7	6.5
22	6.9	6.5	6.3	6.4	6.6	6.4	6.6	6.6	6.6	6.6	6.7	6.5
23	6.9	6.5	6.3	6.4	6.5	6.4	6.7	6.6	6.5	6.6	6.7	6.5
24	6.9	6.6	6.3	6.4	6.5	6.4	6.8	6.7	6.4	6.6	6.7	6.4
25	6.9	6.5	6.4	6.4	6.4	6.4	6.8	6.7	6.4	6.6	6.7	6.5
26	6.8	6.5	6.4	6.4	6.4	6.4	6.7	6.7	6.4	6.7	6.7	6.4
27	6.8	6.6	6.4	6.5	6.4	6.4	6.7	6.6	6.4	6.7	6.6	6.4
28	6.8	6.6	6.4	6.4	6.5	6.5	6.7	6.6	6.4	6.7	6.7	6.4
29	6.9	6.6	6.4	6.4	---	6.5	6.7	6.7	6.4	6.7	6.7	6.4
30	6.9	6.6	6.4	6.5	---	6.5	6.7	6.7	6.4	6.7	6.7	6.4
31	6.9	---	6.3	6.5	---	6.5	---	6.6	---	6.7	6.8	---
MED	6.9	6.6	6.5	6.4	6.5	6.5	6.6	6.6	6.6	6.5	6.6	6.5

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	5.3	2.8	3.5	3.5	2.0	2.8	4.2	2.6	3.3	46	2.3	6.0
2	4.6	2.7	3.7	2.8	1.4	2.1	4.8	2.8	3.6	6.4	2.7	3.6
3	4.7	3.6	4.1	7.1	.8	1.6	5.3	3.0	3.8	17	2.7	5.1
4	4.9	4.0	4.4	2.6	.7	1.5	5.6	2.8	3.3	6.9	3.1	3.7
5	4.8	3.9	4.3	3.9	.8	2.2	4.6	3.1	3.7	3.5	2.6	3.0
6	4.3	3.0	3.8	12	2.9	4.9	7.4	3.7	4.6	4.0	2.7	3.1
7	5.6	2.3	3.6	4.2	2.4	3.3	4.4	3.4	3.8	3.2	2.6	2.9
8	5.0	2.0	3.6	4.4	2.7	3.4	4.7	3.4	3.8	4.9	2.8	3.3
9	4.5	1.9	2.9	3.7	2.4	2.9	5.2	3.8	4.1	8.3	2.7	3.6
10	4.2	1.1	2.4	30	2.4	3.6	5.4	3.8	4.2	23	2.7	4.3
11	3.9	1.5	2.6	4.0	2.4	2.8	300	3.9	11	6.2	2.6	3.3
12	5.2	2.1	3.1	12	2.4	3.8	250	4.2	14	5.7	2.5	3.1
13	4.8	2.1	3.0	5.7	3.2	3.8	4.9	3.6	4.1	5.5	2.3	3.1
14	4.4	2.3	3.1	9.1	3.1	3.7	61	4.2	17	6.1	2.4	3.7
15	4.0	2.4	3.1	3.9	3.2	3.4	24	3.0	4.2	6.3	2.2	3.9
16	41	3.4	9.1	4.3	3.1	3.6	3.7	2.4	3.0	7.1	2.8	4.1
17	6.1	4.3	5.0	9.2	3.2	4.6	3.1	1.9	2.5	6.8	2.9	4.2
18	5.5	3.9	4.7	19	8.6	10	2.6	1.3	2.0	6.9	3.0	4.4
19	5.1	4.0	4.6	49	2.3	8.9	2.2	.8	1.5	18	3.0	4.2
20	5.7	4.2	4.7	6.7	1.6	2.9	110	.6	13	14	3.4	4.8
21	5.2	4.2	4.7	3.8	2.0	2.9	8.4	3.1	4.3	10	3.5	4.8
22	5.3	4.3	4.7	13	2.3	4.0	4.2	2.8	3.6	8.0	3.6	4.8
23	7.6	4.8	5.4	3.7	1.8	2.6	4.6	3.0	3.6	8.9	3.2	4.3
24	5.4	4.7	5.0	3.3	2.0	2.6	4.4	2.8	3.4	5.4	3.2	4.2
25	5.4	4.7	5.0	3.5	2.2	2.8	6.7	2.4	3.4	6.1	3.3	4.3
26	150	5.0	10	5.9	2.4	3.1	4.0	2.4	3.0	6.3	3.6	4.7
27	8.0	4.5	5.0	9.3	2.7	4.3	3.5	2.1	2.8	6.5	3.8	5.0
28	5.0	4.1	4.4	4.6	2.6	3.2	3.5	2.3	2.8	5.0	3.5	4.3
29	4.9	3.7	4.1	5.2	2.8	3.5	3.5	2.3	2.7	7.8	3.6	5.0
30	4.3	3.0	3.7	4.1	2.4	3.0	4.3	2.4	3.0	6.5	3.9	5.0
31	3.9	2.6	3.2	---	---	---	4.0	2.4	3.0	6.8	4.0	4.9
MONTH	150	1.1	4.3	49	0.7	3.6	300	0.6	4.7	46	2.2	4.2

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12	3.6	5.0	4.1	1.5	2.6	3.6	1.6	2.4	3.6	1.5	2.4
2	27	5.8	11	210	1.4	20	8.4	2.3	3.6	3.8	1.2	2.4
3	9.0	4.0	5.4	7.4	3.4	4.5	27	1.7	2.8	3.5	1.3	2.5
4	270	3.2	15	4.5	2.4	3.5	9.9	1.7	2.6	3.4	1.2	2.1
5	6.4	3.2	4.4	20	1.9	4.9	24	2.0	5.0	3.1	1.5	2.2
6	4.7	2.8	3.6	3.8	1.8	2.6	11	2.2	4.8	6.4	1.7	2.8
7	6.2	3.4	4.4	4.8	1.7	2.6	11	2.1	4.0	6.4	1.1	2.4
8	5.3	3.3	4.3	4.1	1.7	2.4	12	1.6	4.1	5.2	1.2	2.4
9	6.6	3.9	4.7	3.1	2.0	2.5	12	1.6	5.3	2.6	1.4	2.1
10	7.7	4.3	5.5	3.8	2.0	2.5	10	1.0	2.7	3.8	1.5	2.2
11	6.6	4.4	5.6	8.5	1.8	2.5	78	.7	8.0	5.2	1.7	2.5
12	6.5	4.8	5.7	3.1	1.9	2.4	7.4	1.5	2.7	5.6	1.8	2.6
13	6.5	4.9	5.6	7.9	2.0	3.0	27	1.2	2.1	2.8	1.9	2.3
14	9.7	4.8	5.5	3.4	2.1	2.6	3.2	.7	1.4	2.9	2.0	2.4
15	5.9	4.7	5.3	3.0	2.2	2.5	2.2	.5	1.2	3.6	1.9	2.4
16	6.3	4.8	5.3	2.8	2.2	2.5	2.5	.5	1.2	4.2	2.1	2.7
17	5.8	4.6	5.1	3.0	2.3	2.6	9.0	.9	1.5	3.7	2.3	2.8
18	6.1	4.5	5.2	2.9	2.3	2.5	2.0	1.1	1.4	3.3	2.3	2.7
19	5.8	4.3	5.1	3.1	1.8	2.3	33	1.1	2.1	3.5	2.4	2.7
20	10	4.0	5.4	15	1.5	2.9	1.9	1.2	1.5	4.1	2.3	2.7
21	8.2	3.8	4.9	87	3.7	10	4.1	1.4	1.6	3.2	2.4	2.7
22	190	3.4	43	7.9	2.7	3.7	26	1.6	4.4	2.8	2.3	2.6
23	140	5.7	18	3.8	1.7	2.5	18	1.3	3.7	3.8	2.3	2.5
24	6.3	3.5	4.6	2.9	1.5	2.1	11	1.3	2.5	4.7	1.6	2.2
25	5.6	2.3	3.6	3.5	1.6	2.0	24	1.6	3.9	4.9	1.3	2.0
26	6.0	2.3	3.6	13	1.2	2.1	19	1.6	5.3	95	1.0	18
27	3.8	1.6	2.6	10	1.4	2.1	12	1.0	2.7	81	2.2	22
28	4.1	1.7	2.5	2.6	1.3	1.7	3.5	1.2	1.7	7.3	2.9	3.9
29	---	---	---	170	1.3	9.4	3.2	1.1	1.5	3.7	1.9	3.0
30	---	---	---	17	2.6	4.8	3.6	1.1	1.8	3.6	2.1	2.7
31	---	---	---	8.3	1.8	2.9	---	---	---	9.0	2.2	3.4
MONTH	270	1.6	7.1	210	1.2	3.8	78	0.5	3.0	95	1.0	3.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	49	2.4	6.7	5.1	4.1	4.6	77	4.5	8.8	2.8	1.7	2.3
2	4.5	2.6	3.4	5.0	4.0	4.5	6.7	5.2	5.8	5.7	2.1	2.8
3	3.3	2.1	2.7	4.9	3.8	4.3	---	---	---	3.1	2.2	2.6
4	13	2.2	2.8	4.8	3.7	4.1	---	---	---	26	2.6	3.4
5	13	2.5	3.3	4.6	2.9	3.6	---	---	---	3.2	2.7	2.9
6	3.3	2.2	2.8	3.6	1.8	2.6	---	---	---	3.7	2.7	3.0
7	19	2.4	4.1	3.7	1.5	2.5	---	---	---	3.5	2.8	3.1
8	11	3.0	4.7	4.2	2.2	3.2	---	---	---	3.4	2.9	3.1
9	5.3	2.4	3.1	9.1	2.5	3.9	---	---	---	3.3	2.8	3.0
10	4.0	2.4	3.1	3.0	1.3	2.1	---	---	---	3.4	2.8	3.0
11	8.4	2.8	3.4	30	1.9	4.0	---	---	---	4.4	2.7	2.9
12	3.6	2.8	3.2	68	3.2	6.2	---	---	---	3.1	2.7	2.8
13	4.1	3.0	3.4	5.5	3.8	4.6	---	---	---	3.2	2.1	2.7
14	3.9	2.9	3.4	6.2	4.1	5.0	---	---	---	3.0	1.8	2.4
15	3.7	3.1	3.4	5.9	4.3	5.2	---	---	---	3.1	1.5	2.2
16	3.8	3.1	3.4	6.3	4.6	5.4	---	---	---	36	1.2	4.0
17	5.1	3.1	3.5	6.1	3.8	5.1	---	---	---	3.0	1.4	2.2
18	6.9	3.3	3.7	64	3.7	5.9	---	---	---	3.0	.9	1.9
19	3.7	2.7	3.2	9.6	3.7	5.0	---	---	---	12	1.0	2.4
20	3.8	2.4	3.0	4.7	2.3	3.5	---	---	---	2.4	1.0	1.7
21	52	2.1	4.5	3.8	1.8	3.1	---	---	---	2.4	1.0	1.7
22	56	2.1	9.2	69	2.6	5.7	---	---	---	2.6	1.0	1.7
23	46	1.4	4.1	50	2.9	4.6	---	---	---	260	.9	8.6
24	18	.9	2.6	11	2.7	3.4	---	---	---	7.2	1.3	3.2
25	4.3	1.1	2.7	3.7	2.5	3.1	---	---	---	4.3	2.1	2.9
26	4.6	2.9	3.6	4.1	2.7	3.3	---	---	---	4.8	2.9	3.8
27	4.9	3.2	3.9	16	3.0	4.6	---	---	---	5.2	3.6	4.5
28	5.1	3.6	4.2	4.3	3.0	3.7	---	---	---	5.9	3.7	4.6
29	5.1	3.8	4.4	4.7	3.2	4.0	3.2	1.6	2.2	5.6	3.7	4.6
30	5.0	4.1	4.6	5.1	3.6	4.3	2.9	1.6	2.2	5.2	3.3	4.2
31	---	---	---	5.9	3.9	4.6	2.8	1.6	2.2	---	---	---
MONTH	56	0.9	3.8	69	1.3	4.2	---	---	---	260	0.9	3.1

CHARLES RIVER BASIN

01104460 STONY BROOK AT ROUTE 20 AT WALTHAM, MA--Continued

PERIOD OF RECORD.--March–September 1997; June–September 2002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

BEGIN DATE (MONTH/ DAY)	BEGIN TIME (HRMN)	END DATE (MONTH/ DAY)	END TIME (HRMN)	TURBIDITY FIELD WATER UNFILTERED (61028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	SEDIMENT, SUSPENDED SIEVE DIAMETER% FINER THAN 0.062 MM (70331)	SEDIMENT, SUSPENDED (MG/L) (80154)
6-13	1444	6-15	1902	2.5	434	81	6
6-15	0942	6-16	2230	2.7	431	73	8
6-17	0030	6-21	1000	2.2	453	57	6
6-21	1009	6-21	1009	1.6	511	42	5
6-25	0855	6-26	1122	4.2	550	47	10
6-26	2136	6-28	1502	8.3	499	78	16
7-01	1355	7-09	2152	4.7	623	68	9
7-10	0139	7-10	1242	5.5	747	59	13
7-10	1619	7-11	1254	5.0	769	61	9
7-15	0034	7-15	1726	3.4	797	63	6
7-15	2320	7-18	2303	1.6	793	33	5
7-19	0456	7-19	2238	2.1	768	33	4
7-20	0457	7-23	0511	1.5	800	64	5
7-23	1155	7-25	0555	2.4	758	76	7
7-25	1257	7-31	0941	1.6	778	81	9
7-31	1728	8-02	2314	1.6	790	79	5
8-03	0648	8-22	0708	1.6	804	66	3
8-14	1426	8-14	1426	2.1	832	33	2
8-23	2222	8-28	1830	1.2	811	67	3
8-29	1354	8-29	1354	3.1	613	74	6
8-29	1438	8-30	1400	2.8	607	89	6
8-30	1913	9-02	0119	1.7	646	71	2
9-02	0923	9-04	0942	1.7	614	84	2

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA

LOCATION.--Lat 42°21'20", Long 71°15'56", Middlesex County, Hydrologic Unit 01090001, 10 ft upstream from bridge on River Road, 300 ft downstream from gate house outlet for Stony Brook Reservoir, and 2.0 mi southwest of Waltham.

DRAINAGE AREA.--23.7 mi^2

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1999 to current year.
Water-quality records (Stony Brook Reservoir): Water years 2000, 2002 to current year.

GAGE.--Water-stage recorder located about 300 ft downstream from Stony Brook Dam. Elevation of gage is 43 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Flow affected by regulation of dam, 300 ft upstream at outflow of Stony Brook Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 479 ft^3/s, Mar. 23, 2001, gage height, 5.27 ft; minimum, no flow, many days thoughout the period of record (controlled shutdown); minimum daily, no flow, Jan. 22–29, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 312 ft^3/s, Apr. 23, gage height, 3.37 ft; minimum, 0.13 ft^3/s, Aug. 18, 19; minimum daily, 0.15 ft^3/s, Aug. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.39	0.95	6.6	46	0.23	0.29	123	25	74	3.9	0.50	0.46
2	.44	.95	3.2	42	.29	29	114	.29	103	1.7	.50	.58
3	.44	.96	1.8	39	.23	58	113	13	86	.43	.51	.45
4	.40	1.0	.50	39	.24	33	111	20	70	.22	.65	.50
5	.48	1.1	.31	39	.21	33	110	19	69	.22	.46	.42
6	.47	1.5	.32	39	.21	31	94	18	55	.24	4.3	.45
7	.50	1.3	.29	27	.24	22	66	18	43	.24	3.4	.48
8	.52	1.4	.29	17	.24	21	54	18	49	.24	43	.44
9	.54	1.5	.29	21	.24	21	54	18	53	.24	58	.41
10	.59	1.5	.29	25	.24	21	73	18	46	.22	35	.43
11	.62	1.6	.29	26	.21	22	92	18	27	.23	22	.46
12	.53	1.8	.46	18	.20	22	92	18	25	.26	12	.44
13	.54	2.7	.34	14	.20	22	94	18	38	.20	5.9	.45
14	.58	2.3	24	14	.20	21	94	6.9	42	.20	33	.46
15	.59	2.3	129	5.0	.20	21	94	.26	41	.20	43	32
16	.90	2.4	107	.20	.20	21	93	.24	18	.20	16	72
17	.63	2.3	74	.20	.24	22	85	.25	.22	.21	.17	48
18	.44	1.8	54	.20	.21	40	45	.26	20	.23	.16	.17
19	.41	2.5	52	.20	.20	55	17	.31	20	.24	.15	.24
20	.41	2.7	64	.19	.20	54	43	.39	.20	.20	.20	.24
21	.42	2.8	120	.19	.21	55	52	.30	.24	.20	.22	.24
22	.44	3.4	100	.19	.30	56	28	.31	1.9	.25	.33	.25
23	.59	3.6	93	.20	.40	78	47	.37	92	.31	.50	.35
24	.59	8.8	70	.20	.29	97	30	.38	97	.25	.54	.25
25	.59	7.5	64	.20	.25	97	48	.42	44	.20	.59	.27
26	1.2	8.2	65	.20	.28	96	56	.55	36	.22	.50	.29
27	1.1	10	59	.19	.29	94	56	7.7	26	.27	.60	.32
28	.90	9.9	54	e.19	.29	69	56	84	16	.32	.68	.37
29	.85	7.2	54	e.19	---	48	56	42	11	.34	.46	.36
30	.85	6.2	71	e1.3	---	82	56	22	6.9	.34	.46	.37
31	.89	---	62	1.7	---	139	---	41	---	.31	.46	---
TOTAL	18.84	102.16	1330.98	416.74	6.74	1480.29	2146	428.93	1210.46	12.83	284.24	162.15
MEAN	0.61	3.41	42.9	13.4	0.24	47.8	71.5	13.8	40.3	0.41	9.17	5.41
MAX	1.2	10	129	46	0.40	139	123	84	103	3.9	58	72
MIN	0.39	0.95	0.29	0.19	0.20	0.29	17	0.24	0.20	0.20	0.15	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	16.7	14.9	29.9	15.8	15.7	55.2	62.0	23.2	21.1	2.98	5.95	8.65
MAX	45.1	32.3	46.1	31.7	47.3	102	88.6	56.6	40.3	9.98	14.3	22.7
(WY)	2001	2001	2001	2000	2000	2001	2000	2000	2003	2000	2000	2000
MIN	0.61	3.41	4.59	7.35	0.24	0.21	9.34	0.26	4.96	0.064	0.12	0.73
(WY)	2003	2003	2002	2001	2003	2002	2002	2001	2001	2002	2002	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL TOTAL	3605.54		7600.36			
ANNUAL MEAN	9.88		20.8		22.7	
HIGHEST ANNUAL MEAN					35.9	2000
LOWEST ANNUAL MEAN					6.74	2002
HIGHEST DAILY MEAN	129	Dec 15	139	Mar 31	320	Mar 23 2001
LOWEST DAILY MEAN	0.00	Sep 15	0.15	Aug 19	0.00	Jan 22 2001
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 15	0.20	Jan 16	0.00	Jan 22 2001
MAXIMUM PEAK FLOW			312	Apr 23	479	Mar 23 2001
MAXIMUM PEAK STAGE			3.37	Apr 23	5.27	Mar 23 2001
INSTANTANEOUS LOW FLOW			0.13	Aug 18	0.00	Aug 18 2000
10 PERCENT EXCEEDS	30		70		65	
50 PERCENT EXCEEDS	0.54		1.3		9.1	
90 PERCENT EXCEEDS	0.05		0.21		0.07	

e Estimated

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

RESERVOIR ELEVATION RECORDS

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 80.30 ft (city of Cambridge datum). Add 10.34 ft to elevations to adjust to National Geodetic Vertical Datum of 1929.

INSTRUMENTATION.--Submersible pressure sensor.

REMARKS.--Records excellent.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded elevation, 81.38 ft, Dec. 15, 2002; minimum, 62.60 ft (manual measurement when reservoir elevation was below sensor), Sept. 16, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum recorded elevation, 81.38 ft, Dec. 15; minimum, 70.95 ft, Oct. 22.

RESERVOIR ELEVATION SURFACE WATER (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71.28	72.62	80.42	77.95	76.95	79.68	80.41	78.98	80.39	80.37	79.30	76.92
2	71.38	72.75	80.35	78.22	76.92	79.62	79.97	79.69	80.49	80.32	79.59	76.89
3	71.46	72.84	80.31	78.56	76.96	79.07	79.38	80.28	80.41	80.27	79.70	76.84
4	71.48	72.92	80.23	78.76	76.99	78.61	78.77	80.34	80.27	80.15	79.83	76.76
5	71.47	73.01	80.12	78.71	77.17	78.63	78.20	80.30	80.02	79.98	80.19	76.70
6	71.44	73.29	80.04	78.56	77.22	78.38	77.76	80.24	79.78	79.99	80.39	76.56
7	71.41	73.74	79.93	78.40	77.25	78.37	77.82	80.16	79.85	80.14	80.37	76.20
8	71.63	73.99	79.84	78.58	77.25	78.32	78.27	80.07	80.38	80.14	80.44	75.95
9	71.86	74.18	79.71	78.74	77.19	78.32	78.66	80.02	80.48	80.03	79.67	75.98
10	72.02	74.31	79.42	78.69	77.09	78.44	78.81	79.92	80.34	79.95	78.75	76.05
11	72.14	74.46	79.09	78.57	77.03	78.44	78.20	79.76	80.21	79.97	78.34	76.11
12	72.22	74.62	79.20	78.43	76.92	78.36	78.63	79.59	80.44	80.11	78.08	76.07
13	72.22	75.38	79.59	78.44	76.80	78.37	79.50	79.44	80.37	80.08	78.67	75.99
14	72.19	75.82	80.38	78.42	76.66	78.35	79.74	79.39	80.11	79.90	79.21	75.93
15	72.07	75.88	81.34	78.41	76.52	78.25	79.56	79.63	79.80	79.72	78.42	75.69
16	71.77	75.90	81.21	78.61	76.36	78.13	79.17	79.71	79.51	79.51	77.72	74.54
17	71.57	76.43	81.01	78.71	76.24	78.17	78.51	79.66	79.78	79.32	77.55	72.66
18	71.43	77.73	80.86	78.78	76.22	78.46	78.19	79.58	79.90	79.19	77.37	72.40
19	71.33	78.64	80.84	78.77	76.16	78.40	78.85	79.47	79.28	79.23	77.17	72.67
20	71.23	79.16	80.92	78.74	76.12	78.25	79.25	79.29	79.43	79.29	77.00	72.96
21	71.09	79.43	81.28	78.70	76.10	78.44	78.81	79.00	79.57	79.22	76.79	73.06
22	70.99	79.78	81.16	78.60	76.19	79.43	78.71	78.72	79.98	79.21	76.76	73.01
23	71.08	80.23	80.87	78.47	77.06	80.26	79.15	78.49	80.89	79.43	76.85	72.98
24	71.13	80.38	80.52	78.31	78.13	80.10	79.48	78.33	80.67	79.68	76.87	73.45
25	71.08	80.38	80.44	78.12	78.79	79.66	79.53	78.30	80.52	79.88	76.84	73.51
26	71.25	80.45	80.48	77.94	79.20	79.15	79.13	78.53	80.74	79.91	76.89	73.43
27	72.04	80.50	80.37	77.81	79.51	78.62	79.38	80.10	80.65	79.77	77.05	73.29
28	72.27	80.47	80.20	77.66	79.65	78.17	79.66	80.62	80.56	79.61	76.97	73.32
29	72.33	80.41	79.91	77.53	---	78.59	79.58	79.94	80.48	79.44	76.83	73.58
30	72.38	80.40	79.29	77.38	---	79.89	79.25	80.36	80.42	79.26	76.86	73.66
31	72.50	---	78.31	77.15	---	80.67	---	80.41	---	79.18	76.90	---
MEAN	71.67	76.67	80.25	78.35	77.17	78.83	79.01	79.62	80.19	79.75	78.17	74.77
MAX	72.50	80.50	81.34	78.78	79.65	80.67	80.41	80.62	80.89	80.37	80.44	76.92
MIN	70.99	72.62	78.31	77.15	76.10	78.13	77.76	78.30	79.28	79.18	76.76	72.40

WTR YR 2003 MEAN 77.88 MAX 81.34 MIN 70.99

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

RESERVOIR WATER-QUALITY AND METEOROLOGICAL RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1999 to January 2000, October 2001 to current year.
WATER TEMPERATURE: October 1999 to January 2000, October 2001 to April 2002.
pH: November 2001 to current year.
DISSOLVED OXYGEN: November 2001 to current year.
TURBIDITY: November 2001 to current year.
AIR TEMPERATURE: November 2001 to current year.
PRECIPITATION: November 2001 to current year.

INSTRUMENTATION.--Specific conductance, water temperature, pH, dissolved oxygen, and turbidity water-quality monitor equipped with a flow-through system that receives reservoir water from a submersible pump; air temperature monitor; and heated tipping-bucket precipitation gage with wind screen.

REMARKS.--Specific conductance and precipitation records excellent; water temperature, pH, dissolved oxygen, turbidity, and air temperature records good.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 865 µS/cm, Aug. 26, 27, 2002; minimum recorded, 364 µS/cm, May 24–26, 28, 2002.
WATER TEMPERATURE: Maximum recorded, 19.2°C, October 2, 2001; minimum recorded, 2.5°C, January 2, February 2, 2002
pH: Maximum recorded, 7.5 units, September 23, 2002; minimum recorded, 6.5 units, October 22, 2002, January 1–13, 15–19, February 4, March 29, September 17, 26, 2003.
DISSOLVED OXYGEN: Maximum recorded, 13.7 mg/L, January 30, 2003; minimum recorded, 3.7 mg/L, August 23, September 19, 2003.
TURBIDITY: Maximum recorded, 97 NTUs, April 30, 2002, January 22, 2003; minimum recorded, 0.3 NTUs, June 22, 23, 25, and August 28, 2003.
AIR TEMPERATURE: Maximum recorded, 36.5°C, August 14, 2002; minimum recorded, -22.1°C, February 14, 2003.
PRECIPITATION: Maximum recorded, 0.57 in/15-minute interval, September 23, 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 835 µS/cm, Oct. 16; minimum recorded, 308 µS/cm, Dec. 25.
pH: Maximum recorded, 7.3 units, several days in October and September; minimum recorded, 6.5 units, Oct. 22, several days in January, Feb. 4, Mar. 29, Sept. 17 and 26.
DISSOLVED OXYGEN: Maximum recorded, 13.7 mg/L, Jan. 30; minimum recorded, 3.7 mg/L, Aug. 23, Sept. 19.
TURBIDITY: Maximum recorded, 97 NTUs, Jan. 22; minimum recorded, 0.3 NTUs, June 22, 23, 25, Aug. 28.
AIR TEMPERATURE: Maximum recorded, 33.3°C, June 27; minimum recorded, -22.1°C, Feb. 14.
PRECIPITATION: Maximum recorded, 0.57 in/15-minute interval, Sept. 23.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	808	807	807	742	721	735	500	482	492	358	350	356
2	811	808	809	721	711	714	486	481	484	355	343	350
3	812	808	810	712	710	711	484	478	482	368	349	357
4	811	809	811	712	707	710	479	474	477	383	351	360
5	812	810	811	708	704	707	477	475	477	388	377	383
6	817	811	813	708	653	693	477	473	475	392	378	385
7	816	807	815	705	683	700	477	474	476	417	387	400
8	820	814	817	705	694	703	477	476	477	419	405	414
9	825	818	821	704	700	702	478	475	477	425	414	418
10	828	806	821	701	698	700	478	476	478	430	420	425
11	822	818	820	699	693	697	478	476	478	442	425	431
12	827	822	825	694	678	691	478	470	474	450	440	444
13	827	825	826	678	629	655	472	465	468	454	447	452
14	831	827	829	679	642	671	474	431	462	456	449	453
15	835	831	833	679	664	674	474	427	451	493	449	477
16	835	828	832	670	656	663	429	394	411	493	475	484
17	832	825	829	660	599	640	399	372	383	483	475	479
18	833	828	831	638	595	615	417	364	388	485	477	481
19	833	818	827	640	606	634	415	391	402	486	478	482
20	822	819	820	625	602	617	510	395	434	486	479	482
21	822	815	819	621	531	580	442	370	404	485	477	480
22	818	814	817	553	519	538	408	366	383	484	474	478
23	817	809	812	554	537	544	371	312	336	482	475	478
24	812	809	811	545	527	539	325	315	318	484	473	478
25	812	809	811	539	493	530	320	314	314	480	474	478
26	812	644	776	500	484	493	335	328	328	480	476	478
27	801	750	786	508	486	500	344	332	336	483	477	480
28	802	763	793	507	500	504	350	337	344	482	475	478
29	798	789	794	501	497	500	351	340	345	481	475	479
30	798	785	791	503	497	501	353	343	348	482	471	477
31	794	737	770	---	---	---	357	348	353	484	475	479
MONTH	835	644	812	742	484	629	510	312	418	493	343	444

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	485	480	482	572	547	563	373	359	364	507	473	500
2	497	483	489	561	473	526	371	361	366	505	499	502
3	506	494	499	499	469	483	370	363	366	507	501	504
4	513	502	508	496	482	488	376	367	372	507	503	505
5	518	509	513	487	453	473	417	374	391	510	506	507
6	521	513	517	469	453	459	425	376	405	512	507	511
7	526	513	520	474	460	468	484	421	444	517	512	513
8	545	524	533	464	448	457	468	434	457	516	510	514
9	545	535	540	460	444	454	459	419	447	518	515	516
10	549	537	542	476	440	460	510	448	472	524	516	520
11	560	543	552	471	451	463	499	459	483	523	516	520
12	568	553	562	465	447	456	494	468	484	524	521	523
13	571	563	568	452	440	447	500	473	489	524	522	523
14	575	562	568	463	449	457	494	483	490	530	524	525
15	577	566	570	462	445	454	490	477	485	529	515	525
16	585	569	576	470	447	457	490	480	487	532	513	527
17	589	570	579	467	431	447	494	486	491	532	529	532
18	583	570	576	465	430	442	502	487	494	535	532	533
19	588	572	579	463	437	451	504	490	498	534	526	532
20	591	573	584	457	423	440	508	480	500	535	529	532
21	598	579	589	434	391	408	511	494	504	537	532	535
22	603	580	591	412	399	405	516	507	512	538	534	536
23	590	557	575	408	374	392	514	490	508	537	536	537
24	592	557	572	377	357	370	512	505	508	538	536	537
25	596	568	584	360	338	349	522	508	515	536	535	536
26	588	571	580	346	324	334	517	502	513	536	527	534
27	579	559	572	333	311	325	512	499	509	528	497	517
28	571	559	565	343	313	327	511	489	505	519	479	505
29	---	---	---	374	321	339	509	499	504	511	482	501
30	---	---	---	344	313	327	509	496	503	502	485	494
31	---	---	---	362	343	350	---	---	---	494	482	489
MONTH	603	480	553	572	311	428	522	359	469	538	473	519

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	491	473	481	476	469	473	629	621	625	620	610	615
2	481	476	478	478	474	476	636	621	628	624	617	620
3	481	454	478	485	477	482	647	629	636	635	623	628
4	479	459	475	496	480	488	646	628	638	642	633	637
5	478	476	477	502	492	498	640	617	631	657	637	644
6	485	476	479	504	498	502	646	625	636	660	641	649
7	482	443	472	506	502	504	641	618	633	671	647	653
8	486	459	478	519	504	511	642	589	621	675	650	658
9	489	479	485	539	515	526	627	606	621	664	652	656
10	492	452	489	571	532	545	624	600	616	675	654	659
11	491	452	485	575	550	559	615	593	607	690	661	670
12	493	474	488	583	553	566	608	587	597	691	663	677
13	494	488	491	599	566	581	593	562	580	696	667	679
14	495	492	493	596	571	582	588	555	572	700	671	683
15	498	494	496	595	577	584	571	558	566	699	677	682
16	500	487	496	603	576	589	571	521	547	690	676	678
17	499	493	497	605	583	591	543	517	530	718	676	688
18	502	492	499	604	591	596	547	527	538	716	685	697
19	508	501	503	621	592	601	544	526	537	718	690	706
20	507	496	502	621	595	609	538	525	533	703	694	698
21	505	492	500	620	590	605	538	530	535	703	687	696
22	506	493	502	607	591	598	546	534	540	699	688	692
23	496	435	477	612	591	600	553	541	548	695	678	689
24	492	443	477	616	595	604	570	546	556	686	682	684
25	483	453	476	619	599	608	573	560	565	686	674	683
26	480	473	476	615	604	610	600	567	580	684	672	681
27	482	470	475	615	603	610	612	574	590	675	647	665
28	479	471	476	614	605	610	613	578	591	675	639	655
29	473	461	468	615	607	611	618	588	597	673	642	657
30	472	462	468	620	606	615	623	595	604	666	647	659
31	---	---	---	628	616	622	629	602	611	---	---	---
MONTH	508	435	485	628	469	566	647	517	587	718	610	668
YEAR	835	311	548									

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEDIAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	7.0	6.9	6.5	6.6	6.6	6.7	6.9	7.0	6.7	6.9	7.2
2	7.1	7.1	6.9	6.5	6.6	6.6	6.7	6.9	7.0	6.6	7.0	7.2
3	7.1	7.1	7.0	6.5	6.6	6.6	6.7	7.0	7.0	6.6	6.9	7.2
4	7.1	7.1	7.0	6.5	6.6	6.6	6.7	7.0	6.9	6.6	6.9	7.2
5	7.0	7.0	7.0	6.5	6.6	6.7	6.7	7.0	6.9	6.6	6.9	7.1
6	6.9	7.0	7.0	6.5	6.6	6.7	6.8	7.0	6.9	6.6	6.9	7.1
7	6.9	7.1	6.9	6.5	6.6	6.7	6.8	7.0	6.8	6.6	6.9	7.1
8	7.0	7.0	6.9	6.5	6.6	6.7	6.8	6.9	6.8	6.6	7.0	7.1
9	6.9	6.9	6.9	6.5	6.6	6.7	6.8	6.9	6.8	6.6	7.0	7.2
10	6.9	6.9	6.9	6.5	6.6	6.7	6.8	6.9	6.8	6.6	7.0	7.2
11	7.2	6.9	6.9	6.5	6.6	6.7	6.8	6.9	6.8	6.7	7.0	7.2
12	7.2	6.9	6.9	6.5	6.6	6.6	6.8	6.9	6.8	6.7	6.9	7.2
13	7.2	6.9	6.8	6.6	6.7	6.6	6.8	6.9	6.9	6.7	6.9	7.2
14	7.2	6.9	6.8	6.6	6.7	6.6	6.8	6.8	6.9	6.7	7.0	7.2
15	7.2	6.9	6.8	6.5	6.7	6.7	6.8	6.7	6.9	6.7	7.1	7.2
16	7.2	6.9	6.7	6.5	6.7	6.6	6.8	6.8	6.9	6.7	7.0	7.2
17	7.2	6.9	6.7	6.5	6.7	6.7	6.9	6.8	6.9	6.8	6.9	7.3
18	7.2	6.9	6.7	6.6	6.7	6.7	6.9	6.8	6.9	6.8	6.9	7.2
19	7.2	6.9	6.7	6.6	6.6	6.7	6.9	6.8	6.9	6.8	6.9	7.0
20	7.2	6.9	6.7	6.6	6.6	6.7	6.9	6.8	6.9	6.8	6.9	7.1
21	7.2	6.9	6.6	6.6	6.6	6.7	6.9	6.8	6.8	6.8	6.8	7.1
22	7.3	6.8	6.6	6.6	6.6	6.7	6.9	6.8	7.0	6.9	6.8	7.2
23	7.2	6.8	6.6	6.6	6.6	6.6	7.0	6.8	6.9	6.9	6.8	7.2
24	7.2	6.8	6.6	6.6	6.7	6.6	7.1	6.8	6.9	6.9	7.0	7.2
25	7.2	6.8	6.5	6.6	6.7	6.6	7.0	6.8	6.8	6.9	7.0	7.2
26	7.2	6.8	6.5	6.6	6.7	6.6	7.0	6.8	6.7	6.9	7.0	7.3
27	7.2	6.8	6.6	6.6	6.7	6.6	7.0	6.9	6.7	6.9	6.9	7.2
28	7.2	6.9	6.6	6.6	6.6	6.6	7.0	7.0	6.7	6.9	7.0	7.1
29	7.2	6.9	6.6	6.6	---	6.6	6.9	7.0	6.7	6.9	7.2	7.1
30	7.2	6.9	6.6	6.6	---	6.7	7.0	7.0	6.7	6.9	7.2	7.2
31	7.1	---	6.6	6.6	---	6.7	---	7.0	---	6.9	7.2	---
MAX	7.3	7.1	7.0	6.6	6.7	6.7	7.1	7.0	7.0	6.9	7.2	7.3
MIN	6.9	6.8	6.5	6.5	6.6	6.6	6.7	6.7	6.7	6.6	6.8	7.0
MED	7.2	6.9	6.7	6.6	6.6	6.7	6.8	6.9	6.9	6.7	6.9	7.2

WTR YR 2003 MAX 7.3 MIN 6.5 MED 6.9

e Estimated

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.0	7.4	7.7	9.0	8.6	8.8	10.7	10.1	10.4	12.2	11.6	12.0
2	8.6	7.9	8.3	9.3	8.8	9.1	10.7	10.4	10.5	12.1	11.5	11.8
3	8.7	7.9	8.5	9.4	9.1	9.3	10.9	10.5	10.8	11.6	11.2	11.5
4	8.0	6.0	7.3	9.4	9.2	9.3	11.4	10.9	11.1	11.5	11.2	11.4
5	6.1	5.1	5.4	9.9	9.2	9.5	11.2	10.9	11.0	11.4	11.0	11.2
6	6.2	5.2	5.6	10.0	9.6	9.8	11.1	10.8	11.0	11.4	11.0	11.2
7	7.2	6.2	6.8	10.1	9.8	9.9	11.0	10.8	10.8	11.8	11.4	11.6
8	7.6	6.8	7.2	10.0	9.7	9.8	11.0	10.8	10.9	12.2	11.6	12.0
9	8.0	7.2	7.7	9.8	9.5	9.7	11.0	10.7	10.8	12.2	11.9	12.0
10	8.0	7.7	7.8	9.7	9.4	9.5	10.9	10.7	10.8	12.0	11.5	11.8
11	7.9	7.5	7.7	9.6	9.2	9.5	11.1	10.7	11.0	11.7	11.5	11.6
12	7.9	7.6	7.8	9.5	9.2	9.3	11.0	10.7	10.9	11.6	11.5	11.6
13	8.0	7.6	7.8	9.4	9.2	9.3	10.8	10.5	10.6	11.7	11.5	11.6
14	8.1	7.7	7.9	9.3	9.1	9.2	10.6	9.9	10.4	11.7	11.5	11.6
15	8.1	7.8	7.9	9.3	9.1	9.2	10.4	9.9	10.3	11.6	11.0	11.3
16	7.8	7.6	7.7	9.3	9.2	9.2	10.3	10.2	10.3	11.8	11.1	11.5
17	8.1	7.8	7.9	9.5	9.3	9.4	10.4	10.2	10.3	12.0	11.6	11.8
18	8.1	7.9	8.0	9.7	9.4	9.6	11.0	10.3	10.6	12.7	11.8	12.2
19	8.1	7.7	7.8	9.5	9.4	9.5	10.6	10.3	10.4	12.9	12.4	12.6
20	7.7	7.5	7.6	9.6	9.3	9.6	11.8	9.9	10.5	12.6	12.3	12.4
21	7.9	7.4	7.6	9.6	9.4	9.5	11.9	10.9	11.5	12.3	12.1	12.2
22	8.0	7.7	7.8	9.6	9.4	9.5	11.9	11.4	11.7	13.0	12.0	12.5
23	8.2	7.8	8.0	9.8	9.4	9.6	12.1	11.6	11.9	13.5	12.8	13.2
24	8.5	8.2	8.3	10.0	9.8	9.9	12.2	12.0	12.1	13.4	12.8	13.1
25	8.8	8.4	8.6	10.1	9.9	10	12.2	11.9	12.1	13.0	12.7	12.9
26	9.1	8.6	8.8	10.2	9.9	10.1	12.2	11.9	12.1	12.8	12.6	12.8
27	9.2	9.0	9.1	10.4	10.1	10.2	12.1	11.7	12.0	13.2	12.8	13.0
28	9.3	9.1	9.2	10.5	10.2	10.3	11.9	11.4	11.6	13.6	13.1	13.4
29	9.4	9.2	9.3	10.4	10.2	10.2	11.8	11.3	11.5	13.4	13.1	13.4
30	9.4	9.2	9.3	10.3	10.1	10.2	11.9	11.4	11.6	13.7	13.2	13.4
31	9.3	8.8	9.0	---	---	---	11.8	11.2	11.6	13.4	13.2	13.3
MONTH	9.4	5.1	7.9	10.5	8.6	9.6	12.2	9.9	11.1	13.7	11.0	12.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	13.4	13.2	13.2	11.7	11.5	11.6	10.5	10.3	10.4	8.2	7.8	8.0
2	13.3	13.0	13.2	12.1	11.6	11.8	10.7	10.2	10.4	8.0	7.6	7.8
3	13.1	12.8	12.9	12.1	11.8	12.0	11.1	10.6	10.9	7.9	7.6	7.7
4	12.9	12.5	12.7	11.9	11.7	11.8	11.1	10.9	11.0	7.8	7.5	7.7
5	12.6	12.3	12.5	12.8	11.7	12.1	11.1	10.6	10.8	7.8	7.4	7.6
6	12.4	12.2	12.3	12.8	12.2	12.5	10.7	9.9	10.4	7.5	7.3	7.5
7	12.3	12.1	12.2	12.9	12.4	12.7	9.9	8.7	9.2	7.8	7.1	7.4
8	12.2	11.9	12.1	13.0	12.3	12.6	8.9	8.2	8.6	7.3	7.0	7.2
9	12.1	11.7	11.9	12.6	12.3	12.4	9.0	7.6	8.0	7.3	7.2	7.2
10	11.8	11.3	11.6	12.6	12.4	12.5	8.7	7.3	7.5	7.3	7.1	7.2
11	11.4	11.0	11.2	12.9	12.4	12.8	7.8	7.3	7.5	7.4	7.1	7.3
12	11.3	10.5	10.9	13.0	12.8	12.9	7.6	7.3	7.4	7.5	7.2	7.4
13	10.6	10.4	10.5	13.0	12.9	13.0	7.6	7.3	7.4	7.4	7.2	7.3
14	10.6	10.2	10.5	13.0	12.9	13.0	7.9	7.5	7.7	7.3	6.8	7.1
15	10.9	10.4	10.6	13.1	12.9	13.0	8.1	7.4	7.8	6.9	5.8	6.5
16	11.0	10.5	10.8	13.1	12.9	13.0	7.8	7.3	7.5	6.6	5.8	6.4
17	11.2	10.9	11.1	13.1	12.8	13.0	8.0	7.2	7.5	6.5	6.2	6.3
18	11.4	11.2	11.3	13.0	12.8	12.9	8.2	7.7	7.8	6.4	6.0	6.2
19	11.5	10.8	11.2	13.0	12.9	12.9	8.5	7.9	8.0	6.2	5.8	6.0
20	11.4	11.2	11.3	13.0	12.8	12.9	8.4	7.9	8.1	6.6	6.0	6.3
21	11.4	11.1	11.3	12.9	12.6	12.7	8.4	8.1	8.3	6.9	6.0	6.6
22	11.4	11.2	11.3	12.6	12.4	12.5	8.7	8.2	8.4	7.1	6.6	7.0
23	11.3	11.0	11.2	12.4	12.2	12.3	9.1	8.4	8.8	7.1	6.8	7.0
24	11.6	11.2	11.4	12.2	11.9	12.1	9.0	8.5	8.8	7.2	6.7	6.9
25	11.6	11.3	11.5	12.1	11.8	11.9	8.7	8.3	8.4	7.2	6.6	6.9
26	11.7	11.4	11.5	11.8	11.4	11.7	9.0	8.6	8.8	7.3	6.7	6.9
27	11.7	11.4	11.6	11.6	11.3	11.5	9.2	8.9	9.0	8.7	7.3	7.8
28	11.6	11.5	11.6	11.4	11.1	11.3	9.5	9.0	9.2	8.7	8.3	8.5
29	---	---	---	11.6	10.9	11.1	9.7	8.9	9.4	8.7	8.4	8.5
30	---	---	---	10.9	10.5	10.6	9.2	8.1	8.7	9.2	8.3	8.5
31	---	---	---	10.7	10.5	10.6	---	---	---	9.4	8.3	9.0
MONTH	13.4	10.2	11.6	13.1	10.5	12.2	11.1	7.2	8.7	9.4	5.8	7.3

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.3	8.8	9.1	7.2	6.3	6.7	6.1	5.4	5.6	5.8	5.4	5.6
2	9.0	8.4	8.8	6.9	6.4	6.5	6.0	5.2	5.5	5.7	5.2	5.4
3	8.6	8.1	8.3	7.8	7.5	7.7	5.6	5.0	5.2	5.4	5.1	5.3
4	8.3	8.0	8.1	7.7	6.8	7.2	5.5	5.1	5.2	5.4	4.8	5.0
5	8.1	7.8	8.0	8.5	7.5	8.0	5.7	5.1	5.2	5.3	4.3	4.6
6	7.8	7.5	7.7	8.3	7.0	7.6	5.5	5.1	5.2	4.6	4.1	4.3
7	7.6	7.4	7.5	7.2	6.3	6.9	5.4	5.0	5.1	4.5	4.0	4.3
8	7.6	7.4	7.5	6.9	6.0	6.3	6.0	5.1	5.4	4.6	3.8	4.2
9	7.6	7.4	7.5	6.5	5.9	6.1	5.8	5.4	5.6	5.0	4.4	4.7
10	7.7	7.5	7.6	6.8	6.0	6.2	5.8	5.2	5.4	5.0	4.6	4.8
11	8.0	7.4	7.5	7.6	6.1	6.5	5.8	5.3	5.5	5.4	4.2	4.8
12	8.0	7.3	7.5	6.8	6.0	6.2	5.5	5.0	5.2	5.1	4.4	4.8
13	7.6	7.4	7.5	6.7	5.8	6.2	5.3	5.0	5.2	5.5	4.6	5.0
14	7.8	7.5	7.5	6.7	5.8	6.0	5.9	5.1	5.4	5.4	4.7	5.1
15	8.3	7.3	7.5	6.4	5.8	6.0	5.6	5.1	5.4	5.6	4.8	5.2
16	7.5	7.3	7.3	6.4	5.8	6.1	5.5	4.6	5.0	6.0	4.9	5.2
17	7.6	7.3	7.4	7.0	5.6	5.9	5.4	4.7	4.9	5.5	4.5	5.2
18	7.9	7.2	7.4	5.9	5.3	5.5	5.7	5.1	5.4	5.4	4.3	4.9
19	7.4	7.0	7.2	6.4	5.1	5.5	5.9	5.1	5.6	5.1	3.7	4.2
20	7.5	6.9	7.2	5.6	5.1	5.3	5.5	4.8	5.2	5.0	4.2	4.7
21	7.7	7.2	7.4	6.4	4.4	5.4	5.2	4.3	4.6	5.6	4.4	4.8
22	8.0	7.6	7.8	6.9	5.6	6.3	5.0	4.3	4.5	5.8	4.8	5.3
23	7.9	7.6	7.8	7.2	6.0	6.5	4.5	3.7	4.0	5.7	4.8	5.3
24	7.9	7.6	7.7	6.8	6.1	6.3	5.2	4.0	4.7	5.6	5.3	5.5
25	7.9	7.2	7.5	7.0	6.0	6.4	5.9	5.0	5.4	5.7	5.2	5.5
26	7.4	6.9	7.1	6.7	5.8	6.3	6.5	5.8	6.0	5.9	5.5	5.6
27	7.7	6.8	7.0	7.0	5.6	6.2	6.3	6.0	6.2	5.7	5.1	5.4
28	7.4	6.7	7.2	6.8	5.5	6.0	6.8	5.9	6.2	5.7	5.1	5.3
29	7.4	6.8	7.1	5.9	5.3	5.5	6.7	5.9	6.4	5.9	5.1	5.4
30	7.1	6.3	6.8	5.9	5.2	5.5	6.3	5.8	6.1	6.1	5.2	5.6
31	---	---	---	6.0	5.2	5.5	6.3	5.5	5.9	---	---	---
MONTH	9.3	6.3	7.6	8.5	4.4	6.3	6.8	3.7	5.4	6.1	3.7	5.0
YEAR	13.7	3.7	8.7									

TURBIDITY (NTU), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	2.0	1.0	1.5	2.0	1.4	1.7	2.7	1.2	1.9	3.4	2.3	2.8
2	---	---	---	2.3	1.7	1.9	2.8	2.3	2.6	3.6	2.7	3.1
3	---	---	---	2.3	1.7	2.0	2.8	2.4	2.6	3.6	2.6	3.1
4	---	---	---	2.7	2.0	2.3	4.5	2.4	2.6	6.1	2.7	3.1
5	---	---	---	3.4	2.1	2.5	2.9	2.4	2.6	4.5	3.1	3.6
6	---	---	---	4.5	2.1	3.0	2.7	2.2	2.4	3.8	3.2	3.4
7	---	---	---	4.8	2.7	3.2	2.4	2.1	2.3	4.9	2.6	3.1
8	---	---	---	3.3	2.3	2.8	2.3	1.9	2.1	4.3	2.5	2.9
9	---	---	---	3.4	2.9	3.1	2.1	1.8	2.0	2.9	2.5	2.6
10	---	---	---	3.8	3.1	3.4	3.5	1.8	1.9	3.1	2.5	2.7
11	---	---	---	4.9	3.5	3.8	3.1	1.5	1.7	3.7	2.5	3.7
12	---	---	---	4.6	3.7	4.0	1.9	1.5	1.7	---	---	---
13	---	---	---	4.8	4.1	4.6	1.8	1.6	1.7	---	---	---
14	---	---	---	4.5	3.9	4.1	8.7	1.6	2.7	---	---	---
15	---	---	---	4.6	4.0	4.2	6.3	2.0	3.3	---	---	---
16	---	---	---	4.6	4.2	4.3	6.8	4.1	5.5	---	---	---
17	---	---	---	5.3	4.2	4.7	21	4.8	7.2	---	---	---
18	---	---	---	6.3	4.9	5.2	40	2.8	14	10	3.1	4.4
19	---	---	---	6.5	5.1	5.7	93	32	75	6.4	2.8	3.8
20	---	---	---	8.4	5.7	6.3	93	1.2	40	13	2.6	3.3
21	---	---	---	6.5	4.9	5.6	4.3	2.7	3.3	5.7	2.3	3.0
22	---	---	---	5.8	4.5	5.1	4.4	3.1	3.9	97	2.2	24
23	---	---	---	6.0	4.0	4.8	4.4	3.4	3.9	23	2.3	3.3
24	---	---	---	4.9	3.3	4.1	4.3	3.3	3.9	2.6	2.2	2.4
25	---	---	---	4.2	2.3	3.3	4.2	2.8	3.5	2.5	1.9	2.1
26	---	---	---	10	1.2	2.4	3.6	2.6	3.1	2.1	1.7	1.9
27	---	---	---	1.6	1.1	1.4	3.5	2.7	3.0	2.3	1.3	1.8
28	---	---	---	1.5	1.3	1.4	3.5	2.7	3.1	2.1	1.0	1.6
29	---	---	---	1.9	1.4	1.7	3.6	2.8	3.2	31	.8	4.1
30	---	---	---	2.1	1.8	1.9	3.7	2.9	3.3	13	.4	1.3
31	1.5	1.1	1.5	---	---	---	3.7	2.8	3.3	1.1	.4	.8
MONTH	---	---	---	10	1.1	3.5	93	1.2	6.9	---	---	---

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

TURBIDITY (NTU), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.2	0.5	1.0	2.8	1.8	2.4	2.2	1.1	1.5	2.4	1.7	2.0
2	1.3	.6	1.0	5.0	1.3	2.3	1.8	.6	1.3	2.7	1.8	2.2
3	1.3	.6	1.0	12	1.3	1.9	1.7	.9	1.2	2.8	2.1	2.5
4	1.5	.6	1.1	3.4	1.1	2.4	1.5	1.0	1.3	2.9	2.5	2.7
5	1.6	.6	1.2	5.6	1.8	3.5	1.6	1.3	1.4	3.8	2.6	2.8
6	1.4	.5	1.1	5.0	3.9	4.5	1.7	1.3	1.5	5.0	2.5	2.7
7	1.5	.8	1.2	4.3	3.6	3.9	1.9	1.4	1.7	3.0	2.2	2.5
8	2.0	1.3	1.6	4.0	3.4	3.7	1.9	1.6	1.7	3.7	2.3	2.9
9	2.1	1.4	1.8	3.8	3.4	3.6	1.7	1.3	1.4	4.5	3.0	3.7
10	2.5	1.4	1.7	4.1	3.4	3.7	1.4	1.2	1.3	5.2	3.7	4.3
11	2.0	1.4	1.8	4.1	3.4	3.8	3.7	1.2	1.4	5.6	4.1	4.9
12	2.3	1.5	1.8	4.1	3.4	3.6	1.3	1.0	1.1	5.4	2.5	3.6
13	2.1	1.8	1.9	3.5	3.2	3.3	1.4	.9	1.1	3.2	1.3	2.3
14	8.1	1.8	2.0	3.5	3.2	3.3	1.3	.8	1.0	4.0	1.3	2.0
15	2.3	1.9	2.0	3.4	3.0	3.1	1.3	.4	.9	15	2.2	2.9
16	4.5	1.9	2.0	3.3	3.0	3.1	5.7	.9	1.6	4.1	2.5	2.9
17	2.1	1.9	2.0	3.3	2.9	3.0	2.3	1.4	1.7	5.6	2.9	3.4
18	2.1	1.8	1.9	3.4	3.0	3.2	2.0	1.3	1.6	3.9	3.2	3.4
19	1.9	1.5	1.7	3.7	3.1	3.3	2.4	1.6	1.8	4.2	3.2	3.6
20	1.6	1.5	1.5	3.3	3.1	3.2	2.5	1.5	1.8	4.4	3.6	3.9
21	1.5	1.4	1.5	7.7	3.0	4.2	2.6	1.4	2.0	8.3	3.2	3.8
22	1.7	1.4	1.4	4.2	3.7	3.9	3.1	1.9	2.5	8.6	2.0	3.3
23	1.8	1.5	1.6	4.1	3.7	3.9	3.3	2.0	2.7	4.0	1.5	2.6
24	5.1	1.6	2.6	3.9	3.5	3.7	3.3	2.2	2.7	3.6	1.5	2.5
25	5.5	2.3	4.0	3.5	3.2	3.3	3.3	2.1	2.8	3.6	1.9	2.5
26	5.7	3.5	4.3	3.7	3.0	3.2	2.9	1.9	2.4	3.3	1.5	2.3
27	7.1	2.3	2.9	3.1	2.8	2.9	2.6	1.4	2.1	2.9	.7	1.8
28	3.3	2.3	2.8	2.8	2.6	2.7	2.6	.9	1.6	2.2	.9	1.2
29	---	---	---	3.3	2.3	2.5	21	.8	2.7	1.8	1.1	1.4
30	---	---	---	3.2	1.9	2.4	2.3	1.1	1.6	1.8	1.3	1.5
31	---	---	---	2.6	1.5	2.1	---	---	---	80	1.1	3.4
MONTH	8.1	0.5	1.9	12	1.1	3.2	21	0.4	1.7	80	0.7	2.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1.5	0.9	1.2	1.5	0.4	0.5	4.0	2.2	2.5	3.0	2.0	2.3
2	1.9	1.2	1.5	.8	.5	.7	3.8	2.2	2.5	3.0	2.3	2.5
3	2.0	1.5	1.7	.5	.4	.5	3.4	2.3	2.6	2.9	2.3	2.6
4	2.5	1.8	1.9	.5	.5	.5	3.1	2.1	2.5	3.8	2.6	2.9
5	3.3	1.9	2.4	.7	.5	.5	4.3	2.4	2.7	3.1	2.5	2.7
6	3.8	2.0	2.8	.9	.5	.5	3.2	2.4	2.6	2.8	2.3	2.5
7	3.2	2.0	2.2	.8	.5	.6	6.0	2.3	2.6	2.5	2.0	2.2
8	3.1	2.4	2.7	1.5	.6	.8	3.3	2.2	2.4	2.1	1.7	1.9
9	2.9	2.5	2.7	1.6	.9	1.1	4.1	2.4	2.7	1.9	1.4	1.5
10	3.9	2.6	2.9	1.7	1.1	1.3	4.4	2.0	2.3	1.5	1.2	1.3
11	7.0	2.7	3.8	2.5	1.4	1.6	3.1	1.8	2.1	1.7	1.3	1.4
12	11	3.6	5.9	1.9	1.5	1.6	3.9	1.6	2.2	1.7	1.3	1.4
13	32	3.0	11	1.9	1.4	1.7	3.6	1.7	2.5	1.6	1.4	1.5
14	4.8	3.4	4.2	1.9	1.5	1.6	6.7	1.1	2.5	1.6	1.4	1.5
15	3.9	2.8	3.4	1.7	1.4	1.6	2.1	1.2	1.6	2.2	1.4	1.6
16	3.9	2.8	3.2	1.7	1.4	1.5	2.7	1.6	2.1	9.4	1.3	1.9
17	4.6	2.3	3.1	1.7	1.3	1.5	3.6	2.1	2.6	2.8	1.3	2.0
18	3.8	2.3	3.1	1.5	1.2	1.4	3.4	2.2	2.9	6.7	1.5	2.8
19	3.6	2.0	2.8	1.4	1.2	1.3	3.1	2.9	3.0	5.4	2.4	4.2
20	2.7	1.1	2.0	2.3	1.0	1.2	4.2	2.8	3.1	5.1	2.7	3.6
21	2.9	.7	1.5	2.3	.7	1.1	45	2.8	4.9	4.2	1.4	2.3
22	1.5	.3	.9	1.5	.8	1.2	18	3.2	4.5	2.3	1.2	1.7
23	1.9	.3	.9	1.8	1.1	1.4	15	1.9	2.9	2.5	1.2	1.7
24	3.9	.3	2.5	2.0	1.3	1.6	19	1.3	2.0	2.6	1.2	1.6
25	5.2	.3	1.9	1.9	1.4	1.7	3.0	1.0	1.2	2.0	1.2	1.6
26	.5	.5	.5	2.1	1.5	1.7	3.2	1.0	1.2	88	1.5	73
27	.7	.4	.5	2.3	1.7	1.9	1.5	1.0	1.2	1.9	1.2	1.6
28	.7	.4	.4	2.4	1.7	2.0	1.5	1.0	1.2	2.3	1.1	1.6
29	.9	.4	.5	2.6	1.9	2.1	1.9	.4	1.3	2.7	1.0	1.5
30	3.1	.4	.5	2.7	2.1	2.4	2.4	1.5	1.7	4.4	1.0	1.7
31	---	---	---	4.2	2.1	2.4	2.3	1.6	1.9	---	---	---
MONTH	32	0.3	2.5	4.2	0.4	1.3	45	0.4	2.4	88	1.0	4.4

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	26.2	14.1	20.0	10.8	1.3	5.6	3.7	-4.0	-0.1	5.7	1.4	3.6
2	28.8	19.1	23.6	4.2	-3.0	.1	2.7	-4.6	-.4	1.7	-4.9	-2.9
3	22.5	13.2	18.0	5.8	-3.2	.2	-.8	-9.1	-6.0	2.5	-4.6	-1.8
4	17.4	10.5	13.7	9.7	-3.4	3.2	-.2	-9.6	-5.2	-1.2	-2.6	-1.9
5	26.4	14.7	21.7	8.8	-.3	4.5	-2.7	-5.8	-4.6	-.5	-5.6	-2.7
6	16.9	7.2	12.6	9.5	4.5	7.2	.1	-6.8	-3.5	-2.5	-6.8	-4.0
7	21.6	6.5	14.1	5.4	-2.8	2.3	3.5	-9.9	-2.2	-2.2	-8.1	-4.3
8	14.7	5.5	10.2	15.4	-2.0	7.3	5.8	-2.4	1.3	3.2	-8.0	-1.9
9	14.0	3.4	8.8	17.5	5.6	11.9	-2.1	-11.3	-7.9	3.7	-1.5	.6
10	17.2	9.3	12.4	21.6	11.5	16.3	3.7	-9.6	-2.3	2.6	-7.4	-1.7
11	15.3	10.7	13.1	20.4	14.5	18.8	6.0	-6.2	.2	-1.3	-7.0	-4.3
12	14.7	12.8	13.6	14.5	8.5	11.0	4.5	-.5	2.6	.4	-4.9	-2.7
13	14.8	12.9	13.9	8.5	6.9	7.8	7.8	-2.4	2.6	2.3	-7.5	-2.7
14	13.7	3.2	9.3	11.3	2.2	6.4	7.7	2.2	5.7	-4.3	-9.8	-7.3
15	11.6	.1	6.1	16.1	6.3	11.3	6.8	2.2	4.6	-4.2	-12.8	-7.9
16	16.9	5.8	11.7	9.0	.5	3.5	2.5	-3.5	.2	-3.0	-9.3	-5.9
17	17.8	6.6	12.0	7.0	1.3	2.8	-1.6	-6.8	-4.4	-1.8	-13.2	-5.6
18	13.5	4.1	9.9	5.3	-.5	3.2	4.2	-8.7	-3.8	-8.3	-18.5	-13.9
19	16.4	2.1	10.7	5.0	-2.2	2.0	8.0	-7.9	.9	-4.4	-17.8	-10.9
20	13.8	4.5	10.2	14.2	-.6	5.6	15.5	4.6	10.0	-2.5	-10.2	-6.3
21	11.7	1.5	6.5	5.9	-.6	3.0	7.1	1.2	3.8	-7.3	-13.2	-10.5
22	10.6	-.6	4.9	8.2	5.0	6.5	9.9	-.8	4.4	-9.0	-14.8	-12.6
23	7.8	1.3	4.2	7.0	1.3	3.8	5.7	1.0	3.4	-10.2	-17.0	-13.2
24	10.1	-.2	3.9	8.9	.9	4.8	3.8	-1.4	1.1	-3.8	-14.7	-9.3
25	10.2	-1.2	4.2	8.9	.4	5.1	3.4	-2.5	.3	-1.8	-13.4	-6.9
26	11.6	3.5	8.0	6.5	2.4	4.1	1.5	-4.0	-1.4	.5	-9.2	-3.8
27	14.4	5.1	8.9	2.4	-6.1	-1.5	1.8	-7.1	-3.3	-3.5	-16.4	-9.3
28	10.0	.7	6.4	-.7	-8.1	-4.6	1.1	-7.0	-3.2	-6.9	-19.1	-12.9
29	6.7	-.4	3.5	1.9	-4.8	-.9	4.2	-4.2	.1	-2.3	-9.8	-5.3
30	5.6	1.6	3.4	8.1	.9	4.6	-.1	-6.8	-2.6	-.8	-11.4	-5.5
31	9.5	-.9	3.4	---	---	---	4.5	-2.7	.8	2.3	-4.6	-.4
MONTH	28.8	-1.2	10.4	21.6	-8.1	5.2	15.5	-11.3	-0.3	5.7	-19.1	-5.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.2	-0.3	0.4	6.1	-8.8	-1.0	6.0	-3.0	0.7	16.4	9.4	12.7
2	4.1	.2	1.8	4.1	.6	1.8	10.3	-.3	3.9	25.0	9.0	17.4
3	7.0	1.5	4.2	2.6	-13.2	-7.9	4.6	2.2	3.5	17.4	6.8	11.6
4	5.5	1.4	3.9	2.1	-15.6	-5.9	2.5	-2.4	-.5	18.0	4.1	11.4
5	4.1	-6.1	-1.0	7.9	.2	4.7	1.7	-2.4	.1	20.6	4.0	13.2
6	-1.2	-9.3	-4.7	5.3	-9.8	-3.2	4.7	-1.2	1.2	14.4	8.6	11.4
7	-2.8	-10.8	-4.5	.0	-16.2	-6.8	2.0	-2.2	.0	23.9	12.1	17.6
8	-1.3	-13.8	-6.4	8.9	-3.4	2.2	1.7	-2.5	.0	16.6	8.5	10.2
9	2.1	-15.2	-5.3	9.1	-7.2	2.9	2.5	.3	1.4	18.6	6.6	11.9
10	3.7	-10.0	-2.8	-4.6	-10.4	-7.3	9.3	-1.4	3.9	22.4	6.6	14.1
11	-1.3	-9.4	-6.4	2.4	-11.2	-3.7	6.0	-.7	3.0	15.2	8.9	11.7
12	-.6	-12.4	-6.7	10.9	-.8	5.3	17.1	4.2	9.3	12.4	7.1	8.9
13	-7.4	-13.9	-10.6	5.2	-5.7	-.1	13.6	3.5	8.9	15.9	8.3	12.2
14	-6.0	-22.1	-12.4	-.7	-10.2	-5.5	16.3	-.9	7.5	17.3	9.3	12.7
15	-9.9	-16.8	-13.5	5.0	-4.6	-.3	27.9	9.4	18.5	17.5	7.0	12.1
16	-9.2	-18.0	-13.6	13.8	-4.8	2.4	28.2	5.7	17.6	9.9	6.3	8.6
17	-3.8	-11.2	-8.9	21.4	-.9	9.4	5.7	-1.1	1.2	12.5	3.5	8.5
18	-2.2	-8.8	-4.8	12.8	.4	4.3	7.1	-2.0	2.9	21.6	1.6	12.3
19	7.0	-6.0	.7	2.6	-3.5	.0	11.4	1.0	6.2	27.5	6.9	18.2
20	10.2	-2.1	3.6	7.0	-6.0	1.5	13.6	1.8	8.0	28.7	9.3	19.5
21	13.1	-3.9	5.5	19.7	3.6	10.8	18.1	2.4	10.7	18.3	11.7	14.7
22	4.2	1.4	2.5	13.8	6.1	8.7	10.2	6.5	8.1	13.7	9.4	12.2
23	3.9	-2.5	2.1	10.0	1.4	7.0	10.7	5.1	7.9	10.9	8.2	9.6
24	2.6	-5.4	-1.5	11.3	-.5	4.3	8.6	1.2	5.5	9.5	7.4	8.4
25	-1.9	-11.6	-5.2	13.9	.3	6.0	18.6	-.9	8.8	13.4	8.5	11.2
26	-4.8	-14.9	-10.5	21.4	3.9	11.1	10.3	7.7	9.2	12.3	8.4	10.5
27	-.1	-15.4	-7.1	14.4	2.3	8.4	19.0	6.0	11.0	17.0	8.8	12.5
28	.0	-7.8	-4.1	17.4	-.3	9.0	26.7	5.7	17.2	19.9	11.1	14.6
29	---	---	---	20.7	7.6	13.9	25.5	11.1	19.2	23.2	11.7	17.3
30	---	---	---	12.0	.7	6.1	18.1	9.4	13.4	24.8	11.8	17.7
31	---	---	---	2.5	-1.2	.6	---	---	---	21.4	12.3	16.4
MONTH	13.1	-22.1	-3.8	21.4	-16.2	2.5	28.2	-3.0	6.9	28.7	1.6	12.9

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.7	12.3	14.1	27.5	15.4	22.2	20.1	17.2	18.4	20.0	14.7	17.2
2	21.3	10.1	15.9	29.4	15.4	22.7	25.7	16.4	19.6	19.4	13.9	15.9
3	22.1	8.8	16.7	26.4	19.0	22.7	29.2	19.9	23.6	20.6	15.0	17.4
4	17.6	12.9	14.9	31.8	19.8	25.4	27.1	21.7	23.8	20.4	16.4	18.3
5	16.0	12.1	13.9	31.7	21.9	27.5	27.8	22.3	24.3	24.5	16.5	20.4
6	26.8	12.9	19.9	31.5	23.8	27.4	28.8	21.5	24.6	24.8	13.0	18.2
7	19.6	14.3	16.7	31.0	19.7	25.7	28.1	20.9	23.8	26.4	11.5	19.1
8	19.4	13.7	15.6	30.6	21.4	26.3	25.5	20.3	22.0	21.8	13.2	18.5
9	21.8	14.3	16.4	26.0	16.8	21.5	28.1	21.7	24.4	19.1	9.2	14.8
10	25.6	13.7	19.3	23.3	15.4	19.7	29.3	23.1	25.5	23.6	7.2	15.2
11	23.7	13.9	19.5	19.4	15.4	17.8	29.6	23.3	25.6	23.9	13.5	18.2
12	21.3	16.9	19.3	27.7	15.2	21.4	27.0	21.9	23.8	20.6	13.6	16.6
13	16.9	13.2	14.6	26.7	17.4	22.4	30.1	21.5	24.4	23.2	12.5	17.8
14	24.6	13.0	16.5	26.0	16.7	21.0	29.5	20.8	25.1	26.9	17.8	21.9
15	25.4	13.0	19.5	26.6	16.9	21.3	30.6	20.1	25.0	26.0	18.6	21.3
16	17.7	9.7	14.0	23.6	15.7	20.6	30.1	21.1	25.3	24.8	16.7	21.1
17	23.3	9.1	15.5	27.9	17.6	22.9	24.2	18.3	21.5	23.7	12.5	17.8
18	18.6	12.4	15.8	25.5	17.6	21.2	24.3	18.0	20.4	21.4	12.8	17.2
19	24.2	17.0	19.8	26.7	18.5	21.8	28.8	16.8	22.8	23.5	16.8	20.5
20	22.6	14.0	18.9	27.6	15.2	22.0	30.9	18.8	24.7	27.4	19.4	22.8
21	21.4	12.5	16.5	27.4	17.9	22.8	30.8	19.6	25.0	23.8	15.1	18.5
22	15.8	14.2	15.0	27.8	21.3	23.7	31.9	21.5	25.4	22.0	13.1	17.6
23	24.8	14.7	18.7	27.0	21.5	23.9	25.8	16.0	21.9	23.4	14.5	18.4
24	31.7	15.9	23.8	27.2	21.4	23.5	22.8	12.4	17.8	23.1	11.3	16.8
25	33.1	17.8	26.0	28.6	20.1	23.7	26.1	15.4	20.9	24.1	11.6	17.8
26	32.8	21.8	27.2	29.2	17.7	24.4	27.0	17.9	22.4	18.3	15.4	16.9
27	33.3	21.9	27.9	29.9	22.3	25.8	28.6	19.2	24.3	24.1	15.8	19.1
28	28.7	18.8	22.9	26.9	20.2	23.9	22.9	14.2	19.0	22.7	17.3	19.9
29	27.5	16.3	22.0	27.3	18.5	22.5	26.8	11.6	20.2	20.0	11.5	15.6
30	28.4	18.1	23.0	28.4	16.5	22.5	26.6	16.9	23.4	17.2	8.1	12.3
31	---	---	---	25.9	16.0	21.0	21.6	12.3	16.8	---	---	---
MONTH	33.3	8.8	18.7	31.8	15.2	22.9	31.9	11.6	22.8	27.4	7.2	18.1
YEAR	33.3	-22.1	9.3									

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

PRECIPITATION, TOTAL, INCHES WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.02	0.00	0.69	0.14	0.00	0.03	0.07	1.47	0.00	1.02	0.01
2	.00	.00	.00	.13	.82	1.07	.21	.00	.00	.00	.08	.52
3	.00	.00	.01	.88	.00	.00	.03	.00	.00	.00	.02	.00
4	.03	.03	.00	.40	.16	.00	.39	.00	.26	.00	1.37	.32
5	.02	.00	.08	.00	.00	.16	.42	.00	.24	.00	.04	.00
6	.00	.74	.04	.04	.00	.08	.00	.01	.00	.00	.05	.00
7	.00	.02	.00	.00	.36	.00	.04	.00	.81	.00	.19	.00
8	.00	.00	.00	.04	.00	.00	.23	.22	.00	.00	.99	.00
9	.00	.00	.00	.09	.00	.00	.14	.04	.00	.09	.00	.00
10	.00	.01	.00	.09	.10	.00	.00	.00	.00	.00	.08	.00
11	.16	.11	.29	.00	.00	.00	1.16	.03	.17	.16	.00	.00
12	.38	1.07	.34	.00	.03	.00	.42	.17	.00	.52	.93	.00
13	.15	.54	.06	.00	.00	.25	.00	.00	.27	.00	.01	.00
14	.01	.00	2.08	.00	.00	.00	.00	.03	.09	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06
16	1.47	.42	.18	.00	.00	.00	.00	.00	.01	.04	.00	.72
17	.01	.95	.00	.01	.69	.00	.00	.00	.00	.00	.01	.00
18	.00	.15	.00	.00	.05	.00	.00	.00	.27	.26	.04	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.13	.01	.49
20	.00	.00	1.58	.00	.00	.12	.00	.00	.00	.00	.00	.00
21	.00	.02	.00	.00	.00	.62	.01	.10	.26	.00	.00	.01
22	.00	.40	.00	.00	.99	.01	.56	.09	1.09	.31	.20	.00
23	.21	.02	.00	.00	.66	.00	.01	.14	.14	.48	.00	.90
24	.00	.00	.00	.00	.00	.00	.03	.21	.00	.17	.00	.00
25	.00	.03	.74	.00	.00	.00	.00	.12	.00	.00	.00	.00
26	1.78	.00	.12	.00	.00	.17	1.01	2.11	.00	.00	.00	.01
27	.00	.25	.00	.00	.00	.02	.00	.01	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.34	.00	.00	.00	.04
29	.00	.02	.00	.01	---	1.01	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	1.04	.00	.01	.00	.00	.00	.00
31	.00	---	.02	.00	---	.00	---	.08	---	.00	.00	---
TOTAL	4.22	4.80	5.54	2.38	4.00	4.55	4.69	3.78	5.08	2.16	5.04	3.08
MAX	1.78	1.07	2.08	0.88	0.99	1.07	1.16	2.11	1.47	0.52	1.37	0.90

WTR YR 2003 TOTAL 49.32 MAX 2.11

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

PERIOD OF RECORD.--June–September 2002.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

BEGIN DATE (MONTH/ DAY)	BEGIN TIME (HRMN)	END DATE (MONTH/ DAY)	END TIME (HRMN)	TURBIDITY FIELD WATER UNFILTERED (61028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	SEDIMENT, SUSPENDED SIEVE DIAMETER% FINER THAN 0.062 MM (70331)	SEDIMENT, SUSPENDED (MG/L) (80154)
6-11	1441	6-11	1441	1.7	373	83	1
6-11	1931	6-13	1303	1.2	372	85	2
6-17	1300	6-17	1300	1.7	376	91	4
6-21	1120	6-27	0837	1.2	390	51	4
7-09	1420	7-10	1516	1.4	466	83	2
7-10	1802	7-15	0602	1.7	544	90	2
7-15	0848	7-16	0946	1.9	612	68	3
7-16	1232	7-18	1130	1.6	636	82	2
7/18	1231	7/18	1231	1.9	658	88	2
7-18	1244	7-20	1720	1.0	678	83	1
7-20	2006	7-23	0044	1.0	700	80	2
7-23	0330	7-24	0424	1.0	714	67	2
7-24	0610	7-25	0808	1.0	719	65	3
7-25	1054	7-28	1914	1.2	727	71	1
7-28	2200	7-29	2254	2.7	738	83	1
7-30	0140	8-03	1344	.8	747	50	2
8-03	1630	8-04	1724	2.0	761	70	2
8-04	2010	8-19	0132	.9	782	62	1
8-14	1310	8-14	1310	2.6	792	89	1
8-19	0418	8-20	0514	1.4	808	67	2
8-21	1144	8-22	1238	1.5	806	75	4
8-22	1524	8-23	1620	1.6	805	75	2
8-23	1906	8-24	2002	1.8	806	85	2
8-24	2248	8-25	2344	1.8	817	78	5
8-26	0230	8-27	0424	2.4	806	30	5
9-02	0032	9-03	0126	1.4	797	54	4
9-03	0414	9-04	1902	1.4	798	60	4

CHARLES RIVER BASIN

01104480 STONY BROOK RESERVOIR AT DAM NEAR WALTHAM, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	PH, WATER, UNFLTRD LAB, STD UNITS (00403)	SPECIF. CONDUCTANCE, WAT UNF LAB, US/CM 25 DEG C (90095)	SPECIF. CONDUC-TANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, AIR, DEG C (00020)	TEMPER-ATURE, WATER, DEG C (00010)	CALCIUM WATER, FLTRD, MG/L (00915)	MAGNES-IUM, WATER, FLTRD, MG/L (00925)	POTAS-SIUM, WATER, FLTRD, MG/L (00935)	SODIUM, WATER, FLTRD, MG/L (00930)	ALKALINITY, WAT FLT FXD END LAB, MG/L AS CACO3 (29801)
MAR 2003										
05...	6.4	498	518	6.9	2.7	21.9	4.14	2.18	63.4	29

DATE	CHLORIDE, WATER, FLTRD, MG/L (00940)	SULFATE WATER, FLTRD, MG/L (00945)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	PHOS-PHORUS, WATER, UNFLTRD MG/L (00665)	CADMIUM WATER, UNFLTRD UG/L (01027)	CHROMIUM, WATER, UNFLTRD RECOVER -ABLE, UG/L (01034)	COPPER, WATER, UNFLTRD RECOVER -ABLE, UG/L (01042)	IRON, WATER, UNFLTRD RECOVER -ABLE, UG/L (01045)
MAR 2003										
05...	122	16.7	0.37	0.10	1.00	<0.04	<0.2	E0.6	1.5	<20

DATE	LEAD, WATER, UNFLTRD RECOVER -ABLE, UG/L (01051)	NICKEL, WATER, UNFLTRD RECOVER -ABLE, UG/L (01067)	ZINC, WATER, UNFLTRD RECOVER -ABLE, UG/L (01092)	9H-FLUOR-ENE, WATER, UNFLTRD UG/L (34381)	ACE-NAPHTH-ENE, WATER, UNFLTRD UG/L (34205)	ACE-NAPHTH-YLENE, WATER, UNFLTRD UG/L (34200)	ANTHRA-CENE, WATER, UNFLTRD UG/L (34220)	BENZO-[A]-ANTHRA-CENE, WATER, UNFLTRD UG/L (34526)	BENZO-[A]-PYRENE, WATER, UNFLTRD UG/L (34247)
MAR 2003									
05...	E0.8	<2.0	<25	<2	<2	<2	<2	<2	E0.04

DATE	BENZO-[B]-FLUOR-ANTHENE WATER UNFLTRD UG/L (34230)	BENZO-[G,H,I]-PERYLENE, WATER, UNFLTRD UG/L (34521)	BENZO-[K]-FLUOR-ANTHENE WATER UNFLTRD UG/L (34242)	CHRYSENE, WATER, UNFLTRD UG/L (34320)	DI-BENZO-[A,H]-ANTHRACENE, WAT UNF UG/L (34556)	FLUOR-ANTHENE WATER UNFLTRD UG/L (34376)	INDENO-[1,2,-3-CD] PYRENE, WATER, UNFLTRD UG/L (34403)	NITRO-BENZENE WATER UNFLTRD UG/L (34447)
MAR 2003								
05...	E0.05	<3	<2	E0.03	<3	E0.1	<3	<2

DATE	PHENAN-THRENE, WATER, UNFLTRD UG/L (34461)	PHENOLIC COMPOUNDS, WATER, UNFLTRD UG/L (32730)	PYRENE, WATER, UNFLTRD UG/L (34469)	NAPHTH-ALENE, WATER, UNFLTRD UG/L (34696)	SUSPND. SEDIMENT, SIEVE DIAMETR PERCENT <.063 MM (70331)	SUS-PENDED SEDIMENT CONCEN-TRATION MG/L (80154)
MAR 2003						
05...	<2	<16	E0.1	<2	81	2

E Estimated

CHARLES RIVER BASIN

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 mi^2, excludes 23.7 mi^2 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: WDR MA-RI-01-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 20.02 ft above National Geodetic Vertical Datum of 1929. 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. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--72 years, 310 ft^3/s (water years, 1932–2003).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,150 ft^3/s, Feb. 3, 1976, gage height, 6.54 ft, caused by release of water stored behind ice jam upstream; minimum, 0.1 ft^3/s, Oct. 1, 12, 1943; minimum daily, 0.2 ft^3/s, Oct. 4, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1886, that of Feb. 3, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,170 ft^3/s, Mar. 30, gage height, 3.85 ft; minimum, 34 ft^3/s, Oct. 11, 16 ; minimum daily, 35 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	162	342	637	204	483	1100	559	758	446	192	85
2	54	142	319	704	238	567	1080	512	821	425	197	100
3	57	127	293	677	255	673	1080	496	772	378	208	81
4	55	116	249	739	277	610	1100	484	716	326	284	118
5	56	107	255	720	311	597	1100	460	720	301	325	137
6	50	154	234	692	308	613	1060	434	686	270	252	136
7	48	163	213	661	313	571	986	380	683	231	241	137
8	43	161	206	619	301	564	943	310	723	189	379	134
9	39	163	185	614	294	582	916	319	694	175	393	126
10	37	167	160	585	289	591	890	304	651	159	375	117
11	35	169	170	549	276	563	938	294	624	162	360	107
12	40	178	296	505	262	573	1100	298	615	186	407	93
13	45	286	313	484	245	579	1080	288	599	164	413	60
14	47	288	560	416	240	511	1040	269	593	150	380	63
15	46	297	893	427	231	500	1020	258	565	128	386	85
16	68	315	849	423	213	490	1000	242	483	133	338	176
17	114	512	809	416	216	525	963	214	371	124	277	163
18	92	564	777	368	191	639	886	213	403	133	246	86
19	61	509	757	347	208	713	804	206	419	156	189	103
20	82	495	829	333	209	735	773	198	371	153	124	121
21	91	494	961	305	215	851	745	187	356	152	142	118
22	81	552	906	284	270	907	651	171	484	174	135	105
23	86	529	861	256	490	939	559	165	721	254	154	99
24	81	498	824	246	486	983	542	178	688	253	139	139
25	68	473	820	235	456	1000	548	210	661	256	124	146
26	140	453	836	225	451	1000	593	300	684	245	100	141
27	187	444	794	217	474	989	639	463	696	248	103	157
28	169	420	751	206	487	931	613	535	681	234	90	160
29	185	390	716	207	---	877	593	603	653	201	95	152
30	182	366	695	203	---	1080	586	572	563	182	93	138
31	175	---	665	200	---	1160	---	597	---	155	88	---
TOTAL	2561	9694	17538	13500	8410	22396	25928	10719	18454	6743	7229	3583
MEAN	82.6	323	566	435	300	722	864	346	615	218	233	119
MAX	187	564	961	739	490	1160	1100	603	821	446	413	176
MIN	35	107	160	200	191	483	542	165	356	124	88	60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)

MEAN	153	252	340	367	408	623	610	364	250	132	117	114
MAX	727	1031	991	1173	946	1398	1446	798	1346	915	873	616
(WY)	1997	1956	1997	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	85338		146755			
ANNUAL MEAN	234		402		310	
HIGHEST ANNUAL MEAN					558	1984
LOWEST ANNUAL MEAN					129	1966
HIGHEST DAILY MEAN	961	Dec 21	1160	Mar 31	2940	Jan 26 1979
LOWEST DAILY MEAN	16	Aug 28	35	Oct 11	0.20	Oct 4 1943
ANNUAL SEVEN-DAY MINIMUM	17	Aug 22	41	Oct 8	1.6	Sep 30 1943
MAXIMUM PEAK FLOW			1170	Mar 30	4150	Feb 3 1976
MAXIMUM PEAK STAGE			3.85	Mar 30	6.54	Feb 3 1976
INSTANTANEOUS LOW FLOW			34	Oct 11	0.10	Oct 1 1943
10 PERCENT EXCEEDS	512		826		681	
50 PERCENT EXCEEDS	196		310		223	
90 PERCENT EXCEEDS	37		100		44	

CHARLES RIVER BASIN

01104615 CHARLES RIVER ABOVE WATERTOWN DAM AT WATERTOWN, MA
(National Water-Quality Assessment Site)

PERIOD OF RECORD.--October 1998 to September 2001.
Discharge records: August 1999 to September 2000 (discontinued).

PERIOD OF DAILY RECORD.--
DISCHARGE: August 1999 to September 2000 (discontinued).
SPECIFIC CONDUCTANCE: August 1999 to September 2000 (discontinued).
WATER TEMPERATURE: August 1999 to September 2000 (discontinued).

INSTRUMENTATION.--Specific conductance and temperature water-quality monitor.

EXTREMES FOR PERIOD OF DAILY RECORD.--
DISCHARGE: Maximum discharge, 1,370 ft^3/s, Sept. 10, 1999, gage height, 5.48 ft; minimum 14 ft^3/s, Sept. 7, 1999.
SPECIFIC CONDUCTANCE: Maximum recorded, 1200 us/cm, Jan. 31, 2000; minimum, 167 us/cm, June 6, 2000.
WATER TEMPERATURE: Maximum recorded,26.0°C, Aug. 19, 1999; minimum, -0.2°C, Dec. 28, 1999.

REMARKS.--Instantaneous discharge estimated from Charles River at Waltham, MA gage, 01104500. Selected samples were analyzed for pesticide compounds on schedule 2001 (listed with non-detection values or minimum reporting levels in the section “Explanation of the Records.”); only pesticide compounds identified by the analyses (either as estimated values or as values at or above the non-detection level or minimum reporting level) for one or more samples are listed in the water-quality data tables.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE, CFS (00061)	BARO-METRIC PRES-SURE, MM HG (00025)	DIS-SOLVED OXYGEN, MG/L (00300)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUC-TANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, AIR, DEG C (00020)	TEMPER-ATURE, WATER, DEG C (00010)	ALKA-LINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)	BICAR-BONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)	CHLOR-IDE, WATER, FLTRD, MG/L (00940)	SULFATE WATER, FLTRD, MG/L (00945)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)
NOV 2002													
22...	0830	E667	752	11.9	7.0	357	6.7	5.5	20	25	70.8	18.0	0.58
DEC													
10...	0830	E168	768	13.7	7.3	415	-2.9	.1	30	37	177	19.9	.60
JAN 2003													
28...	0830	E215	768	13.0	6.6	553	-14.6	.1	31	37	129	18.0	.51
FEB													
13...	0800	E240	758	13.9	6.9	701	-12.7	.1	26	32	179	16.9	.57
APR													
11...	0930	E1050	763	12.6	6.9	460	5.5	5.5	16	19	111	11.8	.36
MAY													
09...	0900	E342	758	8.8	6.7	478	12.3	15.2	25	31	113	11.4	.69
JUN													
12...	1000	730	758	7.9	6.7	361	20.9	19.6	23	28	83.5	8.3	.69
JUL													
09...	0830	E190	755	6.1	6.7	414	26.3	26.6	40	49	97.9	7.3	.72
AUG													
20...	1045	E145	--	7.0	7.1	434	--	23.7	--	--	--	--	--
26...	0930	122	756	6.5	7.1	455	23.0	22.6	47	58	103	11.0	.67
SEP													
03...	0830	E94	763	6.6	7.0	497	16.0	19.5	45	55	112	16.7	.71

CHARLES RIVER BASIN

01104615 CHARLES RIVER ABOVE WATERTOWN DAM AT WATERTOWN, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOS-PHATE, WATER, FLTRD, MG/L AS P (00671)	PHOS-PHORUS, WATER, UNFLTRD MG/L (00665)	CHLORO-PHYLL A PERI-PHYTON, CHROMO-FLUORO, MG/M2 (70957)	ATRA-ZINE, WATER, FLTRD, UG/L (39632)	CAR-BARYL, WATER, FLTRD 0.7U GF UG/L (82680)	DIAZI-NON, WATER, FLTRD, UG/L (39572)	FIPRO-NIL, WATER, FLTRD, UG/L (62166)	METOLA-CHLOR, WATER, FLTRD, UG/L (39415)	PROME-TON, WATER, FLTRD, UG/L (04037)	SUS-PENDED SEDI-MENT CONCEN-TRATION MG/L (80154)
NOV 2002													
22...	E0.03	0.65	0.009	<0.02	0.056	--	<0.007	<0.041	<0.005	<0.007	<0.013	<0.01	--
DEC													
10...	.18	1.00	.009	E.01	.036	--	--	--	--	--	--	--	1
JAN 2003													
28...	.15	1.41	.020	<.02	.030	--	--	--	--	--	--	--	4
FEB													
13...	.20	1.14	.018	<.02	.034	--	<.007	E.016	<.005	<.007	<.013	<.01	4
APR													
11...	E.03	.64	E.005	<.02	.022	--	<.007	<.041	<.005	<.007	<.013	<.01	3
MAY													
09...	.07	.49	.011	<.02	.055	--	<.007	<.041	<.005	<.007	<.013	<.01	9
JUN													
12...	.07	.34	.009	E.02	.073	--	E.005	E.131	.006	E.004	E.004	E.004	9
JUL													
09...	E.03	.40	.010	.04	.096	--	E.006	E.015	<.005	E.003	<.013	<.01	5
AUG													
20...	--	--	--	--	--	136	--	--	--	--	--	--	--
26...	.07	.34	.009	.02	.069	--	E.005	E.031	<.005	<.007	E.001	E.01	6
SEP													
03...	.16	.33	.015	.04	.091	--	.008	E.007	<.005	<.007	<.013	<.01	4

< Less than
E Estimated value

CHARLES RIVER BASIN

01104683 MUDDY RIVER AT BROOKLINE, MA

LOCATION.--Lat 42°20'14", long 71°06'42", Norfolk County, Hydrologic Unit 01090001, on right bank, 10 ft downstream of Netherlands Road bridge in Olmsted Park, and 0.5 mi north of Brookline.

DRAINAGE AREA.--5.71 mi^2.

PERIOD OF RECORD.--Gage height: November 1999 to October 2000, August 2001 to current year.
Precipitation: August 2001 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 10.0 ft (Boston City Base Datum). Subtract 5.65 ft from gage height readings to obtain elevation above National Geodetic Vertical Datum (NGVD) of 1929.

REMARKS.--Gage height records good; precipitation records not rated. Daily or more frequent fluctuations related to pool stage fluctuations in lower Charles River Basin and operation of flood-control gates and pumps at Charles River Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 12.86 ft, June 6, 2000; minimum recorded, 7.22 ft, Oct. 16, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 11.38 ft, May 28; minimum, 7.22 ft, Oct. 16.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.77	7.68	7.72	7.76	7.47	7.62	7.45	7.28	7.34	9.07	7.91	8.13
2	7.80	7.50	7.68	7.77	7.46	7.61	7.38	7.28	7.31	9.16	7.83	8.46
3	7.74	7.48	7.59	7.67	7.46	7.56	7.45	7.29	7.36	8.94	7.65	7.88
4	7.61	7.44	7.54	7.70	7.35	7.47	7.61	7.40	7.53	8.94	8.10	8.60
5	7.62	7.48	7.55	7.60	7.26	7.35	7.73	7.55	7.65	8.10	7.77	7.88
6	7.71	7.62	7.67	8.33	7.26	7.85	7.69	7.56	7.63	7.81	7.71	7.76
7	7.75	7.48	7.58	7.61	7.39	7.49	7.67	7.53	7.61	7.71	7.65	7.68
8	7.65	7.54	7.61	7.73	7.54	7.63	7.61	7.52	7.56	7.66	7.61	7.63
9	7.72	7.64	7.69	7.69	7.50	7.60	7.61	7.54	7.57	7.71	7.60	7.66
10	7.76	7.66	7.72	7.69	7.48	7.58	7.61	7.53	7.57	7.79	7.59	7.67
11	7.73	7.25	7.44	7.69	7.52	7.59	8.13	7.52	7.57	7.66	7.50	7.55
12	7.45	7.26	7.35	8.75	7.39	7.77	9.23	7.78	8.55	7.50	7.48	7.49
13	7.66	7.25	7.32	8.75	7.69	8.25	7.78	7.48	7.57	7.59	7.48	7.52
14	7.63	7.34	7.40	7.72	7.52	7.63	11.13	7.59	9.22	7.51	7.46	7.48
15	7.45	7.23	7.33	7.70	7.33	7.51	10.47	7.95	8.69	7.47	7.45	7.46
16	8.91	7.22	7.89	8.12	7.32	7.40	8.29	7.83	8.03	7.52	7.44	7.47
17	8.16	7.51	7.64	9.92	8.05	8.85	8.09	7.67	7.91	7.53	7.44	7.47
18	7.71	7.39	7.54	8.67	7.54	8.03	7.92	7.59	7.75	7.48	7.42	7.45
19	7.57	7.34	7.47	7.66	7.43	7.53	7.88	7.60	7.69	7.47	7.42	7.44
20	7.54	7.39	7.46	7.74	7.42	7.58	9.99	7.64	8.41	7.46	7.41	7.43
21	7.68	7.49	7.57	7.71	7.39	7.56	9.06	7.88	8.23	7.45	7.40	7.42
22	7.68	7.51	7.58	8.29	7.40	7.88	8.25	8.23	8.25	7.42	7.40	7.40
23	7.71	7.51	7.63	7.59	7.37	7.48	8.23	8.08	8.17	7.44	7.40	7.42
24	7.73	7.38	7.61	7.49	7.35	7.40	8.09	7.94	8.02	7.41	7.39	7.40
25	7.55	7.28	7.44	7.55	7.34	7.40	8.46	7.89	8.08	7.42	7.38	7.40
26	10.24	7.27	8.46	7.47	7.34	7.39	8.34	8.06	8.15	7.40	7.38	7.38
27	8.48	7.46	7.72	7.63	7.33	7.53	8.06	7.92	7.97	7.40	7.37	7.38
28	7.75	7.46	7.61	7.49	7.32	7.39	7.99	7.89	7.92	7.46	7.38	7.40
29	7.81	7.59	7.69	7.46	7.31	7.37	7.95	7.87	7.89	7.42	7.37	7.39
30	7.80	7.52	7.65	7.52	7.31	7.40	7.92	7.83	7.86	7.38	7.36	7.37
31	7.79	7.52	7.65	---	---	---	7.91	7.82	7.86	7.53	7.36	7.39
MONTH	10.24	7.22	7.61	9.92	7.26	7.62	11.13	7.28	7.90	9.16	7.36	7.60

CHARLES RIVER BASIN

01104683 MUDDY RIVER AT BROOKLINE, MA--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.46	7.38	7.40	7.49	7.43	7.46	8.15	8.04	8.08	8.08	7.84	7.93
2	8.24	7.46	7.80	10.30	7.45	8.43	8.13	8.01	8.06	8.08	7.83	7.92
3	7.93	7.55	7.66	9.23	7.64	8.11	8.12	7.95	8.02	7.95	7.81	7.87
4	7.94	7.48	7.66	7.79	7.59	7.68	8.37	7.96	8.18	8.03	7.81	7.90
5	7.80	7.46	7.56	8.26	7.74	7.96	8.45	7.98	8.14	8.01	7.81	7.89
6	7.46	7.41	7.44	8.11	7.80	7.90	8.20	7.93	8.02	7.98	7.80	7.87
7	7.45	7.41	7.43	7.81	7.75	7.78	7.93	7.89	7.91	7.98	7.75	7.84
8	7.44	7.42	7.43	7.89	7.74	7.80	8.00	7.90	7.97	7.81	7.72	7.76
9	7.42	7.40	7.41	8.13	7.79	7.95	8.07	7.90	7.98	7.90	7.72	7.79
10	7.44	7.41	7.42	7.98	7.77	7.84	7.99	7.89	7.92	8.01	7.79	7.87
11	7.44	7.39	7.41	7.77	7.74	7.75	10.36	7.87	8.65	7.91	7.72	7.80
12	7.50	7.38	7.41	7.93	7.73	7.81	10.02	8.50	9.24	7.87	7.73	7.79
13	7.47	7.36	7.39	7.91	7.83	7.85	8.50	8.15	8.27	7.82	7.70	7.76
14	7.40	7.35	7.36	7.84	7.76	7.79	8.32	8.00	8.09	7.75	7.67	7.72
15	7.56	7.35	7.42	7.76	7.73	7.75	8.06	7.96	8.01	7.67	7.65	7.66
16	7.36	7.34	7.34	7.86	7.73	7.79	8.01	7.91	7.95	7.88	7.65	7.75
17	7.48	7.33	7.40	8.03	7.78	7.89	7.92	7.86	7.89	7.95	7.79	7.86
18	7.49	7.40	7.45	7.99	7.88	7.94	7.91	7.83	7.87	7.98	7.72	7.82
19	7.43	7.39	7.41	8.10	7.84	7.94	7.88	7.81	7.84	7.89	7.72	7.80
20	7.54	7.39	7.45	7.88	7.82	7.84	7.90	7.80	7.82	7.85	7.72	7.78
21	7.64	7.41	7.51	8.51	7.88	8.22	7.85	7.79	7.82	7.78	7.69	7.73
22	9.70	7.47	8.12	8.07	7.91	7.97	8.57	7.80	8.08	7.71	7.65	7.67
23	10.06	8.55	9.29	7.94	7.86	7.89	8.19	7.79	7.89	7.85	7.68	7.75
24	8.55	7.74	7.96	7.94	7.84	7.87	7.80	7.77	7.78	7.88	7.64	7.74
25	7.74	7.54	7.59	8.02	7.82	7.87	7.81	7.76	7.78	8.08	7.70	7.90
26	7.55	7.49	7.51	8.08	7.83	7.91	9.37	7.76	8.21	10.62	7.65	8.54
27	7.78	7.48	7.58	8.01	7.80	7.89	8.87	7.87	8.14	9.93	7.82	8.39
28	7.54	7.45	7.48	7.86	7.77	7.80	7.97	7.81	7.85	11.38	7.74	8.68
29	---	---	---	9.51	7.77	7.91	8.14	7.88	8.00	10.00	7.94	8.53
30	---	---	---	10.14	9.04	9.53	8.10	7.87	7.97	7.94	7.82	7.87
31	---	---	---	9.27	8.15	8.53	---	---	---	7.96	7.77	7.84
MONTH	10.06	7.33	7.58	10.30	7.43	7.96	10.36	7.76	8.05	11.38	7.64	7.90

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.32	7.93	8.96	8.09	7.68	7.87	8.59	7.81	8.16	7.77	7.60	7.67
2	8.81	7.92	8.20	8.19	7.80	8.00	8.10	7.46	7.66	8.13	7.63	7.84
3	7.95	7.82	7.88	8.21	7.84	8.03	9.43	7.44	7.98	7.63	7.52	7.56
4	7.88	7.80	7.83	8.31	7.89	8.12	8.58	7.76	8.08	8.55	7.54	8.03
5	8.05	7.76	7.90	8.35	8.05	8.17	8.30	7.57	7.76	7.75	7.57	7.61
6	7.90	7.62	7.71	8.15	7.80	7.97	7.87	7.55	7.67	7.90	7.68	7.76
7	9.20	7.65	8.11	8.04	7.77	7.90	7.66	7.47	7.51	7.98	7.89	7.92
8	8.76	7.71	7.99	7.99	7.78	7.86	9.54	7.66	8.45	8.02	7.91	7.97
9	8.01	7.70	7.82	7.96	7.73	7.85	7.76	7.48	7.56	8.09	7.87	8.00
10	7.96	7.66	7.78	7.82	7.62	7.71	7.79	7.48	7.60	7.97	7.78	7.88
11	8.43	7.68	7.98	7.89	7.63	7.75	7.64	7.51	7.57	7.93	7.78	7.86
12	8.05	7.64	7.82	7.81	7.65	7.71	8.18	7.62	7.97	7.95	7.84	7.91
13	7.86	7.57	7.67	7.91	7.74	7.83	8.15	7.62	7.87	7.84	7.71	7.79
14	7.70	7.55	7.63	7.95	7.81	7.87	8.01	7.62	7.81	7.71	7.56	7.64
15	7.90	7.55	7.72	8.00	7.79	7.90	8.32	7.83	8.04	7.74	7.54	7.61
16	7.99	7.65	7.81	7.94	7.77	7.85	8.06	7.59	7.79	8.88	7.59	8.09
17	7.91	7.64	7.75	8.02	7.76	7.89	7.73	7.53	7.61	7.72	7.44	7.56
18	7.89	7.63	7.74	8.16	7.76	7.94	7.80	7.53	7.65	7.44	7.40	7.42
19	7.82	7.59	7.65	8.19	7.85	8.06	7.82	7.64	7.71	7.81	7.41	7.57
20	7.74	7.55	7.63	7.94	7.75	7.84	7.78	7.62	7.69	7.62	7.43	7.49
21	7.96	7.49	7.58	7.79	7.58	7.67	7.90	7.69	7.77	7.56	7.43	7.47
22	10.39	7.63	8.75	8.92	7.57	8.05	8.26	7.62	7.85	7.70	7.49	7.60
23	9.45	7.76	8.31	8.90	7.82	8.28	8.11	7.63	7.78	9.83	7.44	8.07
24	7.89	7.66	7.74	7.85	7.65	7.74	7.79	7.62	7.69	8.81	7.51	7.91
25	8.01	7.67	7.79	7.99	7.65	7.75	7.82	7.64	7.74	7.51	7.43	7.47
26	8.20	7.82	8.01	8.04	7.91	7.96	7.88	7.58	7.77	7.44	7.42	7.42
27	8.33	7.95	8.13	8.12	7.76	7.92	7.67	7.57	7.61	7.51	7.41	7.45
28	8.36	7.96	8.14	7.93	7.78	7.84	7.76	7.62	7.70	7.44	7.42	7.42
29	8.44	7.80	8.07	7.94	7.82	7.89	7.94	7.70	7.84	7.51	7.42	7.45
30	8.07	7.67	7.85	8.21	7.88	8.07	7.76	7.62	7.69	7.52	7.40	7.45
31	---	---	---	8.20	7.80	8.03	7.71	7.61	7.66	---	---	---
MONTH	10.39	7.49	7.93	8.92	7.57	7.91	9.54	7.44	7.78	9.83	7.40	7.70
YEAR	11.38	7.22	7.80									

CHARLES RIVER BASIN

01104683 MUDDY RIVER AT BROOKLINE, MA--Continued

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.02	0.00	0.53	0.18	0.00	0.01	0.08	1.30	0.00	0.75	0.00
2	.00	.00	.00	.07	.67	.98	.16	.00	.00	.00	.04	.47
3	.02	.00	.01	.72	.00	.00	.03	.03	.00	.00	.83	.00
4	.03	.04	.00	.65	.14	.00	.39	.00	.04	.00	.31	.62
5	.03	.00	.13	.00	.00	.14	.27	.00	.14	.00	.01	.00
6	.00	.98	.12	.03	.00	.21	.01	.01	.00	.00	.00	.00
7	.00	.03	.00	.00	.40	.06	.01	.00	.86	.00	.15	.00
8	.00	.00	.00	.03	.00	.00	.19	.14	.00	.00	.96	.00
9	.00	.00	.00	.07	.00	.01	.11	.06	.00	.10	.00	.00
10	.00	.01	.00	.05	.06	.00	.00	.00	.00	.00	.00	.00
11	.12	.07	.32	.00	.00	.00	1.45	.05	.32	.21	.00	.00
12	.37	.84	.63	.00	.03	.00	.43	.15	.01	.03	.20	.00
13	.34	.63	.07	.00	.00	.18	.00	.00	.18	.00	.00	.00
14	.01	.00	2.19	.00	.00	.00	.00	.05	.08	.00	.00	.06
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07
16	1.18	.56	.20	.00	.00	.00	.00	.00	.00	.02	.00	.66
17	.00	1.59	.00	.00	.37	.00	.00	.00	.00	.01	.01	.00
18	.00	.15	.00	.00	.64	.00	.00	.00	.16	.23	.00	.00
19	.00	.00	.00	.00	.11	.00	.00	.00	.00	.32	.00	.21
20	.00	.00	1.21	.00	.00	.08	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.31	.04	.11	.27	.00	.00	.00
22	.00	.57	.00	.00	.87	.00	.55	.05	1.75	.87	.30	.00
23	.27	.01	.00	.00	.61	.00	.02	.19	.07	.55	.00	.79
24	.00	.00	.00	.00	.00	.00	.02	.29	.00	.19	.00	.00
25	.00	.05	1.03	.00	.00	.00	.00	.17	.00	.00	.00	.00
26	1.87	.00	.16	.00	.00	.14	.93	1.66	.00	.00	.00	.00
27	.00	.42	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	1.64	.00	.00	.00	.04
29	.00	.01	.00	.00	---	.84	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	1.38	.00	.00	.00	.00	.01	.00
31	.00	---	.02	.01	---	.02	---	.09	---	.00	.00	---
TOTAL	4.24	5.98	6.09	2.16	4.08	4.36	4.62	4.77	5.18	2.53	3.57	2.92
MAX	1.87	1.59	2.19	0.72	0.87	1.38	1.45	1.66	1.75	0.87	0.96	0.79

WTR YR 2003 TOTAL 50.50 MAX 2.19

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 mi^2.

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, 1999-2001.

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 National Geodetic Vertical Datum of 1929. Since Oct. 1, 1960, recording orifice at upstream side of railroad bridge, at same datum.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Flow regulated by mills and reservoirs upstream. Flow affected by several diversions upstream for municipal and industrial use. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--63 years, 56.0 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft^3/s, Aug. 19, 1955, gage height, 14.65 ft, from floodmarks; minimum daily, 0.58 ft^3/s, Aug. 13, 2002 (unusual regulation).

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 347 ft^3/s, Mar. 30, gage height, 7.84 ft, minimum daily, 4.8 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	14	43	102	34	75	264	91	155	55	43	8.6
2	8.1	12	36	153	47	120	204	87	180	48	67	24
3	6.5	11	36	153	52	160	191	80	144	45	65	23
4	7.6	11	32	208	58	133	191	74	109	42	46	28
5	7.5	11	29	191	69	e102	186	69	108	37	51	26
6	6.5	28	30	165	61	e96	178	65	96	32	49	20
7	5.8	28	29	144	54	105	159	63	101	28	34	19
8	5.1	22	29	130	51	e92	150	61	130	24	179	20
9	4.8	18	27	122	46	e93	148	59	114	23	172	19
10	4.9	16	25	117	43	e95	146	57	95	22	119	18
11	6.0	16	26	100	41	95	177	53	81	23	81	21
12	8.4	24	94	92	39	e93	293	52	74	26	64	25
13	12	69	97	83	e37	85	274	52	82	23	53	26
14	14	64	176	76	e32	86	217	48	92	18	45	24
15	9.9	50	232	67	e30	81	181	45	84	17	33	24
16	25	42	192	64	e28	83	160	41	71	19	31	43
17	30	133	153	61	31	110	145	40	61	20	30	41
18	23	147	117	57	39	149	125	38	59	29	30	46
19	13	107	106	52	36	155	120	35	60	35	27	51
20	11	75	158	49	36	142	110	34	54	24	23	52
21	9.5	63	226	47	37	188	103	32	56	20	20	45
22	8.0	82	194	42	70	224	116	32	133	19	21	37
23	9.5	79	159	38	176	204	129	39	246	97	20	40
24	12	69	140	36	158	180	117	42	207	87	16	40
25	16	58	132	34	131	165	103	44	148	66	14	33
26	42	52	148	33	107	151	116	97	108	45	13	30
27	48	52	138	36	91	150	147	180	90	36	11	28
28	34	50	120	e32	82	139	135	159	76	24	10	26
29	22	44	105	29	---	132	114	154	68	22	10	28
30	17	43	95	28	---	274	98	115	61	19	9.8	23
31	15	---	99	29	---	327	---	93	---	17	8.9	---
TOTAL	450.6	1490	3223	2570	1716	4284	4797	2131	3143	1042	1395.7	888.6
MEAN	14.5	49.7	104	82.9	61.3	138	160	68.7	105	33.6	45.0	29.6
MAX	48	147	232	208	176	327	293	180	246	97	179	52
MIN	4.8	11	25	28	28	75	98	32	54	17	8.9	8.6
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)												
MEAN	28.1	46.0	62.4	69.9	77.8	112	103	63.8	44.1	21.6	23.5	21.4
MAX	135	188	187	224	188	236	284	147	236	79.3	226	87.7
(WY)	1997	1956	1987	1979	1970	1983	1987	1998	1998	1959	1955	1954
MIN	5.14	4.98	7.78	5.35	13.4	45.3	31.8	21.2	8.71	5.44	4.30	5.85
(WY)	1998	2002	1966	1981	1980	1985	1966	1986	1981	1997	1981	1997

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	14700.75		27130.9			
ANNUAL MEAN	40.3		74.3		56.0	
HIGHEST ANNUAL MEAN					106	1984
LOWEST ANNUAL MEAN					21.7	1966
HIGHEST DAILY MEAN	232	Dec 15	327	Mar 31	1260	Aug 20 1955
LOWEST DAILY MEAN	0.58	Aug 13	4.8	Oct 9	0.58	Aug 13 2002
ANNUAL SEVEN-DAY MINIMUM	0.82	Aug 7	5.8	Oct 5	0.82	Aug 7 2002
MAXIMUM PEAK FLOW			347	Mar 30	1490	Aug 19 1955
MAXIMUM PEAK STAGE			7.84	Mar 30	14.65	Aug 19 1955
INSTANTANEOUS LOW FLOW			4.4	Oct 9		
10 PERCENT EXCEEDS	94		159		126	
50 PERCENT EXCEEDS	29		52		37	
90 PERCENT EXCEEDS	5.1		16		8.7	

e Estimated

NEPONSET RIVER BASIN

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 mi^2.

PERIOD OF RECORD.--Discharge: October 1952 to current year.
Water-quality records: Water years 1959, 1967–68, 2000.

REVISED RECORDS.--WSP 1901: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 80.18 ft above National Geodetic Vertical Datum of 1929 (Massachusetts Department of Public Works benchmark).

REMARKS.--Records good except those for estimated daily discharge, which are fair. Flow regulated by Forge, Bolivar, Massapoag, and Reservoir Ponds, and other ponds upstream. Flow affected by diversions for municipal supply of Canton and Stoughton. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--51 years, 51.4 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,790 ft^3/s, Aug. 19, 1955, gage height, 8.18 ft, from rating curve extended above 690 ft^3/s; minimum daily, 0.60 ft^3/s, July 7, Sept. 1, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 334 ft^3/s, Mar. 31, gage height, 3.42 ft; minimum daily, 3.2 ft^3/s, Oct. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	13	45	85	25	57	178	49	137	24	20	8.5
2	3.2	13	29	125	35	94	151	52	173	22	38	22
3	3.2	12	27	109	42	162	144	49	115	21	29	24
4	6.3	12	23	173	50	107	150	45	82	22	25	21
5	7.1	11	34	156	62	94	147	46	90	21	25	20
6	6.2	26	26	123	42	102	141	44	80	17	21	16
7	5.8	35	22	108	36	88	120	43	71	16	19	14
8	5.6	27	21	102	35	85	114	42	97	16	124	12
9	5.1	20	20	101	35	98	113	41	85	15	95	11
10	5.0	18	18	100	33	102	108	38	71	16	51	9.3
11	5.1	19	19	92	33	76	130	36	62	18	41	9.0
12	8.0	25	82	83	31	69	261	36	56	22	34	8.7
13	12	90	83	77	29	78	203	35	51	18	30	8.6
14	13	71	123	71	28	66	162	34	65	16	21	8.7
15	10	47	197	64	26	59	147	32	62	15	20	9.1
16	34	36	149	59	24	63	137	30	54	17	22	38
17	27	115	125	56	25	86	124	29	48	23	22	41
18	13	141	107	51	30	109	116	28	44	19	21	27
19	15	96	98	46	29	103	127	27	45	22	19	28
20	12	69	122	44	30	91	106	23	40	19	17	28
21	10	57	188	41	32	135	93	24	38	14	15	12
22	8.9	76	148	36	53	156	97	17	93	13	15	12
23	9.2	98	121	32	169	135	117	23	182	43	18	11
24	9.9	80	107	30	146	124	97	37	147	50	15	12
25	e15	53	106	29	e102	117	70	34	114	39	13	11
26	e41	57	135	28	e78	111	63	54	89	27	11	11
27	e46	58	126	27	e70	106	113	128	78	19	10	12
28	e33	55	105	24	63	95	86	91	56	20	9.5	12
29	e21	50	96	23	---	90	66	89	41	17	11	14
30	e16	48	87	21	---	214	51	73	26	14	11	9.6
31	e14	---	82	22	---	262	---	73	---	12	8.9	---
TOTAL	426.0	1528	2671	2138	1393	3334	3732	1402	2392	647	831.4	480.5
MEAN	13.7	50.9	86.2	69.0	49.8	108	124	45.2	79.7	20.9	26.8	16.0
MAX	46	141	197	173	169	262	261	128	182	50	124	41
MIN	3.2	11	18	21	24	57	51	17	26	12	8.9	8.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2003, BY WATER YEAR (WY)

MEAN	30.0	46.7	63.5	68.1	72.0	95.6	88.3	53.8	38.1	19.1	21.2	21.6
MAX	127	161	159	177	132	177	210	142	186	70.5	203	76.5
(WY)	1997	1956	1993	1979	1970	1968	1987	1954	1998	1998	1955	1999
MIN	6.42	8.35	9.78	10.6	20.1	40.8	20.7	20.2	8.62	4.46	3.64	4.39
(WY)	1966	1966	1966	1966	1980	1985	1966	1965	1964	1965	1957	1997

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1953 - 2003	
ANNUAL TOTAL	14046.2		20974.9			
ANNUAL MEAN	38.5		57.5		51.4	
HIGHEST ANNUAL MEAN					79.4	1998
LOWEST ANNUAL MEAN					18.6	1966
HIGHEST DAILY MEAN	199	May 14	262	Mar 31	1360	Aug 19 1955
LOWEST DAILY MEAN	2.8	Aug 10	3.2	Oct 2	0.60	Jul 7 1957
ANNUAL SEVEN-DAY MINIMUM	2.8	Aug 10	5.3	Oct 1	2.5	Sep 7 1993
MAXIMUM PEAK FLOW			334	Mar 31	1790	Aug 19 1955
MAXIMUM PEAK STAGE			3.42	Mar 31	8.18	Aug 19 1955
INSTANTANEOUS LOW FLOW			3.2	Oct 1		
10 PERCENT EXCEEDS	86		125		111	
50 PERCENT EXCEEDS	31		40		36	
90 PERCENT EXCEEDS	5.0		12		8.0	

e Estimated

NEPONSET RIVER BASIN

011055566 NEPONSET RIVER AT MILTON VILLAGE, MA

LOCATION.--Lat 42°16'15", long 71°04'08", Norfolk County, Hydrologic Unit 01090001, 100 ft upstream from bridge on Adams Street, at Milton Village.

DRAINAGE AREA.--101 mi^2.

PERIOD OF RECORD.--November 1996 to current year.

GAGE.--Water stage recorder. Elevation of gage is 20 ft above sea level, from topographic map.

REMARKS.--Records good except those below 40 ft^3/s and those for estimated daily discharge, which are fair. Record on most days is adjusted for tidal backwater, which lasts as much as 4 hours during times of high tide. Flow regulated by mills and reservoirs upstream. Flow affected by diversion from Charles River basin to Neponset River basin by Mother Brook (station 01104000) through Dedham and Hyde Park and by diversions to and from basin for municipal supplies. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--7 years (water years 1997–2003), 278 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,720 ft^3/s, June 18, 1998, gage height, 36.93 ft; minimum, 4.8 ft^3/s, Oct. 24, 1997, minimum daily, 10 ft^3/s, Oct. 23, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,260 ft^3/s, Apr. 12, gage height, 35.10 ft; maximum gage height, 36.26 ft, Jan. 4, backwater from tide; minimum discharge, 8.8 ft^3/s, July 20, minimum daily, 17 ft^3/s, July 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	65	173	450	93	478	1170	477	833	331	137	35
2	28	57	148	527	128	502	1140	427	985	276	206	54
3	31	51	129	549	162	715	1140	390	915	218	193	78
4	31	47	117	791	187	660	1130	347	811	211	157	83
5	34	38	104	774	227	641	1110	305	734	182	191	88
6	31	101	104	739	211	617	1080	272	663	148	171	70
7	23	118	100	697	186	564	1000	259	603	107	142	58
8	27	98	94	643	178	539	928	291	659	109	404	46
9	22	82	89	614	170	548	865	290	592	96	521	48
10	26	72	84	576	153	566	815	265	538	82	485	38
11	27	69	87	525	144	511	892	239	465	87	399	42
12	35	81	262	464	135	462	1190	219	417	99	327	40
13	45	206	327	437	128	483	1250	222	383	82	234	47
14	53	245	535	375	e113	485	1210	209	391	62	193	47
15	36	218	757	280	e96	436	1150	195	375	67	137	45
16	80	190	751	246	98	412	1090	179	325	67	117	141
17	113	408	728	225	100	446	988	184	348	63	98	147
18	80	502	707	202	118	531	878	174	331	46	88	139
19	61	477	651	184	131	610	776	153	322	32	71	146
20	49	441	641	166	125	619	682	145	280	22	74	170
21	41	380	815	177	128	750	599	134	247	17	64	144
22	42	385	817	e152	199	866	566	124	393	55	76	102
23	45	377	778	e145	529	910	680	149	664	207	92	141
24	47	346	734	e138	629	922	660	169	713	302	71	153
25	41	300	715	e128	643	889	602	200	726	256	46	79
26	133	251	727	120	624	871	576	292	691	199	52	77
27	200	230	676	100	570	849	653	573	642	153	48	76
28	159	215	623	97	528	779	634	643	553	114	36	71
29	120	192	565	96	---	713	588	776	437	114	42	61
30	92	176	504	87	---	952	522	757	329	83	41	61
31	75	---	457	87	---	1160	---	693	---	78	37	---
TOTAL	1867	6418	13999	10791	6733	20486	26564	9752	16365	3965	4950	2527
MEAN	60.2	214	452	348	240	661	885	315	546	128	160	84.2
MAX	200	502	817	791	643	1160	1250	776	985	331	521	170
MIN	22	38	84	87	93	412	522	124	247	17	36	35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	96.4	149	290	325	370	593	602	340	374	143	79.4	87.8
MAX	244	274	860	577	611	872	1002	783	1046	443	161	271
(WY)	1999	1997	1997	1999	1999	2001	1997	1998	1998	1998	1998	1999
MIN	20.9	26.5	75.9	102	124	199	197	140	39.6	29.2	24.5	19.3
(WY)	1998	2002	2002	2002	2002	2002	2002	2001	1999	1997	2002	1997

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL TOTAL	61092		124417			
ANNUAL MEAN	167		341		278	
HIGHEST ANNUAL MEAN					426	1998
LOWEST ANNUAL MEAN					118	2002
HIGHEST DAILY MEAN	817	Dec 22	1250	Apr 13	2510	Jun 19 1998
LOWEST DAILY MEAN	14	Aug 14	17	Jul 21	10	Oct 23 1997
ANNUAL SEVEN-DAY MINIMUM	16	Aug 8	27	Oct 5	12	Oct 18 1997
MAXIMUM PEAK FLOW			1260	Apr 12	2720	Jun 18 1998
MAXIMUM PEAK STAGE			35.10	Apr 12	36.93	Jun 18 1998
INSTANTANEOUS LOW FLOW			8.8	Jul 20	4.8	Oct 24 1997
10 PERCENT EXCEEDS	411		776		704	
50 PERCENT EXCEEDS	117		207		153	
90 PERCENT EXCEEDS	28		47		33	

e Estimated

WEYMOUTH FORE RIVER BASIN

01105584 TOWN BROOK AT DIVERSION TUNNEL AT QUINCY, MA

LOCATION.--Lat 42°14'40", long 71°00'16", Norfolk County, Hydrologic Unit 01090001, on left bank at spillway into Burgin Brook and diversion tunnel, 100 ft west of Burgin Parkway, and 0.5 mi south of Quincy.

DRAINAGE AREA.--About 2.0 mi^2 (partially culverted).

PERIOD OF RECORD.--Gage height: February 1999 to September 2000; March 2001 to current year.
Precipitation: February 1999 to September 2000; March 2001 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 14.90 ft above National Geodetic Vertical Datum (NGVD) of 1929. Elevation of spillway into diversion tunnel is 18.0 ft above NGVD. Elevation data provided by U.S. Army Corps of Engineers.

REMARKS.--Records not rated.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 18.85 ft above NGVD, June 30, 2001, but may have been higher during periods of no gage height record; minimum gage height, 14.78 ft, Sept. 7, 2001, but may have been lower during periods of no gage height record.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 18.61 ft above NGVD, July 23; minimum gage height, 16.26 ft, Sept. 9–13.

WATER LEVEL, IN FEET ABOVE NGVD OF 1929, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.55	16.49	16.52	16.49	16.42	16.43	16.68	16.64	16.66	17.57	16.77	16.95
2	16.51	16.36	16.41	16.42	16.40	16.41	16.68	16.65	16.67	17.56	16.92	17.07
3	16.38	16.35	16.37	16.40	16.39	16.39	16.68	16.66	16.67	17.96	16.87	17.05
4	16.37	16.35	16.35	16.50	16.39	16.41	16.68	16.65	16.66	17.96	17.20	17.53
5	16.38	16.34	16.36	16.47	16.40	16.43	16.70	16.64	16.67	17.21	17.05	17.12
6	16.35	16.30	16.32	17.85	16.40	17.04	16.73	16.68	16.70	17.07	16.82	16.95
7	16.33	16.30	16.32	16.82	16.66	16.72	16.73	16.67	16.69	16.82	16.78	16.80
8	16.32	16.30	16.31	16.66	16.48	16.58	16.72	16.68	16.69	16.79	16.76	16.78
9	16.30	16.29	16.30	16.49	16.46	16.47	16.69	16.66	16.68	16.84	16.75	16.78
10	16.31	16.30	16.30	16.49	16.45	16.46	16.69	16.66	16.67	16.88	16.73	16.76
11	16.46	16.30	16.35	17.31	16.47	16.62	17.70	16.66	16.73	16.74	16.70	16.72
12	16.69	16.41	16.54	18.12	16.60	17.02	18.10	16.81	17.26	16.71	16.69	16.70
13	17.21	16.52	16.61	18.00	16.77	17.26	16.82	16.72	16.75	16.70	16.68	16.69
14	16.89	16.44	16.56	16.78	16.63	16.68	17.95	16.73	17.38	16.69	16.67	16.68
15	16.44	16.37	16.40	16.64	16.60	16.62	17.26	16.96	17.06	16.68	16.66	16.67
16	17.61	16.36	16.79	17.93	16.60	16.84	17.44	16.92	17.03	16.68	16.65	16.67
17	16.86	16.57	16.69	18.26	17.81	17.97	16.96	16.81	16.88	16.68	16.65	16.67
18	16.57	16.43	16.49	18.12	17.35	17.65	16.82	16.77	16.79	16.67	16.63	16.65
19	16.44	16.40	16.42	17.35	16.74	16.98	16.78	16.76	16.77	16.64	16.62	16.63
20	16.41	16.36	16.39	16.75	16.70	16.73	18.11	16.75	17.06	16.64	16.61	16.63
21	16.37	16.34	16.35	16.74	16.68	16.69	17.13	16.90	16.99	16.63	16.59	16.61
22	16.35	16.33	16.34	17.32	16.68	16.91	16.90	16.83	16.87	16.61	16.57	16.59
23	16.86	16.33	16.50	16.79	16.72	16.74	16.84	16.76	16.80	16.58	16.56	16.57
24	16.46	16.38	16.41	16.73	16.70	16.72	16.77	16.74	16.76	16.57	16.55	16.56
25	16.39	16.35	16.37	16.76	16.63	16.67	17.40	16.74	16.88	16.57	16.56	16.56
26	18.11	16.35	17.11	16.64	16.62	16.64	17.01	16.82	16.90	16.57	16.56	16.56
27	17.11	16.72	16.86	16.92	16.63	16.72	16.82	16.75	16.78	16.57	16.55	16.56
28	16.72	16.55	16.63	16.67	16.62	16.64	16.76	16.74	16.75	16.56	16.55	16.56
29	16.56	16.46	16.50	16.64	16.62	16.63	16.75	16.73	16.74	16.56	16.54	16.55
30	16.46	16.44	16.45	16.70	16.63	16.66	16.74	16.71	16.72	16.55	16.54	16.55
31	16.45	16.42	16.43	---	---	---	16.77	16.71	16.74	16.81	16.54	16.58
MONTH	18.11	16.29	16.48	18.26	16.39	16.76	18.11	16.64	16.82	17.96	16.54	16.73

WEYMOUTH FORE RIVER BASIN

01105584 TOWN BROOK AT DIVERSION TUNNEL AT QUINCY, MA--Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	16.81	16.64	16.68	16.71	16.66	16.68	17.02	16.93	16.97	16.68	16.60	16.61
2	17.33	16.67	16.97	18.00	16.67	17.06	16.97	16.90	16.92	16.61	16.59	16.60
3	17.07	16.80	16.88	17.10	16.79	16.91	17.06	16.87	16.91	16.61	16.58	16.59
4	17.43	16.74	16.93	16.79	16.73	16.75	17.63	16.83	16.97	16.59	16.57	16.58
5	16.97	16.76	16.84	17.02	16.72	16.84	17.37	16.82	16.90	16.58	16.56	16.57
6	16.76	16.58	16.65	16.87	16.74	16.79	16.88	16.79	16.83	16.57	16.56	16.57
7	16.64	16.58	16.61	16.82	16.72	16.74	16.80	16.77	16.78	16.57	16.56	16.57
8	16.62	16.57	16.60	16.84	16.71	16.75	16.88	16.77	16.81	16.66	16.56	16.58
9	16.58	16.56	16.57	17.07	16.74	16.90	16.95	16.78	16.84	16.62	16.55	16.56
10	16.59	16.55	16.56	16.97	16.76	16.81	16.83	16.77	16.79	16.56	16.54	16.55
11	16.58	16.54	16.56	16.79	16.76	16.78	18.11	16.76	17.18	16.55	16.53	16.54
12	16.55	16.53	16.54	17.00	16.77	16.86	17.98	17.16	17.40	16.72	16.53	16.56
13	16.53	16.51	16.52	16.91	16.82	16.86	17.16	16.99	17.06	16.54	16.53	16.53
14	16.52	16.50	16.51	16.90	16.82	16.84	17.00	16.94	16.96	16.55	16.52	16.53
15	16.51	16.48	16.50	16.85	16.80	16.82	16.94	16.89	16.92	16.54	16.50	16.52
16	16.50	16.47	16.48	16.96	16.80	16.87	16.91	16.87	16.89	16.51	16.49	16.50
17	16.62	16.48	16.53	17.10	16.87	16.97	16.91	16.87	16.89	16.50	16.48	16.49
18	16.65	16.57	16.61	17.03	16.95	16.99	16.87	16.85	16.86	16.49	16.48	16.49
19	16.59	16.54	16.56	17.00	16.95	16.97	16.86	16.84	16.85	16.49	16.47	16.48
20	16.69	16.52	16.58	16.98	16.91	16.94	16.85	16.83	16.84	16.48	16.46	16.47
21	16.77	16.54	16.64	18.04	16.98	17.38	16.84	16.82	16.83	16.64	16.45	16.50
22	17.97	16.62	17.01	17.31	17.21	17.25	17.78	16.84	16.97	16.55	16.49	16.51
23	17.95	17.10	17.39	17.21	17.16	17.19	16.87	16.70	16.76	16.92	16.55	16.64
24	17.10	16.86	16.96	17.16	17.13	17.15	16.70	16.67	16.68	17.26	16.55	16.64
25	16.86	16.78	16.82	17.15	17.10	17.12	16.68	16.65	16.66	17.16	16.62	16.79
26	16.79	16.75	16.77	17.52	17.10	17.13	17.92	16.65	16.91	18.06	16.58	17.04
27	16.75	16.69	16.72	17.59	17.13	17.20	17.00	16.74	16.84	17.13	16.70	16.87
28	16.69	16.67	16.68	17.13	16.70	16.87	16.74	16.65	16.69	18.20	16.66	16.83
29	---	---	---	18.02	16.69	16.78	16.65	16.62	16.64	16.96	16.72	16.81
30	---	---	---	18.03	17.21	17.55	16.63	16.60	16.61	16.72	16.67	16.69
31	---	---	---	17.30	17.02	17.12	---	---	---	17.23	16.66	16.70
MONTH	17.97	16.47	16.70	18.04	16.66	16.96	18.11	16.60	16.87	18.20	16.45	16.61

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.33	16.72	17.31	16.51	16.47	16.49	17.66	16.36	16.61	16.34	16.32	16.33
2	17.18	16.89	17.00	16.49	16.45	16.47	17.14	16.56	16.63	17.16	16.33	16.66
3	16.89	16.80	16.84	16.95	16.44	16.50	16.58	16.50	16.54	16.54	16.40	16.47
4	16.80	16.68	16.73	16.57	16.48	16.52	16.82	16.48	16.54	17.15	16.38	16.57
5	17.22	16.69	16.77	16.48	16.43	16.46	16.58	16.47	16.51	16.53	16.39	16.46
6	16.69	16.65	16.67	16.44	16.41	16.43	16.48	16.42	16.46	16.39	16.32	16.36
7	17.58	16.64	16.83	16.45	16.40	16.41	17.98	16.42	16.50	16.33	16.30	16.32
8	16.91	16.69	16.78	16.42	16.40	16.41	18.21	16.76	17.20	16.30	16.27	16.29
9	16.71	16.66	16.68	16.82	16.39	16.46	16.76	16.67	16.72	16.28	16.26	16.27
10	16.71	16.63	16.66	16.49	16.42	16.45	17.15	16.65	16.70	16.27	16.26	16.26
11	16.71	16.62	16.65	17.04	16.41	16.56	16.70	16.62	16.65	16.30	16.26	16.27
12	16.63	16.61	16.62	17.02	16.46	16.54	17.49	16.59	16.65	16.27	16.26	16.27
13	16.84	16.61	16.67	16.47	16.40	16.43	16.64	16.60	16.61	16.28	16.26	16.27
14	16.92	16.64	16.69	16.50	16.37	16.41	16.61	16.54	16.57	16.88	16.27	16.36
15	16.64	16.61	16.62	16.42	16.37	16.39	16.56	16.52	16.54	16.40	16.33	16.36
16	16.61	16.57	16.59	16.96	16.38	16.50	18.01	16.51	16.65	17.71	16.33	16.61
17	16.58	16.56	16.57	16.55	16.44	16.49	17.01	16.78	16.85	16.54	16.37	16.44
18	16.79	16.56	16.62	18.13	16.42	16.63	16.78	16.43	16.54	16.37	16.32	16.34
19	16.62	16.58	16.59	16.78	16.54	16.61	16.44	16.40	16.42	17.68	16.31	16.55
20	16.58	16.54	16.56	16.55	16.44	16.49	16.41	16.38	16.39	16.62	16.44	16.53
21	17.50	16.53	16.60	16.51	16.41	16.44	16.39	16.37	16.38	16.44	16.34	16.38
22	18.10	16.63	17.01	17.89	16.39	16.48	17.17	16.37	16.44	16.35	16.33	16.34
23	17.64	16.69	16.86	18.61	16.55	16.97	16.57	16.41	16.49	16.90	16.33	16.44
24	16.69	16.62	16.66	17.27	16.60	16.70	16.42	16.35	16.38	16.59	16.30	16.39
25	16.63	16.59	16.61	16.60	16.50	16.54	16.35	16.34	16.35	16.32	16.29	16.30
26	16.67	16.56	16.59	16.51	16.44	16.48	16.36	16.34	16.35	16.29	16.27	16.28
27	16.60	16.53	16.56	16.45	16.39	16.44	16.37	16.34	16.35	16.29	16.27	16.28
28	16.54	16.50	16.52	16.43	16.35	16.40	16.35	16.32	16.33	16.49	16.28	16.29
29	16.51	16.49	16.50	16.39	16.35	16.36	16.34	16.32	16.33	16.56	16.31	16.36
30	16.52	16.49	16.49	16.40	16.37	16.38	16.35	16.33	16.34	16.31	16.28	16.30
31	---	---	---	16.39	16.36	16.38	16.34	16.31	16.32	---	---	---
MONTH	18.33	16.49	16.70	18.61	16.35	16.49	18.21	16.31	16.53	17.71	16.26	16.38
YEAR	18.61	16.26	16.67									

WEYMOUTH FORE RIVER BASIN

01105584 TOWN BROOK AT DIVERSION TUNNEL AT QUINCY, MA--Continued

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.01	0.00	0.61	0.10	0.00	0.00	0.08	1.93	0.00	0.64	0.00
2	.00	.00	.00	.10	.61	1.10	.10	.00	.00	.00	.20	.57
3	.02	.00	.00	.71	.00	.01	.05	.01	.00	.10	.00	.00
4	.00	.08	.00	.69	.19	.00	.32	.00	.03	.00	.14	.35
5	.01	.00	.11	.00	.00	.09	.25	.00	.21	.00	.00	.00
6	.00	1.05	.14	.00	.00	.12	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.01	.32	.09	.00	.00	.65	.00	.48	.00
8	.00	.00	.00	.00	.00	.00	.08	.16	.00	.00	1.31	.00
9	.00	.00	.00	.05	.00	.00	.18	.03	.00	.13	.00	.00
10	.00	.02	.00	.03	.03	.00	.00	.00	.00	.00	.14	.00
11	.15	.16	.25	.00	.01	.00	2.25	.01	.05	.22	.00	.00
12	.33	1.00	.90	.00	.00	.00	.48	.09	.02	.10	.10	.00
13	.31	.81	.03	.00	.00	.07	.00	.00	.18	.00	.00	.00
14	.01	.00	2.09	.00	.00	.00	.00	.03	.11	.00	.00	.06
15	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00
16	1.07	.79	.34	.00	.00	.00	.00	.00	.00	.17	.11	.43
17	.00	2.18	.00	.00	.08	.00	.00	.00	.00	.00	.04	.00
18	.00	.22	.00	.00	.07	.00	.00	.00	.14	.58	.00	.00
19	.00	.00	.00	.00	.11	.00	.00	.00	.00	.04	.00	.27
20	.00	.00	1.35	.00	.00	.03	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.43	.03	.14	.30	.00	.00	.00
22	.00	.67	.00	.00	.99	.00	.90	.06	1.28	.32	.15	.00
23	.30	.01	.00	.00	.64	.00	.00	.29	.10	1.24	.01	.09
24	.00	.00	.00	.00	.00	.00	.02	.32	.00	.21	.00	.01
25	.00	.00	1.09	.00	.00	.00	.00	.36	.00	.00	.00	.00
26	1.86	.01	.00	.00	.00	.13	1.05	1.52	.00	.00	.00	.00
27	.00	.49	.00	.00	.00	.02	.01	.01	.03	.00	.00	.00
28	.00	.00	.03	.00	.00	.00	.00	.73	.00	.00	.00	.08
29	.00	.01	.00	.00	---	.54	.00	.01	.00	.00	.00	.00
30	.00	.00	.00	.00	---	1.80	.00	.00	.00	.00	.00	.00
31	.00	---	.02	.06	---	.03	---	.18	---	.00	.00	---
TOTAL	4.06	7.51	6.35	2.26	3.15	4.51	5.72	4.03	5.03	3.11	3.32	1.86
MAX	1.86	2.18	2.09	0.71	0.99	1.80	2.25	1.52	1.93	1.24	1.31	0.57

CAL YR 2002 TOTAL 52.51 MAX 2.29
WTR YR 2003 TOTAL 50.91 MAX 2.25

WEYMOUTH FORE RIVER BASIN

01105585 TOWN BROOK AT QUINCY, MA

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

DRAINAGE AREA.--4.11 mi^2 (revised).

PERIOD OF RECORD.--Discharge: Water years 1973–86; 1999 to current year. Prior to October 1974 published as Town River at Quincy. Water-quality records: May to August 1999, November 1999 to June 2000.

REVISED RECORDS.--WDR MA-RI-81-1: 1975–80 (P). WDR MA-RI-84-1; WDR MA-RI-03-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges and those greater than 50 ft^3/s, which are poor. Flow affected by unknown regulation. Telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--19 years (water years 1973–86, 1999–2003), 7.82 ft^3/s .

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 381 ft^3/s May 13, 1975, gage height, 7.40 ft, from rating curve extended above 210 ft^3/s on basis of U.S. Army Corps of Engineers computation of the backwater effect from culvert downstream; minimum daily, 0.16 ft^3/s Dec. 6, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 301 ft^3/s July 23, gage height, 6.08 ft; minimum daily, 0.59 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.9	4.8	12	3.8	4.4	8.2	5.6	37	3.3	7.9	0.88
2	.98	2.3	4.4	12	10	23	7.4	5.4	11	3.1	5.5	6.7
3	1.3	1.5	4.1	13	5.7	8.7	7.1	5.0	8.1	3.9	3.6	2.8
4	1.1	2.3	4.0	30	7.2	6.0	9.9	5.0	7.1	3.8	3.8	5.5
5	1.0	2.3	3.9	9.2	4.6	8.1	9.7	5.0	9.2	3.0	3.1	3.0
6	1.0	19	4.3	7.9	3.5	6.5	7.3	4.9	6.5	2.6	2.4	1.8
7	.77	5.2	3.9	7.2	3.2	5.8	6.3	4.9	15	2.3	4.0	1.2
8	1.0	3.6	4.0	6.4	3.5	6.1	7.1	5.2	8.3	2.2	25	1.1
9	.59	2.5	3.4	6.8	2.9	9.4	7.8	5.0	6.5	3.3	4.6	.83
10	.91	3.0	3.6	6.0	2.6	6.6	6.5	4.6	6.2	2.7	4.2	.80
11	1.1	4.1	4.3	5.7	2.8	5.4	31	4.3	6.0	5.1	3.4	.83
12	3.9	9.6	19	4.9	2.3	6.5	26	4.9	5.5	4.3	3.5	.82
13	4.9	14	6.4	4.6	2.0	6.1	11	4.2	6.6	2.4	2.7	.84
14	3.7	5.9	36	4.4	2.2	5.4	9.0	4.1	7.0	2.2	2.4	1.8
15	1.4	5.0	13	4.2	1.7	5.1	8.0	4.0	5.4	2.0	2.0	1.6
16	13	9.5	12	3.8	1.8	5.6	7.2	4.0	5.0	3.8	3.7	6.9
17	4.8	28	8.4	4.1	4.5	6.9	6.3	3.6	4.7	3.1	3.6	2.3
18	2.2	13	6.9	3.9	3.5	6.8	6.0	3.6	5.7	9.4	2.4	1.3
19	1.9	7.8	6.6	3.5	2.9	6.0	5.7	3.5	5.0	4.7	2.0	4.7
20	1.3	6.8	22	3.5	3.2	5.7	5.4	3.3	4.5	3.0	1.7	2.9
21	1.4	6.4	10	3.1	4.7	12	5.1	4.0	7.1	2.3	1.4	1.5
22	1.4	13	7.8	2.8	20	7.2	14	3.9	23	4.9	2.8	1.1
23	3.8	6.3	6.6	e2.7	24	6.3	7.7	6.8	11	21	2.7	1.8
24	1.8	5.6	6.2	2.2	8.2	6.0	6.3	6.8	6.2	6.1	1.4	1.4
25	1.6	5.0	11	2.5	5.9	5.8	6.0	11	5.4	3.8	1.0	1.0
26	22	5.0	9.1	2.1	5.0	5.7	16	27	5.0	3.0	1.1	.84
27	6.8	7.1	6.5	2.5	4.6	6.3	8.5	9.9	4.6	2.4	1.1	.86
28	3.6	4.8	5.9	2.3	4.7	5.1	6.6	15	3.9	2.1	.94	1.3
29	2.9	5.0	5.9	2.2	---	9.6	6.0	8.9	3.7	1.8	.91	1.8
30	2.0	5.1	5.2	1.9	---	35	5.6	6.6	3.6	1.7	.88	.95
31	2.2	---	5.9	2.6	---	12	---	7.3	---	1.7	.79	---
TOTAL	97.65	210.6	255.1	180.0	151.0	255.1	274.7	197.3	243.8	121.0	106.52	61.15
MEAN	3.15	7.02	8.23	5.81	5.39	8.23	9.16	6.36	8.13	3.90	3.44	2.04
MAX	22	28	36	30	24	35	31	27	37	21	25	6.9
MIN	0.59	1.5	3.4	1.9	1.7	4.4	5.1	3.3	3.6	1.7	0.79	0.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2003, BY WATER YEAR (WY)

MEAN	5.36	7.13	8.40	10.5	10.8	12.9	10.2	7.51	7.77	4.27	5.19	4.11
MAX	15.1	18.5	20.3	36.0	29.3	33.8	26.5	18.9	32.2	9.33	12.3	7.97
(WY)	1978	1973	1973	1979	1984	1983	1983	1984	1982	1973	1976	1975
MIN	1.36	1.12	2.13	2.52	2.38	6.10	4.86	3.09	1.82	2.03	1.55	1.16
(WY)	2002	2002	1999	1981	1980	1973	1985	2001	1999	1974	2002	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1973 - 2003	
ANNUAL TOTAL	1916.89		2153.92			
ANNUAL MEAN	5.25		5.90		7.82	
HIGHEST ANNUAL MEAN					15.6	1984
LOWEST ANNUAL MEAN					4.15	2002
HIGHEST DAILY MEAN	36	Dec 14	37	Jun 1	210	Jan 26 1978
LOWEST DAILY MEAN	0.22	Aug 17	0.59	Oct 9	0.16	Dec 6 2001
ANNUAL SEVEN-DAY MINIMUM	0.41	Aug 12	0.91	Oct 4	0.36	Dec 2 2001
MAXIMUM PEAK FLOW			301	Jul 23	381	May 13 1975
MAXIMUM PEAK STAGE			6.08	Jul 23	7.40	May 13 1975
INSTANTANEOUS LOW FLOW			0.46	Aug 31		
10 PERCENT EXCEEDS	11		11		17	
50 PERCENT EXCEEDS	4.1		4.7		4.4	
90 PERCENT EXCEEDS	1.1		1.4		1.3	

e Estimated

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, 50 ft (revised) 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 mi^2.

PERIOD OF RECORD.--Discharge: May 1966 to current year.
Water-quality records: Water years 1967–68, 1999–2000.

GAGE.--Water-stage recorder. Elevation of gage is 70 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Aug. 3, 1996, at site 50 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--37 years, 9.07 ft^3/s, 27.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 590 ft^3/s, May 31, 1984, gage height, 5.02 ft; maximum gage height, 5.35 ft, Feb. 15, 1971 (ice jam); minimum discharge, 0.05 ft^3/s, Sept. 10–13, 15, 16, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 127 ft^3/s, Apr. 12, gage height, 4.33 ft; minimum, 0.60 ft^3/s, Aug. 29, 31, Sept. 1, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	3.0	7.9	15	4.7	8.4	29	8.6	34	3.0	4.7	0.73
2	1.2	2.7	6.3	35	8.5	22	19	8.2	45	2.7	8.2	4.6
3	1.2	2.5	6.1	26	10	30	16	7.2	17	2.5	4.3	2.3
4	1.1	2.4	5.4	79	13	e21	19	6.3	11	2.4	6.7	2.8
5	1.1	2.6	5.0	46	e11	15	18	5.6	11	2.2	5.7	2.5
6	.96	12	5.2	23	e9.4	14	18	5.2	9.2	1.8	4.9	1.7
7	.91	12	5.0	17	e6.9	e13	14	5.2	11	1.6	3.3	1.4
8	.86	6.8	5.0	14	e6.6	9.9	12	5.5	19	1.5	47	1.1
9	.81	4.7	4.8	13	e5.3	16	14	5.6	12	1.8	27	.96
10	.80	3.9	4.6	13	4.8	e15	15	5.2	8.8	1.9	9.7	.91
11	.88	5.4	4.5	11	4.8	e13	27	4.8	7.2	3.5	5.9	.83
12	2.4	8.3	43	9.5	e4.4	11	100	7.7	6.7	3.0	4.8	.80
13	3.6	26	34	8.4	e4.7	13	55	5.9	8.0	2.0	4.0	.77
14	4.7	22	49	7.8	5.2	e10	23	5.4	10	1.7	3.5	.77
15	2.4	12	62	e6.5	4.8	8.7	17	4.8	8.6	1.5	3.0	.72
16	8.6	9.7	32	e5.9	e5.1	10	14	4.3	6.4	2.2	2.6	2.4
17	10	62	24	5.8	e5.4	18	12	4.1	5.4	2.4	2.5	1.2
18	5.0	54	15	e6.5	13	26	10	3.9	6.4	2.1	2.5	.91
19	3.1	23	12	e5.0	e11	21	9.2	3.7	6.1	2.2	2.1	2.0
20	2.5	14	25	e4.8	e9.4	15	8.3	3.5	5.0	1.6	1.8	1.5
21	2.1	11	50	e4.7	7.7	40	7.7	3.5	5.0	1.3	1.6	.77
22	1.8	18	24	e4.6	e11	37	15	4.2	21	6.2	2.2	.79
23	2.9	17	16	e4.5	e26	23	22	6.7	27	14	2.1	1.1
24	2.7	11	12	e4.5	e30	17	13	7.2	14	10	1.3	1.3
25	2.3	8.6	16	e4.3	21	14	10	15	7.9	5.5	1.1	.85
26	15	7.4	35	e4.3	e19	13	16	24	5.9	3.2	1.1	.78
27	20	9.5	25	e4.2	e15	13	28	49	4.9	2.4	1.0	.76
28	9.4	9.4	15	e4.1	10	11	16	25	4.0	2.1	.87	.75
29	5.0	7.4	12	e4.1	---	10	11	25	3.6	1.6	.65	1.00
30	3.8	7.4	11	e4.0	---	71	9.0	13	3.2	1.5	.84	.71
31	3.2	---	10	3.9	---	74	---	10	---	1.3	.79	---
TOTAL	121.72	395.7	581.8	399.4	287.7	633.0	597.2	293.3	344.3	92.7	167.75	39.71
MEAN	3.93	13.2	18.8	12.9	10.3	20.4	19.9	9.46	11.5	2.99	5.41	1.32
MAX	20	62	62	79	30	74	100	49	45	14	47	4.6
MIN	0.80	2.4	4.5	3.9	4.4	8.4	7.7	3.5	3.2	1.3	0.65	0.71
CFSM	0.87	2.93	4.17	2.86	2.28	4.54	4.42	2.10	2.55	0.66	1.20	0.29
IN.	1.01	3.27	4.81	3.30	2.38	5.23	4.94	2.42	2.85	0.77	1.39	0.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

MEAN	5.02	9.54	12.4	12.1	12.8	17.6	13.8	9.46	7.21	2.83	3.04	3.24
MAX	26.0	24.7	30.9	30.8	30.4	51.5	38.7	21.6	46.2	7.78	8.99	12.9
(WY)	1997	1992	1970	1979	1998	1983	1987	1967	1982	1988	1990	1996
MIN	1.14	1.12	2.77	2.16	2.86	6.25	4.95	4.11	1.08	0.54	0.50	0.18
(WY)	1998	2002	1981	1981	1980	1981	1985	1986	1999	1991	1971	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	2589.84		3954.28			
ANNUAL MEAN	7.10		10.8		9.07	
HIGHEST ANNUAL MEAN					14.4	1984
LOWEST ANNUAL MEAN					3.91	1985
HIGHEST DAILY MEAN	68	May 14	100	Apr 12	361	Mar 18 1968
LOWEST DAILY MEAN	0.16	Aug 19	0.65	Aug 29	0.05	Sep 11 1995
ANNUAL SEVEN-DAY MINIMUM	0.19	Aug 13	0.82	Sep 9	0.06	Sep 6 1995
MAXIMUM PEAK FLOW			127	Apr 12	590	May 31 1984
MAXIMUM PEAK STAGE			4.33	Apr 12	5.35	Feb 15 1971
INSTANTANEOUS LOW FLOW			0.60	Aug 29	0.05	Sep 10 1995
ANNUAL RUNOFF (CFSM)	1.58		2.41		2.02	
ANNUAL RUNOFF (INCHES)	21.41		32.69		27.40	
10 PERCENT EXCEEDS	16		25		19	
50 PERCENT EXCEEDS	4.4		6.4		5.4	
90 PERCENT EXCEEDS	0.52		1.2		0.85	

e Estimated

WEYMOUTH BACK RIVER BASIN

01105606 WHITMANS POND, WHITMANS POND DAM AT EAST WEYMOUTH, MA

LOCATION.--Lat 42°12'40", long 70°55'47", Norfolk County, Hydrologic Unit 01090001, on Whitmans Pond Dam, approximately 1,000 ft upstream from Iron Hill Dam and flood by-pass system, and 1,300 ft upstream from the gage, Whitmans Pond Fish Ladder at East Weymouth, MA.

DRAINAGE AREA.--12.4 mi^2.

PERIOD OF RECORD.--March 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 67.96 ft above National Geodetic Vertical Datum of 1929 (NGVD) (Town of Weymouth Datum). Subtract 5.83 ft from gage height values to adjust to NGVD.

REMARKS.--Records good. Missing record of more than one day not estimated. Satellite gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 73.23 ft, May 14; minimum, 70.29, Aug. 28.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 73.16 ft, Apr. 12, 13; minimum, 71.41, Oct. 1.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71.43	72.11	72.68	72.78	72.74	72.84	73.05	72.96	72.89	72.63	72.51	72.20
2	71.45	72.12	72.69	72.83	72.76	72.86	72.98	72.95	72.96	72.61	72.53	72.20
3	71.46	72.14	72.70	72.85	72.78	72.93	72.95	72.93	72.92	72.61	72.53	72.21
4	71.48	72.15	72.70	72.94	72.79	72.92	72.95	72.92	72.86	72.60	72.54	72.21
5	71.50	72.15	72.69	72.97	72.80	72.90	72.95	72.91	72.84	72.58	72.55	72.22
6	71.52	72.17	72.70	72.90	72.79	72.89	72.95	72.90	72.82	72.57	72.54	72.22
7	71.53	72.22	72.69	72.86	72.79	72.88	72.93	72.89	72.80	72.55	72.52	72.21
8	71.53	72.25	72.70	72.83	72.78	72.86	72.91	72.88	72.83	72.54	72.62	72.20
9	71.51	72.27	72.69	72.82	72.77	72.86	72.90	72.88	72.82	72.53	72.65	72.19
10	71.49	72.29	72.69	72.81	72.77	72.89	72.91	72.87	72.80	72.51	72.61	72.18
11	71.48	72.32	72.69	72.80	72.77	72.88	72.92	72.87	72.79	72.51	72.56	72.18
12	71.48	72.34	72.77	72.79	72.76	72.87	73.09	72.87	72.76	72.52	72.54	72.16
13	71.49	72.43	72.83	72.78	72.76	72.87	73.13	72.87	72.76	72.51	72.53	72.16
14	71.50	72.47	72.86	72.78	72.75	72.87	73.04	72.86	72.76	72.51	72.50	72.14
15	71.50	72.47	72.93	72.77	72.75	72.86	72.98	72.85	72.76	72.49	72.48	72.13
16	71.52	72.46	72.89	72.76	72.75	72.85	72.94	72.84	72.75	72.49	72.46	72.13
17	71.60	72.58	72.87	72.76	72.76	72.87	72.91	72.83	72.73	72.48	72.45	72.13
18	71.65	72.67	72.83	72.75	72.79	72.90	72.90	72.82	72.72	72.48	72.45	72.12
19	71.67	72.64	72.80	72.75	72.77	72.93	72.89	72.81	72.71	72.49	72.44	72.10
20	71.69	72.61	72.81	72.74	72.76	72.92	72.88	72.80	72.70	72.47	72.42	72.08
21	71.70	72.59	72.87	72.73	72.76	72.94	72.88	72.79	72.69	72.46	72.39	72.04
22	71.71	72.61	72.87	72.73	72.78	72.99	72.89	72.79	72.73	72.47	72.38	72.01
23	71.72	72.62	72.83	72.73	72.87	72.97	72.93	72.80	72.80	72.54	72.37	71.98
24	71.73	72.61	72.80	72.73	72.91	72.94	72.92	72.80	72.79	72.59	72.34	71.97
25	71.74	72.61	72.79	72.73	72.90	72.91	72.91	72.84	72.75	72.60	72.32	71.95
26	71.79	72.61	72.84	72.72	72.88	72.90	72.90	72.86	72.72	72.58	72.30	71.92
27	71.92	72.63	72.85	72.72	72.87	72.90	72.97	72.97	72.69	72.56	72.29	71.90
28	72.00	72.65	72.82	72.72	72.85	72.89	e73.03	72.95	72.67	72.54	72.26	71.87
29	72.04	72.66	72.80	72.72	---	72.89	73.01	72.93	72.66	72.53	72.25	71.85
30	72.06	72.67	72.79	72.72	---	72.99	72.97	72.90	72.64	72.51	72.23	71.82
31	72.08	---	72.78	72.72	---	73.11	---	72.86	---	72.50	72.21	---
MEAN	71.64	72.44	72.78	72.78	72.79	72.91	72.95	72.87	72.77	72.53	72.44	72.09
MAX	72.08	72.67	72.93	72.97	72.91	73.11	73.13	72.97	72.96	72.63	72.65	72.22
MIN	71.43	72.11	72.68	72.72	72.74	72.84	72.88	72.79	72.64	72.46	72.21	71.82

e Estimated

WEYMOUTH BACK RIVER BASIN

01105607 WHITMANS POND FLOOD BY-PASS AT EAST WEYMOUTH, MA

LOCATION.--Lat 42°12'40", long 70°55'47", Norfolk County, Hydrologic Unit 01090001, on Whitmans Pond Dam, approximately 1,000 ft upstream from Iron Hill Dam and flood by-pass system, and 1,300 ft upstream from the gage, Whitmans Pond Fish Ladder at East Weymouth, MA.

DRAINAGE AREA.--12.4 mi^2.

PERIOD OF RECORD.--January 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 55.29 ft above National Geodetic Vertical Datum of 1929 (NGVD) (Town of Weymouth Datum). Subtract 5.83 ft from gage height values to adjust to NGVD.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow occurs only when gage height in Iron Hill Pond exceeds 65.25 ft. No flow on many days during the year. Daily mean discharges are added to those for the downstream gage, Whitmans Pond Fish Ladder at East Weymouth (01105608), to obtain total discharge from Whitmans Pond, published in the station, Whitmans Pond Combined By-pass and Fish Ladder Flow (011056081). Satellite gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 371 ft^3/s, Apr. 12, 2003, gage height, 66.77 ft, minimum, no flow, many days during each water year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 371 ft^3/s, Apr. 12, gage height, 66.77 ft; minimum, no flow, many days during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	1.1	12	14	5.3	13	69	16	24	4.1	0.23	0.00
2	.00	.97	11	23	7.8	16	34	15	47	2.9	3.8	.00
3	.00	1.3	10	27	9.4	29	25	14	33	2.7	4.4	.00
4	.00	1.4	9.5	66	10	25	27	12	20	2.3	5.7	.00
5	.00	.83	9.2	81	12	21	31	12	16	2.2	7.5	.00
6	.00	1.5	9.4	42	11	20	27	11	14	1.8	7.0	.00
7	.00	2.7	9.0	27	11	17	20	10	13	.85	5.3	.00
8	.00	3.6	8.6	21	9.9	15	17	9.8	17	.00	20	.00
9	.00	3.2	8.0	18	8.9	15	17	10	17	.00	28	.00
10	.00	2.2	7.8	17	8.2	18	18	8.0	15	.00	19	.00
11	.00	2.5	7.5	15	e7.9	17	22	5.6	13	.00	13	.00
12	.00	.62	17	14	e7.1	15	157	6.8	11	.00	11	.00
13	.00	11	30	13	6.5	15	206	7.4	11	.00	9.4	.00
14	.00	16	41	11	6.1	15	71	7.2	11	.00	7.7	.00
15	.00	14	76	10	5.5	13	36	5.8	11	.09	6.2	.00
16	.00	11	56	9.7	5.0	13	24	4.4	9.6	.39	4.3	.00
17	.00	32	37	9.2	6.0	14	19	3.4	8.8	.03	1.8	.00
18	.00	64	26	8.7	8.9	20	17	2.6	8.2	.12	.00	.00
19	.00	41	20	8.2	7.3	23	15	2.3	8.2	.26	.50	.00
20	.00	26	21	7.7	6.3	20	14	2.0	6.8	.16	.93	.00
21	.00	18	40	7.1	6.0	28	14	1.8	6.1	.00	.23	.00
22	.00	18	37	6.4	7.6	44	15	2.3	10	.15	.22	.00
23	.00	18	25	5.8	20	33	21	3.7	21	3.5	1.5	.00
24	.00	15	19	5.3	25	25	20	4.9	20	8.8	.78	.00
25	.00	13	18	4.8	22	20	17	9.4	15	8.9	.12	.00
26	.00	11	27	4.3	19	17	17	14	12	7.3	.00	.00
27	.00	12	27	4.2	17	16	26	37	9.5	5.5	.00	.00
28	.00	13	22	4.1	15	15	e26	36	7.5	2.9	.00	.00
29	.09	12	18	4.0	---	14	22	34	6.3	.00	.00	.00
30	.44	12	15	4.0	---	45	19	24	5.2	.00	.00	.00
31	.62	---	14	4.2	---	134	---	17	---	.00	.00	---
TOTAL	1.15	378.92	688.0	496.7	291.7	745	1063	349.4	427.2	54.95	158.61	0.00
MEAN	0.037	12.6	22.2	16.0	10.4	24.0	35.4	11.3	14.2	1.77	5.12	0.000
MAX	0.62	64	76	81	25	134	206	37	47	8.9	28	0.00
MIN	0.00	0.62	7.5	4.0	5.0	13	14	1.8	5.2	0.00	0.00	0.00
CFSM	0.00	1.02	1.79	1.29	0.84	1.94	2.86	0.91	1.15	0.14	0.41	0.00
IN.	0.00	1.14	2.06	1.49	0.88	2.23	3.19	1.05	1.28	0.16	0.48	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	0.037	12.6	22.2	16.0	5.48	14.1	21.0	13.0	11.8	0.89	2.56	0.000
MAX	0.037	12.6	22.2	16.0	10.4	24.0	35.4	14.7	14.2	1.77	5.12	0.000
(WY)	2003	2003	2003	2003	2003	2003	2003	2002	2003	2003	2003	2002
MIN	0.037	12.6	22.2	16.0	0.54	4.22	6.50	11.3	9.38	0.015	0.000	0.000
(WY)	2003	2003	2003	2003	2002	2002	2002	2003	2002	2002	2002	2002

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	4654.63			
ANNUAL MEAN	12.8		12.8	
HIGHEST ANNUAL MEAN			12.8	2003
LOWEST ANNUAL MEAN			12.8	2003
HIGHEST DAILY MEAN	206	Apr 13	206	Apr 13 2003
LOWEST DAILY MEAN	0.00	Oct 1	0.00	Jan 25 2002
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 1	0.00	Jan 25 2002
MAXIMUM PEAK FLOW	371	Apr 12	371	Apr 12 2003
MAXIMUM PEAK STAGE	66.77	Apr 12	66.77	Apr 12 2003
INSTANTANEOUS LOW FLOW	0.00	Oct 1		
ANNUAL RUNOFF (CFSM)	1.03		1.03	
ANNUAL RUNOFF (INCHES)	13.96		13.97	
10 PERCENT EXCEEDS	27		27	
50 PERCENT EXCEEDS	8.8		8.8	
90 PERCENT EXCEEDS	0.00		0.00	

e Estimated

WEYMOUTH BACK RIVER BASIN

01105608 WHITMANS POND FISH LADDER AT EAST WEYMOUTH, MA

LOCATION.--Lat 42°12'47", long 70°55'35", Norfolk County, Hydrologic Unit 01090001, on left bank at base of fish ladder, 100 ft downstream from Iron Hill Street, 300 ft downstream from Iron Hill Dam, at East Weymouth, MA.

DRAINAGE AREA.--12.5 mi^2.

PERIOD OF RECORD.--December 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 25.00 ft above National Geodetic Vertical Datum of 1929 (NGVD) (Town of Weymouth Datum). Subtract 5.83 ft from gage height values to adjust to NGVD.

REMARKS.--Records good except those for discharges less than 0.1 ft^3/s, which are fair. Discharge includes flow through fish-ladder system. When present, daily mean discharge for Whitmans Pond Flood By-pass at East Weymouth (01105607) are added to daily mean discharges for this station to obtain total daily mean discharge from Whitmans Pond. The combined data are published in the station, Whitmans Pond Combined By-pass and Fish Ladder Flow (011056081). Satellite gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47 ft^3/s, Apr. 12, 2003, gage height, 32.36 ft, minimum, less than 0.01 ft^3/s, Aug. 21, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 47 ft^3/s, Apr. 12, gage height, 32.36 ft, minimum, 0.03 ft^3/s, Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	3.2	6.4	8.3	4.4	8.3	28	5.9	14	5.2	3.1	2.5
2	1.5	3.2	6.1	15	5.1	11	21	5.9	23	4.7	5.1	2.7
3	1.6	3.6	5.8	17	5.5	19	16	4.4	19	4.6	5.3	2.6
4	1.5	3.6	5.3	28	6.1	17	10	4.5	12	4.5	6.1	1.6
5	2.0	3.4	5.2	31	7.4	14	3.7	4.4	10	4.4	7.1	1.7
6	1.2	3.6	5.3	23	6.9	14	8.0	4.3	8.5	4.2	6.7	1.7
7	.98	3.4	5.1	18	6.4	11	12	4.6	7.4	4.2	5.9	1.6
8	.88	3.0	5.0	14	5.9	9.4	12	4.8	9.9	4.0	14	1.4
9	.67	3.4	5.0	12	5.5	9.7	12	4.5	9.7	3.5	19	1.3
10	.50	3.9	4.8	11	5.3	12	12	7.2	7.7	3.3	14	1.3
11	.43	4.0	4.8	9.6	5.2	11	14	9.6	6.6	3.3	9.5	1.2
12	.52	2.9	10	8.3	5.0	9.2	36	10	6.2	3.2	8.2	1.2
13	.59	6.7	17	7.5	4.8	9.6	41	10	6.2	2.9	7.6	1.8
14	.55	8.0	21	6.8	4.7	9.1	31	9.4	6.3	2.8	6.8	2.6
15	.39	7.4	29	6.1	4.5	7.9	22	9.8	6.6	3.0	6.2	2.4
16	.67	6.1	26	5.8	4.3	7.4	16	9.6	7.2	3.4	5.5	2.6
17	.65	16	21	5.6	4.5	8.6	12	9.0	6.6	3.4	5.3	2.5
18	.71	25	16	5.4	5.4	13	11	8.4	6.1	3.5	4.2	2.3
19	.82	20	12	5.3	4.9	15	9.4	7.8	6.5	3.6	4.7	2.3
20	1.1	14	13	5.2	4.6	13	8.5	7.1	6.9	3.5	6.1	1.9
21	1.1	9.7	22	5.0	4.5	17	7.7	6.6	6.6	3.3	5.9	1.2
22	.98	9.5	21	4.8	5.3	24	8.9	6.7	8.8	3.5	5.4	.75
23	1.0	9.8	16	4.6	13	20	14	7.5	15	4.7	5.0	.51
24	1.0	7.9	12	4.5	17	16	13	8.0	14	7.8	4.7	.50
25	.94	6.5	11	4.3	16	13	11	10	11	9.2	4.5	.36
26	.82	5.8	17	4.3	13	11	10	13	8.6	8.2	4.2	.21
27	.44	6.3	17	4.3	11	9.9	17	23	7.7	6.7	4.0	.11
28	1.8	7.0	14	4.2	9.7	8.9	17	19	6.9	5.3	3.6	.07
29	2.9	6.6	11	4.0	---	8.2	9.3	16	6.2	4.3	3.3	.04
30	3.2	6.2	9.0	4.0	---	20	5.2	12	5.7	3.5	3.0	.03
31	3.2	---	8.1	4.1	---	35	---	9.9	---	2.9	2.7	---
TOTAL	35.94	219.7	381.9	291.0	195.9	412.2	448.7	272.9	276.9	134.6	196.7	42.98
MEAN	1.16	7.32	12.3	9.39	7.00	13.3	15.0	8.80	9.23	4.34	6.35	1.43
MAX	3.2	25	29	31	17	35	41	23	23	9.2	19	2.7
MIN	0.39	2.9	4.8	4.0	4.3	7.4	3.7	4.3	5.7	2.8	2.7	0.03
MED	0.98	6.3	11	5.8	5.3	11	12	8.0	7.5	3.6	5.4	1.5
AC-FT	71	436	757	577	389	818	890	541	549	267	390	85
CFSM	0.09	0.59	0.99	0.75	0.56	1.06	1.20	0.70	0.74	0.35	0.51	0.11
IN.	0.11	0.65	1.14	0.87	0.58	1.23	1.34	0.81	0.82	0.40	0.59	0.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	1.16	7.32	12.3	5.09	5.95	11.4	11.0	9.76	8.50	3.35	3.25	0.79
MAX	1.16	7.32	12.3	9.39	7.00	13.3	15.0	10.7	9.23	4.34	6.35	1.43
(WY)	2003	2003	2003	2003	2003	2003	2003	2002	2003	2003	2003	2003
MIN	1.16	7.32	12.3	0.80	4.90	9.51	7.07	8.80	7.77	2.37	0.16	0.15
(WY)	2003	2003	2003	2002	2002	2002	2002	2003	2002	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	1954.99		2909.42			
ANNUAL MEAN	5.36		7.97		7.97	
HIGHEST ANNUAL MEAN					7.97	2003
LOWEST ANNUAL MEAN					7.97	2003
HIGHEST DAILY MEAN	29	Dec 15	41	Apr 13	41	Apr 13 2003
LOWEST DAILY MEAN	0.01	Aug 21	0.03	Sep 30	0.01	Aug 21 2002
ANNUAL SEVEN-DAY MINIMUM	0.02	Aug 21	0.19	Sep 24	0.02	Aug 21 2002
MAXIMUM PEAK FLOW			47	Apr 12	47	Apr 12 2003
MAXIMUM PEAK STAGE			32.36	Apr 12	32.36	Apr 12 2003
INSTANTANEOUS LOW FLOW			0.03	Sep 29		
ANNUAL RUNOFF (AC-FT)	3880		5770		5770	
ANNUAL RUNOFF (CFSM)	0.43		0.64		0.64	
ANNUAL RUNOFF (INCHES)	5.82		8.66		8.66	
10 PERCENT EXCEEDS	12		17		17	
50 PERCENT EXCEEDS	4.5		6.2		6.2	
90 PERCENT EXCEEDS	0.04		1.3		1.3	

WEYMOUTH BACK RIVER BASIN

011056081 WHITMANS POND COMBINED BY-PASS AND FISH LADDER FLOW AT EAST WEYMOUTH, MA

LOCATION.--Lat 42°12'47", long 70°55'35", Norfolk County, Hydrologic Unit 01090001, on left bank at base of fish ladder, 100 ft downstream from Iron Hill Street, 300 ft downstream from Iron Hill Dam, at East Weymouth, MA.

DRAINAGE AREA.--12.5 mi^2.

PERIOD OF RECORD.--December 2001 to current year.

GAGE.--This station includes no instrumentation and contains only combined daily mean discharges from stations 01105607 and 01105608.

REMARKS.--Records good except those for discharges less than 0.1 ft^3/s, which are fair. Daily mean discharge values for Whitmans Pond Flood By-pass at East Weymouth (01105607) are added to daily mean discharge values for Whitmans Pond Fish Ladder at East Weymouth (01105608) to obtain total daily mean discharge from Whitmans Pond.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 418 ft^3/s (371 ft^3/s from station 01105607 plus 47 ft^3/s from station 01105608), Apr. 12, 2003, gage height not applicable, minimum, less than 0.01 ft^3/s, Aug. 21, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 418 ft^3/s (371 ft^3/s from station 01105607 plus 47 ft^3/s from station 01105608), Apr. 12, gage height not applicable, minimum, 0.03 ft^3/s, Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	4.3	18	22	9.7	21	97	22	38	9.3	3.3	2.5
2	1.5	4.2	17	38	13	27	55	21	70	7.6	8.9	2.7
3	1.6	4.9	16	44	15	48	41	18	52	7.3	9.7	2.6
4	1.5	5.0	15	94	16	42	37	16	32	6.8	12	1.6
5	2.0	4.2	14	112	19	35	35	16	26	6.6	15	1.7
6	1.2	5.1	15	65	18	34	35	15	22	6.0	14	1.7
7	.98	6.1	14	45	17	28	32	15	20	5.0	11	1.6
8	.88	6.6	14	35	16	24	29	15	27	4.0	34	1.4
9	.67	6.6	13	30	14	25	29	14	27	3.5	47	1.3
10	.50	6.1	13	28	14	30	30	15	23	3.3	33	1.3
11	.43	6.5	12	25	13	28	36	15	20	3.3	22	1.2
12	.52	3.5	27	22	12	24	193	17	17	3.2	19	1.2
13	.59	18	47	20	11	25	247	17	17	2.9	17	1.8
14	.55	24	62	18	11	24	102	17	17	2.8	14	2.6
15	.39	21	105	16	10	21	58	16	18	3.1	12	2.4
16	.67	17	82	16	9.3	20	40	14	17	3.8	9.8	2.6
17	.65	48	58	15	10	23	31	12	15	3.4	7.1	2.5
18	.71	89	42	14	14	33	28	11	14	3.6	4.2	2.3
19	.82	61	32	14	12	38	24	10	15	3.9	5.2	2.3
20	1.1	40	34	13	11	33	22	9.1	14	3.7	7.0	1.9
21	1.1	28	62	12	10	45	22	8.4	13	3.3	6.1	1.2
22	.98	28	58	11	13	68	24	9.0	19	3.6	5.6	.75
23	1.0	28	41	10	33	53	35	11	36	8.2	6.5	.51
24	1.0	23	31	9.8	42	41	33	13	34	17	5.5	.50
25	.94	20	29	9.1	38	33	28	19	26	18	4.6	.36
26	.82	17	44	8.6	32	28	27	27	21	16	4.2	.21
27	.44	18	44	8.5	28	26	43	60	17	12	4.0	.11
28	1.8	20	36	8.3	25	24	43	55	14	8.2	3.6	.07
29	3.0	19	29	8.0	---	22	31	50	12	4.3	3.3	.04
30	3.6	18	24	8.0	---	65	24	36	11	3.5	3.0	.03
31	3.8	---	22	8.3	---	169	---	27	---	2.9	2.7	---
TOTAL	37.04	600.1	1070	787.6	486.0	1157	1511	620.5	704	190.1	354.3	42.98
MEAN	1.19	20.0	34.5	25.4	17.4	37.3	50.4	20.0	23.5	6.13	11.4	1.43
MAX	3.8	89	105	112	42	169	247	60	70	18	47	2.7
MIN	0.39	3.5	12	8.0	9.3	20	22	8.4	11	2.8	2.7	0.03
MED	0.98	18	29	16	14	28	34	16	20	3.9	7.1	1.5
AC-FT	73	1190	2120	1560	964	2290	3000	1230	1400	377	703	85
CFSM	0.10	1.60	2.76	2.03	1.39	2.99	4.03	1.60	1.88	0.49	0.91	0.11
IN.	0.11	1.79	3.18	2.34	1.45	3.44	4.50	1.85	2.10	0.57	1.05	0.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	1.19	20.0	34.5	13.1	11.4	25.5	32.0	22.7	20.3	4.26	5.80	0.79
MAX	1.19	20.0	34.5	25.4	17.4	37.3	50.4	25.4	23.5	6.13	11.4	1.43
(WY)	2003	2003	2003	2003	2003	2003	2003	2002	2003	2003	2003	2003
MIN	1.19	20.0	34.5	0.80	5.44	13.7	13.6	20.0	17.2	2.38	0.16	0.15
(WY)	2003	2003	2003	2002	2002	2002	2002	2003	2002	2002	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	4101.09		7560.62			
ANNUAL MEAN	11.2		20.7		20.7	
HIGHEST ANNUAL MEAN					20.7	2003
LOWEST ANNUAL MEAN					20.7	2003
HIGHEST DAILY MEAN	105	Dec 15	247	Apr 13	247	Apr 13 2003
LOWEST DAILY MEAN	0.01	Aug 21	0.03	Sep 30	0.01	Aug 21 2002
ANNUAL SEVEN-DAY MINIMUM	0.02	Aug 21	0.19	Sep 24	0.02	Aug 21 2002
MAXIMUM PEAK FLOW			418	Apr 12	418	Apr 12 2003
MAXIMUM PEAK STAGE				Apr 12		
INSTANTANEOUS LOW FLOW			0.03	Sep 29	0.03	Sep 29 2003
ANNUAL RUNOFF (AC-FT)	8130		15000		15010	
ANNUAL RUNOFF (CFSM)	0.90		1.66		1.66	
ANNUAL RUNOFF (INCHES)	12.20		22.50		22.52	
10 PERCENT EXCEEDS	29		43		43	
50 PERCENT EXCEEDS	5.1		15		15	
90 PERCENT EXCEEDS	0.04		1.3		1.3	

NORTH RIVER BASIN

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 mi^2.

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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--37 years, 63.0 ft^3/s, 28.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft^3/s, Mar. 18, 1968, gage height, 7.13 ft; minimum, 0.14 ft^3/s, Sept. 26, 27, 1980; minimum daily, 0.18 ft^3/s, Sept. 27, 29, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 574 ft^3/s, Apr. 12, gage height, 5.03 ft; minimum, 7.7 ft^3/s, Oct. 10, 11; minimum daily, 8.0 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	29	69	98	38	76	349	92	156	34	28	14
2	14	27	61	175	57	111	223	89	276	31	97	29
3	13	25	57	179	67	237	173	80	186	29	120	35
4	12	24	49	334	70	174	169	72	120	28	65	36
5	11	23	47	356	78	132	166	66	105	26	58	55
6	10	39	48	232	57	136	162	63	93	24	50	38
7	9.5	70	46	171	51	115	137	63	81	22	42	31
8	9.0	51	45	138	48	100	124	62	124	20	394	26
9	8.5	40	44	121	45	116	125	62	103	20	404	22
10	8.1	36	41	116	46	154	134	58	80	21	212	19
11	8.0	38	41	105	45	115	162	53	66	24	119	17
12	9.5	45	165	88	43	100	480	67	60	28	88	15
13	15	121	214	77	40	117	484	64	61	25	73	14
14	23	153	210	69	38	100	298	57	78	22	70	14
15	21	104	280	60	36	85	198	53	75	20	55	13
16	29	76	230	e51	34	86	156	49	59	25	49	19
17	55	223	192	e47	35	128	130	46	51	38	51	21
18	38	307	143	e44	41	182	111	43	50	37	45	19
19	28	213	109	e44	41	173	101	41	55	51	39	19
20	24	144	126	e43	39	141	93	39	48	35	34	21
21	21	108	247	e42	39	238	86	37	43	28	32	19
22	19	118	202	e39	55	285	119	41	109	26	29	17
23	19	136	146	36	162	213	202	51	192	64	28	16
24	20	106	114	33	184	164	152	54	126	95	26	15
25	20	83	123	32	149	135	116	81	84	72	23	14
26	35	72	252	32	120	118	122	102	64	44	21	14
27	103	82	204	33	99	113	220	255	53	34	20	13
28	70	90	147	32	84	99	173	194	45	30	18	13
29	45	73	119	31	---	89	128	143	40	27	16	13
30	37	67	103	32	---	330	104	110	37	23	15	12
31	32	---	91	32	---	533	---	86	---	21	15	---
TOTAL	782.6	2723	3965	2922	1841	4895	5397	2373	2720	1024	2336	623
MEAN	25.2	90.8	128	94.3	65.8	158	180	76.5	90.7	33.0	75.4	20.8
MAX	103	307	280	356	184	533	484	255	276	95	404	55
MIN	8.0	23	41	31	34	76	86	37	37	20	15	12
CFSM	0.83	3.00	4.22	3.11	2.17	5.21	5.94	2.53	2.99	1.09	2.49	0.69
IN.	0.96	3.34	4.87	3.59	2.26	6.01	6.63	2.91	3.34	1.26	2.87	0.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

MEAN	34.6	62.0	82.3	83.4	91.2	122	101	66.0	46.9	22.4	23.2	21.6
MAX	199	143	185	218	205	276	230	155	203	83.2	93.0	90.1
(WY)	1997	1973	1997	1979	1998	1983	1987	1967	1982	1998	1990	1996
MIN	6.57	12.7	16.4	11.4	19.4	54.9	34.1	26.1	10.8	5.68	2.02	1.13
(WY)	1998	2002	1981	1981	1980	1985	1985	1981	1999	1971	1966	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	20041.5		31601.6			
ANNUAL MEAN	54.9		86.6		63.0	
HIGHEST ANNUAL MEAN					97.3	1998
LOWEST ANNUAL MEAN					27.6	1981
HIGHEST DAILY MEAN	345	May 14	533	Mar 31	1260	Mar 19 1968
LOWEST DAILY MEAN	3.0	Aug 17	8.0	Oct 11	0.18	Sep 27 1980
ANNUAL SEVEN-DAY MINIMUM	3.2	Aug 13	8.9	Oct 6	0.38	Sep 26 1980
MAXIMUM PEAK FLOW			574	Apr 12	1390	Mar 18 1968
MAXIMUM PEAK STAGE			5.03	Apr 12	7.13	Mar 18 1968
INSTANTANEOUS LOW FLOW			7.7	Oct 10	0.14	Sep 26 1980
ANNUAL RUNOFF (CFSM)	1.81		2.86		2.08	
ANNUAL RUNOFF (INCHES)	24.61		38.80		28.24	
10 PERCENT EXCEEDS	122		188		140	
50 PERCENT EXCEEDS	42		57		41	
90 PERCENT EXCEEDS	7.1		19		7.7	

e Estimated

JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MA

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

DRAINAGE AREA.--15.7 mi^2, excludes 4.09 mi^2 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 National Geodetic Vertical Datum of 1929 (levels by Massachusetts Department of Public Works).

REMARKS.--Records good except those for estimated daily discharge, 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. Occasional backwater from tidal surge.

AVERAGE DISCHARGE.--37 years, 33.0 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 575 ft^3/s, Mar. 19, 1968, gage height, 4.50 ft; maximum gage height, 5.88 ft, Feb. 7, 1978, from peak-stage indicator (backwater from tide); minimum daily, 0.59 ft^3/s, Aug. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 248 ft^3/s, Apr. 13, gage height, 4.63 ft; minimum daily, 5.3 ft^3/s, Oct. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	24	36	51	33	57	130	68	66	32	27	27
2	11	20	33	e68	46	68	108	65	120	29	44	40
3	9.2	17	33	e72	50	107	98	60	102	28	39	46
4	8.6	15	30	e115	49	93	99	58	77	29	35	42
5	8.9	15	28	123	49	76	99	55	67	28	35	42
6	8.7	e21	28	105	44	66	101	53	62	26	31	39
7	9.9	e29	27	83	41	68	93	53	55	25	41	35
8	8.4	30	26	70	42	55	93	55	56	23	150	31
9	6.6	27	26	63	40	55	96	54	54	24	221	29
10	6.3	23	24	e58	38	58	101	54	50	26	161	27
11	7.1	22	25	e50	37	53	114	52	45	38	118	25
12	7.1	22	61	e42	36	49	217	54	40	46	101	23
13	12	38	73	e36	33	48	224	70	43	38	95	22
14	15	52	84	e32	31	45	176	61	46	34	122	21
15	13	47	102	e30	29	41	146	59	45	30	104	21
16	18	41	91	e28	26	41	130	68	41	27	93	25
17	30	85	84	e28	26	48	117	62	36	25	96	27
18	26	102	68	e27	26	63	104	54	35	24	87	24
19	21	91	56	e27	28	64	97	52	34	24	80	23
20	19	70	59	e27	32	59	91	50	32	23	72	24
21	17	53	84	e26	35	71	83	46	31	22	62	22
22	14	52	79	e24	39	89	83	44	61	22	54	20
23	14	55	67	23	81	86	110	45	131	46	47	19
24	14	46	57	22	93	78	99	46	110	56	41	18
25	15	40	59	22	90	68	85	52	83	55	36	18
26	23	36	101	22	77	61	86	58	64	45	34	17
27	37	42	95	23	69	54	117	98	51	35	32	18
28	35	47	77	22	61	48	104	87	43	28	30	18
29	32	42	63	22	---	44	89	71	37	24	29	18
30	28	38	52	25	---	95	79	57	32	22	27	17
31	24	---	51	26	---	149	---	47	---	20	27	---
TOTAL	511.8	1242	1779	1392	1281	2057	3369	1808	1749	954	2171	778
MEAN	16.5	41.4	57.4	44.9	45.8	66.4	112	58.3	58.3	30.8	70.0	25.9
MAX	37	102	102	123	93	149	224	98	131	56	221	46
MIN	6.3	15	24	22	26	41	79	44	31	20	27	17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

MEAN	18.9	29.4	33.8	36.6	44.5	59.6	53.7	39.9	27.8	17.8	17.5	17.1
MAX	83.6	66.0	88.1	78.2	97.5	135	114	71.2	69.4	41.6	70.0	55.8
(WY)	1997	1973	1997	1979	1998	1983	1984	1998	1984	1998	2003	1996
MIN	7.95	5.71	10.8	9.00	18.5	25.8	17.3	14.9	9.56	6.34	4.79	5.02
(WY)	1967	1975	1981	1981	2002	1985	1985	1981	1981	1981	1981	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	10205.0		19091.8			
ANNUAL MEAN	28.0		52.3		33.0	
HIGHEST ANNUAL MEAN					54.6	1984
LOWEST ANNUAL MEAN					14.9	1981
HIGHEST DAILY MEAN	102	Nov 18	224	Apr 13	527	Mar 19 1968
LOWEST DAILY MEAN	5.8	Jan 1	6.3	Oct 10	0.59	Aug 11 1966
ANNUAL SEVEN-DAY MINIMUM	7.1	Aug 12	7.7	Oct 6	1.1	Aug 6 1966
MAXIMUM PEAK FLOW			248	Apr 13	575	Mar 19 1968
MAXIMUM PEAK STAGE			4.63	Apr 13	5.88	Feb 7 1978
INSTANTANEOUS LOW FLOW			5.3	Oct 9		
10 PERCENT EXCEEDS	58		99		66	
50 PERCENT EXCEEDS	22		44		24	
90 PERCENT EXCEEDS	9.5		21		9.4	

e Estimated

QUASHNET RIVER BASIN

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 mi^2, 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Flow at times includes overflow and leakage from Johns Pond. Occasional regulation by cranberry bog upstream. Occasional backwater from tidal surge.

AVERAGE DISCHARGE.--15 years, 15.4 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42 ft^3/s, July 1, 1998, gage height, 3.09 ft; maximum gage height, 4.55 ft, Aug. 19, 1991 (tidal surge); minimum discharge, 5.7 ft^3/s, Oct. 24, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33 ft^3/s, Apr. 12, gage height, 2.74 ft; minimum, 9.5 ft^3/s, Oct. 28 to Nov. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	9.5	12	13	14	15	28	23	26	19	15	14
2	10	9.5	11	16	15	18	23	23	27	19	20	18
3	10	9.5	12	e14	14	20	21	22	23	19	18	21
4	10	9.5	11	e23	14	16	22	21	22	20	17	24
5	10	9.7	12	16	14	16	22	22	25	19	17	27
6	10	e11	12	14	13	16	23	22	23	18	17	26
7	10	e11	11	10	13	16	22	22	22	18	17	25
8	9.9	10	11	10	14	16	23	22	23	18	21	22
9	10	9.7	11	10	13	17	24	22	24	18	19	22
10	9.8	9.9	11	10	13	16	24	22	29	18	18	21
11	10	10	12	10	13	15	25	21	30	18	17	21
12	11	10	17	10	13	15	31	22	30	18	17	21
13	11	14	13	10	13	16	28	21	29	17	16	20
14	10	13	19	10	13	17	26	21	22	17	16	20
15	9.8	11	16	10	13	27	25	21	22	17	16	20
16	e11	11	13	10	13	22	22	21	21	16	16	20
17	e13	18	13	11	13	18	22	20	20	15	e21	20
18	11	15	12	11	14	18	23	20	20	12	20	19
19	10	12	12	11	14	25	24	20	21	12	18	19
20	10	11	e14	11	13	20	23	20	20	11	17	19
21	10	11	15	12	13	21	26	20	20	11	16	19
22	9.9	12	12	12	16	21	29	20	22	13	16	18
23	10	11	12	12	27	19	28	22	22	14	15	18
24	10	11	12	12	21	18	26	21	22	17	15	18
25	9.8	12	e13	12	16	18	25	23	22	17	15	18
26	e26	13	19	12	15	18	26	22	21	16	15	17
27	10	14	13	13	15	18	26	23	21	15	15	17
28	9.7	13	12	12	15	17	24	21	20	15	15	16
29	9.5	12	12	13	---	17	23	21	20	15	14	15
30	9.5	12	12	13	---	26	23	21	20	15	14	15
31	9.5	---	13	13	---	29	---	20	---	14	14	---
TOTAL	330.4	345.3	400	376	407	581	737	662	689	501	517	590
MEAN	10.7	11.5	12.9	12.1	14.5	18.7	24.6	21.4	23.0	16.2	16.7	19.7
MAX	26	18	19	23	27	29	31	23	30	20	21	27
MIN	9.5	9.5	11	10	13	15	21	20	20	11	14	14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2003, BY WATER YEAR (WY)

MEAN	13.1	14.1	13.0	13.3	14.0	16.5	20.1	19.5	17.6	15.0	14.7	14.3
MAX	23.9	22.9	20.3	18.5	23.6	28.4	30.0	27.4	24.3	21.0	21.1	20.7
(WY)	1997	1997	1997	1993	1998	1998	1998	1997	1998	1997	1997	1996
MIN	10.2	11.2	9.56	9.02	8.50	9.20	12.9	11.7	12.2	10.5	9.50	10.7
(WY)	1996	2002	1996	2002	2002	2002	1992	1995	1995	2002	2002	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1989 - 2003	
ANNUAL TOTAL	4053.2		6135.7			
ANNUAL MEAN	11.1		16.8		15.4	
HIGHEST ANNUAL MEAN					21.8	1997
LOWEST ANNUAL MEAN					11.0	2002
HIGHEST DAILY MEAN	26	Oct 26	31	Apr 12	41	Jul 1 1998
LOWEST DAILY MEAN	6.3	Jan 19	9.5	Oct 29	5.9	Oct 24 1995
ANNUAL SEVEN-DAY MINIMUM	6.8	Jan 15	9.5	Oct 29	6.8	Jan 15 2002
MAXIMUM PEAK FLOW			33	Apr 12	41	Aug 9 1992
MAXIMUM PEAK STAGE			2.74	Apr 12	4.55	Aug 19 1991
INSTANTANEOUS LOW FLOW			9.5	Oct 28	5.7	Oct 24 1995
10 PERCENT EXCEEDS	14		23		22	
50 PERCENT EXCEEDS	11		16		14	
90 PERCENT EXCEEDS	8.4		10		10	

e Estimated

SLOCUMS RIVER BASIN

01105933 PASKAMANSET RIVER NEAR SOUTH DARTMOUTH, MA

LOCATION.--Lat 41°35'07", long 70°59'27", Bristol County, Hydrologic Unit 01090002, at bridge on Russells Mills Road, 3.0 mi west of South Dartmouth.

DRAINAGE AREA.--26.2 mi^2.

PERIOD OF RECORD.--October 1995 to current year. Discharge measurements made in water years 1972–74, 1991–92.

REVISED RECORDS.--WDR MA-RI-03-1 (monthly mean discharge).

GAGE.--Water-stage recorder. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map. Telephone and satellite gage-height telemeter at station gage-height telemeter at station.

REMARKS.--Records good.

AVERAGE DISCHARGE.--8 years, 51.2 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 772 ft^3/s, Mar. 31, 2001, gage height, 14.33 ft; minimum, 0.09 ft^3/s, Aug. 22, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 327 ft^3/s, Apr. 13, gage height, 12.39 ft; minimum, 0.89 ft^3/s, Oct. 11.

REVISIONS.--The monthly mean discharges for July 2002 and September 2002 have been revised to 2.43 ft^3/s and 3.82 ft^3/s, respectively. These figures supersede those published in the 2002 water year in Water Data Report MA-RI-02-1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	8.6	53	84	17	79	276	99	62	27	4.4	3.4
2	3.3	8.5	48	94	24	86	222	89	134	24	6.6	16
3	2.6	8.2	43	107	28	194	182	80	138	24	5.8	18
4	2.2	8.0	36	160	30	218	158	70	112	33	6.0	21
5	2.1	8.6	32	192	37	190	140	63	122	27	7.2	22
6	1.8	15	30	169	31	160	121	57	149	23	7.1	18
7	1.5	20	29	144	31	135	100	55	136	20	18	14
8	1.3	18	28	122	33	131	89	52	118	18	40	11
9	1.2	16	28	107	24	131	88	50	98	16	61	9.4
10	1.1	14	27	99	23	143	106	45	83	15	50	8.5
11	1.3	20	24	90	22	127	113	40	71	20	50	7.7
12	3.0	21	63	79	22	104	227	37	64	32	38	7.0
13	6.2	41	94	69	21	90	320	35	65	26	29	6.5
14	6.9	57	134	62	19	83	283	34	76	18	29	6.3
15	5.4	55	210	54	18	75	231	32	87	16	27	5.7
16	11	48	188	45	16	73	193	29	76	15	23	15
17	19	82	161	40	16	82	160	27	62	14	23	13
18	15	146	132	35	16	94	125	25	53	13	30	11
19	11	144	110	34	18	96	95	23	65	14	23	10
20	8.8	114	107	31	21	88	81	22	61	13	18	9.7
21	7.1	85	172	25	22	97	72	21	48	12	15	8.4
22	5.9	74	180	23	32	142	70	22	63	11	13	7.0
23	5.3	78	154	20	120	155	107	31	106	9.8	12	6.6
24	5.3	75	122	18	242	139	111	37	103	11	10	7.7
25	5.0	67	106	17	258	118	93	45	80	9.6	8.8	6.9
26	8.9	60	171	17	206	100	87	44	58	7.9	8.0	6.2
27	22	55	182	17	145	88	168	77	46	6.3	7.2	5.4
28	18	56	156	15	102	78	180	80	39	5.3	6.6	5.4
29	15	52	126	15	---	70	149	66	34	5.3	5.8	5.4
30	12	54	101	15	---	126	119	49	30	5.0	5.2	5.0
31	9.6	---	90	15	---	289	---	40	---	4.2	4.7	---
TOTAL	223.1	1508.9	3137	2014	1594	3781	4466	1476	2439	495.4	592.4	297.2
MEAN	7.20	50.3	101	65.0	56.9	122	149	47.6	81.3	16.0	19.1	9.91
MAX	22	146	210	192	258	289	320	99	149	33	61	22
MIN	1.1	8.0	24	15	16	70	70	21	30	4.2	4.4	3.4
CFSM	0.27	1.92	3.86	2.48	2.17	4.66	5.68	1.82	3.10	0.61	0.73	0.38
IN.	0.32	2.14	4.45	2.86	2.26	5.37	6.34	2.10	3.46	0.70	0.84	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

MEAN	28.3	36.4	55.5	64.7	70.3	107	103	54.6	52.9	13.3	12.7	16.8
MAX	105	69.2	150	120	145	186	149	87.9	115	41.8	22.7	80.6
(WY)	1997	1996	1997	1998	1998	2001	2003	1998	1998	1998	2000	1996
MIN	3.97	5.25	15.1	35.5	23.0	59.6	32.0	28.2	5.67	1.72	0.28	3.04
(WY)	1998	2002	2002	2002	2002	2002	1999	1999	1999	1999	2002	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL TOTAL	14612.69		22024.0			
ANNUAL MEAN	40.0		60.3		51.2	
HIGHEST ANNUAL MEAN					70.3	1998
LOWEST ANNUAL MEAN					29.1	2002
HIGHEST DAILY MEAN	210	Dec 15	320	Apr 13	741	Mar 31 2001
LOWEST DAILY MEAN	0.12	Aug 23	1.1	Oct 10	0.12	Aug 23 2002
ANNUAL SEVEN-DAY MINIMUM	0.17	Aug 18	1.5	Oct 5	0.17	Aug 18 2002
MAXIMUM PEAK FLOW			327	Apr 13	772	Mar 31 2001
MAXIMUM PEAK STAGE			12.39	Apr 13	14.33	Mar 31 2001
INSTANTANEOUS LOW FLOW			0.89	Oct 11	0.09	Aug 22 2002
ANNUAL RUNOFF (CFSM)	1.53		2.30		1.95	
ANNUAL RUNOFF (INCHES)	20.75		31.27		26.54	
10 PERCENT EXCEEDS	106		145		122	
50 PERCENT EXCEEDS	26		34		32	
90 PERCENT EXCEEDS	0.73		6.3		3.9	

TAUNTON RIVER BASIN

01108000 TAUNTON RIVER NEAR BRIDGEWATER, MA

LOCATION.--Lat 41°56'02", long 70°57'25", Plymouth County, Hydrologic Unit 01090004, on right bank at bridge on Titicut Road, 1 mi upstream from Sawmill Brook, 3.5 mi northwest of Middleboro, and 4.0 mi southeast of Bridgewater.

DRAINAGE AREA.--261 mi^2 (revised).

PERIOD OF RECORD.--Discharge: October 1929 to April 1976, April 1985 to May 1988, October 1996 to curent year. Published as "at State Farm" October 1929 to September 1969, and as "at State Farm near Bridgewater" October 1969 to April 1976.
Water-quality: Water years 1953, 1967–74, 1997–2002.

REVISED RECORDS.--WSP 781: 1934. WSP 1051: 1933. WSP 1201: 1931. WSP 1301: 1930(M), 1933(M), 1935(M). WDR MA-RI-84-1, WDR MA-RI-03-1: Drainage area.

GAGE.--Water stage recorder. Datum of gage is 9.61 ft above National Geodetic Vertical Datum of 1929. Prior to October 1996, at sites 40 ft apart about 600 ft upstream: October 1929 to Sept. 30, 1931, inverted nonrecording gage with zero of gage at 10.02 ft; Oct. 1, 1931, to June 8, 1934, nonrecording gage, and June 9, 1934, to April 1976, April 1985 to May 1988, water-stage recorders, at present datum.

REMARKS.--Records good. Flow affected by diversions to and from basin for municipal supplies. Flow regulated by reservoirs and, prior to about 1975, by powerplants upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--55 years (water years 1930–75, 1986–87, 1997– 2003), 475 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,980 ft^3/s, Mar. 20, 1968, gage height, 14.48 ft; minimum, 8.0 ft^3/s, Sept. 10, 1944; minimum daily, 9.0 ft^3/s, Sept. 9–12, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,630 ft^3/s, Apr. 13, gage height, 9.47 ft; minimum, 57 ft^3/s, Oct. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	161	487	808	363	799	2290	1040	918	629	309	157
2	87	145	446	972	445	845	2110	987	1390	574	528	262
3	80	131	415	1050	575	1410	1820	925	1420	528	598	342
4	74	120	357	1270	601	1440	1600	865	1230	499	544	314
5	72	113	331	1520	658	1270	1510	812	1090	464	547	470
6	69	132	312	1530	595	1220	1450	766	1010	424	506	411
7	64	209	296	1410	563	1110	1350	738	915	390	479	340
8	62	200	294	1240	531	1020	1240	716	939	359	1560	287
9	60	195	284	1110	518	1040	1190	703	907	339	2520	249
10	60	186	268	1020	499	1180	1200	686	843	376	2430	222
11	59	191	259	933	487	1100	1220	661	772	385	1920	200
12	63	208	640	850	470	1010	1910	676	715	481	1410	183
13	77	397	884	774	442	1030	2540	687	731	444	1060	170
14	88	583	917	690	419	964	2530	679	775	430	886	167
15	87	494	1200	648	397	909	2210	643	784	387	788	163
16	92	429	1260	614	354	898	1830	609	721	350	693	186
17	192	794	1200	587	346	991	1520	581	664	441	629	202
18	155	1170	1060	521	295	1130	1310	552	632	378	575	178
19	136	1150	898	508	416	1180	1170	527	635	383	521	173
20	123	969	866	496	425	1140	1060	501	602	347	464	204
21	109	799	1160	440	408	1240	977	471	571	303	406	183
22	97	746	1240	414	453	1450	982	473	951	287	359	166
23	91	785	1140	394	920	1460	1290	505	1640	507	321	156
24	88	692	1010	382	1170	1370	1290	530	1700	628	284	158
25	83	614	934	367	1150	1240	1150	587	1460	695	255	144
26	119	560	1240	363	1010	1130	1070	644	1180	617	237	136
27	337	533	1300	366	945	1050	1350	1120	990	536	222	130
28	268	546	1180	346	880	966	1400	1180	853	450	205	127
29	236	505	1030	345	---	899	1280	1040	756	390	188	129
30	209	492	918	338	---	1320	1150	930	688	347	173	127
31	182	---	832	341	---	2090	---	829	---	307	165	---
TOTAL	3614	14249	24658	22647	16335	35901	44999	22663	28482	13675	21782	6336
MEAN	117	475	795	731	583	1158	1500	731	949	441	703	211
MAX	337	1170	1300	1530	1170	2090	2540	1180	1700	695	2520	470
MIN	59	113	259	338	295	799	977	471	571	287	165	127

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2003, BY WATER YEAR (WY)

MEAN	224	399	552	616	704	964	872	543	341	191	161	175
MAX	1214	1309	1614	1346	1404	1714	1895	1378	1106	1021	1049	840
(WY)	1997	1956	1946	1976	1998	1968	1987	1954	1998	1938	1955	1933
MIN	36.9	56.6	82.7	122	204	495	192	196	93.8	36.4	28.0	32.9
(WY)	1942	1966	1966	1966	1944	1944	1966	1965	1965	1957	1934	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1930 - 2003	
ANNUAL TOTAL	132354		255341			
ANNUAL MEAN	363		700		475	
HIGHEST ANNUAL MEAN					761	1998
LOWEST ANNUAL MEAN					171	1966
HIGHEST DAILY MEAN	1460	May 15	2540	Apr 13	4930	Mar 20 1968
LOWEST DAILY MEAN	35	Aug 15	59	Oct 11	9.0	Sep 9 1944
ANNUAL SEVEN-DAY MINIMUM	36	Aug 13	62	Oct 6	11	Sep 6 1944
MAXIMUM PEAK FLOW			2630	Apr 13	4980	Mar 20 1968
MAXIMUM PEAK STAGE			9.47	Apr 13	14.48	Mar 20 1968
INSTANTANEOUS LOW FLOW			57	Oct 10	8.0	Sep 10 1944
10 PERCENT EXCEEDS	882		1300		1060	
50 PERCENT EXCEEDS	303		587		344	
90 PERCENT EXCEEDS	52		156		68	

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 mi^2.

PERIOD OF RECORD.--Discharge: June 1925 to current year.
Water-quality records: Water year 1967–68, 1999–2001.

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 National Geodetic Vertical Datum of 1929. 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 discharge, which are poor. Flow regulated to some extent by Lake Mirimichi and other lakes and reservoirs upstream. Diversion upstream for municipal supply of Attleboro and small diversions to and from basin for other municipal supplies. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--78 years, 73.3 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,460 ft^3/s, Mar. 19, 1968; maximum gage height, 11.47 ft, Mar. 19, 1968, June 14, 1998; minimum discharge, 0.3 ft^3/s, Sept. 10, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 386 ft^3/s, Mar. 31, gage height, 8.30 ft; minimum, 5.4 ft^3/s, Oct. 4, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	16	62	117	36	e114	304	121	120	73	24	7.4
2	6.9	14	58	154	45	125	259	112	169	64	34	19
3	6.2	13	55	171	57	200	230	103	152	58	35	34
4	5.5	11	50	220	70	e210	219	96	125	53	32	35
5	6.3	10	45	241	78	163	206	88	119	51	31	53
6	8.5	13	43	207	74	159	191	83	116	47	30	42
7	9.0	18	e41	183	67	e143	172	107	106	40	27	34
8	10	19	41	163	61	e132	161	72	112	35	133	31
9	11	17	40	156	e59	135	159	68	110	32	198	24
10	10	15	e37	145	55	e127	164	64	99	36	147	19
11	10	18	36	131	52	e122	170	61	83	39	122	15
12	11	23	72	117	e51	120	304	64	77	42	124	12
13	12	46	113	104	e48	127	314	67	83	39	115	11
14	12	70	151	94	e44	e117	260	66	99	32	94	10
15	9.9	65	225	87	40	110	222	62	105	28	72	9.7
16	12	49	e202	79	37	113	199	55	93	29	54	14
17	18	92	e178	75	34	134	174	53	79	37	44	19
18	20	151	e151	e70	36	164	154	50	71	33	43	17
19	17	144	e135	e63	34	169	139	46	77	35	66	17
20	14	122	e146	57	37	160	128	43	72	32	60	29
21	11	103	220	55	42	192	117	41	65	26	45	31
22	9.9	103	212	50	52	232	121	42	102	24	36	26
23	9.5	110	183	46	107	212	151	47	248	33	30	23
24	9.2	103	168	41	164	192	144	54	252	59	24	21
25	9.1	91	159	39	172	174	129	60	209	65	20	19
26	14	80	185	38	e161	161	127	72	179	55	16	17
27	26	76	179	38	e143	152	178	151	149	43	14	15
28	31	71	159	e37	127	140	172	155	119	35	12	13
29	26	66	143	34	---	129	151	134	99	30	9.9	13
30	21	63	129	34	---	229	135	120	86	26	9.0	12
31	18	---	120	34	---	371	---	107	---	23	8.1	---
TOTAL	402.2	1792	3738	3080	1983	5028	5554	2464	3575	1254	1709.0	642.1
MEAN	13.0	59.7	121	99.4	70.8	162	185	79.5	119	40.5	55.1	21.4
MAX	31	151	225	241	172	371	314	155	252	73	198	53
MIN	5.5	10	36	34	34	110	117	41	65	23	8.1	7.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2003, BY WATER YEAR (WY)

MEAN	30.0	59.4	90.2	99.6	106	155	136	82.8	54.5	24.8	21.8	20.7
MAX	143	210	257	353	232	354	323	227	284	225	175	106
(WY)	1956	1956	1946	1979	1970	1936	1987	1954	1998	1938	1955	1954
MIN	3.11	5.21	10.4	13.7	26.1	65.6	35.0	28.6	9.79	2.98	1.91	1.76
(WY)	1958	1958	1966	1981	1980	1985	1985	1965	1957	1999	1993	1930

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1925 - 2003	
ANNUAL TOTAL	18141.6		31221.3			
ANNUAL MEAN	49.7		85.5		73.3	
HIGHEST ANNUAL MEAN					123	1984
LOWEST ANNUAL MEAN					28.8	1966
HIGHEST DAILY MEAN	228	May 15	371	Mar 31	1280	Mar 19 1968
LOWEST DAILY MEAN	2.4	Sep 13	5.5	Oct 4	0.30	Sep 10 1926
ANNUAL SEVEN-DAY MINIMUM	3.1	Sep 9	7.2	Oct 1	0.62	Aug 30 1993
MAXIMUM PEAK FLOW			386	Mar 31	1460	Mar 19 1968
MAXIMUM PEAK STAGE			8.30	Mar 31	11.47	Mar 19 1968
INSTANTANEOUS LOW FLOW			5.4	Oct 4	0.30	Sep 10 1926
10 PERCENT EXCEEDS	122		178		168	
50 PERCENT EXCEEDS	38		64		50	
90 PERCENT EXCEEDS	4.1		13		6.8	

e Estimated

TAUNTON RIVER BASIN

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 mi^2.

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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--37 years, 166 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,870 ft^3/s, June 16, 1998, gage height, 8.89 ft; minimum, 1.9 ft^3/s, Sept. 12, 1995, but was less during period of unusual regulation on Aug. 4, 5, 1997 (gage height below minimum recordable at this station).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 884 ft^3/s, Apr. 1, gage height, 5.38 ft; minimum, 17 ft^3/s, Oct. 5, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	43	127	254	80	258	836	287	276	154	66	26
2	23	40	120	292	104	298	691	259	333	130	101	64
3	21	38	112	340	127	417	581	237	354	115	93	86
4	20	35	103	486	143	447	530	215	316	108	85	86
5	19	35	97	562	162	458	496	197	272	100	84	100
6	18	46	92	538	156	392	468	181	245	94	81	102
7	19	48	87	462	145	356	424	181	228	84	74	80
8	19	49	91	402	135	329	390	188	233	73	449	66
9	20	48	86	361	125	315	370	157	226	73	521	58
10	21	46	78	335	125	319	374	148	212	85	479	50
11	21	49	82	302	116	303	406	140	185	94	346	42
12	23	58	151	270	109	278	622	147	161	100	280	37
13	24	118	205	239	99	272	800	146	178	86	244	33
14	25	144	308	212	103	265	718	143	198	74	211	31
15	24	143	428	188	93	248	587	137	207	64	166	31
16	31	123	516	168	82	244	494	126	198	61	129	37
17	44	206	479	155	83	274	425	116	171	83	106	47
18	43	268	411	137	77	326	368	110	153	78	97	45
19	41	314	347	122	102	368	325	105	155	73	104	44
20	36	325	338	133	96	369	290	98	148	70	120	51
21	32	268	413	115	97	425	263	94	133	61	104	60
22	28	248	492	103	118	502	286	98	202	55	84	56
23	27	240	462	93	244	524	339	105	325	102	71	50
24	26	231	400	87	312	465	347	115	546	131	59	48
25	26	212	376	79	361	415	319	126	538	146	50	43
26	39	181	406	76	363	372	308	158	443	126	44	39
27	68	158	412	78	372	340	362	272	364	102	39	37
28	67	146	383	67	309	311	406	323	290	84	35	35
29	64	136	340	77	---	286	378	315	225	72	31	39
30	56	129	299	71	---	438	328	274	180	63	30	37
31	50	---	270	73	---	762	---	235	---	55	27	---
TOTAL	1000	4125	8511	6877	4438	11376	13531	5433	7695	2796	4410	1560
MEAN	32.3	138	275	222	158	367	451	175	256	90.2	142	52.0
MAX	68	325	516	562	372	762	836	323	546	154	521	102
MIN	18	35	78	67	77	244	263	94	133	55	27	26
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)												
MEAN	74.2	134	210	223	239	325	303	187	142	55.8	54.6	47.4
MAX	298	407	534	683	466	580	701	408	614	280	170	128
(WY)	1990	1990	1973	1979	1970	1983	1987	1967	1998	1998	1986	1989
MIN	10.9	26.1	40.1	29.8	55.7	136	84.5	83.4	25.6	12.1	8.62	10.9
(WY)	1998	2002	1981	1981	1980	1985	1985	1981	1991	1991	1999	1993

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	40872.1		71752			
ANNUAL MEAN	112		197		166	
HIGHEST ANNUAL MEAN					255	1984
LOWEST ANNUAL MEAN					64.4	1981
HIGHEST DAILY MEAN	516	Dec 16	836	Apr 1	2680	Jun 16 1998
LOWEST DAILY MEAN	5.9	Aug 19	18	Oct 6	1.3	Aug 5 1997
ANNUAL SEVEN-DAY MINIMUM	7.2	Aug 13	19	Oct 3	2.9	Sep 7 1995
MAXIMUM PEAK FLOW			884	Apr 1	2870	Jun 16 1998
MAXIMUM PEAK STAGE			5.38	Apr 1	8.89	Jun 16 1998
INSTANTANEOUS LOW FLOW			17	Oct 5		
10 PERCENT EXCEEDS	269		420		380	
50 PERCENT EXCEEDS	89		137		112	
90 PERCENT EXCEEDS	12		37		22	

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 mi^2.

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 National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--36 years (water years 1967–91, 1993–2003), 22.2 ft^3/s, 28.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 867 ft^3/s, Mar. 18, 1968, gage height, 7.51 ft; no flow at times in several water years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 486 ft^3/s, Aug. 8, gage height, 5.72 ft; minimum, 0.04 ft^3/s, Oct. 10–12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.81	1.9	16	26	6.8	32	132	32	73	7.8	11	1.4
2	0.59	1.8	15	55	14	54	78	30	131	6.9	38	8.8
3	0.40	1.8	13	65	24	161	61	27	78	6.1	31	15
4	0.30	1.5	11	122	27	113	61	22	45	7.5	20	14
5	0.29	1.4	9.4	118	29	73	60	19	44	6.4	16	14
6	0.24	2.7	9.3	72	21	63	58	18	43	5.4	14	9.6
7	0.17	4.6	9.1	51	15	49	48	19	34	4.6	14	6.6
8	0.11	3.9	9.0	39	13	45	42	18	43	3.9	338	4.8
9	0.06	3.4	8.5	35	13	53	46	18	41	4.2	320	3.8
10	0.05	3.6	7.5	34	12	72	59	17	31	7.9	124	3.3
11	0.04	5.8	7.6	29	12	55	76	15	22	17	61	2.9
12	0.06	6.5	44	25	11	43	228	19	19	25	32	2.5
13	0.07	20	69	21	11	45	179	20	30	16	26	2.3
14	0.13	26	91	18	11	42	94	17	44	9.9	20	2.2
15	0.28	21	140	15	10	35	62	15	38	7.5	14	2.1
16	1.3	14	94	12	10	39	48	13	26	6.5	10	3.5
17	9.9	56	63	12	10	66	39	12	19	7.2	8.8	4.3
18	8.7	87	44	11	10	92	32	11	18	6.2	8.7	3.1
19	5.5	59	32	8.8	10	80	27	9.6	23	5.9	11	3.2
20	3.8	35	43	8.2	12	58	25	8.7	21	5.3	11	4.6
21	2.5	23	107	7.6	13	91	23	8.0	16	4.4	8.2	3.8
22	1.8	29	87	6.7	17	112	44	8.6	53	4.1	6.3	2.9
23	1.9	39	55	5.7	65	77	100	12	112	22	5.1	2.8
24	2.0	32	39	5.2	99	54	75	16	77	49	4.0	2.7
25	2.0	22	37	4.9	100	42	49	21	44	52	3.1	2.3
26	7.2	17	78	5.0	74	35	51	35	27	29	2.8	2.0
27	17	15	68	5.5	55	31	108	102	18	15	2.5	1.9
28	11	14	46	5.2	43	27	82	82	13	10	2.1	1.9
29	6.7	13	34	4.9	---	24	54	49	9.9	7.5	1.8	2.7
30	4.3	14	27	5.0	---	129	40	32	8.3	6.6	1.7	2.7
31	2.8	---	24	5.4	---	237	---	23	---	5.7	1.5	---
TOTAL	92.00	574.9	1337.4	838.1	747.8	2129	2081	748.9	1201.2	372.5	1167.6	137.7
MEAN	2.97	19.2	43.1	27.0	26.7	68.7	69.4	24.2	40.0	12.0	37.7	4.59
MAX	17	87	140	122	100	237	228	102	131	52	338	15
MIN	0.04	1.4	7.5	4.9	6.8	24	23	8.0	8.3	3.9	1.5	1.4
CFSM	0.28	1.81	4.07	2.55	2.52	6.48	6.54	2.28	3.78	1.13	3.55	0.43
IN.	0.32	2.02	4.69	2.94	2.62	7.47	7.30	2.63	4.22	1.31	4.10	0.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

MEAN	8.54	19.9	30.8	33.0	34.8	47.2	38.5	23.9	16.4	4.86	5.36	4.83
MAX	42.7	58.4	74.7	110	68.6	91.4	106	61.7	85.1	24.9	37.7	21.5
(WY)	1978	1973	1987	1979	1998	1994	1987	1967	1998	1973	2003	1972
MIN	0.000	1.70	3.70	3.34	7.23	20.2	9.55	7.87	1.00	0.007	0.000	0.018
(WY)	1998	2002	1981	1981	1980	1981	1985	1981	1999	1999	1999	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	5887.18		11428.10			
ANNUAL MEAN	16.1		31.3		22.2	
HIGHEST ANNUAL MEAN					34.5	1998
LOWEST ANNUAL MEAN					7.68	1981
HIGHEST DAILY MEAN	149	May 14	338	Aug 8	670	Mar 18 1968
LOWEST DAILY MEAN	0.00	Jul 25	0.04	Oct 11	0.00	Aug 13 1966
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 2	0.07	Oct 8	0.00	Aug 13 1966
MAXIMUM PEAK FLOW			486	Aug 8	867	Mar 18 1968
MAXIMUM PEAK STAGE			5.72	Aug 8	7.51	Mar 18 1968
INSTANTANEOUS LOW FLOW			0.04	Oct 10	0.00	Aug 13 1966
ANNUAL RUNOFF (CFSM)	1.52		2.95		2.10	
ANNUAL RUNOFF (INCHES)	20.66		40.11		28.51	
10 PERCENT EXCEEDS	43		77		52	
50 PERCENT EXCEEDS	9.6		16		12	
90 PERCENT EXCEEDS	0.00		2.3		0.48	

TEN MILE RIVER BASIN

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 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--17 years, 105 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,450 ft^3/s, June 15, 1998, gage height, 8.50 ft; minimum, 5.0 ft^3/s, Apr. 19, 1991; minimum daily, 6.6 ft^3/s, Apr. 19, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 654 ft^3/s, Mar. 31, gage height, 5.95 ft; minimum, 18 ft^3/s, Oct 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	37	81	144	62	131	494	151	213	110	61	29
2	30	40	75	228	90	205	326	149	334	93	74	100
3	29	58	94	242	106	442	281	138	273	83	73	91
4	24	60	115	336	99	334	269	124	197	80	59	73
5	25	62	83	375	109	242	254	115	179	72	56	75
6	22	73	75	292	97	231	243	111	163	66	52	63
7	20	70	70	235	93	193	216	105	152	58	51	52
8	21	58	67	205	83	169	207	106	179	55	267	45
9	20	55	65	191	75	181	205	104	167	66	326	40
10	20	52	63	182	74	215	218	100	146	85	198	36
11	22	59	63	166	73	191	247	94	123	80	136	36
12	30	69	156	151	69	162	452	98	119	72	115	34
13	34	124	176	139	66	179	525	90	161	63	94	33
14	35	119	218	130	62	169	369	86	181	55	84	33
15	26	87	294	119	59	147	280	82	168	54	71	33
16	49	82	268	110	56	148	242	78	142	65	65	61
17	69	206	212	107	64	186	205	74	119	89	62	61
18	51	254	167	99	63	237	180	68	125	66	69	49
19	39	179	141	92	62	242	168	67	127	65	86	45
20	35	134	172	87	60	213	156	64	112	55	65	60
21	30	116	316	83	63	274	145	65	98	48	54	52
22	30	155	338	77	101	336	172	67	236	55	48	43
23	33	153	244	72	319	277	224	77	466	92	44	40
24	33	121	194	67	341	224	199	86	437	129	39	39
25	35	103	199	66	243	187	163	85	285	119	37	36
26	50	95	251	64	201	165	181	129	210	82	38	35
27	65	97	227	65	164	163	266	262	172	66	35	34
28	57	88	185	63	148	152	237	247	143	59	34	34
29	48	82	161	62	---	144	190	189	123	56	32	36
30	42	81	146	60	---	356	163	149	111	52	33	33
31	38	---	138	60	---	614	---	128	---	48	28	---
TOTAL	1093	2969	5054	4369	3102	7109	7477	3488	5661	2238	2486	1431
MEAN	35.3	99.0	163	141	111	229	249	113	189	72.2	80.2	47.7
MAX	69	254	338	375	341	614	525	262	466	129	326	100
MIN	20	37	63	60	56	131	145	64	98	48	28	29
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)												
MEAN	58.6	89.7	128	132	138	184	185	113	86.7	48.0	49.1	47.1
MAX	171	223	304	206	261	348	407	206	317	181	119	94.4
(WY)	1990	1990	1993	1999	1988	1994	1987	1998	1998	1998	1989	1987
MIN	23.1	28.8	42.7	41.4	52.8	90.2	78.0	60.4	32.1	19.7	16.6	22.3
(WY)	1994	2002	2002	1989	2002	1989	1995	1992	1991	1999	1993	1993

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1987 - 2003	
ANNUAL TOTAL	26090		46477			
ANNUAL MEAN	71.5		127		105	
HIGHEST ANNUAL MEAN					154	1998
LOWEST ANNUAL MEAN					54.8	2002
HIGHEST DAILY MEAN	338	Dec 22	614	Mar 31	1380	Jun 15 1998
LOWEST DAILY MEAN	11	Aug 18	20	Oct 7	6.6	Apr 19 1991
ANNUAL SEVEN-DAY MINIMUM	12	Aug 13	21	Oct 5	12	Aug 31 1993
MAXIMUM PEAK FLOW			654	Mar 31	1450	Jun 15 1998
MAXIMUM PEAK STAGE			5.95	Mar 31	8.50	Jun 15 1998
INSTANTANEOUS LOW FLOW			18	Oct 7	5.0	Apr 19 1991
10 PERCENT EXCEEDS	151		249		219	
50 PERCENT EXCEEDS	58		94		74	
90 PERCENT EXCEEDS	19		36		25	

e Estimated

BLACKSTONE RIVER BASIN

01109730 BLACKSTONE RIVER, W. MAIN ST., AT MILLBURY, MA

LOCATION.--Lat 42°11'20", long 71°45'56", Worcester County, Hydrologic Unit 01090003, on right bank, 20 ft downstream from West Main Street bridge on Elm Court, 2 mi downstream from Kettle Brook, and 2.5 mi downstream from effluent discharge channel of Upper Blackstone Water Pollution Abatement District waste-water treatment plant, Millbury, MA.

DRAINAGE AREA.--71.4 mi^2.

PERIOD OF RECORD.--July 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 380 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Twice daily fluctuations from treatment plant, 2.5 mi upstream. Satellite gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,060 ft^3/s, Sept. 23, 2003, gage height, 5.98 ft, minimum, 28 ft^3/s, Aug. 15, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,060 ft^3/s, Sept. 23, gage height, 5.98 ft, minimum, 34 ft^3/s, Oct. 9, Sept. 1, 13–15; minimum daily, 49 ft^3/s, Sept. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	114	115	206	92	150	384	180	345	138	130	51
2	58	101	109	353	118	375	323	171	292	129	165	152
3	81	113	105	270	113	349	315	166	238	118	102	90
4	71	106	97	243	151	251	356	152	190	106	443	105
5	67	106	97	222	147	246	342	147	246	99	243	86
6	56	203	101	200	119	236	320	141	193	91	180	80
7	53	149	96	187	112	212	289	134	307	87	127	71
8	54	126	92	179	109	206	284	152	315	83	240	71
9	53	113	91	180	103	225	276	141	262	90	155	68
10	51	107	92	187	99	210	268	131	218	80	159	66
11	63	122	87	167	99	186	412	121	286	121	134	63
12	169	154	175	154	92	189	570	195	264	116	136	55
13	126	286	134	145	87	190	446	145	357	95	204	49
14	108	176	511	136	82	184	350	133	329	81	117	49
15	77	144	450	131	82	173	305	126	271	75	101	52
16	172	127	303	126	76	196	266	114	219	70	89	155
17	180	283	235	123	79	300	236	108	184	79	82	119
18	116	344	191	116	88	428	214	100	197	89	103	104
19	92	232	174	111	95	443	199	99	186	177	121	142
20	83	184	509	111	103	372	188	95	168	93	99	93
21	76	160	543	103	106	832	180	96	153	81	83	66
22	67	206	355	100	248	817	202	88	853	116	99	56
23	89	194	284	98	524	582	196	98	1040	164	88	414
24	69	162	237	99	356	443	182	109	549	118	64	226
25	62	144	219	93	272	378	166	137	373	98	63	124
26	260	133	230	91	218	339	296	527	291	80	60	93
27	188	141	205	94	189	361	323	490	235	71	60	76
28	125	126	187	90	166	318	267	333	197	67	57	77
29	98	117	173	92	---	365	224	261	168	60	55	87
30	86	121	161	92	---	626	194	217	151	57	53	70
31	96	---	161	90	---	521	---	189	---	52	50	---
TOTAL	3006	4794	6519	4589	4125	10703	8573	5296	9077	2981	3862	3010
MEAN	97.0	160	210	148	147	345	286	171	303	96.2	125	100
MAX	260	344	543	353	524	832	570	527	1040	177	443	414
MIN	51	101	87	90	76	150	166	88	151	52	50	49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	97.0	160	210	148	147	345	286	171	303	96.2	90.1	86.3
MAX	97.0	160	210	148	147	345	286	171	303	96.2	125	100
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	97.0	160	210	148	147	345	286	171	303	96.2	55.6	72.2
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2002	2002

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	66535			
ANNUAL MEAN	182		182	
HIGHEST ANNUAL MEAN			182	2003
LOWEST ANNUAL MEAN			182	2003
HIGHEST DAILY MEAN	1040	Jun 23	1040	Jun 23 2003
LOWEST DAILY MEAN	49	Sep 13	39	Aug 18 2002
ANNUAL SEVEN-DAY MINIMUM	55	Aug 26	41	Aug 12 2002
MAXIMUM PEAK FLOW	2060	Sep 23	2060	Sep 23 2003
MAXIMUM PEAK STAGE	5.98	Sep 23	5.98	Sep 23 2003
INSTANTANEOUS LOW FLOW	34	Oct 9	34	Oct 9 2002
10 PERCENT EXCEEDS	349		349	
50 PERCENT EXCEEDS	141		141	
90 PERCENT EXCEEDS	71		71	

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 mi^2.

PERIOD OF RECORD.--Discharge: October 1939 to current year.
Water-quality records: Water years, 2000.

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

GAGE.--Water-stage recorder. Elevation of gage is 335 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 7, 1939, staff gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Some regulation by Lake Quinsigamond 2.3 mi upstream and by ponds upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--64 years, 40.8 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 247 ft^3/s, June 23, gage height, 2.94 ft; minimum daily, 2.7 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	16	29	e55	e10	e44	137	59	78	60	10	6.6
2	11	16	28	e85	28	59	121	56	90	53	22	13
3	10	13	27	e90	e38	92	115	55	73	45	24	16
4	8.5	12	23	e73	e40	e72	117	50	61	41	36	18
5	8.4	12	22	e58	e45	e60	119	45	67	37	55	18
6	6.7	17	22	e48	e42	e60	123	42	63	34	51	16
7	5.3	21	e18	e42	e34	e61	108	42	62	29	42	14
8	4.7	18	e12	54	e21	61	104	41	86	25	48	12
9	3.5	16	e11	52	e20	e69	101	42	77	22	43	10
10	2.7	15	e9.2	e40	e17	e61	97	40	69	21	37	8.7
11	2.8	15	e7.9	e36	e14	e53	101	36	62	23	36	7.7
12	6.8	17	e43	e32	e11	55	133	45	68	27	30	6.7
13	12	33	28	e29	e10	56	135	47	72	25	37	6.2
14	14	34	54	e29	e10	56	120	44	79	22	37	6.0
15	11	30	98	e30	e9.0	53	107	40	73	20	31	5.8
16	13	27	e87	e28	e8.0	53	99	36	61	18	27	20
17	27	42	e70	e27	e7.0	62	86	33	52	18	23	21
18	24	58	e61	e24	e8.0	80	77	31	50	17	23	18
19	19	52	e56	e24	e14	90	71	30	54	27	30	19
20	17	47	69	e19	e21	92	67	27	49	26	26	23
21	14	42	104	e18	e25	130	62	26	43	21	22	20
22	10	48	e84	e15	29	168	63	25	111	23	20	17
23	11	49	e69	e16	71	164	70	26	243	34	27	23
24	12	41	e64	e17	91	149	67	29	218	33	23	57
25	10	37	e62	e12	88	135	58	33	176	29	18	49
26	19	34	79	e9.0	e64	124	60	51	140	24	16	40
27	39	34	e64	e12	e47	122	92	125	113	20	15	33
28	30	32	e55	e8.3	e42	108	86	115	94	18	12	28
29	25	29	e49	e9.0	---	101	77	98	77	14	9.7	27
30	21	28	e43	e11	---	146	67	78	67	11	9.0	23
31	18	---	e39	e10	---	162	---	65	---	9.0	7.7	---
TOTAL	429.4	885	1487.1	1012.3	864.0	2798	2840	1512	2628	826.0	847.4	582.7
MEAN	13.9	29.5	48.0	32.7	30.9	90.3	94.7	48.8	87.6	26.6	27.3	19.4
MAX	39	58	104	90	91	168	137	125	243	60	55	57
MIN	2.7	12	7.9	8.3	7.0	44	58	25	43	9.0	7.7	5.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	20.1	31.8	42.8	46.8	52.6	77.8	76.9	51.5	38.7	19.5	16.9	15.0
MAX	94.3	149	109	159	141	154	202	92.3	143	64.2	169	130
(WY)	1956	1956	1997	1979	1970	1972	1987	1954	1982	1959	1955	1954
MIN	1.22	1.80	3.07	7.85	11.0	29.1	22.5	18.7	2.81	2.67	0.050	0.70
(WY)	1943	1942	1942	1981	1977	2002	1966	1999	1999	1965	1999	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	8470.75		16711.9			
ANNUAL MEAN	23.2		45.8		40.8	
HIGHEST ANNUAL MEAN					68.4	1956
LOWEST ANNUAL MEAN					16.5	1966
HIGHEST DAILY MEAN	104	Dec 21	243	Jun 23	790	Aug 20 1955
LOWEST DAILY MEAN	0.02	Aug 18	2.7	Oct 10	0.00	Aug 6 1966
ANNUAL SEVEN-DAY MINIMUM	0.02	Aug 18	4.6	Oct 6	0.01	Sep 11 1980
MAXIMUM PEAK FLOW			247	Jun 23	820	Aug 20 1955
MAXIMUM PEAK STAGE			2.94	Jun 23	5.15	Aug 20 1955
INSTANTANEOUS LOW FLOW			2.7	Oct 10	0.00	Aug 6 1966
10 PERCENT EXCEEDS	52		98		87	
50 PERCENT EXCEEDS	18		34		30	
90 PERCENT EXCEEDS	2.9		10		5.3	

e Estimated

BLACKSTONE RIVER BASIN

01110500 BLACKSTONE RIVER AT NORTHBRIDGE, MA

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

DRAINAGE AREA.--139 mi^2.

PERIOD OF RECORD.--Discharge: October 1939 to September 1977. October 1995 to September 2003 (discharge record discontinued; stage-only monitoring continued). October and November 1939 monthly discharge only, published in WSP 1301.
Water-quality records: Water years, 1955, 1958, 1971.

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

GAGE.--Water-stage recorder. Telephone and satellite gage-height telemeter at station. Datum of gage is 255.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharge and those below 350 ft^3/s (regulation), which are poor. Flow regulated by mills and reservoirs upstream. Daily discharge includes flow diverted from Nashua River Basin and, at times, from Quabbin Reservoir to Blackstone River Basin for municipal supply of Worcester.

AVERAGE DISCHARGE.--46 years (water years 1940–77, 1996–2003), 269 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft^3/s, Aug. 20, 1955, gage height, 16.74 ft, from rating curve extended above 3,800 ft^3/s on basis of computation of flow over dam at gage height 13.7 ft and slope-area measurement at gage height 16.74 ft; maximum gage height, 17.53 ft, Aug. 20, 1955, backwater from debris; minimum daily, 2.0 ft^3/s, Aug. 29, 1941, Sept. 5, 1942, Aug. 28, 1957.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,230 ft^3/s, June 23, gage height, 7.73 ft; minimum daily, 84 ft^3/s, Sept. 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	138	196	284	126	265	784	223	633	193	94	96
2	103	133	184	632	e134	369	594	200	755	164	135	107
3	108	130	174	553	153	605	552	177	582	141	105	98
4	106	131	162	485	e162	410	598	159	486	128	199	96
5	106	129	153	429	e165	367	583	142	493	117	373	97
6	102	185	152	371	182	384	595	134	483	112	235	93
7	100	215	150	342	164	385	515	128	456	107	141	105
8	99	177	145	315	160	363	492	128	728	102	190	90
9	99	153	137	297	150	316	482	132	605	100	177	89
10	99	141	133	295	143	342	473	140	525	101	133	92
11	99	142	133	283	141	355	571	121	476	104	130	92
12	114	158	197	256	134	328	1150	143	578	113	119	86
13	133	327	252	e238	130	338	924	143	624	103	151	85
14	126	327	625	218	129	330	661	130	691	99	122	84
15	120	257	1160	203	125	313	539	124	590	96	117	84
16	120	206	728	191	123	314	485	119	512	94	106	105
17	221	325	526	184	e125	502	436	113	432	94	109	104
18	173	659	395	173	e130	883	399	109	405	94	100	104
19	135	466	340	163	130	974	377	107	413	124	106	98
20	127	365	634	158	130	802	366	104	374	106	103	103
21	123	299	1290	153	134	1410	353	102	340	98	97	93
22	119	320	819	e147	e320	1690	344	102	918	115	97	89
23	120	356	606	e143	e700	1350	360	102	2030	124	106	141
24	122	318	483	e140	734	1030	347	106	1360	123	94	310
25	117	266	e465	132	560	845	309	113	861	104	91	148
26	167	235	450	128	430	732	236	345	582	98	91	107
27	341	225	403	128	367	734	579	1180	426	94	98	100
28	230	223	354	128	312	645	423	796	349	94	90	96
29	164	201	329	127	---	575	322	655	279	103	90	99
30	136	197	299	126	---	1260	252	531	223	102	85	94
31	128	---	274	127	---	1150	---	457	---	88	92	---
TOTAL	4163	7404	12348	7549	6393	20366	15101	7265	18209	3435	3976	3185
MEAN	134	247	398	244	228	657	503	234	607	111	128	106
MAX	341	659	1290	632	734	1690	1150	1180	2030	193	373	310
MIN	99	129	133	126	123	265	236	102	223	88	85	84

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	162	223	267	288	328	518	484	304	245	143	138	141
MAX	717	766	833	624	832	1072	923	608	661	428	1195	805
(WY)	1956	1956	1997	1996	1970	1972	1956	1972	1972	1959	1955	1954
MIN	53.5	67.7	74.7	60.5	69.9	135	166	123	89.5	58.4	51.2	56.8
(WY)	1942	1942	2002	2002	2002	2002	2002	1941	1999	1957	1965	1943

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	67279		109394			
ANNUAL MEAN	184		300		269	
HIGHEST ANNUAL MEAN					408	1955
LOWEST ANNUAL MEAN					132	1965
HIGHEST DAILY MEAN	1290	Dec 21	2030	Jun 23	8850	Aug 20 1955
LOWEST DAILY MEAN	50	Jan 5	84	Sep 14	2.0	Aug 29 1941
ANNUAL SEVEN-DAY MINIMUM	53	Jan 1	87	Sep 9	29	Aug 4 1965
MAXIMUM PEAK FLOW			2230	Jun 23	16900	Aug 20 1955
MAXIMUM PEAK STAGE			7.73	Jun 23	16.74	Aug 20 1955
INSTANTANEOUS LOW FLOW			75	Jul 31		
10 PERCENT EXCEEDS	372		632		563	
50 PERCENT EXCEEDS	131		165		184	
90 PERCENT EXCEEDS	57		98		76	

e Estimated

BLACKSTONE RIVER BASIN

01111300 NIPMUC RIVER NEAR HARRISVILLE, RI

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

DRAINAGE AREA.--16.0 mi^2.

PERIOD OF RECORD.--Discharge: March 1964 to September 1991, October 1993 to current year.
Water-quality records: Water year 1968.

REVISED RECORDS.--WDR MA-RI-98-1: 1999.

GAGE.--Water-stage recorder. Elevation of gage is 340 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--36 years (water years 1965–91, 1994–2003), 30.3 ft^3/s, 25.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft^3/s, Jan. 25, 1979, gage height, 8.53 ft, from rating curve extended above 530 ft^3/s; minimum, no flow, Sept. 5, 6, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 352 ft^3/s, May 27, gage height, 6.31 ft; minimum, 0.31 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	4.4	20	45	27	61	102	33	100	19	6.2	1.6
2	1.1	4.2	18	115	32	88	79	35	116	17	9.5	10
3	1.0	3.7	17	78	32	156	78	31	59	15	12	11
4	0.84	3.7	e15	94	35	109	83	28	44	14	12	8.6
5	1.1	3.7	14	75	45	92	75	26	58	13	13	7.5
6	0.97	7.3	15	53	36	93	74	25	49	12	11	5.9
7	0.66	10	14	44	38	85	61	26	46	10	8.6	4.6
8	0.64	8.7	14	e40	37	80	57	24	92	9.3	84	3.8
9	0.45	7.2	13	39	34	92	56	25	57	9.3	45	3.4
10	0.38	6.8	13	39	30	91	58	22	43	11	26	2.5
11	0.49	7.4	13	e35	29	77	87	21	35	10	18	2.3
12	3.1	8.8	54	e32	28	74	160	21	32	12	14	2.2
13	4.3	e31	51	e28	27	77	102	22	57	11	12	2.0
14	5.9	30	116	e27	27	73	70	21	82	8.9	10	2.4
15	5.0	19	140	e24	26	68	58	19	58	7.9	8.3	2.1
16	7.3	15	82	e24	26	69	52	18	39	8.0	7.2	10
17	10	58	56	25	29	84	45	17	33	8.0	6.6	9.6
18	7.8	82	e44	24	48	117	41	16	33	9.0	6.7	6.3
19	5.1	46	e38	25	44	115	39	15	40	11	6.8	7.6
20	4.5	31	96	27	42	84	36	14	31	10	6.2	9.8
21	3.3	24	214	27	42	176	34	13	26	8.2	5.4	7.3
22	2.7	44	109	27	54	184	41	14	129	13	4.7	5.3
23	2.9	53	76	e27	154	146	48	16	211	58	3.9	6.9
24	3.0	36	60	e28	190	112	39	18	100	36	3.3	11
25	2.7	27	57	e28	140	92	33	22	63	22	2.9	8.4
26	8.5	23	62	e28	95	78	43	73	43	15	2.7	6.4
27	16	22	49	e28	75	83	86	209	33	12	2.3	5.3
28	11	20	43	28	66	67	54	87	27	9.8	2.2	5.0
29	7.5	19	39	28	---	60	42	106	23	7.3	2.2	4.9
30	6.0	19	35	28	---	168	35	59	21	5.9	2.1	4.1
31	5.0	---	35	27	---	158	---	43	---	5.4	1.8	---
TOTAL	130.63	674.9	1622	1197	1488	3109	1868	1119	1780	418.0	356.6	177.8
MEAN	4.21	22.5	52.3	38.6	53.1	100	62.3	36.1	59.3	13.5	11.5	5.93
MAX	16	82	214	115	190	184	160	209	211	58	84	11
MIN	0.38	3.7	13	24	26	60	33	13	21	5.4	1.8	1.6
CFSM	0.26	1.41	3.27	2.41	3.32	6.27	3.89	2.26	3.71	0.84	0.72	0.37
IN.	0.30	1.57	3.77	2.78	3.46	7.23	4.34	2.60	4.14	0.97	0.83	0.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	13.0	24.9	38.3	42.0	43.7	64.2	56.9	35.9	24.1	8.21	7.80	5.78
MAX	59.9	81.5	113	176	92.7	124	156	69.0	109	29.8	49.5	23.7
(WY)	1990	1973	1997	1979	1970	1983	1987	1967	1982	1984	1990	1989
MIN	1.35	2.31	5.95	7.13	7.93	29.9	19.3	12.6	3.06	1.07	0.32	0.36
(WY)	2001	2002	2002	1981	1980	2002	1966	1986	1999	1997	1999	1983

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL TOTAL	7141.43		13940.93			
ANNUAL MEAN	19.6		38.2		30.3	
HIGHEST ANNUAL MEAN					44.9	1984
LOWEST ANNUAL MEAN					13.5	1966
HIGHEST DAILY MEAN	214	Dec 21	214	Dec 21	937	Jan 25 1979
LOWEST DAILY MEAN	0.03	Sep 14	0.38	Oct 10	0.01	Sep 5 1999
ANNUAL SEVEN-DAY MINIMUM	0.07	Sep 9	0.67	Oct 5	0.04	Sep 2 1995
MAXIMUM PEAK FLOW			352	May 27	1840	Jan 25 1979
MAXIMUM PEAK STAGE			6.31	May 27	8.53	Jan 25 1979
INSTANTANEOUS LOW FLOW			0.31	Oct 10	0.00	Sep 5 1999
ANNUAL RUNOFF (CFSM)	1.22		2.39		1.90	
ANNUAL RUNOFF (INCHES)	16.60		32.41		25.76	
10 PERCENT EXCEEDS	45		91		67	
50 PERCENT EXCEEDS	13		27		18	
90 PERCENT EXCEEDS	0.86		3.8		1.7	

e Estimated

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 mi^2.

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

Water-quality records: Water years 1954, 1968, 1979-2002.

REVISED RECORDS.--WSP 2101: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 180 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 28, 1913, non-recording gage at site 1 mi downstream at different datum.

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

AVERAGE DISCHARGE.--63 years, 174 ft^3/s, 25.88 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,470 ft^3/s, Jan. 25, 1979, gage height, 11.80 ft; maximum gage height, 11.90 ft, Mar. 18, 1968; minimum daily, 5.2 ft^3/s, Oct. 7, 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1886, about 5,800 ft^3/s, Mar. 19, 1936, by computation of flow over dam 1 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft^3/s, May 27, gage height, 5.98 ft; minimum, 9.5 ft^3/s, Oct. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	84	115	285	78	194	724	206	400	113	58	21
2	16	77	105	508	101	243	554	215	745	93	65	60
3	15	75	98	471	109	458	466	205	545	79	74	88
4	13	57	87	410	121	382	467	190	356	75	70	77
5	15	39	80	370	157	330	456	171	361	70	68	83
6	11	47	79	337	136	330	421	159	349	66	66	66
7	11	50	75	310	128	295	330	155	306	59	59	55
8	10	49	75	293	116	277	294	150	468	54	398	43
9	10	42	72	284	109	284	285	151	359	56	452	35
10	10	42	68	281	105	284	297	144	305	65	306	33
11	11	57	81	264	103	241	343	134	245	67	219	30
12	19	79	210	241	96	220	672	129	191	70	151	28
13	23	155	265	165	79	239	563	127	249	64	112	27
14	26	161	411	126	71	220	412	121	442	58	103	30
15	30	115	628	111	70	230	341	114	362	54	98	29
16	46	98	481	106	67	244	305	109	273	51	81	79
17	64	239	376	104	78	355	278	101	238	51	62	104
18	59	326	303	94	89	541	223	90	217	56	62	75
19	73	222	205	84	92	631	188	84	261	67	61	95
20	90	148	274	84	118	547	167	79	190	65	60	113
21	98	117	910	80	146	864	156	75	156	57	51	75
22	99	180	701	73	183	1130	174	78	395	55	42	58
23	94	223	508	67	406	946	296	90	1060	181	34	69
24	89	178	419	65	514	700	236	102	797	275	31	119
25	84	143	351	64	429	479	186	117	467	149	29	92
26	113	125	370	64	332	426	229	240	359	100	28	70
27	137	125	327	74	249	450	419	1130	259	78	28	62
28	112	131	304	76	219	430	319	714	225	65	25	64
29	97	130	289	72	---	364	258	472	198	59	23	62
30	90	118	272	66	---	745	224	364	164	53	21	53
31	84	---	265	66	---	1060	---	287	---	50	22	---
TOTAL	1667	3632	8804	5695	4501	14139	10283	6503	10942	2455	2959	1895
MEAN	53.8	121	284	184	161	456	343	210	365	79.2	95.5	63.2
MAX	137	326	910	508	514	1130	724	1130	1060	275	452	119
MIN	10	39	68	64	67	194	156	75	156	50	21	21
CFSM	0.59	1.33	3.11	2.01	1.76	5.00	3.76	2.30	4.00	0.87	1.05	0.69
IN.	0.68	1.48	3.59	2.32	1.84	5.77	4.19	2.65	4.46	1.00	1.21	0.77
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)												
MEAN	96.2	153	211	224	238	342	311	200	137	59.2	59.1	61.0
MAX	479	472	565	810	581	723	877	399	710	211	372	397
(WY)	1956	1956	1973	1979	1970	1972	1987	1967	1982	1998	1955	1954
MIN	15.5	27.9	37.9	40.2	60.5	132	89.4	77.3	37.7	18.1	8.74	16.4
(WY)	1958	2002	1966	1981	1980	2002	1966	1965	1964	1965	1999	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	39508.5		73475			
ANNUAL MEAN	108		201		174	
HIGHEST ANNUAL MEAN					261	1984
LOWEST ANNUAL MEAN					76.5	1966
HIGHEST DAILY MEAN	913	May 14	1130	Mar 22	4020	Jun 6 1982
LOWEST DAILY MEAN	5.9	Aug 19	10	Oct 8	5.2	Oct 7 1948
ANNUAL SEVEN-DAY MINIMUM	6.9	Aug 13	11	Oct 5	6.7	Aug 30 1999
MAXIMUM PEAK FLOW			1300	May 27	5470	Jan 25 1979
MAXIMUM PEAK STAGE			5.98	May 27	11.90	Mar 18 1968
INSTANTANEOUS LOW FLOW			9.5	Oct 9		
ANNUAL RUNOFF (CFSM)	1.19		2.21		1.90	
ANNUAL RUNOFF (INCHES)	16.12		29.97		25.88	
10 PERCENT EXCEEDS	265		451		376	
50 PERCENT EXCEEDS	75		118		119	
90 PERCENT EXCEEDS	11		43		26	

e Estimated

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 mi^2.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharge, 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. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--74 years, 775 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,900 ft^3/s, Aug. 19, 1955, gage height, 21.80 ft, from floodmarks, from rating curve extended above 15,000 ft^3/s on basis of slope-area measurement of peak flow (affected by failure of Horseshoe Dam on Mill River); minimum daily, 21 ft^3/s, Aug. 11, 1934 (flow diverted around station in Hamlet Trench not included).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1645, that of Aug. 19, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,760 ft^3/s, June 23, gage height, 7.44 ft; minimum, 106 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	333	588	e1510	434	904	2790	1040	1610	722	270	143
2	148	334	552	e1880	510	1070	2240	1000	e2550	635	381	298
3	141	310	525	e1780	551	1870	1990	922	2080	558	423	419
4	146	297	485	e1660	594	1630	2050	858	1560	510	420	388
5	148	268	462	e1490	728	1390	2030	795	1460	467	675	381
6	134	320	459	e1370	665	1360	2020	751	1430	420	620	315
7	121	426	442	1280	616	1220	1770	725	1290	379	521	244
8	114	379	434	1210	577	1130	1620	699	1860	349	1280	227
9	114	328	412	1160	536	1170	1600	713	1760	337	1330	196
10	108	291	380	1140	511	1260	1860	656	1470	349	958	178
11	113	299	397	1110	500	1120	2110	666	1200	341	759	164
12	148	355	762	e1010	472	1040	3090	642	1120	400	598	161
13	242	668	950	e900	441	1090	2920	692	1280	375	529	150
14	248	787	1490	e790	430	1030	2360	658	1700	328	512	150
15	232	640	e2640	733	403	1000	2060	620	1550	295	419	156
16	291	535	e2010	699	393	1030	1880	582	1240	278	372	423
17	414	946	e1510	662	491	1410	1690	538	1050	271	313	476
18	450	1430	e1170	621	1130	2230	1330	504	967	277	311	380
19	370	1240	e1660	598	606	2620	1140	472	1030	353	314	376
20	352	944	e2300	591	483	2320	1060	443	905	395	314	425
21	332	797	e2600	616	518	2960	1010	421	792	304	270	312
22	315	916	e2330	584	658	3920	1060	423	1690	296	237	252
23	303	1030	e1730	596	1620	3550	1260	463	4100	824	267	322
24	311	907	e1410	498	2190	2940	1150	484	3930	931	245	661
25	292	779	e1300	462	1830	2460	1000	561	2800	662	210	571
26	385	702	e1220	443	1480	2190	1090	1010	2070	494	199	409
27	655	673	e1180	460	1200	2120	1840	3260	1510	393	176	322
28	594	656	e1110	503	1040	1980	1670	2710	1190	325	176	293
29	459	622	e1020	443	---	1690	1360	2200	985	272	158	287
30	389	598	e928	429	---	2790	1160	1750	840	253	156	259
31	339	---	e1120	421	---	3670	---	1380	---	239	149	---
TOTAL	8574	18810	35576	27649	21607	58164	52210	28638	49019	13032	13562	9338
MEAN	277	627	1148	892	772	1876	1740	924	1634	420	437	311
MAX	655	1430	2640	1880	2190	3920	3090	3260	4100	931	1330	661
MIN	108	268	380	421	393	904	1000	421	792	239	149	143

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

MEAN	421	651	860	956	1000	1513	1430	887	634	334	306	322
MAX	2007	2233	2371	3167	2493	4063	3643	1779	2826	2453	2704	1980
(WY)	1956	1956	1997	1979	1970	1936	1987	1972	1982	1938	1955	1954
MIN	123	127	186	183	262	622	479	303	136	120	71.5	104
(WY)	1998	1932	1966	1981	1980	2002	1966	1930	1999	1999	1999	1997

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1929 - 2003	
ANNUAL TOTAL	187980		336179			
ANNUAL MEAN	515		921		775	
HIGHEST ANNUAL MEAN					1162	1984
LOWEST ANNUAL MEAN					345	1966
HIGHEST DAILY MEAN	2940	May 14	4100	Jun 23	25900	Aug 20 1955
LOWEST DAILY MEAN	73	Sep 13	108	Oct 10	21	Aug 11 1934
ANNUAL SEVEN-DAY MINIMUM	81	Sep 9	122	Oct 5	55	Aug 30 1999
MAXIMUM PEAK FLOW			4760	Jun 23	32900	Aug 19 1955
MAXIMUM PEAK STAGE			7.44	Jun 23	21.80	Aug 19 1955
INSTANTANEOUS LOW FLOW			106	Oct 10		
10 PERCENT EXCEEDS	1120		2010		1670	
50 PERCENT EXCEEDS	370		642		532	
90 PERCENT EXCEEDS	108		253		161	

e Estimated

BLACKSTONE RIVER BASIN

01113695 CATAMINT BROOK AT CUMBERLAND, RI

LOCATION.--Lat 41°59'06", long 71°24'51", Providence County, Hydrologic Unit 01090003, on left bank at downstream culvert of bridge at Thomas Leighton Blvd. in Cumberland, RI.

DRAINAGE AREA.--3.55 mi^2.

PERIOD OF RECORD.--July 1999 to current year. Discharge measurements made in water years 1993–94.

REVISED RECORDS.--WDR MA-RI-02-01: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 180 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharge, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 119 ft^3/s, Mar. 22, 2001, gage height, 3.15 ft; minimum, no flow, many days during water years 2000-03.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 62 ft^3/s, June 23, gage height, 2.79 ft; minimum, no flow, many days during water year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	3.8	11	3.4	8.7	32	11	18	7.2	2.7	0.59
2	.00	.00	4.3	20	4.9	15	26	11	22	6.2	3.8	2.6
3	.00	.00	4.9	18	4.7	21	24	10	16	5.8	4.1	1.5
4	.00	.00	e3.6	21	5.3	e14	24	9.2	12	5.6	3.5	2.1
5	.00	.00	3.2	16	6.1	13	23	8.5	13	5.0	3.3	1.9
6	.00	.00	3.3	14	5.3	13	22	8.2	12	4.2	3.1	1.6
7	.00	.00	e2.8	13	5.0	e12	18	8.2	11	3.5	2.7	1.4
8	.00	.00	2.8	12	4.9	10	18	7.8	15	3.2	16	1.2
9	.00	.00	e2.5	12	4.3	12	18	7.6	13	3.5	13	1.1
10	.00	.00	2.4	11	4.0	12	18	7.1	11	3.7	9.7	.96
11	.00	.01	2.5	10	4.0	11	22	6.4	9.2	4.0	6.7	.83
12	.00	.06	9.3	9.1	3.8	10	38	6.4	8.3	4.0	5.0	.71
13	.00	.70	9.9	8.3	3.8	11	30	6.5	12	3.3	4.2	.62
14	.00	.61	19	7.5	3.3	10	24	6.4	15	2.9	3.6	.56
15	.00	.30	24	6.8	3.2	9.2	20	6.1	13	2.6	3.0	.49
16	.04	.49	18	6.2	3.3	11	18	5.7	10	2.6	2.7	.86
17	.00	5.7	15	6.0	3.9	17	15	5.4	8.1	2.6	2.7	.70
18	.00	5.0	12	5.4	8.2	23	13	5.0	8.2	2.8	2.9	.67
19	.00	4.7	10	5.1	6.4	24	13	4.8	8.8	2.7	2.9	.95
20	.00	5.1	20	4.9	4.1	21	12	4.5	7.7	2.3	2.6	.87
21	.00	5.0	36	4.5	3.7	36	11	4.4	6.4	2.0	2.2	.75
22	.00	7.4	26	4.2	e5.0	40	13	4.5	35	1.9	2.1	.62
23	.00	6.9	20	4.1	22	33	16	e5.0	51	7.3	1.8	.70
24	.00	5.0	17	3.8	19	28	14	e5.4	34	8.4	1.5	.79
25	.00	5.1	17	3.5	14	24	12	5.5	25	6.7	1.3	.68
26	.04	4.5	20	3.5	e12	22	15	12	18	4.5	1.2	.66
27	.00	4.1	15	3.4	e11	21	21	26	14	3.3	.97	.67
28	.00	3.9	13	3.3	9.7	18	17	19	11	2.6	.87	.65
29	.00	3.8	12	3.2	---	16	14	14	9.6	2.2	.78	.55
30	.00	3.9	10	3.2	---	40	12	11	8.2	1.9	.70	.42
31	.00	---	9.9	3.1	---	46	---	8.8	---	1.7	.59	---
TOTAL	0.08	72.27	369.2	257.1	188.3	601.9	573	261.4	455.5	120.2	112.21	28.70
MEAN	0.003	2.41	11.9	8.29	6.72	19.4	19.1	8.43	15.2	3.88	3.62	0.96
MAX	0.04	7.4	36	21	22	46	38	26	51	8.4	16	2.6
MIN	0.00	0.00	2.4	3.1	3.2	8.7	11	4.4	6.4	1.7	0.59	0.42
CFSM	0.00	0.68	3.35	2.34	1.89	5.47	5.38	2.38	4.28	1.09	1.02	0.27
IN.	0.00	0.76	3.87	2.69	1.97	6.31	6.00	2.74	4.77	1.26	1.18	0.30
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)												
MEAN	0.90	2.78	6.46	4.96	6.25	15.3	14.0	8.41	8.84	2.56	1.43	0.81
MAX	3.27	4.89	11.9	8.29	9.29	23.6	19.1	12.2	15.2	4.51	3.62	2.49
(WY)	2000	2000	2003	2003	2000	2001	2003	2002	2003	2001	2003	1999
MIN	0.000	0.000	0.000	0.62	3.08	5.74	6.59	4.08	5.69	0.48	0.001	0.021
(WY)	2002	2002	2002	2002	2002	2002	2002	2001	2002	2002	1999	2002

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL TOTAL	1488.11		3039.86			
ANNUAL MEAN	4.08		8.33		6.05	
HIGHEST ANNUAL MEAN					8.33	2003
LOWEST ANNUAL MEAN					2.87	2002
HIGHEST DAILY MEAN	40	May 14	51	Jun 23	78	Mar 22 2001
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Jul 30 1999
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 9	0.00	Oct 1	0.00	Jul 30 1999
MAXIMUM PEAK FLOW			62	Jun 23	119	Mar 22 2001
MAXIMUM PEAK STAGE			2.79	Jun 23	3.15	Mar 22 2001
INSTANTANEOUS LOW FLOW			0.00	Oct 1		
ANNUAL RUNOFF (CFSM)	1.15		2.35		1.70	
ANNUAL RUNOFF (INCHES)	15.59		31.85		23.14	
10 PERCENT EXCEEDS	10		20		15	
50 PERCENT EXCEEDS	2.1		5.0		4.2	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated

MOSHASSUCK RIVER BASIN

01114000 MOSHASSUCK RIVER AT PROVIDENCE, RI

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

DRAINAGE AREA.--23.1 mi^2.

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 National Geodetic Vertical Datum of 1929. 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 except those for estimated daily discharge, which are fair. Occasional regulation at low flow. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years, 40.1 ft^3/s, 23.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,390 ft^3/s, Mar. 18, 1968, gage height, 3.46 ft, present datum, from rating curve extended above 460 ft^3/s; maximum gage height, 5.81 ft, July 30, 1976; minimum discharge, 1.3 ft^3/s, Aug. 23, 1970; minimum daily, 1.7 ft^3/s, Aug. 10, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 825 ft^3/s, Aug. 8, gage height, 4.78 ft; minimum, 4.9 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	8.6	30	66	25	36	99	59	157	29	45	9.3
2	6.9	7.8	24	127	70	213	92	57	112	24	28	115
3	6.7	7.1	23	88	39	149	90	48	62	28	20	29
4	6.2	6.8	18	145	40	64	100	43	53	26	17	37
5	6.9	7.0	20	79	47	70	86	40	64	23	20	27
6	5.9	23	21	65	30	66	78	38	52	20	21	19
7	5.8	13	19	57	28	49	62	38	59	18	36	15
8	5.9	9.0	19	52	26	49	66	41	64	17	295	13
9	5.3	9.4	18	52	25	71	72	37	47	49	67	12
10	5.5	12	17	51	24	65	73	33	42	29	49	11
11	6.6	29	31	46	24	45	146	32	36	32	34	11
12	15	42	115	42	23	47	181	33	42	23	27	10
13	12	91	57	38	21	55	109	30	105	19	24	10
14	11	42	163	37	e20	46	81	28	74	16	22	10
15	7.2	25	118	34	19	42	69	26	51	16	19	9.9
16	67	36	82	33	e19	49	62	24	40	58	18	23
17	26	180	60	33	18	70	55	23	36	28	19	16
18	16	108	47	29	e19	83	49	23	55	20	28	12
19	12	57	42	26	22	72	47	22	45	19	22	26
20	11	43	136	26	24	59	46	21	34	15	18	17
21	9.1	36	160	25	26	131	47	23	29	14	15	13
22	8.1	96	85	e24	162	94	84	23	224	22	14	11
23	12	59	66	e22	281	73	77	35	151	78	12	12
24	8.4	37	56	20	136	61	56	33	83	82	11	12
25	7.9	30	92	20	73	54	47	29	60	35	10	11
26	51	31	86	21	50	51	116	151	48	22	10	10
27	26	36	59	e20	43	54	123	147	41	18	9.8	9.3
28	16	31	50	e19	39	46	76	69	34	16	9.4	9.8
29	12	28	46	19	---	50	64	51	30	21	9.0	10
30	10	30	43	20	---	282	57	41	29	16	9.0	9.3
31	9.2	---	44	21	---	163	---	38	---	14	8.8	---
TOTAL	415.7	1170.7	1847	1357	1373	2459	2410	1336	1959	847	947.0	539.6
MEAN	13.4	39.0	59.6	43.8	49.0	79.3	80.3	43.1	65.3	27.3	30.5	18.0
MAX	67	180	163	145	281	282	181	151	224	82	295	115
MIN	5.3	6.8	17	19	18	36	46	21	29	14	8.8	9.3
CFSM	0.58	1.69	2.58	1.89	2.12	3.43	3.48	1.87	2.83	1.18	1.32	0.78
IN.	0.67	1.89	2.97	2.19	2.21	3.96	3.88	2.15	3.15	1.36	1.53	0.87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

MEAN	22.0	35.8	48.4	52.1	51.7	69.7	64.6	45.2	34.5	18.8	19.9	19.4
MAX	69.0	118	143	174	93.8	141	160	104	125	42.2	53.8	50.1
(WY)	1978	1973	1973	1979	1984	1968	1983	1967	1982	1998	1986	1972
MIN	6.36	6.31	10.6	12.9	17.3	29.0	22.9	24.2	10.6	8.07	7.27	5.09
(WY)	1995	2002	1966	1981	2002	1985	1966	1965	1999	1999	1970	1970

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1963 - 2003	
ANNUAL TOTAL	10057.8		16661.0			
ANNUAL MEAN	27.6		45.6		40.1	
HIGHEST ANNUAL MEAN					62.5	1973
LOWEST ANNUAL MEAN					20.2	1981
HIGHEST DAILY MEAN	183	May 14	295	Aug 8	1750	Mar 18 1968
LOWEST DAILY MEAN	4.1	Sep 13	5.3	Oct 9	1.7	Aug 10 1970
ANNUAL SEVEN-DAY MINIMUM	4.6	Aug 7	5.9	Oct 4	2.6	Aug 4 1970
MAXIMUM PEAK FLOW			825	Aug 8	2390	Mar 18 1968
MAXIMUM PEAK STAGE			4.78	Aug 8	5.81	Jul 30 1976
INSTANTANEOUS LOW FLOW			4.9	Oct 9	1.3	Aug 23 1970
ANNUAL RUNOFF (CFSM)	1.19		1.98		1.74	
ANNUAL RUNOFF (INCHES)	16.20		26.83		23.61	
10 PERCENT EXCEEDS	58		92		80	
50 PERCENT EXCEEDS	18		33		27	
90 PERCENT EXCEEDS	6.0		10		8.1	

e Estimated

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 mi^2.

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharge and those for the period Oct. 1 to Nov. 2, which are fair. Some regulation by reservoirs upstream; regulation greater prior to 1956. Discharge figures prior to 1966 included leakage around station through bypass canal; leakage negligible subsequently. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--62 years, 73.5 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,520 ft^3/s, June 30, 1998, gage height, 7.26, maximum gage height, 7.75 ft, Mar. 18, 1968, from floodmarks; minimum daily, 2.1 ft^3/s, Aug. 26, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge during March 1936, 1,000 ft^3/s, by computation of flow over dam 0.7 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 450 ft^3/s, Dec. 20, gage height, 4.03 ft; minimum, 9.6 ft^3/s, Oct. 4, 6, 7, 9, 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	80	136	37	94	335	107	220	57	44	20
2	11	58	75	161	48	175	261	95	238	52	47	62
3	10	87	71	148	46	221	229	107	185	50	37	34
4	10	27	34	169	49	139	229	102	144	50	36	41
5	11	27	28	145	54	146	213	99	142	46	37	42
6	10	31	30	139	46	142	196	98	124	42	35	42
7	10	29	62	136	45	124	168	98	114	38	34	44
8	10	28	111	133	43	123	162	99	135	33	258	42
9	10	28	106	132	41	147	163	93	120	40	192	37
10	10	42	103	130	40	150	163	76	109	43	135	29
11	11	67	104	105	40	129	201	74	96	45	100	25
12	15	69	126	70	39	119	329	75	93	46	80	23
13	16	84	116	107	38	120	299	74	144	42	72	34
14	15	78	175	106	37	110	249	68	134	37	74	36
15	13	87	244	104	37	106	211	46	119	36	59	36
16	34	86	202	102	36	116	164	37	105	48	46	68
17	32	125	178	101	38	141	156	35	97	45	40	55
18	18	101	144	99	41	151	152	34	101	42	38	55
19	15	114	131	97	38	139	148	33	78	41	37	101
20	14	102	213	97	39	126	139	33	71	38	34	91
21	13	105	351	87	44	197	124	34	69	37	32	84
22	13	116	275	57	78	188	101	37	234	38	25	71
23	14	123	237	53	208	172	99	48	337	60	22	35
24	14	125	214	51	120	151	108	61	266	54	20	35
25	13	71	225	43	90	141	57	58	188	56	20	29
26	23	33	243	39	101	129	88	139	144	55	21	27
27	24	82	199	38	113	127	194	306	101	46	21	23
28	18	79	166	37	102	117	191	237	51	40	20	22
29	16	77	139	37	---	118	165	166	56	39	20	22
30	15	79	131	37	---	316	153	128	59	34	20	21
31	14	---	131	37	---	419	---	107	---	30	20	---
TOTAL	463	2174	4644	2933	1688	4793	5447	2804	4074	1360	1676	1286
MEAN	14.9	72.5	150	94.6	60.3	155	182	90.5	136	43.9	54.1	42.9
MAX	34	125	351	169	208	419	335	306	337	60	258	101
MIN	10	14	28	37	36	94	57	33	51	30	20	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

MEAN	38.1	59.5	85.1	91.5	102	141	130	86.3	59.7	31.6	28.7	30.0
MAX	200	208	239	281	254	357	364	191	214	112	83.6	116
(WY)	1956	1956	1973	1979	1970	1983	1983	1967	1982	1998	1955	1954
MIN	10.3	9.90	17.9	20.6	28.2	51.3	44.9	34.1	23.2	10.3	9.21	6.99
(WY)	1958	1958	1966	1966	2002	2002	1966	1986	1965	2002	1963	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	18134.5		33342			
ANNUAL MEAN	49.7		91.3		73.5	
HIGHEST ANNUAL MEAN					119	1984
LOWEST ANNUAL MEAN					31.5	1966
HIGHEST DAILY MEAN	351	Dec 21	419	Mar 31	1250	Mar 18 1968
LOWEST DAILY MEAN	6.8	Jul 18	10	Oct 3	2.1	Aug 26 1963
ANNUAL SEVEN-DAY MINIMUM	7.2	Jul 16	10	Oct 3	3.1	Aug 21 1963
MAXIMUM PEAK FLOW			450	Dec 20	1520	Jun 30 1998
MAXIMUM PEAK STAGE			4.03	Dec 20	7.75	Mar 18 1968
INSTANTANEOUS LOW FLOW			9.6	Oct 4		
10 PERCENT EXCEEDS	112		191		151	
50 PERCENT EXCEEDS	29		74		51	
90 PERCENT EXCEEDS	8.7		21		17	

PAWTUXET RIVER BASIN

01115098 PEEPTOAD BROOK AT ELMDALE ROAD NEAR NORTH SCITUATE, RI

LOCATION.--Lat 41°51'08", long 71°23'35", Providence County, Hydrologic Unit 01090004, on left bank 5 ft downstream from bridge on Elmdale Road, 0.5 mi upstream from regulating reservoir and 1.7 mi northwest of North Scituate.

DRAINAGE AREA.--4.83 mi^2 (revised).

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: June 1994 to current year.
Water-quality records: Water years, 2000–03.

GAGE.--Water-stage recorder. Elevation of gage is 315 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--9 years, 9.99 ft^3/s, 28.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180 ft^3/s, Oct. 20, 1996, gage height, 2.40 ft; no flow Sept. 13, 16, 17, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 82 ft^3/s, Dec. 21, gage height, 2.15 ft; minimum, 0.23 ft^3/s, Oct. 8–11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.37	0.82	2.3	16	4.7	11	37	15	28	5.5	2.4	0.93
2	.35	.84	1.5	36	6.2	19	29	16	41	4.6	4.1	4.4
3	.32	.87	1.2	30	7.4	34	26	13	25	4.3	3.4	4.5
4	.31	.87	1.00	27	9.1	25	29	12	19	4.5	3.0	6.8
5	.31	.89	1.0	22	12	20	26	11	22	4.0	2.8	7.2
6	.29	1.3	1.2	19	9.3	21	26	11	21	3.4	2.6	4.7
7	.27	1.8	1.2	17	8.5	18	22	11	18	2.9	2.3	3.5
8	.25	1.6	1.1	15	7.7	14	22	11	26	2.7	33	2.6
9	.23	1.5	1.1	15	6.9	19	22	12	21	2.9	23	2.2
10	.24	1.5	.99	14	6.5	22	24	11	17	4.1	12	1.9
11	.24	1.9	.98	13	6.3	16	27	9.3	13	4.0	7.8	1.7
12	.42	3.1	18	12	5.9	15	45	9.0	12	4.7	5.8	1.5
13	.59	19	29	11	5.3	18	35	8.7	24	4.0	5.4	1.4
14	.56	13	41	10	5.0	15	26	8.2	27	3.2	9.7	1.3
15	.47	7.2	48	9.1	4.8	13	22	7.7	21	2.8	6.2	1.3
16	.87	5.5	27	8.5	4.4	17	20	7.3	15	2.6	4.6	6.1
17	1.1	35	15	8.2	4.6	30	17	6.8	12	2.9	3.9	5.6
18	.63	39	7.1	7.7	5.3	41	15	6.3	12	2.5	3.9	4.0
19	.54	21	4.5	6.8	5.1	39	14	5.8	14	2.4	3.7	4.6
20	.55	8.9	25	6.4	5.0	31	13	5.2	12	2.1	2.9	5.1
21	.52	4.4	64	5.9	5.0	52	13	5.2	9.9	1.9	2.5	4.1
22	.51	14	34	5.1	8.1	51	16	5.8	20	1.9	2.3	3.1
23	.61	14	25	4.6	33	38	21	6.8	39	7.6	2.0	3.9
24	.68	5.8	21	4.5	38	30	17	7.7	27	8.4	1.6	9.4
25	.67	3.7	20	4.4	29	25	12	7.9	18	6.7	1.4	6.6
26	1.1	2.8	26	4.4	21	23	17	18	13	4.6	1.3	4.8
27	1.4	2.7	21	4.6	16	24	34	52	10	3.5	1.2	4.0
28	1.0	2.2	18	4.4	13	22	24	29	7.9	2.6	1.0	3.6
29	.94	1.9	15	4.4	---	20	19	20	6.7	2.4	.96	3.3
30	.93	2.1	13	4.4	---	55	16	15	6.0	2.2	.95	2.8
31	.85	---	13	4.6	---	60	---	12	---	1.9	.93	---
TOTAL	18.12	219.19	498.17	355.0	293.1	838	686	376.7	557.5	113.8	158.64	116.93
MEAN	0.58	7.31	16.1	11.5	10.5	27.0	22.9	12.2	18.6	3.67	5.12	3.90
MAX	1.4	39	64	36	38	60	45	52	41	8.4	33	9.4
MIN	0.23	0.82	0.98	4.4	4.4	11	12	5.2	6.0	1.9	0.93	0.93
CFSM	0.12	1.51	3.33	2.37	2.17	5.60	4.73	2.52	3.85	0.76	1.06	0.81
IN.	0.14	1.69	3.84	2.73	2.26	6.45	5.28	2.90	4.29	0.88	1.22	0.90
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)												
MEAN	3.60	6.94	11.2	14.7	15.0	21.7	18.8	12.3	9.53	2.97	1.70	1.77
MAX	15.7	14.4	33.6	23.9	22.4	29.6	30.2	23.5	21.1	11.0	5.12	4.59
(WY)	1997	1996	1997	1996	1998	2001	1997	1998	1998	1998	2003	1999
MIN	0.46	0.63	1.44	3.94	8.12	13.9	9.40	6.99	1.87	0.58	0.11	0.21
(WY)	2002	2002	2002	2002	2002	2002	1999	2001	1999	1995	1999	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1994 - 2003	
ANNUAL TOTAL	2518.43		4231.15			
ANNUAL MEAN	6.90		11.6		9.99	
HIGHEST ANNUAL MEAN					14.1	1998
LOWEST ANNUAL MEAN					5.10	2002
HIGHEST DAILY MEAN	64	Dec 21	64	Dec 21	117	Jan 20 1996
LOWEST DAILY MEAN	0.11	Aug 19	0.23	Oct 9	0.00	Sep 16 1995
ANNUAL SEVEN-DAY MINIMUM	0.17	Aug 14	0.26	Oct 5	0.01	Sep 10 1995
MAXIMUM PEAK FLOW			82	Dec 21	180	Oct 20 1996
MAXIMUM PEAK STAGE			2.15	Dec 21	2.48	Jul 1 1998
INSTANTANEOUS LOW FLOW			0.23	Oct 8	0.00	Sep 13 1995
ANNUAL RUNOFF (CFSM)	1.43		2.40		2.07	
ANNUAL RUNOFF (INCHES)	19.40		32.59		28.09	
10 PERCENT EXCEEDS	16		27		24	
50 PERCENT EXCEEDS	4.4		6.8		6.3	
90 PERCENT EXCEEDS	0.29		0.97		0.54	

PAWTUXET RIVER BASIN

01115098 PEEPTOAD BROOK AT ELMDALE ROAD NEAR NORTH SCITUATE, RI--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: January 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since January 2000.

REMARKS.--Records poor. Missing periods are not estimated.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 269 µS/cm, May 29, 2002; minimum, 43 µS/cm, Aug. 4, 2002.

WATER TEMPERATURE: Maximum recorded, 31.4°C, July 4, 2002; minimum, 0.1°C, several days during 2003 winter period.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 202 µS/cm, Mar. 5; minimum, 73 µS/cm, Oct. 5.

WATER TEMPERATURE: Maximum recorded, 27.5°C, Oct. 5; minimum, 0.1°C, several days during winter period.

WATER-QUALITY DATA, OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	114	96	107	138	137	138	171	168	170	142	140	141
2	103	74	91	139	137	138	173	168	172	141	134	138
3	96	75	83	139	138	139	173	172	172	147	134	142
4	106	96	104	140	138	139	179	173	178	146	138	141
5	105	73	95	140	138	139	180	177	179	148	142	145
6	109	85	103	138	134	136	178	172	174	150	148	149
7	111	84	91	138	135	137	174	172	173	153	149	150
8	96	89	93	138	137	138	174	173	173	157	152	154
9	134	96	128	138	137	137	176	173	174	161	157	159
10	136	131	135	138	136	137	179	176	177	162	160	161
11	139	133	136	144	137	139	187	178	179	162	159	161
12	137	132	135	144	135	142	180	173	177	164	161	162
13	136	132	134	138	136	137	179	174	177	164	160	162
14	141	132	136	138	133	136	180	158	175	165	161	163
15	143	141	142	141	136	138	169	155	162	165	161	162
16	144	132	140	143	139	141	169	163	167	166	161	163
17	143	141	142	142	133	138	163	159	161	164	162	162
18	143	142	143	155	137	146	159	154	157	164	160	162
19	144	142	143	164	150	158	154	152	154	166	162	164
20	144	142	143	170	164	167	154	131	150	166	162	164
21	143	142	143	172	169	171	138	118	129	169	162	165
22	143	141	142	170	156	163	140	138	139	173	166	168
23	142	141	141	168	158	165	140	136	138	174	169	171
24	141	138	140	169	166	168	137	133	135	174	170	172
25	142	139	141	167	161	165	134	128	133	173	170	171
26	142	135	140	163	160	162	132	127	129	171	166	168
27	140	137	139	167	162	164	134	126	130	167	160	163
28	140	138	140	171	167	169	138	133	136	166	159	161
29	139	138	138	175	170	173	141	137	139	167	162	164
30	140	138	138	172	170	171	142	138	140	162	161	161
31	138	137	137	---	---	---	143	140	142	162	159	161
MONTH	144	73	128	175	133	150	187	118	158	174	134	159

PAWTUXET RIVER BASIN

01115098 PEEPTOAD BROOK AT ELMDALE ROAD NEAR NORTH SCITUATE, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	159	158	158	175	171	173	145	141	143	177	165	170
2	197	159	165	189	159	172	146	140	144	177	165	170
3	179	161	170	176	160	169	146	140	144	180	170	174
4	199	179	190	184	165	175	150	143	147	180	168	173
5	199	191	195	202	178	182	151	142	147	179	170	174
6	193	187	190	200	182	193	165	145	156	184	169	174
7	187	178	182	191	182	187	156	150	154	182	166	173
8	178	174	176	188	180	184	155	151	153	174	166	169
9	176	173	174	199	188	192	158	151	155	182	167	172
10	174	170	171	194	183	190	166	156	160	185	172	175
11	171	168	169	193	186	189	161	152	158	182	169	176
12	173	168	170	194	189	191	164	156	160	179	169	171
13	178	171	173	189	180	186	171	154	160	178	172	175
14	181	176	177	190	179	183	165	160	162	178	175	176
15	181	178	179	196	187	191	170	161	166	178	170	174
16	181	177	178	197	184	193	177	164	171	175	168	172
17	180	176	178	192	171	183	172	164	169	180	172	175
18	179	177	178	177	168	172	172	164	167	176	170	173
19	177	174	175	169	158	165	170	161	166	175	169	172
20	174	172	173	161	156	159	170	159	165	175	161	171
21	179	170	174	156	138	149	168	160	165	178	172	173
22	194	178	185	147	139	143	172	160	167	177	171	174
23	187	170	181	140	130	137	174	160	168	173	167	170
24	182	163	172	136	125	132	178	173	176	172	169	171
25	191	182	187	131	123	128	175	170	173	176	171	173
26	188	179	185	130	118	125	172	160	168	175	162	170
27	180	175	178	140	124	131	173	159	165	167	140	154
28	176	173	174	133	129	131	169	159	165	176	165	171
29	---	---	---	137	128	133	182	165	172	178	171	174
30	---	---	---	140	129	133	177	169	172	178	162	172
31	---	---	---	147	132	141	---	---	---	179	167	172
MONTH	199	158	177	202	118	165	182	140	161	185	140	172

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	171	160	164	---	---	---	---	---	---	---	---	---
2	161	147	154	---	---	---	---	---	---	---	---	---
3	---	---	e160	---	---	---	---	---	---	---	---	---
4	170	157	162	---	---	---	---	---	---	---	---	---
5	163	157	160	---	---	---	---	---	---	---	---	---
6	---	---	e156	---	---	---	---	---	---	---	---	---
7	---	---	e155	---	---	---	---	---	---	---	---	---
8	160	148	153	---	---	---	---	---	---	---	---	---
9	152	138	143	---	---	---	---	---	---	---	---	---
10	146	92	129	---	---	---	---	---	---	---	---	---
11	146	112	132	---	---	---	---	---	---	---	---	---
12	135	120	130	---	---	---	---	---	---	---	---	---
13	156	133	145	---	---	---	---	---	---	---	---	---
14	154	125	143	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

PAWTUXET RIVER BASIN

01115098 PEEPTOAD BROOK AT ELMDALE ROAD NEAR NORTH SCITUATE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	26.0	24.7	25.2	6.6	5.8	6.2	3.2	2.3	2.8	2.9	2.2	2.6
2	27.5	25.6	26.4	6.0	4.7	5.1	2.9	2.1	2.4	3.0	1.8	2.4
3	27.4	25.9	26.8	4.9	4.2	4.6	2.5	2.1	2.3	1.8	1.1	1.5
4	25.9	25.1	25.3	5.1	4.1	4.6	2.2	1.7	2.0	1.1	.2	.5
5	27.5	25.2	26.0	5.2	4.1	4.7	2.1	1.3	1.7	1.0	.6	.8
6	26.7	24.8	25.4	5.7	5.0	5.3	1.3	.9	1.1	1.1	.9	1.0
7	26.4	24.5	25.9	5.3	4.2	4.7	1.0	.9	.9	1.1	.8	1.0
8	26.1	25.4	25.6	4.9	4.0	4.5	1.0	.9	.9	1.0	.5	.6
9	25.5	21.0	22.2	5.9	4.5	5.1	1.1	.9	1.0	1.7	.9	1.3
10	22.3	21.0	21.5	6.9	5.7	6.2	1.1	.9	1.0	2.1	1.7	1.9
11	21.8	20.6	21.0	12.7	6.9	9.1	.9	.8	.9	2.1	1.0	1.3
12	20.9	19.9	20.3	12.8	11.6	12.3	1.7	.9	1.4	1.2	.8	1.0
13	21.3	19.8	20.5	11.6	9.7	10.5	1.6	1.3	1.4	1.1	.7	.9
14	21.2	15.8	18.5	9.7	8.4	8.9	2.8	1.4	2.0	1.1	.7	.9
15	15.8	14.2	15.0	9.0	8.1	8.5	2.8	2.2	2.4	.8	.5	.6
16	14.9	14.1	14.4	8.6	6.8	7.6	2.4	2.1	2.3	.8	.5	.7
17	15.3	13.4	14.2	6.8	5.9	6.4	2.1	1.3	1.7	.7	.5	.6
18	14.6	13.4	13.9	6.0	5.3	5.6	1.3	.7	.9	.6	.4	.5
19	13.4	12.3	13.0	5.5	5.0	5.2	1.1	.8	.9	.5	.3	.4
20	13.3	12.1	12.7	6.2	4.9	5.4	4.2	1.0	1.9	.4	.3	.4
21	12.8	11.3	11.8	5.7	5.1	5.4	4.3	3.3	3.7	.6	.3	.4
22	11.3	9.9	10.7	6.7	5.5	6.1	3.3	2.9	3.1	.7	.4	.5
23	10.8	9.7	10.2	6.6	5.3	5.9	3.3	3.0	3.2	.7	.5	.6
24	9.9	8.7	9.3	5.3	4.7	5.0	3.2	2.7	3.0	.7	.6	.6
25	9.5	8.0	8.6	4.9	4.4	4.6	2.9	1.8	2.5	.8	.6	.7
26	8.4	7.9	8.2	4.8	4.4	4.7	1.8	.9	1.1	.7	.6	.7
27	9.0	7.7	8.3	4.8	2.9	3.9	1.3	.8	1.0	.7	.5	.6
28	8.6	7.8	8.2	2.9	2.1	2.5	1.5	.9	1.2	.7	.5	.6
29	7.9	7.0	7.5	2.7	2.0	2.2	1.9	1.4	1.6	.7	.5	.6
30	7.3	6.7	7.0	2.4	1.9	2.1	2.0	1.6	1.8	.5	.4	.5
31	7.1	6.0	6.5	---	---	---	2.2	1.9	2.0	.5	.4	.5
MONTH	27.5	6.0	16.5	12.8	1.9	5.8	4.3	0.7	1.8	3.0	0.2	0.9

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.5	0.4	0.5	0.7	0.4	0.5	5.8	4.7	5.2	15.9	13.8	14.4
2	1.0	.5	.7	1.1	.7	.8	7.5	4.9	6.1	18.5	13.6	15.6
3	1.4	.9	1.1	.8	.3	.5	7.2	6.2	6.7	17.7	15.0	16.4
4	1.9	1.4	1.6	.7	.1	.4	6.2	4.5	5.3	18.5	14.9	16.3
5	1.9	1.4	1.6	1.1	.4	.6	4.5	3.3	3.7	16.2	14.5	15.5
6	1.5	.7	1.0	1.1	.3	.8	5.0	2.9	3.8	15.1	13.8	14.2
7	1.1	.5	.8	.4	.1	.3	4.9	3.5	4.3	18.6	13.6	16.0
8	.5	.3	.4	1.0	.2	.4	3.5	2.3	2.8	17.8	14.4	16.0
9	.4	.3	.4	2.6	1.0	1.6	2.9	2.5	2.7	17.4	13.8	15.3
10	.4	.3	.4	2.1	.6	1.2	6.2	1.9	3.8	18.4	14.9	16.7
11	.5	.4	.4	1.5	.5	.9	5.6	4.4	4.8	17.7	15.9	16.9
12	.5	.3	.4	2.8	1.0	1.6	5.7	3.9	4.6	16.7	15.1	15.6
13	.4	.3	.3	2.8	1.1	1.9	8.6	5.1	6.4	15.4	14.4	15.0
14	.4	.3	.4	1.5	.4	.7	9.6	6.6	7.8	15.6	13.8	14.8
15	.4	.3	.4	2.2	.8	1.2	13.0	7.9	10.1	17.1	14.3	15.6
16	.4	.3	.4	3.5	1.7	2.4	16.2	11.7	13.6	15.8	13.9	14.8
17	.4	.2	.3	3.8	2.2	2.9	14.1	10.9	12.1	16.8	13.1	14.7
18	.4	.3	.3	3.8	1.8	2.6	11.1	9.4	10.2	17.3	13.5	15.5
19	.3	.2	.3	3.7	1.5	2.4	12.3	9.0	10.5	19.6	14.7	17.2
20	.4	.2	.3	3.4	1.7	2.3	13.5	9.6	11.5	20.6	16.7	18.6
21	.3	.2	.3	3.8	2.8	3.2	13.8	10.6	12.1	19.2	17.5	18.2
22	.5	.2	.3	4.3	2.8	3.4	13.5	11.2	12.1	17.5	15.3	16.3
23	.4	.3	.4	4.4	4.0	4.2	11.3	10.3	10.8	15.3	14.1	14.7
24	.4	.1	.2	4.6	4.2	4.4	10.3	9.5	9.8	14.1	12.8	13.4
25	.6	.1	.3	5.0	4.3	4.7	12.2	9.1	10.6	13.4	12.4	12.8
26	.4	.1	.3	9.2	4.7	5.9	12.0	10.6	11.2	12.9	11.6	12.4
27	.6	.1	.3	10.2	6.8	8.1	12.8	9.5	11.1	12.6	10.7	11.6
28	.5	.2	.4	10.4	8.0	9.0	16.1	11.4	13.4	15.4	12.3	13.5
29	---	---	---	11.9	8.9	10.2	16.6	13.7	15.2	18.1	13.6	15.6
30	---	---	---	11.9	7.6	10.1	17.7	14.4	15.7	19.9	15.4	17.4
31	---	---	---	7.6	5.5	6.1	---	---	---	18.4	16.6	17.5
MONTH	1.9	0.1	0.5	11.9	0.1	3.1	17.7	1.9	8.6	20.6	10.7	15.4

PAWTUXET RIVER BASIN

01115098 PEEPTOAD BROOK AT ELMDALE ROAD NEAR NORTH SCITUATE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.7	14.5	16.2	---	---	---	---	---	---	---	---	---
2	16.3	13.3	14.7	---	---	---	---	---	---	---	---	---
3	18.0	14.5	16.1	---	---	---	---	---	---	---	---	---
4	16.7	15.3	15.8	---	---	---	---	---	---	---	---	---
5	15.3	14.6	15.0	---	---	---	---	---	---	---	---	---
6	19.8	14.0	16.6	---	---	---	---	---	---	---	---	---
7	18.0	16.7	17.0	---	---	---	---	---	---	---	---	---
8	17.6	15.8	16.5	---	---	---	---	---	---	---	---	---
9	17.8	15.6	16.4	---	---	---	---	---	---	---	---	---
10	22.0	16.0	18.6	---	---	---	---	---	---	---	---	---
11	20.9	18.1	19.5	---	---	---	---	---	---	---	---	---
12	20.5	19.5	19.9	---	---	---	---	---	---	---	---	---
13	19.6	17.0	18.2	---	---	---	---	---	---	---	---	---
14	20.0	16.4	17.9	---	---	---	---	---	---	---	---	---
15	23.2	17.8	20.3	---	---	---	---	---	---	---	---	---
16	21.4	18.8	20.0	---	---	---	---	---	---	---	---	---
17	21.4	18.1	19.7	---	---	---	---	---	---	---	---	---
18	20.3	18.0	18.6	---	---	---	---	---	---	---	---	---
19	20.6	17.6	18.8	---	---	---	---	---	---	---	---	---
20	22.9	18.2	20.2	---	---	---	---	---	---	---	---	---
21	20.9	19.0	19.8	---	---	---	---	---	---	---	---	---
22	19.0	16.6	17.7	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

PAWTUXET RIVER BASIN

01115110 HUNTINGHOUSE BROOK AT ELMDALE RD AT NORTH SCITUATE, RI

LOCATION.--Lat 41°50'48", long 71°36'44", Providence County, Hydrologic Unit 01090004, on right bank 1,000 ft downstream from bridge on Elmdale Road, and 1.6 mi northwest of North Scituate

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: January 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since January 2000.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 163 µS/cm, Feb. 3, 2003; minimum, 15 µS/cm, Nov. 5, 6, 2002, May 26, 2003

WATER TEMPERATURE: Maximum recorded, 23.9°C, July 4; minimum, -0.3°C, on many days during winter periods in 2002 and 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 163 µS/cm, Feb. 3; minimum, 15µ S/cm, May 26.

WATER TEMPERATURE: Maximum recorded, 21.8°C, Aug. 14; minimum, -0.3°C, on many days during winter period.

WATER-QUALITY DATA, OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µS/CM at 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	122	118	120	116	112	114	85	72	80	65	55	62
2	121	116	119	114	112	113	74	68	72	55	34	43
3	118	108	114	112	108	110	74	61	66	46	35	41
4	108	103	104	109	106	107	66	63	64	37	35	36
5	106	104	105	107	104	105	67	64	65	41	36	40
6	105	98	103	104	97	100	64	61	63	47	40	42
7	100	94	96	113	98	105	69	61	63	62	47	54
8	98	89	92	116	113	114	71	65	69	53	50	52
9	89	88	88	115	106	110	65	64	64	58	51	55
10	91	88	89	112	106	108	68	65	66	67	49	55
11	93	89	91	111	105	108	67	63	65	49	44	46
12	90	75	83	109	101	105	63	53	58	46	44	45
13	95	75	84	102	89	93	66	57	61	46	44	45
14	107	95	104	96	88	90	67	46	57	47	44	45
15	110	106	107	95	90	91	49	47	48	47	46	47
16	109	95	103	93	90	92	57	49	50	51	47	48
17	138	107	126	90	68	75	57	45	52	52	48	50
18	138	131	135	68	66	67	47	45	46	54	48	52
19	132	127	129	70	68	69	50	47	49	56	53	55
20	128	122	125	71	69	70	54	28	48	55	52	53
21	122	118	120	72	71	72	43	38	42	55	52	54
22	119	116	117	72	64	67	47	43	45	57	54	56
23	117	113	115	66	64	65	49	46	48	59	56	57
24	115	111	113	67	66	67	51	49	50	58	57	57
25	112	108	110	68	67	68	52	45	50	60	57	58
26	108	97	102	69	67	68	46	42	44	58	55	57
27	120	100	113	70	67	68	57	46	53	55	53	54
28	122	120	122	83	64	71	52	48	50	63	54	59
29	123	120	121	75	67	70	55	49	52	61	56	58
30	123	118	120	73	70	72	54	48	51	63	55	57
31	119	116	117	---	---	---	58	54	56	62	54	58
MONTH	138	75	109	116	64	88	85	28	56	67	34	51

PAWTUXET RIVER BASIN

01115110 HUNTINGHOUSE BROOK AT ELMDALE RD AT NORTH SCITUATE, RI--Continued

SPECIFIC CONDUCTANCE (µS/CM at 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	54	51	53	42	39	41	43	40	41	61	59	60
2	85	50	56	45	34	39	42	41	42	65	60	61
3	163	68	102	40	36	38	44	42	43	65	61	63
4	68	51	59	45	38	40	46	43	44	65	60	62
5	60	52	57	62	37	41	54	45	48	63	60	62
6	56	54	55	63	45	52	53	48	50	62	61	61
7	54	51	52	49	43	45	49	46	48	64	62	63
8	53	51	52	53	44	48	71	44	50	64	61	63
9	61	51	55	50	43	46	72	51	57	65	61	63
10	56	52	54	50	39	44	53	48	51	65	62	64
11	66	51	56	39	37	38	48	39	46	65	63	64
12	68	55	61	39	34	36	40	28	30	64	63	64
13	64	55	59	39	35	37	30	29	29	64	63	64
14	59	56	58	53	37	44	31	30	30	64	63	64
15	57	54	56	43	39	41	34	31	32	65	64	64
16	56	54	55	44	37	41	35	33	34	72	63	65
17	54	53	54	44	29	37	34	32	33	75	68	73
18	53	52	52	36	30	32	33	32	32	76	63	70
19	56	51	52	34	27	31	34	32	33	69	65	67
20	69	52	56	35	29	33	34	33	33	69	66	68
21	65	57	61	35	30	32	35	33	34	68	67	68
22	63	43	57	30	30	30	35	31	33	68	66	67
23	47	39	43	31	30	31	33	32	33	66	64	64
24	41	36	39	33	31	32	33	32	32	64	61	62
25	39	37	38	34	33	33	34	32	33	62	61	62
26	39	38	38	35	34	34	34	27	32	62	15	54
27	40	39	39	36	34	35	31	26	29	26	21	24
28	40	39	40	37	36	36	59	30	45	29	26	28
29	---	---	---	38	36	37	61	58	59	32	29	31
30	---	---	---	42	27	31	61	59	60	34	32	33
31	---	---	---	42	35	38	---	---	---	36	34	34
MONTH	163	36	54	63	27	38	72	26	40	76	15	58

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	36	27	31	67	65	66	74	63	69	72	71	71
2	31	29	30	70	65	67	79	62	69	74	57	65
3	32	30	31	71	67	69	85	79	83	82	74	79
4	33	32	33	69	67	68	91	82	84	78	64	71
5	33	32	32	71	68	69	89	81	81	70	67	68
6	35	33	34	72	69	70	81	80	81	70	67	68
7	35	33	35	74	70	72	86	79	83	70	68	69
8	34	32	33	73	70	71	79	41	49	72	69	71
9	53	34	44	74	68	71	53	48	50	71	70	71
10	55	52	53	71	67	69	56	53	54	71	69	70
11	57	54	55	72	68	70	57	55	56	72	71	71
12	57	56	57	74	70	72	59	57	58	73	72	72
13	56	49	51	73	71	72	60	57	59	73	72	72
14	53	51	52	74	71	73	59	52	56	73	72	73
15	55	53	54	74	72	73	60	58	59	74	72	73
16	58	55	56	74	72	73	61	59	60	74	61	67
17	59	57	58	76	71	72	61	60	61	72	68	70
18	59	56	58	76	74	75	63	60	61	72	70	71
19	58	57	58	77	74	75	64	63	64	74	68	72
20	60	58	59	78	75	76	66	64	65	75	72	73
21	61	59	59	78	70	74	66	64	65	74	72	72
22	61	44	55	71	64	70	66	65	66	73	72	72
23	50	44	47	70	54	62	67	66	67	74	65	72
24	52	50	51	70	64	67	68	67	68	68	64	65
25	55	52	53	69	66	67	68	67	68	69	67	68
26	58	55	57	70	68	69	68	68	68	71	69	70
27	61	58	60	70	69	70	68	67	68	75	70	71
28	63	60	61	72	70	71	70	67	68	75	72	73
29	64	61	63	72	69	70	71	69	70	74	73	73
30	66	64	65	70	69	70	71	70	70	73	71	72
31	---	---	---	73	70	72	72	70	71	---	---	---
MONTH	66	27	50	78	54	70	91	41	66	82	57	71
YEAR	163	15	63									

PAWTUXET RIVER BASIN

01115110 HUNTINGHOUSE BROOK AT ELMDALE RD AT NORTH SCITUATE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.7	13.3	14.9	5.0	3.1	4.1	2.5	0.6	1.8	2.7	2.0	2.3
2	18.4	15.4	16.7	4.1	2.0	3.0	1.6	.2	.9	2.4	.6	1.2
3	17.2	14.6	16.5	2.6	1.4	1.9	1.6	-.3	.4	.8	-.3	.4
4	14.8	13.5	14.1	3.6	1.2	2.4	-.1	-.2	-.2	-.1	-.3	-.2
5	18.5	14.8	16.8	3.9	2.5	3.4	-.1	-.2	-.2	.3	-.2	.0
6	15.6	11.2	13.5	6.1	3.9	5.1	.0	-.3	-.1	.6	.1	.4
7	13.8	10.6	12.0	5.8	3.0	4.7	-.1	-.2	-.2	.8	-.1	.4
8	11.8	9.5	10.7	5.1	2.4	3.8	.0	-.2	-.1	.9	-.1	.4
9	11.1	8.1	9.7	7.9	5.1	6.5	-.1	-.2	-.2	1.9	.9	1.4
10	12.2	9.7	10.9	11.4	7.7	9.3	-.1	-.2	-.2	1.8	.5	1.4
11	12.2	10.9	11.5	13.8	11.4	12.9	.0	-.2	-.1	.5	-.2	.0
12	12.8	12.2	12.6	13.2	10.4	11.7	.0	-.2	-.1	.0	-.2	-.1
13	13.3	12.6	13.0	10.4	8.9	9.5	1.8	.0	.7	.1	-.2	-.1
14	13.3	9.3	11.6	8.9	7.1	7.7	4.1	1.8	3.2	.0	-.2	-.2
15	9.3	7.2	8.4	8.8	7.1	7.8	4.0	3.2	3.5	.0	-.2	-.1
16	11.3	8.1	9.4	8.1	6.2	7.2	3.3	1.8	2.6	.0	-.2	-.1
17	11.3	10.2	10.9	6.5	5.5	6.1	1.8	-.3	.7	.1	-.2	-.1
18	10.9	8.9	10.3	5.8	5.2	5.5	-.2	-.3	-.2	.0	-.2	-.2
19	9.8	7.2	8.5	5.5	4.4	5.1	.3	-.3	-.1	.0	-.2	-.1
20	10.0	8.8	9.5	5.8	4.5	5.2	6.4	.3	2.8	.1	-.2	-.1
21	8.8	6.7	7.7	5.6	4.1	4.8	6.3	3.4	4.6	.0	-.2	-.1
22	6.9	5.1	6.0	7.2	5.6	6.5	3.6	2.5	3.0	.0	-.2	-.1
23	6.1	4.9	5.4	7.2	4.6	6.2	3.4	2.8	3.0	.0	-.2	-.1
24	5.5	3.9	4.7	4.8	3.6	4.3	2.8	2.0	2.3	.0	-.2	-.1
25	5.7	3.8	4.8	5.2	3.5	4.4	2.1	.6	1.6	.0	-.2	-.1
26	7.5	5.0	6.1	5.2	4.5	4.9	.6	.0	.3	.1	-.1	-.1
27	8.2	7.0	7.6	4.6	1.6	2.9	.5	-.2	.1	.0	-.2	-.1
28	7.5	6.1	7.0	1.6	.0	.5	.4	-.2	.0	.0	-.2	-.1
29	6.1	4.5	5.3	.9	-.2	.3	1.0	-.1	.4	.0	-.1	-.1
30	5.5	4.6	5.1	2.8	.8	1.9	.6	-.2	.3	.0	-.2	-.1
31	4.7	3.5	4.1	---	---	---	2.0	.6	1.4	.1	-.1	-.1
MONTH	18.5	3.5	9.8	13.8	-0.2	5.3	6.4	-0.3	1.0	2.7	-0.3	.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.0	-0.2	-0.1	0.0	-0.3	-0.1	5.2	2.5	4.0	12.5	10.7	11.4
2	.1	-.2	-.1	-.1	-.2	-.1	7.1	3.7	5.5	16.7	11.4	13.9
3	.1	-.2	-.1	-.2	-.3	-.2	6.4	5.2	5.8	15.4	12.3	13.9
4	.1	-.2	-.1	-.1	-.2	-.2	5.2	3.1	4.1	14.5	10.0	12.4
5	-.1	-.3	-.2	-.1	-.2	-.1	3.1	2.4	2.8	12.8	9.5	11.5
6	-.1	-.3	-.2	-.2	-.2	-.2	6.2	2.2	4.0	11.5	10.2	10.7
7	-.2	-.3	-.2	.0	-.2	-.2	4.5	1.8	3.2	16.4	10.8	13.6
8	-.1	-.3	-.2	.1	-.2	-.1	2.5	.9	1.8	15.2	10.9	12.9
9	.0	-.2	-.2	.1	-.2	-.1	2.8	2.2	2.5	14.6	10.3	12.2
10	.0	-.2	-.1	.0	-.3	-.2	6.8	1.6	4.0	15.6	10.9	13.4
11	.0	-.3	-.2	.1	-.3	-.1	5.4	3.7	4.1	14.5	11.4	13.1
12	.0	-.2	-.2	.2	-.2	.0	6.5	3.7	4.8	12.8	11.2	11.9
13	-.1	-.2	-.2	-.1	-.2	-.2	8.7	4.7	6.6	12.2	10.7	11.6
14	-.1	-.2	-.2	.1	-.3	-.1	9.4	4.8	7.2	12.7	10.3	11.6
15	.0	-.2	-.2	.2	-.2	.0	12.6	7.0	9.6	13.3	10.7	12.2
16	-.1	-.2	-.2	.7	-.2	.2	15.1	10.6	12.6	12.3	10.0	11.3
17	-.2	-.3	-.2	1.6	-.1	.4	12.3	7.8	9.8	13.3	9.1	10.9
18	-.2	-.2	-.2	2.6	-.1	1.0	9.1	5.8	7.4	13.4	8.0	10.9
19	-.2	-.2	-.2	3.1	-.1	1.3	10.7	6.2	8.4	15.6	9.6	12.7
20	-.1	-.2	-.2	2.7	.0	1.5	11.7	7.0	9.4	16.3	11.4	13.9
21	-.1	-.2	-.2	4.3	2.4	3.3	12.6	7.6	10.2	14.2	12.8	13.3
22	-.2	-.2	-.2	7.3	3.8	5.4	11.2	8.7	9.6	12.8	10.9	11.9
23	-.2	-.3	-.2	6.7	4.4	5.8	10.3	8.2	9.1	10.9	10.4	10.6
24	-.2	-.3	-.2	8.1	4.0	6.0	9.7	7.1	8.3	10.4	9.7	10
25	-.2	-.3	-.2	8.0	4.6	6.3	11.4	5.8	8.7	10.7	9.5	10.1
26	-.2	-.3	-.2	9.9	5.7	7.8	10.1	8.8	9.4	10.6	9.8	10.3
27	-.2	-.3	-.2	10.2	7.1	8.6	12.8	8.0	10.1	11.0	9.5	10.2
28	-.1	-.2	-.2	9.5	5.6	7.7	14.8	8.9	11.9	12.5	10.3	11.3
29	---	---	---	10.9	7.9	9.4	15.0	11.6	13.4	14.0	11.5	12.8
30	---	---	---	10.7	5.9	8.3	14.8	11.2	13.0	14.8	12.5	13.6
31	---	---	---	6.2	4.2	5.2	---	---	---	14.2	12.8	13.5
MONTH	0.1	-0.3	-0.2	10.9	-0.3	2.5	15.1	0.9	7.4	16.7	8.0	12.1

PAWTUXET RIVER BASIN

01115110 HUNTINGHOUSE BROOK AT ELMDALE RD AT NORTH SCITUATE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.5	12.4	13.0	18.9	16.2	17.6	18.2	17.2	17.7	15.4	14.2	14.8
2	13.8	11.4	12.6	19.0	16.0	17.5	19.7	17.7	18.6	15.3	14.5	15.0
3	13.9	11.6	12.9	18.2	16.7	17.5	20.5	18.8	19.6	16.3	14.9	15.5
4	13.5	12.4	12.8	19.6	16.8	18.1	21.2	19.7	20.4	17.4	15.8	16.6
5	12.5	12.0	12.3	21.2	18.2	19.6	21.0	20.0	20.5	18.2	17.1	17.6
6	15.2	12.1	13.6	21.1	18.8	20.0	21.6	19.8	20.6	17.3	15.6	16.5
7	14.6	13.3	13.8	20.3	17.7	19.2	20.7	19.5	20.2	16.6	14.3	15.6
8	13.8	13.2	13.5	20.8	18.3	19.6	20.2	19.2	19.8	16.6	15.2	15.9
9	13.9	13.1	13.4	20.0	17.4	18.4	20.4	19.6	20.0	15.6	13.7	14.6
10	15.9	13.1	14.4	18.4	15.6	17.1	21.3	20.0	20.6	13.9	11.5	12.9
11	15.7	14.0	15.0	17.3	16.5	16.8	21.6	20.3	20.9	15.1	12.6	13.8
12	15.4	15.0	15.2	19.5	16.5	17.8	21.6	20.3	20.9	15.7	13.9	14.6
13	15.0	13.7	14.3	19.9	17.4	18.6	21.6	20.2	20.8	15.6	14.3	15.0
14	15.0	13.3	14.1	18.5	16.6	17.3	21.8	19.8	20.8	17.4	15.4	16.3
15	16.5	14.4	15.4	19.0	16.1	17.6	21.6	19.8	20.7	18.3	16.8	17.5
16	15.6	13.7	14.5	18.1	16.6	17.2	21.6	19.8	20.7	18.9	17.8	18.2
17	15.0	12.6	13.8	19.1	16.6	17.9	20.8	18.9	19.9	18.1	15.8	16.6
18	14.0	12.7	13.3	18.1	16.5	17.4	19.0	17.8	18.5	16.4	14.9	15.7
19	14.8	13.6	14.2	19.4	16.8	17.9	19.9	17.5	18.7	17.6	15.9	16.8
20	16.2	13.9	15.0	19.1	15.9	17.5	20.3	18.2	19.4	18.8	17.4	18.1
21	15.2	13.8	14.3	18.8	16.5	17.6	20.5	18.4	19.6	18.2	16.4	17.1
22	14.0	13.3	13.5	19.4	17.6	18.4	21.6	19.2	20.4	16.5	15.2	16.0
23	15.0	13.2	14.0	19.8	18.7	19.3	20.9	18.3	19.9	17.0	15.1	15.9
24	16.9	14.4	15.6	20.0	19.1	19.5	18.3	15.5	16.6	16.7	15.3	16.0
25	18.2	15.6	17.0	20.8	18.8	19.7	17.3	14.7	16.0	15.5	13.7	14.8
26	19.1	16.9	18.0	20.6	18.2	19.5	18.6	16.1	17.3	16.2	15.1	15.6
27	20.0	17.6	18.8	21.1	18.9	20.0	19.8	17.2	18.3	16.9	15.5	16.1
28	19.1	17.5	18.3	21.5	19.6	20.4	18.6	15.7	17.2	17.2	16.5	16.9
29	18.5	16.4	17.4	20.2	18.1	19.2	17.8	13.8	15.9	17.0	14.5	15.9
30	19.1	16.5	17.7	19.7	17.4	18.6	19.5	17.0	17.9	14.5	12.4	13.3
31	---	---	---	19.4	16.4	17.9	17.5	14.9	16.1	---	---	---
MONTH	20.0	11.4	14.7	21.5	15.6	18.4	21.8	13.8	19.2	18.9	11.5	15.8
YEAR	21.8	-0.3	8.9									

PAWTUXET RIVER BASIN

01115170 MOSWANSICUT STREAM NEAR NORTH SCITUATE, RI

LOCATION.--Lat 41°50'27", long 71°35'06", Providence County, Hydrologic Unit 01090004, on left bank 50 ft downstream from bridge on State Route 116, and 0.6 mi northeast of North Scituate.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: March to 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since March 2000.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,300 µS/cm, Mar. 20, 2002; minimum, 51 µS/cm, Oct. 1, 2001.

WATER TEMPERATURE: Maximum recorded, 30.4°C, Aug. 15, 2003; minimum, 0.1°C, Jan. 19, Feb. 5, 11, 12, 14, 2002.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 194 µS/cm, Feb. 2; minimum, 79 µS/cm, Aug. 15.

WATER TEMPERATURE: Maximum recorded, 30.4°C, Aug. 15; minimum, 1.1°C, Jan. 19, Feb. 5, 11, 12, 14.

WATER-QUALITY DATA, OCTOBER OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	160	155	158	145	141	143	146	144	145	156	152	153
2	164	152	162	143	141	142	147	144	146	153	148	149
3	152	145	147	142	141	142	151	145	149	151	146	149
4	148	145	146	144	141	142	150	149	150	154	144	149
5	149	147	148	145	142	143	150	147	149	151	149	150
6	148	146	146	144	140	142	153	149	149	153	149	151
7	150	147	148	144	142	142	152	150	151	151	148	150
8	149	145	146	145	142	143	153	150	151	152	150	151
9	148	145	146	147	143	145	152	150	151	152	151	151
10	148	146	146	148	145	146	153	151	152	152	150	151
11	148	146	147	147	143	146	160	152	154	153	151	152
12	147	139	143	147	141	145	163	150	152	153	153	153
13	148	144	146	143	141	142	150	149	150	154	153	153
14	147	145	146	144	142	143	151	146	148	156	153	154
15	147	143	145	144	143	143	149	148	149	158	155	156
16	147	121	136	143	140	143	150	146	148	159	156	158
17	148	140	146	140	137	139	150	147	149	162	157	159
18	149	146	148	141	139	140	152	149	150	161	157	159
19	148	145	146	141	140	141	152	152	152	162	157	159
20	147	146	147	141	140	141	154	141	150	161	156	159
21	146	144	145	141	141	141	149	144	148	159	156	158
22	146	142	144	141	138	140	148	147	148	167	159	164
23	144	139	142	140	140	140	149	148	148	167	160	162
24	144	140	142	141	140	140	149	148	149	166	160	163
25	146	142	144	141	140	141	151	146	149	165	160	162
26	144	131	137	141	141	141	150	147	149	166	161	163
27	146	140	144	142	141	142	151	148	150	163	160	161
28	145	142	144	144	142	143	151	148	150	162	160	161
29	143	141	142	146	143	144	153	150	152	182	161	162
30	143	142	143	146	142	144	153	152	153	162	161	162
31	144	141	142	---	---	---	156	152	154	162	162	162
MONTH	164	121	146	148	137	142	163	141	150	182	144	156

PAWTUXET RIVER BASIN

01115170 MOSWANSICUT STREAM NEAR NORTH SCITUATE, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	162	162	162	159	157	158	160	159	159	168	166	167
2	194	162	172	185	146	160	161	159	160	168	167	167
3	168	163	165	158	153	155	160	158	159	168	167	168
4	167	162	164	157	154	155	162	159	160	169	166	168
5	165	159	162	193	156	160	165	161	163	169	167	168
6	161	158	159	161	157	158	162	160	161	169	168	168
7	161	158	159	159	156	158	164	161	162	170	168	169
8	165	159	159	161	155	158	170	164	166	170	169	170
9	160	159	160	163	156	159	167	165	166	172	169	170
10	164	159	161	160	156	158	167	162	164	172	170	171
11	163	160	161	160	156	159	167	163	165	172	171	171
12	160	159	160	158	155	157	165	160	163	171	170	171
13	170	158	160	168	155	157	163	160	162	171	170	171
14	169	158	160	159	155	157	164	162	163	172	171	171
15	168	157	159	158	154	156	164	163	163	174	171	172
16	159	157	158	162	153	157	169	163	164	173	170	171
17	160	154	158	160	154	156	172	164	166	172	169	170
18	181	160	161	155	146	150	171	164	166	174	170	172
19	162	159	160	152	146	149	169	165	167	176	172	173
20	165	159	161	154	150	151	171	166	168	175	173	174
21	163	160	161	155	145	149	171	167	169	174	172	173
22	185	160	165	148	145	146	168	166	167	175	173	174
23	166	152	159	148	141	145	168	166	167	176	172	173
24	157	155	156	143	134	139	169	166	167	174	171	172
25	156	154	155	171	141	155	171	166	168	173	171	172
26	162	154	155	176	164	171	170	163	167	172	156	167
27	158	156	157	164	159	161	169	164	166	171	164	169
28	159	157	158	161	159	160	168	164	166	171	170	170
29	---	---	---	162	160	161	167	165	166	171	170	170
30	---	---	---	161	150	154	170	166	168	171	169	171
31	---	---	---	159	156	158	---	---	---	171	168	170
MONTH	194	152	160	193	134	156	172	158	165	176	156	170

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	171	167	168	179	140	168	169	152	164	185	182	183
2	169	168	168	180	137	167	169	136	160	184	166	176
3	170	169	169	178	168	174	168	130	156	185	180	182
4	171	170	170	179	160	172	166	128	154	185	174	180
5	171	169	170	170	148	159	168	136	156	182	169	176
6	172	170	171	162	110	143	168	121	154	174	170	173
7	173	169	171	166	93	138	167	127	155	175	166	172
8	173	170	171	155	106	134	162	110	150	176	167	173
9	174	171	172	167	135	151	163	140	155	177	173	175
10	172	171	172	175	124	159	163	136	154	176	170	173
11	179	172	173	179	170	175	163	136	154	177	171	175
12	174	172	173	178	156	172	160	123	147	179	175	176
13	173	168	169	178	154	171	155	133	148	179	175	176
14	173	168	170	178	159	173	157	100	133	180	174	178
15	174	170	172	179	102	159	151	79	127	180	172	177
16	174	171	173	179	172	176	147	123	136	---	---	e174
17	177	170	173	179	154	171	162	143	153	178	173	175
18	178	171	172	178	158	174	168	140	155	180	175	177
19	174	172	173	178	145	167	170	137	157	178	160	173
20	178	173	175	181	142	168	168	113	146	176	175	176
21	181	174	176	180	147	171	168	110	146	176	173	175
22	174	166	170	181	150	169	164	123	144	176	171	175
23	173	169	171	169	151	162	170	112	147	178	173	176
24	174	166	172	169	152	163	180	151	169	177	175	176
25	174	139	166	168	150	163	180	159	174	183	175	177
26	171	84	143	170	148	161	178	146	170	181	175	177
27	172	134	151	168	149	161	178	155	171	178	176	177
28	179	133	157	167	128	155	180	153	172	178	176	177
29	179	164	172	169	108	151	180	154	173	177	175	176
30	180	172	177	169	114	152	183	154	176	177	175	175
31	---	---	---	170	95	146	186	166	180	---	---	---
MONTH	181	84	169	181	93	162	186	79	156	---	---	176

e Estimated

PAWTUXET RIVER BASIN

01115170 MOSWANSICUT STREAM NEAR NORTH SCITUATE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.1	17.9	18.9	11.4	9.1	10.0	5.3	4.4	4.9	2.6	2.4	2.5
2	20.8	18.7	19.6	9.5	7.6	8.5	4.9	4.1	4.5	2.4	1.7	2.0
3	20.0	17.5	19.3	9.6	7.5	8.3	4.6	2.8	3.6	2.0	1.3	1.7
4	18.6	17.0	17.6	10.5	7.7	9.1	3.7	2.9	3.3	1.8	1.1	1.6
5	20.4	17.9	19.4	10.4	8.1	9.3	3.4	1.9	2.8	2.1	1.6	1.9
6	17.9	15.8	17.0	10.1	9.1	9.6	2.8	2.2	2.5	1.9	1.5	1.7
7	18.8	15.5	17.0	9.8	7.3	8.5	2.9	2.3	2.5	1.6	1.3	1.5
8	16.6	15.0	15.8	10.4	7.3	8.8	3.5	2.6	3.0	1.7	1.4	1.5
9	16.6	14.0	15.4	12.1	9.1	10.4	2.7	1.9	2.3	2.0	1.6	1.7
10	17.2	15.3	16.2	12.8	10.5	11.6	3.2	2.3	2.7	2.2	1.7	1.9
11	16.5	15.9	16.2	12.4	11.5	12.1	3.2	2.4	2.8	2.3	1.7	2.0
12	16.4	15.8	16.1	11.5	10.4	10.9	2.9	2.5	2.7	2.4	1.9	2.1
13	16.8	15.9	16.3	10.4	9.9	10.1	3.3	2.7	2.9	2.5	1.9	2.2
14	16.4	12.8	14.6	10.4	9.4	9.9	3.1	2.1	2.7	2.4	1.8	2.0
15	14.8	11.6	13.2	10.6	9.7	9.9	3.4	2.8	3.0	2.5	1.8	2.1
16	15.1	13.5	14.0	9.7	8.7	9.2	2.9	2.1	2.5	2.5	1.9	2.1
17	15.6	13.4	14.5	9.0	8.5	8.7	2.4	1.8	2.1	2.4	1.6	2.1
18	14.5	12.6	14.0	8.9	8.4	8.6	2.6	1.8	2.2	2.1	1.5	1.8
19	15.0	11.8	13.5	8.6	8.1	8.3	2.9	2.2	2.6	2.4	1.7	1.9
20	14.6	12.9	13.8	8.8	7.8	8.2	4.2	2.7	3.1	2.3	1.8	2.0
21	13.5	11.5	12.5	8.5	7.7	8.1	3.6	3.0	3.2	2.3	1.7	1.9
22	12.8	10.2	11.6	8.6	8.3	8.4	3.4	2.9	3.1	2.3	1.8	1.9
23	12.0	10.4	11.2	8.5	7.4	8.0	3.3	2.8	3.0	2.4	1.8	2.1
24	11.9	9.4	10.6	7.8	7.0	7.4	3.1	2.7	2.9	2.7	1.9	2.2
25	12.2	9.6	11.0	7.8	6.9	7.3	2.8	1.9	2.3	2.8	2.0	2.4
26	12.2	11.1	11.6	7.5	6.9	7.2	2.5	1.8	2.1	3.1	2.2	2.6
27	13.0	11.0	11.9	7.0	5.6	6.1	2.2	1.5	2.0	2.6	2.0	2.3
28	12.4	10.1	11.3	6.0	5.1	5.5	2.2	1.6	1.9	2.8	1.8	2.3
29	11.2	9.1	10.2	5.7	5.0	5.3	2.6	2.0	2.2	2.9	2.5	2.7
30	10.9	9.4	10.3	6.0	5.2	5.5	2.7	2.1	2.4	3.0	2.1	2.6
31	10.9	8.8	9.7	---	---	---	2.7	2.3	2.5	2.9	2.5	2.7
MONTH	20.8	8.8	14.3	12.8	5.0	8.6	5.3	1.5	2.8	3.1	1.1	2.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.7	2.3	2.6	4.7	3.9	4.3	7.5	6.5	6.8	12.6	11.9	12.2
2	2.8	2.2	2.6	4.2	3.7	4.1	8.8	6.5	7.5	13.8	12.3	13.1
3	3.5	2.4	2.9	4.5	3.8	4.1	7.8	7.1	7.6	14.7	13.1	13.7
4	3.5	3.0	3.2	4.8	3.9	4.3	7.1	5.7	6.3	15.9	12.8	14.1
5	3.8	2.8	3.2	4.6	4.3	4.4	6.1	5.5	5.8	15.0	13.3	14.1
6	4.2	3.1	3.7	4.3	3.7	4.1	7.8	5.7	6.5	13.8	13.3	13.6
7	3.8	3.4	3.6	4.4	3.8	4.1	6.1	4.7	5.7	15.8	13.6	14.7
8	3.8	3.3	3.5	4.5	3.8	4.1	5.5	4.4	5.0	15.5	14.3	14.9
9	3.7	3.0	3.3	4.7	3.8	4.1	5.3	5.0	5.2	16.0	14.0	14.8
10	3.4	2.9	3.1	4.8	3.8	4.2	7.5	4.7	6.0	16.6	14.4	15.6
11	3.1	2.5	2.8	5.0	4.0	4.5	6.5	5.2	5.6	17.1	14.7	16.0
12	3.0	2.2	2.5	5.3	4.3	4.7	6.4	5.2	5.7	15.7	14.7	15.1
13	2.8	1.8	2.2	4.6	4.0	4.3	7.8	5.7	6.6	15.5	14.5	14.9
14	2.5	1.8	2.0	4.7	3.9	4.1	8.9	6.1	7.1	15.7	14.3	15.0
15	2.4	1.6	1.9	4.6	3.9	4.1	8.3	6.3	7.1	17.2	14.6	15.9
16	2.1	1.6	1.8	5.3	3.8	4.5	9.4	7.5	8.4	16.1	13.9	15.0
17	2.4	1.2	1.8	5.8	4.3	4.9	9.4	7.7	8.5	15.8	13.4	14.5
18	2.9	2.4	2.7	5.8	4.6	5.1	9.9	7.4	8.4	17.3	13.9	15.5
19	3.0	2.3	2.6	6.0	4.8	5.3	11.4	8.4	9.6	20.6	15.0	17.2
20	3.0	2.1	2.4	5.8	5.0	5.3	11.9	8.9	10.3	19.7	16.1	17.5
21	3.0	2.0	2.4	5.4	5.1	5.2	12.4	9.6	10.7	17.3	16.4	16.8
22	2.6	2.2	2.4	6.0	5.0	5.4	10.3	10.0	10.1	17.1	15.1	16.2
23	2.9	2.5	2.7	6.2	5.1	5.6	11.3	9.7	10.4	15.1	14.4	14.8
24	3.4	2.7	3.1	7.2	4.5	5.6	10.9	9.3	9.8	14.4	13.6	14.1
25	4.0	3.2	3.6	6.2	4.8	5.2	12.1	9.2	10.4	14.6	13.5	14.1
26	4.2	3.6	3.9	6.8	4.8	5.7	10.6	10.2	10.4	14.2	12.9	13.7
27	4.6	3.9	4.2	7.8	5.4	6.4	12.4	10.1	11.0	14.5	13.0	13.7
28	4.5	4.1	4.2	8.1	5.8	6.7	13.3	10.5	11.4	14.9	13.7	14.1
29	---	---	---	8.0	6.5	7.3	12.7	11.1	11.9	15.4	13.8	14.6
30	---	---	---	7.9	7.0	7.5	14.6	11.8	12.8	16.8	14.6	15.8
31	---	---	---	8.0	6.6	7.1	---	---	---	18.7	16.3	17.5
MONTH	4.6	1.2	2.9	8.1	3.7	5.0	14.6	4.4	8.3	20.6	11.9	14.9

PAWTUXET RIVER BASIN

01115170 MOSWANSICUT STREAM NEAR NORTH SCITUATE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.9	15.5	16.9	27.6	24.0	25.3	25.9	24.3	25.1	23.2	21.7	22.5
2	17.1	14.5	15.8	27.8	24.0	25.4	27.4	24.5	25.5	21.7	19.4	20.7
3	17.6	15.5	16.2	25.7	24.4	24.9	27.8	24.8	25.9	23.5	20.3	21.4
4	16.8	16.0	16.4	26.4	24.1	25.1	27.8	25.1	26.1	22.3	21.1	21.7
5	16.8	16.2	16.5	27.2	25.1	26.4	27.5	25.1	26.0	24.9	21.0	22.6
6	18.4	15.7	17.0	29.1	26.3	27.4	28.3	24.9	26.2	24.6	21.0	22.6
7	17.9	17.2	17.6	30.0	26.2	27.8	28.0	25.1	26.2	25.3	20.9	22.8
8	18.7	17.4	18.0	29.3	26.8	28.0	28.1	22.6	25.6	25.1	21.3	23.0
9	18.6	17.4	18.0	28.0	25.8	27.0	27.1	25.1	25.9	22.9	19.8	21.3
10	20.0	17.3	18.6	28.5	24.9	26.2	27.4	25.2	26.1	24.8	18.8	21.5
11	19.9	19.1	19.4	25.5	23.9	24.6	27.4	25.2	26.1	25.0	20.3	22.3
12	21.0	19.4	20.1	26.6	23.6	24.8	28.1	25.6	26.6	24.3	20.2	21.8
13	20.4	18.7	19.4	26.8	23.8	24.9	27.6	26.1	26.5	22.5	20.0	21.2
14	20.4	18.6	19.4	26.4	23.9	24.8	29.3	25.9	27.4	24.0	21.1	22.2
15	22.8	19.8	21.3	29.6	23.5	25.8	30.4	26.5	27.8	24.6	21.3	22.6
16	21.7	20.0	20.7	24.8	23.6	24.1	28.1	26.8	27.5	23.9	21.2	22.4
17	22.0	19.1	20.4	26.8	22.8	24.7	27.0	25.6	26.3	24.8	20.3	22.2
18	19.9	19.4	19.6	26.5	23.7	24.5	27.3	25.0	26.2	23.6	20.1	21.6
19	20.5	19.4	19.9	27.3	23.5	25.2	27.4	24.6	25.9	22.4	19.8	21.0
20	23.2	19.7	21.2	27.5	23.1	25.2	28.8	24.9	26.7	23.6	21.1	22.1
21	21.5	19.8	20.7	27.2	24.0	25.1	28.9	25.2	26.9	24.4	20.4	22.3
22	19.9	18.6	19.1	26.4	23.3	24.4	28.3	25.9	27.2	24.8	20.9	22.3
23	21.6	18.6	19.9	25.9	23.4	24.6	28.9	25.2	27.0	21.8	20.6	21.1
24	25.3	20.1	22.1	25.9	23.7	24.5	26.9	23.6	25.1	22.7	19.4	20.7
25	27.5	21.4	24.3	26.3	23.4	24.6	26.4	23.3	24.4	23.0	19.5	20.9
26	30.2	24.5	26.8	26.5	23.7	25.0	27.2	23.4	24.9	22.6	20.2	21.1
27	27.8	24.4	26.5	26.5	24.2	25.3	26.6	23.7	24.9	23.6	20.1	21.3
28	28.0	23.9	26.3	27.9	24.5	25.9	26.9	22.9	24.6	21.8	20.4	21.0
29	26.0	23.8	25.2	28.9	24.1	26.0	26.7	22.4	24.3	22.4	18.9	20.5
30	25.2	23.7	24.5	28.6	24.4	26.1	26.8	23.2	24.6	21.3	18.3	19.4
31	---	---	---	29.6	24.3	26.4	26.1	21.1	23.3	---	---	---
MONTH	30.2	14.5	20.3	30.0	22.8	25.5	30.4	21.1	25.9	25.3	18.3	21.7
YEAR	30.4	1.1	12.7									

PAWTUXET RIVER BASIN

01115183 QUONAPAUG BROOK AT RT 116, NORTH SCITUATE, RI

LOCATION.--Lat 41°47'51", long 71°24'53", Providence County, Hydrologic Unit 01090004, on left bank 200 ft downstream from bridge on Elmdale Road, and 2.4 mi south of North Scituate

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: January 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since January 2000.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,240 µS/cm, Apr. 9; minimum, 78 µS/cm, Aug. 8, 2003.

WATER TEMPERATURE: Maximum recorded, 29.2°C, July 23, 2002; minimum, -0.2°C, many days during winter period of 2002 and 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 505 µS/cm, Dec. 11; minimum, 78 µS/cm, Aug. 8.

WATER TEMPERATURE: Maximum recorded, 22.8°C, Aug. 22; minimum, -0.2°C, on many days during winter period.

WATER-QUALITY DATA, OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	267	264	266	182	175	178	141	120	135	135	121	127
2	270	266	268	185	179	183	133	120	127	122	107	115
3	271	267	270	186	182	184	132	117	122	112	98	107
4	268	263	265	187	180	183	128	121	124	127	96	108
5	265	263	264	184	178	181	127	118	121	126	116	123
6	265	259	262	181	157	165	119	115	117	126	116	119
7	265	260	263	168	158	162	124	117	121	121	115	118
8	264	253	257	169	163	166	120	115	117	123	115	118
9	253	247	250	173	164	165	122	115	119	138	123	135
10	256	252	253	170	165	167	124	119	122	145	126	139
11	252	248	251	168	151	160	505	118	141	131	124	127
12	250	204	232	158	132	150	212	104	124	131	126	128
13	241	235	239	132	122	126	121	110	115	131	126	128
14	240	234	238	138	129	134	173	105	120	134	127	130
15	234	230	231	140	138	139	127	121	124	139	134	136
16	231	179	211	142	124	139	140	119	123	140	134	136
17	183	175	177	124	105	109	121	112	116	135	130	132
18	181	176	179	110	105	107	119	113	115	142	132	138
19	186	178	181	114	110	113	116	109	114	146	141	144
20	190	185	187	119	114	116	148	98	112	144	140	142
21	188	186	187	121	117	119	122	103	117	142	139	141
22	191	188	189	120	104	109	118	113	115	150	142	146
23	192	188	190	125	120	123	115	114	114	156	150	152
24	201	190	194	125	120	122	116	113	115	155	150	152
25	195	189	191	121	117	119	117	94	110	153	147	150
26	192	160	176	119	117	118	105	90	100	149	142	146
27	165	160	163	124	115	119	110	103	106	142	137	140
28	168	165	166	120	112	116	111	105	108	141	137	140
29	173	168	171	120	112	116	112	106	109	138	134	136
30	175	172	173	134	118	127	112	106	110	134	132	133
31	179	174	176	---	---	---	121	110	116	132	130	131
MONTH	271	160	217	187	104	140	505	90	118	156	96	133

PAWTUXET RIVER BASIN

01115183 QUONAPAUG BROOK AT RT 116, NORTH SCITUATE, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	159	127	129	139	136	137	128	123	126	145	135	140
2	236	131	162	280	115	147	131	126	129	146	143	144
3	208	158	182	142	114	125	138	131	134	147	144	146
4	165	142	154	146	130	140	148	136	141	149	141	144
5	157	147	153	367	129	181	158	147	149	147	141	144
6	154	148	151	155	142	149	154	147	150	146	142	144
7	152	139	146	146	135	140	171	140	152	151	146	149
8	144	139	142	150	143	147	157	131	144	155	146	150
9	145	140	143	216	144	160	174	157	160	150	148	149
10	142	139	140	158	148	154	167	155	160	151	146	149
11	149	140	143	148	140	143	186	138	156	152	147	150
12	144	141	142	143	136	140	155	135	141	156	148	152
13	143	138	140	216	135	142	140	136	137	152	149	151
14	143	139	141	148	134	142	141	136	139	152	148	150
15	142	140	141	150	147	149	149	140	144	156	149	153
16	142	139	140	159	139	149	152	146	150	151	148	150
17	139	134	137	144	116	132	151	145	147	155	148	151
18	134	132	132	119	103	112	148	145	147	156	147	152
19	134	131	133	112	104	108	152	146	149	158	148	153
20	140	134	137	115	108	112	155	148	151	158	151	155
21	171	139	159	150	100	112	156	149	152	160	154	156
22	417	155	216	117	108	113	156	133	146	166	153	158
23	215	121	151	130	114	122	156	142	153	174	152	160
24	162	127	148	132	124	127	151	148	149	171	152	160
25	150	141	146	136	130	133	159	148	153	158	155	156
26	143	137	141	137	130	133	153	120	143	156	104	135
27	138	133	135	140	130	136	130	120	126	122	108	115
28	138	133	136	144	137	141	135	123	129	129	119	124
29	---	---	---	177	139	142	140	135	137	138	129	134
30	---	---	---	152	105	116	142	138	140	144	138	141
31	---	---	---	124	115	118	---	---	---	153	142	144
MONTH	417	121	147	367	100	136	186	120	144	174	104	147

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	153	119	133	157	152	155	223	170	191	251	224	240
2	133	127	131	158	153	155	186	173	177	232	136	176
3	138	132	135	165	154	156	186	176	181	181	174	175
4	142	137	139	180	158	164	194	168	184	174	151	167
5	142	132	137	163	157	160	190	185	188	172	166	168
6	150	138	140	166	159	163	192	189	190	181	171	176
7	149	130	141	165	161	163	195	154	190	190	180	184
8	139	133	138	168	161	165	158	78	101	196	188	191
9	142	139	140	182	158	165	130	111	120	200	193	195
10	147	142	144	192	166	173	159	130	142	203	193	198
11	149	145	147	179	169	171	162	152	157	208	200	203
12	158	145	149	180	157	161	174	161	166	212	205	207
13	148	124	130	183	162	173	173	166	169	214	210	211
14	133	125	129	192	183	188	182	168	176	216	214	214
15	138	133	135	194	192	193	183	173	179	219	216	217
16	140	136	138	194	158	185	186	167	178	220	133	178
17	143	138	141	183	152	158	182	166	171	177	168	172
18	142	126	138	163	153	159	181	159	170	190	177	183
19	139	136	137	170	162	167	168	158	163	190	160	177
20	143	138	141	175	167	171	181	168	175	176	166	169
21	145	141	143	180	175	177	191	179	184	187	176	181
22	148	114	130	189	157	177	195	186	190	193	186	189
23	120	110	115	174	122	150	204	192	197	195	182	190
24	128	120	124	145	125	138	207	198	202	196	183	187
25	136	128	132	151	143	146	211	201	205	193	184	187
26	142	135	139	166	151	160	217	206	210	196	191	193
27	148	140	145	178	166	172	224	213	217	199	193	195
28	151	145	148	184	176	180	231	220	224	201	199	200
29	153	148	151	192	170	181	234	225	230	202	198	200
30	155	150	153	188	181	184	242	234	238	202	197	200
31	---	---	---	193	186	189	246	235	242	---	---	---
MONTH	158	110	138	194	122	168	246	78	184	251	133	191
YEAR	505	78	155									

PAWTUXET RIVER BASIN

01115183 QUONAPAUG BROOK AT RT 116, NORTH SCITUATE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.2	14.3	15.7	6.3	3.7	5.0	1.9	0.0	1.2	1.7	0.8	1.3
2	18.7	16.2	17.4	5.0	2.9	3.9	1.3	-0.1	0.6	1.6	0.2	0.7
3	18.2	15.8	17.5	4.1	2.2	3.0	1.2	-0.2	0.2	0.3	-0.2	0.0
4	15.8	14.2	14.8	4.8	2.1	3.5	0.1	-0.2	-0.1	-0.1	-0.2	-0.2
5	19.1	15.3	17.4	5.5	3.1	4.4	-0.1	-0.1	-0.1	0.1	-0.2	-0.1
6	17.3	13.0	14.8	6.8	5.0	6.0	0.0	-0.2	-0.1	0.3	0.1	0.1
7	14.2	11.6	12.8	6.2	3.1	5.0	0.0	-0.2	-0.1	0.2	-0.2	0.0
8	13.5	11.0	11.7	6.0	2.5	4.4	0.0	-0.1	-0.1	0.1	-0.1	0.0
9	11.0	9.1	10.1	8.6	5.5	7.1	0.0	-0.2	-0.1	0.9	0.1	0.5
10	12.1	10.3	11.1	11.7	8.1	9.8	0.0	-0.2	-0.1	1.4	-0.1	0.8
11	12.7	11.6	12.0	13.9	11.7	13.1	0.0	-0.2	-0.1	0.0	-0.2	-0.1
12	13.5	12.7	13.1	13.1	10.3	11.6	0.1	-0.1	-0.1	0.0	-0.2	-0.1
13	13.9	13.1	13.5	10.3	8.7	9.4	0.1	-0.2	0.0	0.0	-0.2	-0.1
14	13.8	9.6	12.1	8.7	6.9	7.7	2.9	0.0	1.5	0.0	-0.2	-0.2
15	9.9	7.3	8.8	9.4	6.9	8.0	3.4	2.5	2.9	0.0	-0.2	-0.2
16	12.0	9.1	10.4	8.1	6.1	7.0	2.6	1.3	2.1	-0.1	-0.2	-0.2
17	12.0	10.8	11.5	6.7	5.6	6.3	1.3	-0.2	0.2	-0.1	-0.2	-0.2
18	11.3	9.4	10.9	5.8	5.1	5.4	0.0	-0.2	-0.1	-0.1	-0.2	-0.2
19	10.7	7.5	9.1	5.5	4.1	5.0	0.0	-0.2	-0.1	-0.1	-0.2	-0.2
20	10.9	9.4	10.2	6.2	4.3	5.3	4.3	-0.1	1.5	-0.1	-0.2	-0.2
21	9.4	7.4	8.4	6.1	4.1	5.1	4.1	2.6	3.5	-0.1	-0.2	-0.2
22	8.0	5.5	6.9	7.3	6.1	6.7	3.3	1.9	2.6	-0.1	-0.2	-0.2
23	7.2	5.8	6.4	7.2	4.0	5.9	3.1	2.2	2.5	-0.1	-0.2	-0.2
24	6.8	4.3	5.6	4.8	3.2	4.0	2.2	1.4	1.7	-0.1	-0.2	-0.2
25	7.2	4.6	6.0	5.2	3.1	4.3	1.7	0.0	1.0	-0.1	-0.2	-0.2
26	8.4	6.4	7.4	5.3	4.4	4.8	0.1	-0.1	0.0	-0.1	-0.2	-0.2
27	9.1	7.2	8.1	4.4	1.1	2.3	0.1	-0.2	-0.1	-0.1	-0.2	-0.2
28	8.3	6.3	7.3	1.1	0.0	0.3	0.1	-0.2	-0.1	-0.1	-0.2	-0.2
29	6.3	4.6	5.6	0.7	-0.1	0.3	0.2	-0.2	-0.1	-0.1	-0.2	-0.2
30	6.2	5.0	5.6	2.6	0.7	1.7	0.1	-0.2	-0.1	-0.1	-0.2	-0.2
31	6.1	3.8	4.9	---	---	---	0.9	0.0	0.5	-0.2	-0.2	-0.2
MONTH	19.1	3.8	10.6	13.9	-0.1	5.5	4.3	-0.2	0.7	1.7	-0.2	0.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2	5.4	2.3	3.9	12.2	10.6	11.4
2	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	7.3	3.3	5.4	17.2	11.4	14.0
3	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	6.1	5.0	5.6	16.3	11.7	13.7
4	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	5.0	2.9	4.0	16.0	9.2	12.4
5	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	2.9	2.2	2.6	13.8	8.7	11.4
6	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	6.6	1.8	3.9	11.4	9.8	10.6
7	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	3.8	0.8	2.7	17.9	10.8	14.1
8	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2	2.2	0.2	1.2	14.9	10.7	12.5
9	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2	2.6	1.7	2.1	15.3	10.3	12.4
10	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2	7.3	1.3	4.0	17.1	9.9	13.4
11	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	5.0	3.6	4.1	15.5	10.6	13.0
12	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	6.5	3.9	4.9	12.8	10.7	11.8
13	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	9.4	4.7	6.8	13.0	10.5	11.8
14	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	10.4	4.6	7.4	13.4	10.0	11.8
15	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	13.8	6.8	10	14.8	10.5	12.7
16	-0.1	-0.2	-0.2	0.0	-0.2	-0.2	16.6	10.4	12.9	12.2	9.8	11.1
17	-0.2	-0.2	-0.2	0.0	-0.2	-0.2	12.0	7.0	9.5	14.8	8.8	11.1
18	-0.1	-0.2	-0.2	0.0	-0.2	-0.1	10.0	5.3	7.3	15.4	6.9	11.0
19	-0.1	-0.2	-0.2	0.1	-0.2	-0.1	11.8	5.9	8.5	17.3	8.5	12.8
20	-0.2	-0.2	-0.2	0.0	-0.2	-0.1	13.0	6.6	9.6	17.7	10.3	13.8
21	-0.1	-0.2	-0.2	0.1	-0.1	0.0	14.0	7.0	10.3	13.8	11.7	12.8
22	-0.1	-0.2	-0.2	1.1	-0.1	0.4	10.8	8.8	9.3	12.5	10.6	11.6
23	-0.1	-0.2	-0.2	3.3	0.5	1.8	11.2	8.3	9.4	11.0	10.2	10.6
24	-0.2	-0.2	-0.2	5.7	1.0	3.1	10.3	6.9	8.5	10.4	9.8	10.1
25	-0.2	-0.2	-0.2	6.7	2.2	4.2	13.0	5.3	8.9	11.1	9.5	10.4
26	-0.2	-0.2	-0.2	9.0	3.7	6.2	10.0	9.1	9.4	10.8	9.9	10.4
27	-0.2	-0.2	-0.2	9.7	5.3	7.3	13.6	8.3	10.6	11.3	9.7	10.4
28	-0.2	-0.2	-0.2	9.7	4.2	6.9	16.3	9.0	12.5	13.1	10.5	11.7
29	---	---	---	10.6	6.9	8.8	16.5	11.4	13.9	15.1	11.5	13.2
30	---	---	---	10.3	5.9	8.2	15.8	11.4	13.4	15.6	12.3	13.9
31	---	---	---	6.5	3.8	5.2	---	---	---	14.1	12.3	13.4
MONTH	-0.1	-0.2	-0.2	10.6	-0.2	1.6	16.6	0.2	7.4	17.9	6.9	12.1

PAWTUXET RIVER BASIN

01115183 QUONAPAUG BROOK AT RT 116, NORTH SCITUATE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.4	12.7	13.2	18.9	15.9	17.4	18.7	17.8	18.2	16.6	15.4	15.9
2	14.3	11.7	13.0	19.0	15.2	17.2	20.5	18.2	19.2	16.1	15.0	15.6
3	14.3	11.3	13.0	17.9	16.5	17.2	21.5	19.2	20.2	16.8	15.4	16.0
4	13.3	12.4	12.7	19.8	16.6	18.0	21.8	20.1	20.8	17.8	16.2	17.1
5	12.8	12.2	12.5	21.3	17.9	19.5	21.2	20.0	20.6	18.7	17.2	17.8
6	15.6	12.3	13.9	21.5	18.6	20.0	21.9	19.8	20.6	17.8	15.4	16.6
7	14.3	12.9	13.5	20.6	17.5	19.1	21.1	19.6	20.4	17.6	14.1	15.9
8	14.2	13.2	13.6	21.4	18.4	19.9	20.6	19.8	20.1	17.7	15.6	16.5
9	14.1	13.2	13.6	20.3	17.1	18.7	20.7	20.0	20.3	15.9	13.8	14.8
10	16.2	12.9	14.4	18.4	15.5	17.0	21.6	20.2	20.8	15.1	10.8	13.1
11	15.9	13.5	14.7	17.3	16.7	17.0	22.0	20.3	21.1	16.6	12.8	14.6
12	15.2	14.7	15.0	19.7	16.6	18.0	21.9	20.2	21.0	16.7	14.3	15.4
13	14.9	13.8	14.4	20.0	17.1	18.4	21.7	20.3	20.9	16.9	14.9	15.9
14	15.3	13.6	14.4	18.3	16.3	17.3	21.9	19.5	20.7	18.9	16.6	17.6
15	16.7	14.5	15.5	19.6	16.1	17.8	21.8	19.3	20.6	19.6	17.7	18.6
16	15.3	13.4	14.3	18.3	16.7	17.6	22.3	19.5	20.8	19.5	17.4	18.7
17	15.2	12.5	13.7	19.2	17.0	18.1	21.0	18.8	19.9	17.6	15.1	16.4
18	14.0	12.7	13.4	18.5	16.3	17.6	19.4	17.8	18.7	17.3	14.9	16.0
19	15.0	13.8	14.4	19.6	17.2	18.2	20.5	17.5	19.0	18.3	16.3	17.4
20	16.4	14.1	15.1	19.2	15.5	17.4	21.2	18.4	19.8	19.8	17.7	18.6
21	14.8	13.5	14.2	19.0	16.4	17.8	21.5	18.4	20.0	18.4	16.1	17.4
22	14.0	13.6	13.8	20.2	18.5	19.3	22.8	19.7	21.2	17.5	15.2	16.4
23	15.2	13.5	14.3	20.0	18.9	19.5	21.7	19.1	20.4	18.0	15.5	16.6
24	17.1	14.4	15.7	20.1	18.9	19.5	19.1	15.7	17.0	17.0	14.2	15.7
25	18.4	15.4	16.9	20.6	18.8	19.6	18.3	15.0	16.5	16.7	13.4	15.1
26	19.0	16.5	17.8	20.5	17.7	19.2	19.7	16.9	18.3	17.3	15.5	16.3
27	20.0	17.2	18.6	21.6	18.8	20.0	21.0	18.3	19.5	18.2	15.9	17.0
28	18.9	17.2	18.1	21.5	19.6	20.4	19.5	17.2	18.2	18.0	17.2	17.6
29	18.2	15.9	17.0	20.1	18.0	19.0	18.6	14.8	16.8	17.7	14.5	16.2
30	18.9	16.3	17.5	20.1	17.3	18.7	20.7	18.6	19.5	14.5	11.9	13.2
31	---	---	---	19.8	16.4	18.1	19.4	16.5	17.5	---	---	---
MONTH	20.0	11.3	14.7	21.6	15.2	18.5	22.8	14.8	19.6	19.8	10.8	16.3
YEAR	22.8	-0.2	9.0									

PAWTUXET RIVER BASIN

01115187 PONAGANSET RIVER NEAR SOUTH FOSTER, RI

LOCATION.--Lat 41°49'09", long 71°42'16", Providence County, Hydrologic Unit 01090004, on left bank 5 ft downstream from bridge on Rams Tail Road, 0.3 mi south of South Foster and 0.4 mi upstream from Barden Reservoir.

DRAINAGE AREA.--14.4 mi^2 (revised).

WATER DISCHARGE RECORD

PERIOD OF RECORD.--Discharge: March 1994 to current year.
Water-quality records: Water years, 2000–03.

GAGE.--Water-stage recorder. Elevation of gage is 355 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--9 years, 26.9 ft^3/s, 25.36 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,110 ft^3/s, June 17, 2001, gage height, 6.32 ft; maximum gage height, 6.37 ft, June 30, 1998; no flow part of each day, Sept. 8–13, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 362 ft^3/s, May 27, gage height, 4.36 ft; minimum, 0.81 ft^3/s, Oct. 4, 7–9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	3.1	19	38	e15	e38	98	30	75	12	3.0	1.1
2	1.4	2.8	18	122	e19	e55	69	34	106	11	4.9	9.8
3	1.1	2.6	e17	73	e19	e102	60	27	52	9.7	4.7	15
4	.92	2.5	e16	59	e20	e71	65	23	37	10	4.2	16
5	.97	2.8	15	49	e25	e58	60	21	48	8.7	4.4	17
6	.98	4.2	e15	41	e22	e62	60	20	44	7.4	4.0	12
7	.91	5.3	e16	36	e20	e51	51	20	33	6.3	3.2	8.4
8	.91	4.9	14	33	e18	e44	49	20	58	5.5	70	6.6
9	.89	4.4	e13	31	e16	e56	49	20	45	5.5	43	5.7
10	1.0	4.3	e13	31	e17	e61	57	19	32	7.8	22	4.6
11	1.0	6.0	e13	e28	e16	e46	72	17	24	8.6	17	3.7
12	1.4	11	55	e25	e16	e45	147	17	23	9.3	13	3.0
13	3.0	36	56	e24	e14	43	86	17	75	6.7	11	2.6
14	3.8	26	137	e22	e13	41	57	16	82	5.4	17	2.7
15	3.3	14	141	e21	e12	31	49	17	54	4.8	14	2.6
16	5.1	11	72	e20	e12	39	43	15	34	e4.1	11	14
17	8.5	74	50	e20	e12	90	34	14	25	e5.3	8.6	17
18	6.9	93	e39	e20	e13	144	29	13	26	4.5	7.9	10
19	4.7	49	e32	e18	e15	123	27	12	37	4.1	8.3	9.6
20	3.8	30	108	20	e13	78	25	10	28	3.5	6.7	12
21	3.2	23	200	18	e14	231	23	9.6	22	2.9	5.6	9.7
22	2.8	46	87	e16	e25	185	31	11	49	2.8	5.0	7.7
23	2.4	53	58	e15	e92	119	49	13	154	10	4.5	9.7
24	2.5	35	48	e15	e91	81	37	15	75	18	3.5	25
25	2.4	26	45	e15	e66	62	28	17	43	15	2.9	16
26	4.5	22	55	e14	e51	56	35	66	28	8.8	2.5	12
27	9.1	21	44	e14	e40	58	88	223	21	6.3	2.3	9.6
28	7.7	20	36	e13	e31	52	53	81	17	4.6	1.9	8.3
29	5.2	18	31	e13	---	48	39	51	15	4.0	1.6	8.2
30	4.1	19	27	e13	---	211	32	37	14	3.7	1.5	7.5
31	3.5	---	27	e13	---	186	---	27	---	3.0	1.3	---
TOTAL	99.98	669.9	1517	890	737	2567	1602	932.6	1376	219.3	310.5	287.1
MEAN	3.23	22.3	48.9	28.7	26.3	82.8	53.4	30.1	45.9	7.07	10.0	9.57
MAX	9.1	93	200	122	92	231	147	223	154	18	70	25
MIN	0.89	2.5	13	13	12	31	23	9.6	14	2.8	1.3	1.1
CFSM	0.22	1.55	3.40	1.99	1.83	5.75	3.71	2.09	3.19	0.49	0.70	0.66
IN.	0.26	1.73	3.92	2.30	1.90	6.63	4.14	2.41	3.55	0.57	0.80	0.74
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)												
MEAN	11.1	18.0	33.4	41.2	39.0	59.8	46.8	28.4	26.0	7.49	3.89	5.03
MAX	46.9	32.7	103	71.4	59.5	101	79.2	52.4	82.9	40.0	10.0	14.9
(WY)	1997	1997	1997	1999	1998	2001	1997	1998	1998	1998	2003	1999
MIN	1.03	2.73	5.60	11.2	15.6	27.2	21.8	15.4	2.91	0.85	0.070	0.52
(WY)	1998	2002	2002	2002	2002	2002	1999	2001	1999	1999	1999	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1994 - 2003	
ANNUAL TOTAL	6567.83		11208.38			
ANNUAL MEAN	18.0		30.7		26.9	
HIGHEST ANNUAL MEAN					37.2	1998
LOWEST ANNUAL MEAN					12.6	2002
HIGHEST DAILY MEAN	200	Dec 21	231	Mar 21	625	Mar 22 2001
LOWEST DAILY MEAN	0.06	Aug 19	0.89	Oct 9	0.00	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	0.12	Aug 14	0.94	Oct 4	0.00	Aug 7 1999
MAXIMUM PEAK FLOW			362	May 27	1110	Jun 17 2001
MAXIMUM PEAK STAGE			4.36	May 27	6.37	Jun 30 1998
INSTANTANEOUS LOW FLOW			0.81	Oct 4	0.00	Sep 3 1995
ANNUAL RUNOFF (CFSM)	1.25		2.13		1.87	
ANNUAL RUNOFF (INCHES)	16.97		28.95		25.36	
10 PERCENT EXCEEDS	41		71		61	
50 PERCENT EXCEEDS	13		17		15	
90 PERCENT EXCEEDS	0.73		3.0		1.0	

e Estimated

PAWTUXET RIVER BASIN

01115187 PONAGANSET RIVER NEAR SOUTH FOSTER, RI--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: February 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since February 2000.

REMARKS.--Records fair. Missing records not estimated.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 196 µS/cm, Aug. 20, 2002; minimum, 41 µS/cm, Jan. 15, 2003.

WATER TEMPERATURE: Maximum recorded, 27.2°C, July 5, 2003; minimum, -0.4°C, many days during winter periods in water years 2002 and 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 145 µS/cm, Apr. 8; minimum, 41 µS/cm, Jan. 15.

WATER TEMPERATURE: Maximum recorded, 27.2°C, July 5; minimum, -0.4°C, several days during winter period.

WATER-QUALITY DATA, OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	108	104	106	116	115	115	81	73	78	73	60	64
2	114	108	111	119	116	118	84	74	81	69	48	55
3	116	113	114	130	119	124	83	70	75	53	45	50
4	117	113	115	136	130	134	80	73	76	52	47	50
5	118	111	115	142	136	140	78	74	75	55	49	52
6	112	111	112	140	108	123	77	71	74	57	50	54
7	115	111	112	108	102	105	75	71	74	58	52	55
8	112	107	109	103	102	102	78	71	74	60	52	56
9	109	105	106	107	102	104	77	71	74	66	59	62
10	106	102	104	113	107	110	80	74	76	65	57	62
11	103	102	102	116	113	115	106	74	81	61	54	57
12	106	96	103	114	102	107	75	62	69	62	50	57
13	97	92	93	102	92	95	82	74	78	63	57	59
14	92	90	91	97	96	96	81	67	71	64	42	57
15	95	90	93	98	97	98	68	67	67	66	41	50
16	97	92	95	97	90	96	68	64	66	66	51	56
17	99	95	96	90	74	81	65	58	62	64	54	58
18	112	99	107	95	80	82	65	59	61	61	56	59
19	114	110	112	85	83	84	---	---	---	68	60	64
20	117	114	115	85	83	84	98	56	73	68	66	67
21	120	117	118	86	82	84	63	58	60	70	67	68
22	124	120	122	83	71	75	64	60	62	72	69	71
23	129	124	126	83	79	81	65	62	64	74	70	72
24	131	125	128	83	80	82	65	51	59	75	70	72
25	125	119	122	83	80	81	67	46	53	75	70	73
26	126	119	123	82	80	81	53	42	48	70	67	69
27	125	100	114	84	76	80	53	46	50	67	66	67
28	100	97	98	80	71	75	53	46	50	70	66	68
29	111	100	107	80	70	76	57	49	53	69	66	68
30	112	111	112	83	78	82	57	49	54	68	66	67
31	116	112	114	---	---	---	64	56	60	67	65	66
MONTH	131	90	110	142	70	97	---	---	---	75	41	61

PAWTUXET RIVER BASIN

01115187 PONAGANSET RIVER NEAR SOUTH FOSTER, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	68	64	65	73	68	70	76	74	75	92	86	89
2	73	65	67	109	65	77	78	76	76	95	86	91
3	77	65	71	73	62	66	79	76	78	94	91	93
4	87	65	74	67	64	65	82	77	80	95	88	92
5	73	63	68	83	65	70	89	80	82	93	88	91
6	73	61	68	75	69	72	84	80	81	92	89	90
7	75	67	69	75	65	70	84	81	83	95	90	92
8	70	67	68	79	69	71	145	78	88	95	89	92
9	70	66	68	83	71	76	100	84	86	94	88	91
10	70	67	68	85	76	81	91	84	87	95	90	93
11	69	65	67	89	79	83	100	76	89	95	92	93
12	68	66	67	97	80	86	85	76	81	94	91	92
13	70	67	69	83	77	79	83	79	81	93	90	92
14	73	70	72	86	62	75	86	81	83	95	90	92
15	75	73	74	97	76	86	90	82	85	95	90	92
16	76	73	74	118	84	96	92	86	89	93	92	92
17	75	73	74	110	75	91	90	85	87	95	89	92
18	75	71	73	87	69	77	88	84	85	96	89	93
19	71	68	69	79	65	72	91	84	87	97	92	95
20	68	67	67	80	68	75	93	86	89	97	95	96
21	72	66	68	90	66	73	94	88	91	97	94	95
22	122	63	80	68	65	66	98	83	91	94	90	91
23	82	61	71	70	66	68	95	83	91	93	87	89
24	69	60	64	73	69	71	93	90	91	90	87	89
25	69	62	64	74	71	73	95	88	91	93	89	91
26	73	67	69	79	72	75	107	79	93	108	62	91
27	76	68	71	79	72	76	94	78	89	72	65	68
28	73	68	70	81	77	78	95	87	91	73	67	70
29	---	---	---	92	78	81	93	90	92	77	72	74
30	---	---	---	96	68	77	92	89	91	78	75	77
31	---	---	---	74	71	72	---	---	---	80	77	78
MONTH	122	60	70	118	62	76	145	74	86	108	62	89

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	84	66	76	111	79	93	97	91	95	97	94	95
2	78	74	76	105	79	87	93	88	90	103	63	82
3	78	75	77	95	81	85	91	88	90	102	72	90
4	78	74	77	96	77	86	94	88	91	111	92	102
5	80	70	75	96	72	84	96	88	93	98	92	94
6	80	76	78	104	81	89	98	92	95	100	98	99
7	83	78	80	107	80	87	99	93	97	101	100	100
8	82	72	77	90	76	83	107	59	82	101	98	100
9	81	79	80	93	81	88	86	83	84	98	95	97
10	88	79	83	95	79	83	84	79	82	97	94	95
11	87	79	81	92	80	85	82	73	79	98	94	96
12	84	79	80	98	80	86	86	75	81	100	94	97
13	93	66	79	111	89	100	84	77	82	102	99	100
14	82	77	80	116	91	103	83	72	77	102	96	99
15	80	78	79	111	90	98	88	80	85	103	97	100
16	80	77	78	95	90	92	89	84	87	103	73	86
17	81	77	78	91	87	89	87	85	86	101	78	93
18	93	74	80	101	88	91	85	82	84	105	101	104
19	93	75	80	95	92	94	83	78	80	109	101	106
20	98	82	88	94	92	93	84	81	83	101	93	95
21	96	81	87	95	93	94	87	83	85	101	96	98
22	91	73	80	97	94	96	88	81	85	101	99	100
23	94	71	84	111	75	90	88	84	87	116	89	100
24	92	71	83	105	78	90	89	87	87	92	74	83
25	95	73	81	107	98	104	89	86	87	96	92	95
26	88	72	78	108	103	105	91	87	89	96	95	96
27	90	69	77	107	98	104	93	90	92	95	94	94
28	91	76	85	106	96	102	94	91	92	94	92	93
29	101	77	82	104	95	100	94	91	92	92	89	91
30	103	78	87	98	94	96	97	92	95	90	88	88
31	---	---	---	96	93	94	97	93	94	---	---	---
MONTH	103	66	80	116	72	93	107	59	87	116	63	96

PAWTUXET RIVER BASIN

01115187 PONAGANSET RIVER NEAR SOUTH FOSTER, RI--Continued

TEMPERATURE, WATER (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.2	15.5	16.9	5.9	4.7	5.3	2.1	0.1	1.2	2.4	1.8	2.1
2	20.1	17.3	18.9	5.5	4.1	4.5	1.6	.1	1.1	1.9	.6	1.0
3	19.9	17.0	18.9	4.5	3.8	4.2	1.1	-.3	.0	.7	-.2	.3
4	17.4	16.2	16.7	4.9	4.0	4.4	.4	-.3	-.1	.0	-.3	-.2
5	19.6	17.1	18.5	5.0	4.3	4.7	.0	-.2	-.2	.3	-.2	.1
6	17.1	13.8	15.7	6.0	5.0	5.5	.3	-.3	-.1	.3	-.1	.1
7	16.1	13.4	14.7	5.9	4.9	5.5	-.1	-.3	-.2	.4	-.3	.1
8	13.8	11.5	12.7	5.6	4.2	4.9	.3	-.3	.0	.5	-.3	.0
9	13.0	10.6	12.0	7.0	5.3	6.1	.1	-.3	-.2	1.6	.4	1.0
10	13.9	11.8	12.9	10.5	7.0	8.4	.2	-.3	-.2	1.7	.0	1.0
11	13.8	12.8	13.4	13.3	10.5	12.3	.3	-.3	.0	.3	-.3	-.1
12	14.2	13.6	13.9	12.8	10.3	11.8	.3	-.1	.1	.4	-.3	-.1
13	14.5	13.8	14.2	10.3	8.4	9.6	1.3	.0	.7	.4	-.3	-.2
14	14.1	10.8	12.6	8.7	7.2	7.9	2.5	1.3	2.2	.2	-.4	-.2
15	11.2	9.7	10.5	9.0	7.1	8.2	3.1	2.2	2.6	.2	-.4	-.2
16	10.9	10.2	10.6	7.7	5.6	6.7	2.6	.8	1.9	.1	-.3	-.2
17	12.9	10.3	11.5	6.0	5.1	5.6	1.0	-.2	.4	.0	-.4	-.2
18	12.1	10.6	11.4	5.8	4.5	5.2	.4	-.3	.0	-.3	-.3	-.3
19	10.6	9.3	10.0	5.5	4.2	5.0	---	---	---	-.2	-.3	-.3
20	10.5	9.3	10	6.2	4.4	5.2	5.1	.5	2.8	-.2	-.3	-.3
21	9.8	8.6	9.2	6.1	4.2	5.2	4.6	2.9	3.8	-.2	-.3	-.3
22	8.6	7.1	7.9	7.0	6.1	6.7	3.4	2.2	2.7	-.2	-.3	-.3
23	7.8	6.8	7.4	6.7	3.6	5.3	3.1	2.3	2.6	-.2	-.3	-.3
24	6.8	5.3	6.0	5.0	3.4	4.2	2.4	1.7	2.1	-.2	-.3	-.3
25	6.8	6.1	6.5	5.1	3.3	4.4	2.0	.3	1.5	-.2	-.3	-.3
26	7.6	6.8	7.2	5.4	3.5	4.7	.8	-.1	.3	-.2	-.3	-.3
27	9.0	6.7	7.8	3.5	.8	2.2	.7	-.2	.2	-.2	-.3	-.3
28	7.8	6.4	7.2	1.2	-.1	.6	.5	-.3	.1	-.2	-.3	-.3
29	6.4	5.5	6.0	.9	-.2	.5	1.0	-.1	.4	-.2	-.3	-.3
30	5.9	5.1	5.6	2.7	.9	2.1	.7	-.2	.3	-.2	-.3	-.3
31	5.9	4.6	5.2	---	---	---	1.9	.6	1.3	-.2	-.3	-.3
MONTH	20.1	4.6	11.4	13.3	-0.2	5.6	---	---	---	2.4	-0.4	0.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	-0.2	-0.3	-0.3	-0.2	-0.3	-0.3	6.2	3.1	4.7	14.0	11.5	12.4
2	-.2	-.3	-.3	-.2	-.3	-.3	7.8	4.2	6.0	18.5	12.3	14.9
3	.0	-.3	-.2	-.2	-.3	-.3	6.7	5.5	6.2	17.3	12.9	15.0
4	.0	-.3	-.2	-.2	-.3	-.3	5.5	3.4	4.5	16.6	10.8	13.7
5	.0	-.4	-.2	-.2	-.3	-.3	3.4	2.5	2.9	14.9	10.6	13.0
6	.0	-.3	-.3	-.2	-.3	-.3	6.6	1.8	3.9	13.5	11.3	12.1
7	-.3	-.3	-.3	-.2	-.3	-.3	4.4	2.1	3.4	18.6	12.2	15.0
8	-.2	-.3	-.3	-.2	-.3	-.3	3.0	1.1	2.1	17.3	12.4	14.3
9	-.3	-.3	-.3	-.2	-.3	-.3	3.0	2.2	2.6	16.8	11.6	13.7
10	-.2	-.3	-.3	-.1	-.3	-.3	7.8	1.6	4.1	18.2	11.9	14.9
11	-.2	-.3	-.3	-.1	-.4	-.2	5.7	4.0	4.6	16.8	12.7	14.9
12	-.2	-.3	-.3	.5	-.3	.1	6.8	3.9	4.9	15.1	12.3	13.4
13	-.2	-.3	-.3	.4	-.2	.1	9.9	4.9	7.0	13.9	12.0	13.1
14	-.2	-.3	-.3	.6	-.3	.0	11.2	5.4	8.0	14.8	11.2	13.0
15	-.2	-.3	-.3	1.7	-.3	.6	14.0	7.4	10.2	16.1	12.0	14.1
16	-.2	-.3	-.3	3.6	.0	1.5	16.8	10.9	13.3	14.6	11.7	12.9
17	-.3	-.3	-.3	3.5	.7	1.6	13.7	8.6	10.9	15.7	9.9	12.3
18	-.2	-.3	-.3	3.3	.5	1.5	10.5	6.7	8.3	17.1	9.2	12.9
19	-.2	-.3	-.3	3.5	.1	1.6	12.8	6.9	9.5	19.0	11.4	15.0
20	-.2	-.3	-.3	3.0	.4	1.7	14.0	7.9	10.7	19.2	13.4	16.4
21	-.2	-.3	-.3	3.2	2.2	2.7	15.0	8.6	11.6	18.0	14.3	15.1
22	-.2	-.3	-.3	6.3	2.7	4.3	12.8	10.1	11.0	14.6	12.7	13.5
23	-.2	-.3	-.3	6.2	3.6	5.0	11.3	9.4	10.2	12.7	11.5	12.0
24	-.2	-.3	-.3	8.6	3.8	6.0	11.0	7.5	9.1	11.9	10.8	11.2
25	-.2	-.3	-.3	8.9	4.5	6.5	13.6	6.6	9.7	12.3	10.2	11.2
26	-.2	-.3	-.3	11.0	6.0	8.3	11.7	9.8	10.4	12.0	10.5	11.3
27	-.2	-.3	-.3	11.3	7.4	9.1	13.8	8.7	10.8	11.9	9.8	10.7
28	-.2	-.3	-.3	11.2	6.2	8.5	16.6	9.6	12.8	14.7	11.0	12.5
29	---	---	---	11.7	8.5	10.0	16.5	12.0	14.2	17.0	12.6	14.6
30	---	---	---	11.1	6.4	8.8	16.2	11.9	14.0	18.0	13.7	15.7
31	---	---	---	6.8	4.6	5.6	---	---	---	16.7	14.5	15.7
MONTH	0.0	-0.4	-0.3	11.7	-0.4	2.6	16.8	1.1	8.1	19.2	9.2	13.6

PAWTUXET RIVER BASIN

01115187 PONAGANSET RIVER NEAR SOUTH FOSTER, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.8	13.7	14.8	24.4	19.3	21.7	23.1	21.6	22.0	19.4	18.0	18.6
2	16.0	12.0	13.9	24.4	18.5	21.4	24.0	20.8	22.1	18.2	16.1	16.7
3	16.9	12.7	14.8	23.0	19.6	21.1	24.8	22.6	23.6	18.9	16.1	17.2
4	15.4	14.1	14.7	25.9	19.8	22.4	25.6	23.6	24.5	19.2	17.6	18.3
5	14.4	13.4	13.9	27.2	21.6	24.2	25.3	23.9	24.5	21.7	18.2	19.6
6	19.2	13.3	15.8	26.9	22.8	24.8	25.4	23.4	24.4	20.6	16.9	18.8
7	17.3	15.3	16.0	25.8	22.1	24.0	25.1	23.6	24.4	20.2	16.1	18.3
8	16.1	14.8	15.3	26.6	22.9	24.7	24.1	20.4	22.0	20.0	17.4	18.7
9	16.8	14.8	15.5	25.8	20.8	23.0	23.5	21.4	22.3	19.2	16.9	17.7
10	20.2	14.6	17.0	22.7	18.4	20.5	24.9	22.1	23.2	18.0	14.4	16.2
11	19.2	16.2	17.7	21.8	19.4	20.0	26.2	22.3	23.9	18.6	15.3	16.9
12	18.4	17.5	18.0	24.3	18.9	21.3	26.1	22.9	24.3	19.0	16.8	17.8
13	17.8	15.3	16.4	24.1	20.1	22.2	25.4	22.9	24.1	18.9	17.9	18.4
14	17.5	14.6	15.9	22.7	19.9	20.8	26.0	21.5	23.7	20.2	18.4	19.3
15	20.4	16.3	18.2	24.4	19.4	21.6	26.1	22.0	23.9	21.6	20.1	20.8
16	18.7	16.3	17.5	23.2	20.6	21.2	25.2	21.7	23.5	21.7	19.9	20.8
17	19.8	14.8	16.9	24.1	19.2	21.4	24.6	21.9	22.7	20.6	17.0	18.9
18	17.1	15.1	15.9	22.9	20.4	21.3	22.4	19.9	21.2	19.4	16.7	18.1
19	18.3	16.0	16.9	24.0	19.9	21.7	23.8	19.4	21.5	19.4	18.1	18.6
20	20.7	16.4	18.1	23.8	20.1	22.1	24.7	20.4	22.5	22.6	18.9	20.4
21	18.6	16.4	17.3	22.6	20.5	21.6	25.0	21.3	23.1	21.6	18.1	19.7
22	16.7	14.9	15.6	22.9	21.3	22.0	25.5	22.3	23.9	20.1	17.3	18.6
23	18.2	14.2	15.9	22.9	21.7	22.3	25.1	22.3	23.5	18.7	17.3	17.8
24	21.5	16.7	18.9	23.4	21.1	22.0	22.7	19.4	20.5	19.2	15.9	17.5
25	23.8	18.7	21.1	25.7	20.8	22.9	21.3	18.4	19.7	18.0	14.7	16.4
26	25.3	20.7	22.7	24.8	20.4	22.7	22.2	19.1	20.7	18.3	16.3	17.2
27	26.3	21.7	23.7	25.7	21.7	23.6	23.1	20.6	21.9	19.7	16.8	18.0
28	24.6	21.2	22.8	25.7	23.0	24.4	22.4	19.9	21.1	19.6	18.3	18.8
29	23.9	19.3	21.3	24.9	22.5	23.6	21.5	17.8	19.9	19.0	17.0	17.9
30	23.7	19.4	21.4	23.4	20.7	22.3	23.4	21.5	22.3	17.1	14.0	15.3
31	---	---	---	23.7	20.0	21.9	21.8	18.7	20.0	---	---	---
MONTH	26.3	12.0	17.5	27.2	18.4	22.3	26.2	17.8	22.6	22.6	14.0	18.2

PAWTUXET RIVER BASIN

01115190 DOLLY COLE BROOK AT OLD DANIELSON PARK AT SOUTH FOSTER, RI

LOCATION.--Lat 41°49'20", long 71°42'03", Providence County, Hydrologic Unit 01090004, on right bank 1,000 ft downstream from bridge on State Route 6, and at South Foster.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: February 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since February 2000.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 212 µS/cm, Mar. 8, 2002; minimum, 69 µS/cm, Dec. 20, 2002.

WATER TEMPERATURE: Maximum recorded, 27.4°C, July 4, 2002; minimum, -0.4°C, many days during winter period in 2003 water year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 208 µS/cm, Oct. 4; minimum, 69µ S/cm, Dec. 20.

WATER TEMPERATURE: Maximum recorded, 27.2°C, July 5; minimum, -0.4°C, many days during winter period.

WATER-QUALITY DATA, OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	192	175	184	132	128	129	99	90	94	109	96	100
2	204	192	199	132	128	131	104	88	94	100	80	90
3	207	203	204	132	129	131	100	88	95	97	74	86
4	208	204	205	133	130	131	96	84	91	83	73	78
5	207	203	205	133	129	131	104	89	93	84	75	80
6	207	201	204	133	129	131	99	91	95	108	80	83
7	201	193	199	132	130	131	93	84	90	87	79	82
8	196	189	192	134	128	131	98	88	93	88	78	83
9	194	189	191	129	126	127	92	84	87	96	84	89
10	196	190	193	131	126	128	95	85	91	94	85	90
11	198	194	196	137	131	134	104	84	90	92	80	85
12	199	135	172	138	133	135	103	86	92	93	82	88
13	159	152	155	140	120	130	100	83	92	96	77	89
14	152	147	150	120	118	118	101	82	91	96	76	87
15	148	144	146	119	118	118	88	82	85	97	76	87
16	153	136	147	120	113	118	84	78	80	99	90	95
17	154	147	150	125	101	114	80	73	77	101	92	97
18	154	145	149	104	89	96	81	71	76	98	78	90
19	145	142	143	93	87	89	86	73	79	100	77	87
20	143	135	140	90	85	87	103	69	85	100	97	99
21	136	131	134	90	86	88	94	73	85	101	97	100
22	131	128	130	101	82	88	86	80	81	105	88	99
23	132	128	130	87	82	84	86	80	83	108	105	107
24	135	132	133	92	86	88	88	80	83	111	108	109
25	133	129	131	94	90	92	99	81	87	112	108	110
26	141	128	133	94	91	93	87	78	83	111	107	109
27	136	131	133	117	90	92	92	81	86	128	107	108
28	131	128	130	91	85	88	95	82	87	131	108	110
29	130	126	128	98	85	89	96	83	89	108	104	106
30	129	127	128	107	90	96	93	82	88	108	103	105
31	131	128	129	---	---	---	102	89	95	104	101	102
MONTH	208	126	160	140	82	111	104	69	88	131	73	95

PAWTUXET RIVER BASIN

01115190 DOLLY COLE BROOK AT OLD DANIELSON PARK AT SOUTH FOSTER, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	119	99	101	109	98	102	120	113	116	131	123	127
2	111	98	102	146	92	106	122	112	116	130	123	126
3	107	104	106	110	87	101	123	115	118	128	124	126
4	125	106	111	122	103	107	130	115	120	131	125	127
5	112	94	106	134	103	111	131	118	124	131	125	127
6	113	92	100	123	106	110	131	119	125	133	128	130
7	110	97	101	114	107	111	129	121	125	134	131	132
8	100	95	97	121	107	113	133	123	126	137	132	134
9	103	95	97	133	102	116	128	118	123	136	132	134
10	101	95	98	132	103	115	125	117	121	137	133	135
11	101	91	97	132	112	122	133	115	124	141	135	137
12	100	94	98	138	117	126	122	112	117	141	136	138
13	100	93	97	122	111	117	123	114	117	142	137	138
14	101	97	100	135	108	123	123	115	117	141	135	138
15	101	97	99	138	116	126	125	116	120	141	136	137
16	104	95	101	143	114	127	131	123	126	137	135	136
17	104	100	102	142	115	125	131	123	127	137	133	135
18	105	101	103	142	117	128	148	127	130	138	133	136
19	102	100	101	137	116	126	148	129	136	141	137	139
20	114	100	103	131	113	124	150	140	146	144	140	142
21	108	100	103	132	111	121	144	135	139	145	141	142
22	166	103	119	122	115	118	152	137	140	142	137	140
23	153	104	124	128	113	117	137	125	130	143	137	140
24	108	94	101	118	106	112	129	122	125	142	137	139
25	96	87	92	115	104	108	137	125	129	163	130	135
26	96	90	93	111	104	108	150	116	136	140	95	125
27	99	93	96	110	102	105	123	111	117	112	99	103
28	102	96	99	114	104	108	127	120	123	110	104	106
29	---	---	---	139	110	116	126	122	124	115	107	110
30	---	---	---	140	95	108	127	122	124	117	111	113
31	---	---	---	116	106	111	---	---	---	128	112	114
MONTH	166	87	102	146	87	115	152	111	125	163	95	130

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	142	100	115	119	114	116	140	132	135	98	95	96
2	118	101	110	120	116	118	140	133	136	148	95	124
3	119	112	114	122	119	120	141	136	138	138	127	133
4	117	110	112	130	117	123	142	129	136	137	109	125
5	120	108	111	127	98	116	164	115	128	121	96	103
6	112	108	109	118	99	110	126	116	122	102	96	100
7	129	110	115	117	104	112	128	115	126	112	102	106
8	116	109	111	117	103	111	145	83	101	116	112	114
9	116	110	113	126	112	121	101	93	97	117	110	113
10	117	114	116	136	125	132	99	91	94	113	110	111
11	118	115	117	149	136	140	102	86	92	113	112	112
12	132	116	119	149	135	143	96	87	92	112	111	112
13	140	102	114	136	132	135	97	92	95	114	112	113
14	114	102	107	139	135	137	104	85	96	114	111	113
15	116	112	113	143	137	140	93	77	87	121	96	110
16	116	112	114	143	140	141	92	85	90	126	101	116
17	115	110	113	147	139	143	94	90	92	110	105	106
18	123	109	115	146	144	145	95	92	93	106	103	105
19	118	110	113	146	142	143	103	95	97	114	104	110
20	115	110	112	142	138	139	105	102	104	114	111	112
21	125	113	117	139	121	129	107	101	105	115	112	113
22	130	98	114	125	121	122	107	99	104	115	113	114
23	106	96	102	162	105	141	108	102	105	132	96	117
24	98	93	95	146	122	133	103	98	101	110	106	109
25	100	94	96	122	107	116	102	99	100	110	108	109
26	100	91	97	116	112	114	104	100	101	113	110	111
27	106	88	99	120	111	116	102	99	100	116	112	114
28	110	100	105	126	117	121	101	97	99	119	116	117
29	113	107	109	130	126	127	100	96	98	119	114	116
30	116	111	113	134	130	130	99	96	97	117	114	116
31	---	---	---	135	132	133	99	95	97	---	---	---
MONTH	142	88	110	162	98	128	164	77	105	148	95	112
YEAR	208	69	115									

PAWTUXET RIVER BASIN

01115190 DOLLY COLE BROOK AT OLD DANIELSON PARK AT SOUTH FOSTER, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	17.9	14.6	16.3	6.2	3.8	5.1	2.5	1.2	2.1	2.1	1.7	1.9
2	19.4	16.4	17.8	5.0	2.9	3.9	2.6	.9	1.7	1.8	.7	1.1
3	18.6	16.0	17.9	4.6	2.4	3.3	2.3	.4	1.3	1.0	-.2	.6
4	16.0	14.8	15.2	4.8	2.5	3.8	1.0	.0	.5	.5	-.3	.2
5	19.8	15.8	17.9	5.2	3.1	4.4	.7	.2	.5	.7	.0	.4
6	17.0	12.7	14.8	6.3	5.0	5.7	1.3	.4	.8	.6	.2	.4
7	14.6	11.5	13.0	6.0	3.6	5.0	.6	-.1	.3	.5	.0	.3
8	13.2	10.3	11.6	6.1	3.0	4.8	1.3	.1	.7	.7	-.1	.3
9	11.5	8.9	10.3	7.9	5.4	6.8	.6	-.2	.1	1.3	.5	.8
10	12.9	10.5	11.6	11.6	7.7	9.5	.5	-.2	.2	1.3	.3	.9
11	13.0	11.8	12.4	13.7	11.6	13.0	.9	-.1	.4	.4	-.2	.1
12	13.8	13.0	13.4	13.1	10.1	11.4	1.1	.5	.8	.4	-.3	.1
13	14.3	13.4	13.9	10.1	8.9	9.4	1.4	.4	1.0	.4	-.3	.1
14	14.3	10.0	12.5	9.0	7.6	8.3	2.2	1.4	1.9	.1	-.4	-.1
15	10.5	7.7	9.3	9.5	7.4	8.4	2.7	1.6	2.0	.1	-.3	-.1
16	11.8	9.5	10.5	8.4	6.5	7.3	2.1	1.4	1.8	.0	-.3	-.1
17	12.7	10.4	11.6	6.5	5.3	6.0	1.4	.4	1.0	.1	-.3	-.1
18	12.0	9.8	11.2	5.8	4.9	5.3	1.1	.1	.5	-.1	-.3	-.2
19	11.0	7.8	9.6	5.5	4.2	4.9	1.5	.1	.7	-.1	-.3	-.2
20	10.9	9.2	10.2	6.2	4.3	5.2	4.4	1.4	2.7	-.1	-.3	-.2
21	9.6	7.3	8.4	5.8	4.1	4.9	3.5	2.4	2.9	-.1	-.3	-.2
22	8.2	5.6	7.0	6.7	5.7	6.2	3.3	2.1	2.5	-.1	-.3	-.1
23	7.3	5.8	6.5	6.5	4.3	5.6	3.0	2.1	2.5	-.1	-.2	-.1
24	7.0	4.2	5.7	5.1	3.7	4.4	2.8	1.8	2.3	-.1	-.3	-.2
25	7.5	4.7	6.1	5.0	3.3	4.2	2.2	.7	1.8	-.1	-.3	-.2
26	7.9	6.3	7.2	5.0	4.1	4.6	1.4	.4	.8	-.1	-.3	-.2
27	8.8	6.8	7.9	4.3	1.8	2.8	1.3	.3	.7	-.1	-.3	-.2
28	8.0	6.2	7.1	1.8	.7	1.2	1.3	.2	.7	-.1	-.3	-.2
29	6.3	4.6	5.7	1.8	.6	1.2	1.5	.4	.9	-.2	-.3	-.3
30	6.0	4.9	5.6	3.2	1.7	2.4	1.3	.2	.8	-.1	-.3	-.2
31	6.1	3.8	4.9	---	---	---	2.0	1.1	1.6	-.3	-.3	-.3
MONTH	19.8	3.8	10.7	13.7	0.6	5.6	4.4	-0.2	1.2	2.1	-0.4	0.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	-0.3	-0.3	-0.3	-0.2	-0.4	-0.2	6.8	3.7	5.1	14.8	12.8	13.5
2	-.2	-.3	-.3	-.2	-.3	-.3	8.0	4.6	6.3	18.4	13.2	15.6
3	-.1	-.3	-.2	-.1	-.4	-.3	6.6	5.8	6.3	17.1	13.7	15.5
4	.0	-.2	-.1	.1	-.4	-.1	5.8	3.8	4.9	17.1	12.2	14.8
5	.1	-.4	-.2	.2	-.2	.0	3.8	2.9	3.2	15.9	12.2	14.3
6	.0	-.4	-.2	-.1	-.4	-.3	6.3	2.2	4.1	14.2	12.5	13.2
7	-.2	-.4	-.3	-.2	-.4	-.3	4.6	2.4	3.6	19.1	13.3	16.1
8	-.2	-.4	-.3	.4	-.4	.0	3.0	1.7	2.3	18.1	13.3	15.2
9	-.2	-.4	-.3	1.2	-.5	.3	2.8	2.2	2.5	16.8	12.6	14.5
10	-.2	-.4	-.3	.5	-.5	-.1	7.4	1.8	4.3	18.5	13.0	15.8
11	-.2	-.4	-.3	.7	-.4	.1	5.5	4.2	4.6	17.2	14.0	15.8
12	-.1	-.4	-.2	1.6	-.2	.6	6.8	4.2	5.2	15.7	13.4	14.3
13	-.1	-.4	-.2	.3	-.2	.1	9.6	5.0	7.1	14.6	13.0	13.9
14	-.1	-.4	-.2	.8	-.5	.1	11.2	5.8	8.3	15.1	12.4	13.9
15	-.1	-.3	-.2	1.3	-.4	.4	13.9	7.8	10.6	16.5	13.1	15.0
16	-.1	-.2	-.1	2.7	-.3	1.0	16.4	11.2	13.5	15.3	12.6	13.7
17	-.1	-.3	-.2	3.0	.3	1.2	13.8	10.3	11.6	15.4	11.2	13.2
18	-.3	-.4	-.3	2.7	.4	1.2	11.0	8.0	9.6	17.1	10.9	14.0
19	-.3	-.3	-.3	3.1	.4	1.4	12.2	8.0	10.2	18.9	12.7	16.0
20	-.3	-.4	-.3	2.9	.5	1.6	13.3	9.0	11.3	19.5	14.5	17.3
21	-.3	-.4	-.3	2.9	1.7	2.3	14.8	9.5	12.4	17.8	15.4	16.0
22	-.3	-.4	-.3	5.0	2.2	3.2	13.8	10.9	11.7	15.4	13.6	14.4
23	-.3	-.4	-.3	5.3	2.4	3.8	12.3	10.6	11.3	13.6	12.7	13.0
24	-.3	-.4	-.3	7.4	2.7	4.7	11.7	8.9	10.3	12.7	11.8	12.1
25	-.2	-.4	-.3	7.5	3.0	5.1	13.8	7.9	10.9	13.2	11.3	12.2
26	-.1	-.4	-.2	9.3	4.3	6.6	12.6	10.2	10.9	13.0	11.1	12.0
27	-.1	-.4	-.2	9.5	5.2	7.3	14.3	9.6	11.6	13.0	10.6	11.7
28	-.3	-.4	-.3	10.6	5.8	8.2	16.7	10.3	13.3	15.5	11.8	13.4
29	---	---	---	11.8	8.5	10.2	17.0	12.5	14.7	18.0	13.3	15.4
30	---	---	---	11.3	7.1	9.3	16.9	13.0	14.9	19.2	14.3	16.5
31	---	---	---	7.2	4.8	6.2	---	---	---	17.9	15.4	16.8
MONTH	0.1	-0.4	-0.2	11.8	-0.5	2.4	17.0	1.7	8.6	19.5	10.6	14.5

PAWTUXET RIVER BASIN

01115190 DOLLY COLE BROOK AT OLD DANIELSON PARK AT SOUTH FOSTER, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.9	14.5	15.5	24.5	20.3	22.4	22.1	21.0	21.6	17.8	16.7	17.4
2	17.5	13.1	15.2	24.5	19.9	22.3	24.5	21.6	22.8	17.3	16.3	16.7
3	18.2	13.3	15.7	23.2	21.0	22.0	24.7	22.9	23.8	18.4	16.3	17.2
4	16.1	14.8	15.2	25.8	21.1	23.2	25.1	23.6	24.3	19.2	18.1	18.6
5	15.5	14.4	14.9	27.2	23.0	25.0	24.9	23.1	24.0	21.4	18.2	19.5
6	20.1	14.0	16.7	27.0	23.6	25.3	25.0	23.0	24.0	20.6	17.0	18.7
7	18.5	16.0	16.6	26.4	22.7	24.7	24.5	22.9	23.7	20.7	16.2	18.5
8	17.2	15.5	16.2	26.6	23.6	25.2	24.0	20.4	22.3	20.1	17.0	18.6
9	17.5	15.6	16.4	25.8	21.3	23.1	23.4	21.7	22.5	18.6	15.1	17.1
10	21.1	15.1	17.8	23.1	19.4	21.3	24.6	22.2	23.2	18.7	13.8	16.4
11	20.0	17.0	18.7	22.2	20.5	21.0	26.0	22.6	24.1	19.3	15.4	17.4
12	19.2	18.2	18.7	24.2	20.0	21.8	26.0	23.2	24.5	19.1	16.6	17.9
13	18.5	16.4	17.1	24.1	20.8	22.5	25.6	23.5	24.3	18.9	17.3	18.2
14	18.7	15.7	17.1	22.7	20.2	21.2	26.4	22.1	24.1	20.7	18.6	19.8
15	21.8	16.8	19.0	23.5	19.7	21.5	26.5	22.6	24.5	21.6	19.6	20.7
16	19.9	17.1	18.3	22.6	20.6	21.2	25.7	22.4	24.1	21.7	18.4	20.4
17	20.8	16.0	18.1	23.5	19.8	21.6	24.6	22.0	23.1	20.6	17.0	18.7
18	18.7	16.1	16.9	22.4	19.9	21.2	22.9	20.5	21.7	19.8	17.2	18.6
19	19.1	16.6	17.6	23.3	20.4	21.8	23.9	20.0	21.9	20.0	18.5	19.3
20	21.3	17.2	19.0	22.9	19.2	21.3	24.5	20.7	22.6	22.2	19.1	20.5
21	19.8	17.6	18.5	22.3	19.7	21.2	24.8	21.0	23.0	20.8	17.9	19.4
22	17.9	15.6	16.5	23.3	21.5	22.3	25.4	22.0	23.8	19.9	17.4	18.6
23	18.9	14.8	16.6	23.1	21.7	22.3	24.6	21.1	22.7	19.5	17.0	18.1
24	22.3	16.8	19.2	23.3	21.2	22.1	21.1	17.7	19.2	19.3	16.0	17.5
25	25.1	18.8	21.6	25.6	21.0	23.1	20.5	17.3	18.9	19.0	15.2	17.2
26	26.1	21.4	23.7	25.1	20.9	23.1	21.4	18.5	20.2	18.8	16.9	17.8
27	26.8	22.6	24.7	25.8	22.3	23.9	22.2	20.2	21.3	20.1	17.3	18.8
28	25.2	22.1	23.6	25.2	23.1	24.3	21.2	18.7	19.9	19.6	18.1	19.1
29	24.2	20.7	22.4	24.0	21.7	22.9	20.7	16.4	18.6	18.3	15.0	17.3
30	24.2	20.9	22.4	23.4	20.2	22.0	22.6	20.6	21.5	15.9	13.1	14.7
31	---	---	---	23.1	19.7	21.6	20.6	17.7	18.8	---	---	---
MONTH	26.8	13.1	18.3	27.2	19.2	22.5	26.5	16.4	22.4	22.2	13.1	18.3
YEAR	27.2	-0.5	10.4									

PAWTUXET RIVER BASIN

01115265 HEMLOCK BROOK AT KING ROAD NEAR CLAYVILLE, RI

LOCATION.--Lat 41°47'26", long 71°41'57", Providence County, Hydrologic Unit 01090004, on left bank 5 ft downstream from bridge on King Rd., and 1.2 mi northeast of Foster Center.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: February 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since February 2000.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 168 µS/cm, Sept. 2, 2002; minimum, 36 µS/cm, Mar. 20, 2003.

WATER TEMPERATURE: Maximum recorded, 28.2°C, July 4, 2002; minimum, -0.2°C, many days during winter periods in water years 2002 and 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 156 µS/cm, Oct. 2; minimum, 36 µS/cm, Mar. 20.

WATER TEMPERATURE: Maximum recorded, 26.4°C, July 6; minimum, -0.2°C, many days during winter period.

WATER-QUALITY DATA, OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	155	152	153	129	125	127	92	86	90	88	79	84
2	156	153	155	130	127	129	93	84	88	79	58	68
3	155	153	154	132	130	131	93	82	86	60	54	57
4	153	151	152	133	129	131	91	83	86	63	54	59
5	152	149	151	130	125	127	91	88	89	67	56	64
6	149	146	147	125	114	118	94	87	91	69	65	68
7	146	144	145	129	114	120	91	88	89	75	60	70
8	145	141	143	132	129	130	95	89	91	76	60	69
9	141	137	139	130	127	129	91	85	89	84	75	79
10	140	137	139	128	126	127	94	85	89	85	75	80
11	139	137	138	126	121	124	97	89	93	83	68	76
12	138	128	133	125	114	122	89	75	83	84	73	79
13	128	126	127	114	109	111	75	64	69	88	80	84
14	130	127	128	109	105	107	66	60	62	90	77	83
15	143	129	139	105	102	104	65	62	64	93	84	87
16	140	118	131	102	99	101	66	63	65	96	81	88
17	135	118	125	99	85	90	67	60	63	97	90	93
18	147	135	143	87	72	78	71	60	65	97	92	95
19	142	136	138	73	71	72	77	62	70	99	95	97
20	138	133	135	76	72	74	78	61	72	101	96	99
21	133	131	132	81	76	79	69	55	60	104	96	100
22	131	130	130	82	76	78	64	56	60	105	100	103
23	130	128	129	77	74	75	71	63	67	110	101	105
24	128	126	127	74	73	74	75	70	72	114	107	111
25	128	127	127	79	74	77	76	67	73	115	111	112
26	127	111	120	85	79	82	71	64	67	114	108	111
27	129	111	120	88	85	87	74	63	68	111	107	108
28	131	129	130	87	80	84	79	60	72	113	108	111
29	130	128	129	88	80	84	82	73	77	112	106	109
30	128	127	128	94	86	90	82	74	78	110	106	108
31	129	126	128	---	---	---	87	79	83	109	105	107
MONTH	156	111	136	133	71	102	97	55	76	115	54	89

PAWTUXET RIVER BASIN

01115265 HEMLOCK BROOK AT KING ROAD NEAR CLAYVILLE, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	107	102	104	95	91	93	84	74	79	101	98	100
2	105	96	101	98	76	89	90	84	88	101	97	100
3	99	94	96	83	76	79	96	90	93	101	98	100
4	97	87	93	84	80	82	101	96	98	105	101	102
5	92	87	89	87	82	84	102	100	101	108	104	106
6	92	87	89	88	82	84	103	99	101	109	107	108
7	95	89	91	91	83	86	102	97	102	112	109	111
8	97	91	94	99	90	92	97	79	87	113	109	110
9	96	88	92	95	84	90	79	66	72	111	109	110
10	98	92	94	93	75	85	67	57	63	113	109	111
11	95	90	93	88	75	82	68	56	60	114	109	111
12	97	89	93	92	85	88	91	68	81	113	108	111
13	96	89	93	87	84	85	82	78	79	118	112	115
14	98	88	93	90	80	85	91	82	86	117	112	114
15	100	95	98	96	84	90	98	87	92	115	112	114
16	101	98	99	101	85	92	87	79	83	116	115	115
17	102	98	100	85	65	78	84	80	82	119	114	117
18	103	99	101	68	59	64	84	81	83	120	115	118
19	100	97	99	66	48	61	89	83	86	123	119	121
20	98	96	97	69	36	58	95	89	93	126	122	124
21	98	95	98	74	67	70	100	95	98	126	124	125
22	99	79	93	70	65	67	102	89	97	128	126	127
23	83	71	78	76	70	73	91	80	87	128	126	127
24	74	70	71	82	76	79	80	72	76	127	122	126
25	78	72	75	87	82	84	75	72	73	122	114	116
26	83	77	80	91	87	89	81	70	75	116	78	102
27	88	83	85	94	90	92	95	81	89	81	60	66
28	92	85	90	94	92	93	90	84	86	74	61	66
29	---	---	---	97	81	93	95	90	92	83	74	78
30	---	---	---	87	73	81	100	94	97	90	82	86
31	---	---	---	74	71	72	---	---	---	96	85	91
MONTH	107	70	92	101	36	82	103	56	86	128	60	107

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	96	82	87	116	108	111	119	114	117	122	120	120
2	87	76	80	121	114	117	119	116	118	120	104	109
3	86	76	80	121	118	119	123	119	121	130	108	118
4	88	82	84	123	119	120	126	121	123	130	108	116
5	90	86	88	127	114	121	128	125	126	116	105	110
6	88	85	86	130	117	126	127	118	125	105	102	103
7	90	87	88	130	119	127	128	122	126	104	103	104
8	94	87	91	129	116	125	122	76	93	107	104	105
9	90	86	87	128	122	126	88	78	80	108	107	108
10	92	87	89	124	121	123	84	79	82	110	108	109
11	96	92	93	125	121	123	90	84	87	112	110	111
12	114	96	104	134	124	128	94	90	92	114	111	113
13	105	77	90	140	134	137	95	93	94	115	113	114
14	77	59	64	140	139	140	97	93	95	119	114	116
15	74	62	67	139	137	138	103	97	100	119	117	118
16	87	74	81	137	126	133	105	102	104	118	96	102
17	93	87	90	129	127	128	106	105	106	116	104	111
18	96	91	93	130	128	129	107	106	107	104	100	101
19	99	94	97	134	130	132	108	105	107	101	98	99
20	94	90	92	136	132	134	112	108	109	108	100	104
21	92	89	90	137	126	131	115	111	113	111	108	110
22	92	81	86	127	118	126	118	108	114	110	109	109
23	81	66	72	122	101	108	124	115	117	109	94	104
24	70	65	66	120	108	116	122	116	118	108	94	101
25	76	70	72	117	111	113	121	116	118	100	90	93
26	86	76	80	113	110	111	122	118	120	93	90	91
27	92	86	88	114	111	112	122	119	120	97	93	95
28	98	92	94	115	110	113	121	118	120	100	97	99
29	103	98	101	116	114	115	122	118	120	103	100	102
30	109	103	106	117	115	116	122	120	121	105	102	104
31	---	---	---	119	115	117	122	119	120	---	---	---
MONTH	114	59	86	140	101	123	128	76	110	130	90	107
YEAR	156	36	100									

PAWTUXET RIVER BASIN

01115265 HEMLOCK BROOK AT KING ROAD NEAR CLAYVILLE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.7	15.3	16.6	6.2	4.0	5.1	1.3	0.2	0.9	1.1	0.7	0.9
2	20.6	17.0	18.4	5.0	3.4	4.1	.9	.0	.5	1.1	.0	.5
3	19.2	17.2	18.7	4.4	2.9	3.6	.8	-.2	.2	.2	-.2	.0
4	17.2	15.8	16.3	4.4	2.8	3.7	.2	-.2	-.1	.0	-.2	-.1
5	20.6	16.3	18.4	5.0	3.3	4.3	.0	-.2	-.1	.3	-.2	.0
6	18.2	14.6	16.0	6.2	4.6	5.5	.2	-.2	.0	.1	-.1	.0
7	15.9	13.3	14.5	5.8	3.8	5.0	.0	-.2	-.1	.2	-.2	.0
8	14.4	11.5	12.8	5.8	3.4	4.6	.2	-.1	.0	.3	-.2	.0
9	12.6	10.4	11.6	7.4	5.2	6.3	.0	-.2	-.1	.8	.1	.4
10	13.5	11.2	12.2	10.4	7.0	8.7	.1	-.2	-.1	1.0	.0	.5
11	13.1	12.3	12.7	12.5	10.4	11.8	.1	-.2	.0	.2	-.2	-.1
12	13.7	13.1	13.4	12.1	10.5	11.3	.4	.0	.1	.2	-.2	-.1
13	14.3	13.3	13.7	10.5	9.1	9.8	.3	-.1	.0	.3	-.2	.0
14	14.1	11.0	12.8	9.1	7.6	8.2	.8	.1	.5	.0	-.2	-.2
15	11.5	9.6	10.5	8.7	7.2	7.9	2.5	.7	1.7	.0	-.2	-.2
16	11.5	9.9	10.5	8.0	6.4	7.3	2.4	1.3	2.0	.1	-.2	-.2
17	12.5	10.3	11.3	6.4	5.4	6.1	1.3	-.2	.4	.0	-.2	-.1
18	12.0	10.2	11.3	5.5	4.9	5.2	.2	-.2	-.1	-.1	-.2	-.2
19	10.7	8.7	9.9	5.1	4.2	4.8	.4	-.2	.1	-.1	-.2	-.1
20	11.2	9.5	10.3	5.7	4.3	5.0	4.2	.3	2.0	-.1	-.2	-.2
21	9.9	8.0	9.0	5.3	4.2	4.7	4.3	3.2	3.7	-.1	-.2	-.2
22	8.8	6.6	7.6	6.5	5.3	6.0	3.2	2.4	2.8	-.1	-.2	-.1
23	7.6	6.2	6.9	6.5	4.6	5.9	2.8	2.2	2.5	-.1	-.2	-.1
24	7.5	5.1	6.2	4.7	3.6	4.2	2.3	1.6	1.9	-.1	-.1	-.1
25	7.7	5.2	6.4	4.5	3.4	4.1	1.6	.4	1.2	-.1	-.2	-.1
26	7.9	6.3	7.0	5.0	4.1	4.5	.4	-.1	.1	-.1	-.2	-.1
27	8.6	6.9	7.7	4.4	1.8	3.0	.4	-.2	.0	-.1	-.2	-.1
28	7.9	6.5	7.1	1.8	.4	.9	.4	-.2	.0	-.1	-.2	-.1
29	6.5	5.2	5.9	.9	.0	.4	.6	-.1	.1	-.1	-.2	-.1
30	6.2	5.2	5.8	1.7	.6	1.1	.5	-.2	.1	-.1	-.2	-.1
31	6.2	4.2	5.1	---	---	---	.8	.2	.5	-.1	-.2	-.1
MONTH	20.6	4.2	11.2	12.5	0.0	5.4	4.3	-0.2	0.7	1.1	-0.2	0.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	5.6	3.1	4.5	14.2	12.9	13.4
2	-.1	-.2	-.1	-.1	-.2	-.1	6.9	4.0	5.7	17.0	12.8	14.9
3	.0	-.2	-.1	-.1	-.2	-.1	6.6	5.6	6.1	16.9	14.3	15.5
4	.0	-.2	-.1	-.1	-.2	-.1	5.6	3.6	4.6	16.6	12.6	14.6
5	.0	-.2	-.1	-.1	-.2	-.1	3.6	2.6	2.9	15.3	12.2	13.8
6	.0	-.2	-.1	-.1	-.2	-.1	5.6	2.0	3.8	13.2	12.3	12.7
7	-.1	-.2	-.2	-.1	-.2	-.1	4.6	2.2	3.5	17.4	12.3	14.9
8	-.1	-.2	-.2	.0	-.2	-.1	2.4	1.6	2.0	16.6	13.4	14.9
9	-.1	-.2	-.2	.2	-.2	-.1	2.5	2.0	2.3	15.8	12.6	14.1
10	-.1	-.2	-.1	3.8	-.2	-.1	6.2	1.6	3.9	17.6	12.6	15.1
11	-.1	-.2	-.1	.1	-.2	-.1	5.7	4.2	4.7	17.1	13.9	15.5
12	-.1	-.2	-.1	.4	-.2	.0	6.4	4.0	5.0	14.9	13.7	14.3
13	-.1	-.2	-.1	.0	-.2	-.1	9.2	5.1	7.0	14.3	12.7	13.6
14	-.1	-.2	-.1	.2	-.2	-.1	10.3	6.1	8.3	14.9	12.1	13.5
15	-.1	-.2	-.1	.4	-.2	.0	12.8	7.9	10.3	16.1	12.8	14.6
16	-.1	-.1	-.1	1.1	-.2	.3	15.8	11.6	13.5	14.5	12.5	13.7
17	-.1	-.2	-.1	1.0	-.1	.3	13.9	10.0	11.9	15.7	11.4	13.1
18	-.1	-.2	-.1	.9	-.1	.2	10.5	8.3	9.3	16.6	10.8	13.6
19	-.1	-.2	-.1	1.0	-.2	.2	12.0	7.9	9.7	18.4	12.2	15.3
20	-.1	-.1	-.1	.9	-.2	.3	13.2	8.8	10.9	19.5	13.9	16.6
21	-.1	-.2	-.1	2.0	.6	1.4	14.6	9.7	12.0	17.0	15.2	15.9
22	-.1	-.2	-.1	4.9	1.5	3.1	12.5	10.4	11.5	15.4	13.3	14.4
23	-.1	-.2	-.1	5.7	3.0	4.4	11.3	9.8	10.4	13.3	12.4	12.8
24	-.1	-.2	-.1	7.3	3.3	5.4	10.4	8.3	9.4	12.4	11.3	11.8
25	-.1	-.2	-.1	7.6	4.3	6.1	12.4	7.6	10	12.2	11.0	11.6
26	-.1	-.2	-.1	9.7	6.0	7.9	11.2	9.9	10.7	12.0	10.6	11.5
27	-.1	-.2	-.1	10.7	7.8	9.3	13.4	9.2	11.1	11.5	10.2	10.8
28	-.1	-.2	-.1	10.3	7.1	8.8	15.7	10.5	13.1	13.6	11.0	12.2
29	---	---	---	11.3	9.0	10.2	16.1	13.1	14.8	15.9	12.8	14.4
30	---	---	---	11.2	7.0	9.4	16.1	13.4	14.7	17.4	14.5	15.9
31	---	---	---	7.0	4.7	5.9	---	---	---	16.7	15.5	16.2
MONTH	0.0	-0.2	-0.1	11.3	-0.2	2.3	16.1	1.6	8.3	19.5	10.2	14.0

PAWTUXET RIVER BASIN

01115265 HEMLOCK BROOK AT KING ROAD NEAR CLAYVILLE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.1	14.0	15.1	23.7	20.2	21.9	21.7	20.4	21.0	19.1	17.4	17.8
2	15.5	12.7	14.1	24.0	20.0	21.9	23.8	21.1	22.2	17.4	16.4	16.9
3	15.9	13.3	14.8	22.2	20.7	21.5	24.7	22.2	23.2	18.0	16.6	17.2
4	15.6	14.1	14.7	24.5	20.5	22.3	25.0	22.8	23.7	18.5	17.2	17.9
5	14.2	13.6	13.9	26.2	22.3	24.0	24.7	23.0	23.7	19.9	18.1	18.9
6	17.4	13.4	15.3	26.4	23.1	24.5	25.8	22.7	23.9	19.5	17.3	18.5
7	17.0	15.4	16.1	25.9	22.0	23.9	24.7	22.5	23.5	19.5	16.7	18.1
8	15.7	14.9	15.3	26.3	22.8	24.4	23.1	21.2	21.9	19.2	17.5	18.3
9	15.9	14.7	15.2	24.7	20.8	22.6	22.5	21.4	22.0	18.2	16.2	17.2
10	18.6	14.8	16.6	22.1	19.1	20.6	23.5	22.0	22.7	17.6	14.2	15.8
11	18.5	16.7	17.7	20.7	19.8	20.1	24.6	22.6	23.4	18.4	15.2	16.6
12	18.2	17.7	18.1	23.4	19.5	21.2	25.1	23.1	24.0	18.6	16.1	17.1
13	17.7	15.3	16.4	23.7	20.4	21.9	25.0	23.3	24.0	18.2	16.6	17.3
14	16.7	14.7	15.7	21.8	20.0	20.9	25.2	22.3	23.7	20.7	17.7	18.8
15	19.1	15.9	17.4	23.8	19.3	21.2	25.0	22.5	23.8	20.9	18.8	19.7
16	18.2	16.6	17.2	21.5	20.0	20.6	25.1	22.4	23.7	20.7	19.3	19.9
17	18.3	15.4	16.7	23.0	19.5	21.1	23.9	21.4	22.7	19.6	17.6	18.6
18	17.1	15.8	16.2	21.9	19.8	21.0	22.1	20.4	21.3	18.6	17.1	17.9
19	17.1	15.7	16.3	23.4	20.1	21.6	23.4	20.2	21.7	18.9	17.9	18.4
20	19.0	16.2	17.5	23.6	19.3	21.3	24.2	20.9	22.4	20.9	18.7	19.7
21	18.1	16.8	17.3	22.7	20.2	21.3	24.7	20.9	22.7	20.2	18.4	19.4
22	16.8	14.9	15.8	23.3	20.9	21.8	25.8	22.0	23.7	19.3	17.8	18.6
23	16.7	14.4	15.5	22.1	20.9	21.5	24.2	21.6	22.9	18.6	17.6	18.1
24	19.3	16.0	17.5	22.4	21.2	21.7	21.6	18.5	19.9	18.3	16.4	17.3
25	21.6	18.0	19.8	23.6	21.0	22.2	21.6	17.7	19.3	17.6	15.7	16.6
26	23.4	20.2	21.8	23.8	20.9	22.4	22.3	18.6	20.3	17.8	16.6	17.1
27	24.7	21.9	23.3	24.5	21.7	23.0	23.5	20.0	21.5	18.8	17.0	17.8
28	23.8	21.8	22.8	25.1	22.5	23.6	21.8	18.9	20.4	18.7	18.0	18.3
29	23.3	20.9	21.9	24.3	21.4	22.6	21.7	17.0	19.3	18.4	16.5	17.5
30	23.3	20.7	21.9	23.9	20.5	22.0	22.6	20.7	21.4	16.6	14.8	15.6
31	---	---	---	23.7	19.4	21.4	21.2	18.1	19.5	---	---	---
MONTH	24.7	12.7	17.3	26.4	19.1	22.0	25.8	17.0	22.2	20.9	14.2	17.9
YEAR	26.4	-0.2	10.2									

PAWTUXET RIVER BASIN

01115275 BEAR TREE BROOK NEAR CLAYVILLE, RI

LOCATION.--Lat 41°46'57", long 71°40'31", Providence County, Hydrologic Unit 01090004, on left bank 5 ft downstream from bridge on King Road, and 1.2 mi northeast of Foster Center.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: January 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since January 2000.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 614 µS/cm, Mar. 2, 2003; minimum, 81 µS/cm, Dec. 20, 2002.

WATER TEMPERATURE: Maximum recorded, 20.7°C, June 27, 2003; minimum, -0.1°C, several days during winter periods in water years 2002 and 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 614 µS/cm, Mar. 2; minimum, 81 µS/cm, Dec. 20.

WATER TEMPERATURE: Maximum recorded, 20.7°C, June 27; minimum, -0.1°C, Jan. 18, Feb. 12, 13, 26.

WATER-QUALITY DATA, OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	348	330	337	299	292	295	227	200	214	184	128	173
2	355	339	346	306	295	301	233	227	230	167	118	141
3	355	341	347	309	301	305	236	228	233	181	156	175
4	351	338	343	309	291	302	246	229	236	169	141	154
5	346	331	339	295	284	288	244	228	237	185	169	179
6	352	342	348	290	203	236	240	235	238	189	185	187
7	348	336	344	279	225	255	245	216	233	193	189	192
8	345	330	337	286	279	282	244	241	243	195	192	194
9	342	334	338	288	281	284	245	225	239	200	185	191
10	344	334	339	294	274	289	251	224	242	196	188	191
11	343	316	334	274	204	237	252	204	244	203	196	199
12	316	223	262	254	178	231	204	135	150	209	201	205
13	260	237	251	178	137	151	201	168	192	213	202	208
14	289	238	262	224	169	200	196	106	128	215	198	206
15	308	289	300	245	224	236	180	128	158	219	203	210
16	309	149	234	250	204	242	187	180	184	222	205	213
17	260	158	217	204	98	122	200	185	195	221	206	216
18	285	260	274	169	120	139	209	192	200	213	196	205
19	300	285	292	194	169	186	213	196	205	217	205	212
20	304	296	300	203	194	199	204	81	143	230	210	220
21	306	300	302	209	203	207	161	100	137	224	209	214
22	307	303	305	206	128	151	173	161	168	221	212	217
23	306	275	293	194	162	179	180	173	176	226	215	221
24	297	279	292	204	194	202	187	180	184	222	217	220
25	303	296	301	211	204	209	188	147	176	235	221	228
26	303	162	234	216	209	212	179	149	166	248	230	239
27	254	170	220	217	211	214	190	179	186	243	219	234
28	277	254	267	229	217	225	196	190	193	233	223	228
29	286	277	283	231	221	228	199	196	198	258	233	248
30	295	286	288	221	199	214	204	199	202	260	230	249
31	296	291	293	---	---	---	204	184	195	261	254	256
MONTH	355	149	297	309	98	227	252	81	198	261	118	207

PAWTUXET RIVER BASIN

01115275 BEAR TREE BROOK NEAR CLAYVILLE, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	265	253	256	244	219	235	180	171	176	217	207	212
2	261	220	242	614	121	218	182	177	179	219	207	214
3	250	234	243	201	122	151	186	180	183	218	206	212
4	246	178	223	214	169	195	190	174	182	206	195	200
5	227	183	214	230	194	214	195	180	190	198	191	195
6	248	223	237	195	166	187	194	183	189	196	193	194
7	246	209	235	220	182	202	202	194	200	204	193	198
8	250	222	237	293	215	227	203	198	200	202	186	191
9	257	232	245	243	169	209	203	179	193	197	186	192
10	260	244	252	207	166	192	195	176	185	198	190	195
11	257	233	247	232	198	218	196	145	177	196	188	192
12	262	228	245	235	202	223	172	150	160	192	181	185
13	250	233	241	220	207	213	188	172	182	182	172	179
14	250	240	245	232	212	224	197	188	194	199	172	181
15	254	243	247	234	218	228	205	194	200	202	180	192
16	259	247	253	257	161	210	210	200	204	195	176	188
17	259	239	248	204	137	169	206	202	204	183	172	176
18	257	229	242	184	147	163	209	205	207	184	172	179
19	274	249	262	186	158	175	212	206	209	184	174	179
20	274	262	269	198	184	191	216	207	211	187	181	184
21	275	259	265	187	122	136	219	210	214	183	174	180
22	283	123	228	158	136	149	216	169	194	174	165	170
23	154	114	128	177	158	170	200	176	191	165	154	158
24	184	124	159	186	177	182	205	200	203	156	152	154
25	208	184	196	192	184	188	214	205	210	157	154	155
26	221	194	205	194	189	191	211	140	186	158	83	128
27	233	204	219	193	178	186	187	144	171	123	85	106
28	240	221	233	200	193	198	213	186	198	143	123	132
29	---	---	---	203	164	199	216	207	212	152	143	147
30	---	---	---	164	114	125	220	210	215	157	152	154
31	---	---	---	173	133	155	---	---	---	160	156	158
MONTH	283	114	233	614	114	191	220	140	194	219	83	177

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	156	111	128	261	248	253	312	237	283	350	316	337
2	148	118	133	283	256	260	275	246	258	316	173	207
3	155	148	151	266	248	258	293	275	282	273	216	250
4	155	145	152	263	247	252	293	286	289	277	182	220
5	145	129	134	317	258	265	294	287	291	257	211	235
6	158	138	146	284	266	273	312	290	296	280	257	267
7	159	129	153	327	275	282	313	253	308	292	278	282
8	146	127	135	299	277	285	253	84	134	293	286	291
9	223	146	181	292	251	276	226	168	202	291	287	289
10	239	222	229	276	256	265	246	226	234	296	284	289
11	241	235	238	274	248	259	264	246	253	301	292	296
12	238	199	229	271	249	258	268	256	262	304	298	301
13	199	154	167	288	269	279	272	242	264	306	299	303
14	202	171	183	286	277	282	271	236	249	301	297	298
15	224	202	211	287	277	282	289	269	276	302	299	301
16	231	222	226	291	228	266	296	280	286	302	160	205
17	237	226	231	262	229	245	293	268	276	272	224	251
18	236	186	208	270	260	264	277	221	261	284	272	277
19	219	193	206	279	265	269	288	257	272	290	227	254
20	234	219	225	298	274	282	305	285	293	273	237	255
21	254	169	230	299	288	296	314	298	304	284	273	277
22	204	143	161	296	166	284	316	302	309	288	281	284
23	194	151	173	242	100	176	327	305	313	288	209	263
24	216	193	203	213	183	196	333	316	323	259	208	235
25	229	215	220	258	213	235	332	320	326	276	259	268
26	237	226	230	282	256	265	336	322	329	280	276	278
27	239	230	233	292	272	280	346	326	334	283	278	279
28	246	235	239	312	280	292	349	334	340	290	283	286
29	252	241	247	309	270	284	349	334	341	284	272	275
30	253	246	249	302	284	290	347	324	337	282	276	280
31	---	---	---	311	294	300	350	338	343	---	---	---
MONTH	254	111	195	327	100	266	350	84	286	350	160	271
YEAR	614	81	229									

PAWTUXET RIVER BASIN

01115275 BEAR TREE BROOK NEAR CLAYVILLE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	15.3	13.0	14.2	7.5	5.1	6.3	5.1	2.6	3.9	4.7	3.9	4.4
2	16.3	14.5	15.3	6.3	4.3	5.2	4.3	2.2	3.2	3.9	2.6	3.1
3	15.8	14.0	15.3	5.5	3.8	4.6	4.2	1.0	2.4	3.0	.8	2.4
4	14.0	13.0	13.4	6.5	4.0	5.2	2.0	.6	1.2	2.8	.9	2.2
5	16.7	14.0	15.7	7.0	5.1	6.1	2.0	1.0	1.5	3.0	2.0	2.6
6	15.0	11.4	13.0	8.1	6.5	7.5	3.2	1.6	2.4	2.8	2.5	2.6
7	13.2	10.6	11.8	7.6	4.8	6.4	2.2	.1	1.3	2.8	1.7	2.4
8	12.1	9.8	10.8	7.6	4.6	6.1	3.5	1.8	2.6	3.4	1.6	2.5
9	10.8	8.5	9.7	9.5	7.2	8.4	3.0	.3	1.3	4.3	3.3	3.7
10	11.9	10.1	11.0	12.0	9.2	10.6	2.6	.2	1.5	4.0	2.1	3.4
11	12.3	11.1	11.6	13.5	12.0	12.7	3.7	.9	2.2	2.2	1.3	1.8
12	12.8	12.3	12.6	12.4	10.3	11.1	3.9	3.0	3.5	2.2	1.3	1.7
13	13.1	12.6	12.8	10.3	9.3	9.8	4.6	3.0	3.8	2.5	1.0	1.7
14	13.0	8.9	11.3	9.3	7.6	8.3	5.2	4.5	4.9	1.7	.5	1.0
15	9.8	7.2	8.6	9.8	7.8	8.7	5.0	4.2	4.6	1.5	.5	.9
16	12.0	9.0	10.4	8.9	7.2	8.0	4.5	3.5	4.0	1.5	.4	.9
17	11.9	10.5	11.2	7.8	6.9	7.5	3.5	1.0	2.4	2.0	.5	1.3
18	11.0	8.9	10.5	7.1	6.6	6.9	2.3	.5	1.3	.5	-.1	.1
19	10.8	7.4	9.1	7.2	5.6	6.5	3.6	.6	2.0	.7	.0	.2
20	10.8	9.2	10.1	7.5	5.9	6.8	7.2	3.6	5.4	1.5	.2	.8
21	9.3	7.5	8.4	7.9	5.3	6.5	6.3	4.1	5.0	.5	.0	.1
22	8.4	6.0	7.2	8.5	7.7	8.1	5.3	3.8	4.4	.0	.0	.0
23	8.0	6.6	7.2	8.4	5.5	7.0	4.8	4.2	4.5	.0	.0	.0
24	7.7	5.6	6.6	6.4	4.8	5.6	4.2	3.4	3.8	.1	.0	.0
25	7.9	5.7	6.9	7.1	5.1	6.2	4.0	2.3	3.4	.7	.0	.3
26	9.4	7.2	8.4	7.1	5.9	6.4	2.8	1.8	2.3	2.0	.4	1.2
27	9.7	8.1	8.9	5.9	3.5	4.4	2.8	1.8	2.2	1.6	.0	.8
28	8.8	6.8	8.0	3.8	2.0	2.6	2.9	1.6	2.2	.4	.0	.1
29	7.2	5.5	6.5	3.8	2.2	2.9	3.3	2.1	2.6	2.0	.4	1.3
30	7.2	6.3	6.7	5.6	3.8	4.8	3.0	1.7	2.4	2.5	.2	1.4
31	7.2	5.2	6.1	---	---	---	4.5	2.9	3.8	3.0	2.1	2.5
MONTH	16.7	5.2	10.3	13.5	2.0	6.9	7.2	0.1	3.0	4.7	-0.1	1.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.0	2.7	2.8	3.5	0.2	2.0	6.7	3.2	4.9	11.5	9.4	10.5
2	3.4	2.3	2.8	2.9	.9	2.1	8.5	4.4	6.4	16.0	10.8	13.1
3	3.9	2.1	2.9	1.6	.0	.6	6.7	5.7	6.2	14.4	10.6	12.3
4	3.9	2.0	3.1	2.0	.0	.9	5.7	4.1	4.9	14.2	8.2	11.2
5	2.8	.9	1.9	3.2	1.5	2.4	4.5	3.4	4.0	12.5	8.1	10.6
6	2.0	.5	1.2	2.4	.0	1.2	7.6	3.3	5.2	10.9	9.5	10.2
7	1.5	.0	.9	2.2	.0	.9	5.0	2.4	3.9	16.2	10.5	13.1
8	1.6	.0	.7	4.6	1.1	2.7	4.5	2.1	3.3	13.9	10.2	11.5
9	2.3	.2	1.1	4.9	.9	3.2	4.3	3.6	3.9	14.1	9.9	11.8
10	2.7	.7	1.7	2.6	.3	1.2	8.3	2.9	5.4	15.3	9.4	12.4
11	2.2	.2	1.0	3.1	.0	1.5	5.9	4.3	4.7	14.0	10.0	12.1
12	1.9	-.1	.7	5.2	1.8	3.2	7.6	4.6	5.9	12.1	10.2	11.3
13	.6	-.1	.1	2.9	1.1	2.2	10.1	5.1	7.3	12.0	10.0	11.1
14	.3	.0	.1	3.6	.6	1.9	10.6	4.6	7.5	12.7	9.6	11.2
15	.6	.0	.1	4.7	1.4	3.0	13.2	6.6	9.6	14.2	9.7	11.9
16	.2	.0	.1	6.6	2.1	3.8	15.2	9.4	11.8	11.5	10.0	10.8
17	.2	.0	.1	7.0	2.6	3.9	10.8	7.0	8.6	13.8	9.5	10.9
18	.9	.0	.2	6.7	2.6	4.1	9.7	5.6	7.5	14.8	7.7	11.1
19	2.2	.4	1.3	5.8	2.1	3.7	11.6	6.1	8.6	16.2	9.4	12.7
20	3.0	1.5	2.0	5.2	1.8	3.6	12.3	6.4	9.3	16.5	10.4	13.3
21	3.5	.8	2.1	6.0	3.7	4.7	13.2	6.7	9.9	13.5	12.2	12.9
22	2.9	1.1	2.2	8.3	4.6	6.2	10.9	8.5	9.0	12.8	11.2	12.0
23	1.3	.4	1.1	8.0	4.2	6.0	10.4	8.2	9.0	11.3	10.7	11.1
24	2.2	.1	1.1	9.1	3.8	6.2	9.8	6.8	8.2	10.7	10.1	10.4
25	2.2	.2	1.1	8.8	4.1	6.3	12.6	5.6	8.9	11.1	9.9	10.5
26	1.3	-.1	.4	10.8	5.6	8.0	10.2	8.8	9.1	10.9	10.0	10.6
27	1.9	.0	.7	10.3	6.2	8.1	12.8	8.0	10.1	11.6	9.8	10.6
28	2.5	.5	1.5	10.3	5.0	7.6	14.9	7.8	11.2	13.2	10.8	11.9
29	---	---	---	11.1	7.6	9.4	14.5	9.8	12.2	15.1	11.9	13.4
30	---	---	---	9.8	6.0	7.9	14.0	9.5	11.6	15.7	12.8	14.2
31	---	---	---	7.0	4.3	5.7	---	---	---	14.7	13.0	13.9
MONTH	3.9	-0.1	1.2	11.1	0.0	4.0	15.2	2.1	7.6	16.5	7.7	11.8

PAWTUXET RIVER BASIN

01115275 BEAR TREE BROOK NEAR CLAYVILLE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.9	12.4	13.3	18.2	15.8	17.2	17.4	16.0	16.4	14.5	13.7	14.1
2	14.4	11.3	12.8	18.5	15.6	17.2	18.2	16.6	17.3	15.2	14.2	14.8
3	14.8	11.7	13.4	17.7	16.6	17.2	18.5	17.3	17.9	15.1	14.3	14.7
4	14.0	12.8	13.1	19.4	16.6	17.8	18.6	17.6	18.0	16.7	15.0	15.9
5	12.8	12.4	12.6	20.3	17.8	19.0	18.2	17.6	17.9	16.4	15.5	16.0
6	15.9	12.2	13.9	20.1	17.9	19.0	18.8	17.3	17.9	15.9	14.1	15.0
7	15.3	13.8	14.2	19.4	16.8	18.3	18.0	17.1	17.6	15.3	13.2	14.4
8	14.1	13.3	13.7	19.8	17.6	18.7	20.1	17.5	19.1	15.3	14.1	14.8
9	14.3	13.2	13.7	19.1	16.6	17.6	19.2	17.7	18.4	14.2	12.5	13.5
10	16.3	13.3	14.7	17.0	14.9	16.1	19.2	18.2	18.7	13.6	10.5	12.2
11	16.3	14.2	15.4	16.4	15.9	16.1	19.1	18.0	18.6	14.7	12.2	13.4
12	15.9	15.2	15.5	18.0	15.6	16.7	18.9	17.8	18.3	14.6	13.2	13.8
13	15.2	13.6	14.3	18.2	16.4	17.3	18.9	17.8	18.2	14.7	13.6	14.2
14	15.9	13.2	14.3	17.1	15.6	16.4	18.9	17.3	18.1	15.9	14.5	15.1
15	17.6	14.8	16.0	17.6	15.3	16.5	18.6	17.2	18.0	16.3	15.2	15.6
16	16.2	14.3	15.0	17.1	15.8	16.4	18.6	17.2	18.0	17.6	15.6	16.8
17	15.8	13.4	14.5	17.9	15.7	16.8	18.1	16.6	17.3	16.3	14.0	14.9
18	15.0	13.6	14.3	17.3	15.8	16.7	17.6	15.8	16.4	15.2	13.7	14.4
19	15.2	14.0	14.6	17.7	16.0	16.9	17.5	15.9	16.7	16.3	14.6	15.6
20	16.6	14.3	15.3	17.6	15.0	16.4	17.9	16.6	17.2	16.8	15.8	16.3
21	15.6	14.1	14.8	17.5	15.8	16.7	18.1	16.3	17.2	16.2	14.5	15.3
22	14.4	13.3	13.8	19.0	16.8	17.3	19.0	17.0	17.9	15.0	13.8	14.5
23	16.2	13.0	14.3	19.4	17.1	18.2	18.1	16.1	17.3	17.2	13.8	14.8
24	18.2	15.0	16.5	18.8	17.3	18.0	16.1	13.6	14.7	15.4	13.5	14.3
25	19.4	16.3	17.8	18.6	16.9	17.8	16.1	13.6	14.7	14.9	12.7	13.8
26	20.1	17.4	18.8	18.3	16.5	17.6	16.6	14.9	15.8	14.9	14.0	14.3
27	20.7	18.1	19.4	19.0	17.2	18.0	17.6	15.9	16.6	15.6	14.3	14.9
28	19.9	17.2	18.3	18.7	17.3	18.0	16.5	14.6	15.7	15.5	15.1	15.3
29	18.2	16.3	17.2	17.9	16.4	17.1	16.3	12.8	14.7	15.2	12.8	14.2
30	18.6	16.5	17.5	17.5	15.9	16.7	17.4	16.0	16.6	13.0	11.4	12.2
31	---	---	---	17.3	14.8	16.1	16.2	14.2	15.0	---	---	---
MONTH	20.7	11.3	15.1	20.3	14.8	17.3	20.1	12.8	17.2	17.6	10.5	14.6
YEAR	20.7	-0.1	9.3									

PAWTUXET RIVER BASIN

01115280 CORK BROOK AT ROCKLAND SCITUATE RD NEAR CLAYVILLE, RI

LOCATION.--Lat 41°48'14", long 71°39'01", Providence County, Hydrologic Unit 01090004, on left bank 500 ft downstream from bridge on Rockland Scituate Rd., and 0.8 mi northeast of Crazy Corners.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: February 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since February 2000.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 347 µS/cm, Feb. 2, 2003; minimum, 59 µS/cm, July 31, 2002.

WATER TEMPERATURE: Maximum recorded, 24.9°C, Sept. 14, 2002; minimum, -0.3°C, Dec. 30, 2001, Jan. 7, 8, 2002.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 347 µS/cm, Feb. 2; minimum, 71 µS/cm, Aug. 8.

WATER TEMPERATURE: Maximum recorded, 21.9°C, Aug. 22; minimum, -0.2°C, many days during winter period.

WATER-QUALITY DATA, OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	173	168	171	158	154	156	123	117	122	131	112	126
2	168	164	167	161	156	159	122	114	118	121	98	110
3	164	157	161	162	158	160	130	105	115	119	95	113
4	157	150	153	161	155	158	111	106	108	123	94	108
5	158	150	154	157	153	155	112	104	107	124	115	120
6	155	148	150	154	144	149	120	106	113	126	121	124
7	148	145	147	155	148	150	114	106	110	125	112	120
8	147	136	141	155	149	152	123	110	118	128	112	122
9	136	132	135	150	148	149	121	106	111	132	127	131
10	135	133	134	153	149	151	112	108	110	133	121	131
11	136	129	132	156	146	151	187	108	116	126	112	119
12	176	134	151	156	133	149	131	106	113	126	111	117
13	179	174	177	137	129	132	134	113	121	126	111	118
14	186	171	175	137	133	135	129	96	108	120	110	114
15	171	167	169	141	137	139	113	105	109	115	102	110
16	168	148	159	140	133	139	125	113	114	116	111	114
17	164	156	160	134	91	105	115	102	111	114	112	113
18	164	158	162	106	100	102	116	100	108	120	110	114
19	164	157	160	110	106	108	123	105	115	114	106	111
20	164	162	163	114	110	111	135	77	108	113	109	111
21	162	160	161	114	112	113	99	90	96	115	110	113
22	160	159	160	113	98	101	101	99	100	113	109	111
23	162	158	160	108	101	104	104	101	103	113	105	109
24	165	160	162	111	108	109	108	104	106	105	100	103
25	161	157	159	113	110	111	110	98	106	103	99	101
26	157	140	148	113	111	112	109	98	104	103	100	101
27	152	144	149	127	112	114	113	106	109	105	100	102
28	153	151	152	117	108	114	116	106	111	107	102	105
29	154	152	153	120	111	115	118	111	115	103	99	101
30	157	154	155	122	118	120	119	109	115	101	99	100
31	158	155	156	---	---	---	138	117	122	102	100	100
MONTH	186	129	156	162	91	131	187	77	111	133	94	113

PAWTUXET RIVER BASIN

01115280 CORK BROOK AT ROCKLAND SCITUATE RD NEAR CLAYVILLE, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	121	102	104	155	137	147	146	140	143	150	143	147
2	347	106	138	234	111	146	144	138	141	150	146	148
3	120	115	117	142	121	130	144	138	141	149	144	147
4	132	113	121	146	138	143	150	139	146	151	144	147
5	131	124	128	224	146	163	181	150	154	150	143	146
6	131	123	128	160	140	150	158	150	154	146	143	144
7	131	126	128	157	141	148	168	154	157	149	144	147
8	130	126	128	187	157	170	165	148	158	---	---	---
9	130	127	129	189	155	175	165	160	163	---	---	---
10	165	128	132	175	148	160	162	154	159	---	---	---
11	149	128	132	182	158	169	162	144	156	148	142	144
12	131	127	128	196	172	183	156	144	152	145	142	144
13	130	126	128	184	158	171	159	153	156	145	143	144
14	132	124	128	185	155	169	158	153	155	146	140	143
15	128	123	126	191	165	180	159	153	155	152	140	147
16	129	123	126	200	162	181	159	152	155	143	139	141
17	127	122	123	178	145	162	153	148	150	145	138	141
18	124	121	122	170	140	155	152	149	150	145	137	141
19	122	120	121	155	139	146	154	148	150	157	138	143
20	122	117	120	162	133	144	154	147	150	157	140	144
21	124	117	121	146	122	133	155	147	150	148	140	142
22	128	95	117	138	129	133	149	136	144	146	141	144
23	117	110	113	138	132	136	147	144	145	148	142	144
24	134	116	125	144	137	140	150	144	148	146	141	144
25	149	134	140	144	140	141	159	150	154	145	142	144
26	149	140	144	145	141	143	154	127	145	144	99	128
27	150	140	145	148	140	145	156	131	145	134	114	130
28	152	142	145	150	145	148	161	153	157	138	133	136
29	---	---	---	153	137	150	158	154	156	141	138	139
30	---	---	---	137	118	129	154	149	152	144	140	142
31	---	---	---	143	137	139	---	---	---	143	137	142
MONTH	347	95	127	234	111	153	181	127	151	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	143	120	128	133	124	130	172	121	141	139	133	136
2	145	126	138	131	123	127	172	158	164	162	122	147
3	144	142	143	143	122	127	164	156	159	163	157	159
4	143	136	141	143	131	137	162	152	156	157	130	148
5	136	132	134	133	125	130	162	159	160	162	151	156
6	140	133	136	130	122	126	161	156	158	165	157	161
7	142	134	140	125	118	122	162	149	157	169	157	161
8	137	136	136	124	116	121	151	71	106	165	158	162
9	143	137	140	143	113	121	133	116	126	164	157	160
10	146	142	144	143	133	137	142	133	138	162	159	160
11	145	143	144	149	122	134	149	140	144	167	161	163
12	146	134	143	144	135	140	154	143	148	166	163	165
13	134	120	126	135	125	128	155	129	147	167	166	166
14	149	130	138	126	122	124	155	142	147	166	163	165
15	148	141	142	125	123	124	151	141	145	166	162	164
16	143	140	142	160	116	126	150	140	144	165	121	143
17	142	138	141	161	143	152	156	143	150	162	151	156
18	139	128	136	143	134	137	154	126	147	164	156	159
19	138	136	137	138	131	135	156	148	151	170	149	159
20	141	138	139	135	127	130	155	145	149	169	161	164
21	141	114	138	131	118	123	152	148	150	172	162	166
22	121	109	115	124	111	122	153	145	149	170	160	164
23	127	121	124	153	119	135	153	145	149	167	139	158
24	128	127	128	149	136	142	153	144	147	158	149	152
25	131	128	130	152	145	149	149	143	145	158	150	153
26	132	130	131	153	144	148	149	144	145	164	153	158
27	132	128	131	152	141	147	147	143	145	168	160	162
28	131	127	130	148	142	145	147	139	142	168	162	163
29	132	126	130	156	131	143	143	136	139	170	164	166
30	133	126	130	152	141	145	142	137	139	166	158	161
31	---	---	---	145	136	140	138	136	137	---	---	---
MONTH	149	109	135	161	111	134	172	71	146	172	121	159

PAWTUXET RIVER BASIN

01115280 CORK BROOK AT ROCKLAND SCITUATE RD NEAR CLAYVILLE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	16.6	14.3	15.5	6.3	4.7	5.6	3.7	1.1	2.7	3.5	2.7	3.1
2	18.0	16.1	17.0	5.6	3.7	4.5	2.7	.8	1.8	2.7	1.1	1.7
3	17.6	15.6	17.1	4.5	3.2	3.7	2.7	-.2	1.1	1.4	-.2	.8
4	15.6	14.3	14.7	4.9	3.0	4.0	.3	-.2	.0	1.1	-.2	.5
5	18.3	15.3	17.1	5.7	4.3	5.1	.1	-.1	.0	1.7	.5	1.1
6	16.6	13.0	14.8	7.1	5.3	6.3	1.1	.0	.5	1.4	.9	1.1
7	14.3	12.4	13.3	6.6	4.0	5.6	.4	-.2	.1	1.5	.1	.9
8	13.2	11.0	12.2	6.4	3.5	5.1	1.6	.1	.8	2.1	.1	1.1
9	11.3	9.7	10.7	8.4	6.2	7.4	1.1	-.2	.1	2.9	1.7	2.2
10	12.2	10.8	11.5	11.6	8.3	9.9	.2	-.2	.0	3.0	.5	1.9
11	12.7	11.6	12.0	13.4	11.6	12.8	1.1	-.1	.3	1.0	-.1	.4
12	13.2	12.7	13.0	12.5	10.1	11.2	3.1	.9	2.2	.9	-.2	.2
13	13.6	13.1	13.3	10.1	9.1	9.6	3.0	1.6	2.3	.9	-.2	.2
14	13.6	9.8	11.9	9.1	7.6	8.3	4.2	2.8	3.6	.2	-.2	-.2
15	9.9	8.2	9.2	9.7	7.6	8.5	3.8	2.9	3.3	.0	-.2	-.2
16	12.2	9.3	10.4	8.5	6.6	7.5	3.2	2.2	2.8	.0	-.2	-.2
17	12.1	10.8	11.5	7.3	6.0	6.8	2.2	.0	1.2	.0	-.2	-.2
18	11.3	9.2	10.7	6.4	5.7	5.9	1.2	-.2	.4	-.1	-.2	-.2
19	10.6	7.8	9.2	6.2	4.8	5.6	2.3	.0	1.1	-.1	-.2	-.2
20	10.6	9.5	10.3	7.2	4.9	6.0	7.1	2.3	4.6	-.1	-.2	-.2
21	9.5	8.1	8.7	7.0	4.8	5.9	5.4	3.6	4.5	-.1	-.2	-.2
22	8.1	6.3	7.3	7.8	6.8	7.4	4.4	3.2	3.6	-.1	-.2	-.2
23	7.0	6.3	6.6	7.6	4.7	6.3	4.1	3.1	3.5	-.1	-.2	-.1
24	7.0	5.4	6.2	5.7	4.0	4.8	3.4	2.5	2.9	-.1	-.2	-.1
25	7.1	5.4	6.3	6.1	3.9	5.1	3.0	.9	2.2	-.1	-.2	-.1
26	8.9	6.6	7.6	6.1	5.0	5.5	2.0	.9	1.4	-.1	-.2	-.1
27	9.3	8.1	8.7	5.0	2.3	3.3	1.9	.6	1.1	-.1	-.2	-.1
28	8.4	7.1	7.9	2.3	.6	1.4	1.9	.5	1.1	-.1	-.2	-.1
29	7.1	5.8	6.4	2.4	.7	1.4	2.4	.8	1.4	-.1	-.2	-.2
30	6.1	5.3	5.8	4.4	2.3	3.4	1.8	.4	1.1	-.1	-.2	-.1
31	6.1	4.5	5.3	---	---	---	3.3	1.5	2.5	-.1	-.2	-.1
MONTH	18.3	4.5	10.7	13.4	0.6	6.1	7.1	-0.2	1.7	3.5	-0.2	0.4

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	-0.1	-0.2	-0.1	1.0	-0.2	0.3	6.0	2.9	4.3	11.7	10.1	10.9
2	-.1	-.2	-.1	.9	.0	.4	7.9	3.9	5.8	16.9	10.9	13.5
3	-.1	-.2	-.1	.5	-.2	-.1	6.2	5.1	5.8	15.8	11.0	12.9
4	.0	-.2	-.1	.0	-.2	-.1	5.1	3.3	4.3	15.5	8.8	11.9
5	.1	-.2	.0	1.1	.0	.6	3.5	2.7	3.2	13.8	8.5	11.1
6	.2	-.2	-.1	.7	-.2	.1	7.0	2.3	4.2	11.4	9.6	10.5
7	.0	-.2	-.1	.0	-.2	-.1	3.8	1.3	3.1	17.5	10.8	13.8
8	.0	-.2	-.1	2.5	.0	1.0	3.6	.9	2.3	13.9	10.4	11.8
9	.1	-.2	.0	2.9	-.2	1.4	3.4	2.5	2.9	15.2	10.1	12.1
10	.3	-.1	.1	1.1	-.2	.1	7.6	1.8	4.3	16.2	9.6	12.8
11	.3	-.1	.1	1.0	-.2	.2	4.6	3.7	4.1	15.0	10.6	12.5
12	.1	-.1	-.1	3.1	.3	1.4	6.6	4.0	5.1	12.4	10.4	11.4
13	-.1	-.2	-.1	1.1	-.2	.6	9.1	4.8	6.6	12.3	10.2	11.3
14	-.1	-.2	-.1	2.0	-.2	.5	10.6	4.8	7.3	13.1	9.7	11.4
15	-.1	-.1	-.1	3.1	.0	1.3	13.5	6.6	9.6	13.9	10.2	12.1
16	-.1	-.2	-.1	4.7	.6	1.9	15.9	9.5	11.9	11.5	9.3	10.6
17	-.1	-.2	-.1	3.6	1.0	1.7	11.1	6.5	8.8	13.4	8.6	10.4
18	-.1	-.1	-.1	3.6	.9	1.8	10.3	5.4	7.4	14.4	7.1	10.7
19	-.1	-.1	-.1	3.6	.4	1.6	12.1	5.8	8.5	15.8	9.0	12.4
20	.0	-.1	-.1	3.2	.3	1.8	13.0	6.3	9.3	15.8	10.4	13.2
21	.0	-.1	-.1	3.6	2.1	2.9	14.1	6.6	10.0	13.2	11.5	12.3
22	.0	-.2	-.1	6.5	3.1	4.6	10.2	8.3	8.9	12.0	10.3	11.2
23	-.2	-.2	-.2	6.6	3.7	5.1	10.5	7.8	8.9	10.8	10.0	10.4
24	-.1	-.2	-.2	8.6	3.6	5.6	10.2	6.6	8.0	10.2	9.6	9.9
25	.4	-.2	-.1	8.7	3.8	5.8	13.2	5.3	8.9	10.8	9.5	10.1
26	-.1	-.2	-.2	10.7	5.1	7.6	9.3	8.6	9.0	10.6	9.8	10.2
27	-.1	-.2	-.2	10.7	6.2	8.1	13.0	8.0	10.1	11.0	9.6	10.2
28	.4	-.2	.0	11.1	5.4	7.9	15.6	8.8	11.9	12.5	10.5	11.5
29	---	---	---	11.3	7.6	9.6	16.0	10.6	13.0	14.1	11.6	12.8
30	---	---	---	10.2	5.9	8.1	15.6	10.5	12.6	14.7	12.3	13.5
31	---	---	---	6.4	4.0	5.2	---	---	---	13.9	12.7	13.4
MONTH	0.4	-0.2	-0.1	11.3	-0.2	2.8	16.0	0.9	7.3	17.5	7.1	11.7

PAWTUXET RIVER BASIN

01115280 CORK BROOK AT ROCKLAND SCITUATE RD NEAR CLAYVILLE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.3	12.4	12.8	18.3	16.1	17.3	18.7	17.7	18.0	16.3	15.6	16.0
2	13.6	11.5	12.6	18.4	15.8	17.2	19.7	18.0	18.7	15.9	15.2	15.6
3	13.9	11.8	13.0	17.6	16.7	17.1	20.4	19.0	19.6	16.5	15.4	15.9
4	13.4	12.3	12.7	19.1	16.5	17.7	20.8	19.7	20.2	17.5	16.1	16.9
5	12.5	11.9	12.2	20.6	17.9	19.1	20.5	19.7	20.1	18.3	17.2	17.7
6	14.8	12.2	13.5	20.4	18.7	19.6	21.0	19.5	20.2	17.6	16.0	16.8
7	14.2	13.2	13.6	19.7	17.8	18.9	20.4	19.5	20.0	17.4	15.0	16.3
8	13.8	13.0	13.4	20.4	18.4	19.4	20.3	19.2	19.8	17.4	15.9	16.8
9	14.0	13.2	13.5	19.9	16.9	18.4	20.7	19.7	20.2	15.9	14.2	15.2
10	15.5	13.2	14.3	17.8	15.7	16.9	21.3	20.3	20.7	15.2	12.1	13.8
11	15.7	13.8	14.8	17.3	16.7	16.9	21.5	20.3	20.9	16.6	14.1	15.3
12	15.1	14.5	14.9	19.0	16.5	17.7	21.1	20.2	20.7	16.4	15.2	15.8
13	14.5	13.8	14.1	19.1	17.2	18.2	21.4	20.2	20.6	16.7	15.4	16.0
14	15.2	13.4	14.2	18.2	16.5	17.2	21.5	19.8	20.6	18.2	16.7	17.4
15	16.6	14.6	15.5	18.2	16.0	17.2	21.5	19.8	20.7	18.8	17.7	18.2
16	15.8	13.8	14.6	17.6	16.6	17.1	21.6	19.8	20.6	19.0	17.8	18.5
17	15.0	12.8	13.8	18.6	16.5	17.6	20.8	18.7	19.7	17.9	16.4	17.2
18	13.9	13.1	13.5	18.0	16.7	17.5	19.0	17.9	18.5	17.2	15.8	16.5
19	14.8	13.7	14.2	18.7	17.0	17.8	19.9	17.9	18.9	18.3	16.6	17.5
20	16.0	14.2	15.0	18.3	15.9	17.3	20.4	18.6	19.5	19.3	17.9	18.5
21	14.9	13.9	14.4	18.6	16.8	17.7	20.8	18.8	19.9	18.5	16.6	17.5
22	14.0	13.5	13.7	19.5	18.4	18.9	21.9	19.6	20.7	17.1	15.5	16.4
23	15.2	13.4	14.2	19.2	18.2	18.8	21.1	18.6	20.0	17.9	15.8	16.7
24	17.1	14.6	15.8	19.4	18.6	19.0	18.6	16.2	17.0	17.0	15.3	16.2
25	18.5	16.1	17.3	20.1	18.3	19.1	17.8	15.6	16.7	17.0	14.7	15.8
26	19.1	17.3	18.2	20.1	17.9	19.1	18.9	17.1	18.1	17.2	16.1	16.6
27	19.7	17.7	18.7	21.0	18.8	19.9	19.9	18.3	19.0	17.9	16.1	17.0
28	19.0	17.2	17.9	20.6	19.4	20.1	18.9	16.6	17.9	17.8	17.4	17.6
29	18.1	16.2	17.1	19.4	18.0	18.7	18.1	14.9	16.7	17.5	14.6	16.1
30	18.6	16.4	17.4	19.4	17.5	18.4	19.8	18.1	18.9	14.6	13.1	13.8
31	---	---	---	18.7	16.3	17.7	18.6	16.0	16.9	---	---	---
MONTH	19.7	11.5	14.7	21.0	15.7	18.2	21.9	14.9	19.4	19.3	12.1	16.5
YEAR	21.9	-0.2	9.2									

PAWTUXET RIVER BASIN

01115297 WILBUR HOLLOW BROOK AT OLD PLAINFIELD PIKE NEAR CLAYVILLE, RI

LOCATION.--Lat 41°45'53", long 71°38'10", Providence County, Hydrologic Unit 01090004, on left bank 500 ft downstream from bridge on Old Plainfield Pike, and 2.2 mi southeast of Rockland.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 2000 to May 2001, October 2001 to current year.

WATER TEMPERATURE: January 2000 to May 2001, October 2001 to current year.

INSTRUMENTATION.--Specific conductance and water temperature water-quality monitor since January 2000.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 184 µS/cm, Sept. 17, 2002; minimum, 35 µS/cm, Dec. 16, 17, 2002

WATER TEMPERATURE: Maximum recorded, 30.1°C, July 4, 2002; minimum, -0.2°C, several days during winter period in water year 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 128 µS/cm, Aug. 28; minimum, 35 µS/cm, Dec. 16, 17.

WATER TEMPERATURE: Maximum recorded, 30.1°C, July 4; minimum, -0.2°C, several days during winter period.

WATER-QUALITY DATA, JANUARY TO SEPTEMBER 2000

SPECIFIC CONDUCTANCE (µ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	107	100	104	76	74	75	56	54	55	53	49	52
2	101	96	99	79	74	74	56	54	55	52	43	48
3	96	92	94	76	68	71	55	52	54	43	38	41
4	96	92	94	71	67	68	54	51	53	42	37	39
5	94	91	92	71	67	68	54	53	53	40	38	39
6	92	91	92	70	62	65	53	52	53	40	39	39
7	95	92	94	66	61	63	55	52	54	43	40	41
8	100	94	95	66	65	66	55	53	54	45	42	44
9	99	93	95	66	65	66	55	52	53	49	45	47
10	100	92	94	71	65	66	55	52	53	52	48	50
11	96	91	94	71	68	69	57	53	55	52	49	50
12	92	86	89	73	70	71	58	52	56	55	51	53
13	90	85	87	71	65	67	52	46	49	57	53	55
14	93	88	90	67	62	64	46	38	42	59	54	57
15	94	90	91	63	60	62	38	36	36	62	57	59
16	91	80	87	62	59	61	38	35	36	64	59	62
17	94	82	88	59	52	55	37	35	36	63	60	62
18	89	81	85	52	44	47	41	36	38	64	60	62
19	84	78	79	46	44	45	44	39	42	66	63	65
20	78	76	77	46	44	45	46	42	43	68	64	66
21	78	75	76	47	46	47	43	36	38	67	64	66
22	78	75	76	50	45	47	39	36	37	68	65	66
23	76	75	76	50	47	48	41	38	39	72	67	70
24	76	75	76	49	48	48	42	40	41	76	71	74
25	75	72	73	48	47	48	43	39	41	77	73	75
26	72	68	71	49	48	48	43	39	41	76	73	74
27	81	68	73	50	48	49	42	39	40	74	70	72
28	82	76	79	51	47	49	44	40	42	73	70	71
29	80	78	79	53	50	51	46	42	44	73	71	72
30	79	77	78	54	51	53	46	43	45	72	70	71
31	77	75	76	---	---	---	49	45	47	71	70	71
MONTH	107	68	86	79	44	59	58	35	46	77	37	58

PAWTUXET RIVER BASIN

01115297 WILBUR HOLLOW BROOK AT OLD PLAINFIELD PIKE NEAR CLAYVILLE, RI--Continued

SPECIFIC CONDUCTANCE (μ/CM AT 25°C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	70	69	70	55	51	53	46	43	45	62	58	59
2	71	69	70	54	52	53	49	44	47	62	59	61
3	74	67	71	55	43	48	51	48	49	62	58	60
4	67	64	66	47	43	45	56	50	54	60	57	58
5	66	58	64	50	45	47	56	54	55	59	56	58
6	63	57	60	52	50	51	58	54	56	60	57	58
7	61	59	59	52	50	51	57	54	55	64	59	62
8	62	60	61	54	51	53	55	50	53	64	64	64
9	63	61	62	57	52	54	59	55	57	66	64	65
10	64	62	64	55	48	52	62	55	59	66	64	65
11	64	63	63	53	48	50	61	53	56	66	64	65
12	65	63	64	53	49	50	62	50	55	66	63	64
13	65	63	65	50	48	49	51	46	48	65	63	64
14	66	65	66	50	48	49	53	48	50	64	60	62
15	68	66	67	52	49	50	58	50	54	64	62	63
16	69	67	67	55	50	52	61	56	58	65	64	64
17	69	69	69	51	44	48	61	56	58	66	63	64
18	70	69	70	44	38	40	58	55	56	67	64	65
19	69	67	68	40	37	39	61	57	59	68	65	66
20	68	66	67	43	38	40	67	61	63	70	67	68
21	68	66	67	51	43	47	67	65	66	69	67	68
22	69	66	67	44	41	43	72	62	66	69	67	68
23	66	47	58	43	40	42	73	54	64	71	69	69
24	47	41	44	46	42	44	54	50	53	72	69	71
25	44	41	42	48	46	47	58	51	54	70	65	68
26	46	42	45	54	48	50	68	56	58	66	57	63
27	50	46	48	56	51	53	71	50	59	61	42	46
28	52	49	51	56	52	54	54	48	51	47	42	44
29	---	---	---	59	55	57	57	53	54	50	44	47
30	---	---	---	66	45	56	61	56	57	51	46	48
31	---	---	---	46	41	43	---	---	---	48	46	47
MONTH	74	41	62	66	37	49	73	43	56	72	42	61

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	58	47	51	58	54	56	61	58	60	67	63	64
2	57	49	51	59	54	58	60	56	58	66	57	61
3	49	46	48	60	58	58	63	55	60	73	62	69
4	50	48	49	60	53	58	64	53	62	70	63	65
5	55	49	52	63	51	59	68	64	66	68	64	66
6	55	52	53	65	48	61	72	55	67	67	63	65
7	54	51	52	66	52	63	76	67	72	66	62	64
8	60	51	57	68	52	63	78	54	64	63	61	62
9	56	52	54	68	65	67	54	50	51	64	60	62
10	54	52	53	68	66	67	53	50	52	65	62	63
11	55	53	54	66	65	66	55	51	53	64	61	62
12	56	55	56	70	65	67	56	51	54	64	61	62
13	60	55	58	71	66	69	57	52	56	61	61	61
14	57	53	55	71	69	70	60	54	58	63	60	62
15	54	51	53	70	68	70	64	56	62	71	63	66
16	53	51	52	70	66	68	66	59	64	72	55	62
17	53	51	52	75	66	70	67	66	67	71	65	69
18	54	50	51	76	74	75	68	66	67	70	65	67
19	58	54	57	75	72	73	68	65	66	65	63	65
20	56	53	55	75	72	73	66	63	65	65	63	64
21	54	51	53	75	61	68	68	58	65	67	63	65
22	54	47	50	62	57	60	75	56	67	68	65	66
23	48	42	44	68	53	60	73	66	70	68	64	66
24	43	41	42	69	57	62	82	73	78	68	64	66
25	46	43	45	61	55	58	92	82	87	69	66	67
26	48	45	47	57	53	56	109	90	100	76	67	72
27	51	44	48	56	48	53	123	103	111	84	76	80
28	52	50	51	59	50	56	128	96	115	82	75	77
29	53	51	52	61	57	60	96	91	94	80	75	77
30	55	51	53	61	57	60	95	78	83	75	65	67
31	---	---	---	62	58	61	79	67	74	---	---	---
MONTH	60	41	52	76	48	63	128	50	70	84	55	66
YEAR	128	35	61									

PAWTUXET RIVER BASIN

01115297 WILBUR HOLLOW BROOK AT OLD PLAINFIELD PIKE NEAR CLAYVILLE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.8	14.9	17.0	6.5	4.6	5.4	2.1	1.4	1.8	1.4	0.8	1.1
2	21.6	16.8	18.9	5.6	4.1	4.7	1.4	.8	1.1	1.3	.5	.9
3	19.6	17.3	18.8	4.3	3.5	3.8	1.2	.6	.9	.6	.0	.4
4	17.3	16.1	16.5	3.8	3.3	3.5	.6	.3	.5	.1	-.1	.0
5	21.0	16.6	18.6	4.7	3.4	4.1	.5	.3	.4	.3	.0	.1
6	18.0	15.4	16.7	5.6	4.4	5.0	.3	.2	.2	.2	.0	.1
7	17.3	14.6	15.7	6.2	5.0	5.4	.5	.1	.3	.1	.0	.0
8	16.3	13.1	14.4	6.0	4.3	5.1	.5	.2	.3	.1	-.1	.0
9	14.0	11.6	12.8	7.3	4.9	6.1	.4	.1	.2	.5	.0	.2
10	14.8	12.1	13.3	10.6	7.0	8.6	.3	.1	.2	.9	.3	.5
11	13.6	12.9	13.2	13.0	10.6	11.9	.4	.1	.2	.4	.0	.2
12	13.5	13.1	13.3	12.2	11.0	11.7	.4	.1	.3	.4	.0	.2
13	14.2	13.3	13.7	11.1	9.1	9.8	.4	.0	.2	.4	.0	.2
14	14.7	11.9	13.3	9.1	7.7	8.3	.7	.2	.5	.3	-.1	.1
15	13.5	10.6	11.7	9.3	7.4	8.1	1.4	.7	1.0	.4	.0	.1
16	11.2	10.1	10.5	8.2	6.8	7.6	1.3	.8	1.1	.4	.0	.1
17	13.9	10.6	11.6	6.8	5.8	6.5	.8	.2	.5	.1	-.1	.0
18	13.0	10.5	11.5	6.0	5.3	5.6	.4	.0	.2	.1	-.1	.0
19	10.5	9.6	10.1	5.6	4.7	5.2	.5	.0	.3	.1	-.1	.0
20	11.9	9.3	10.3	5.6	4.7	5.3	2.7	.2	1.0	.1	-.1	.0
21	11.2	8.6	9.5	5.4	4.4	4.8	3.3	2.6	2.9	.1	-.1	.0
22	10.4	7.5	8.5	6.7	5.3	6.1	3.0	2.1	2.5	.1	-.1	-.1
23	8.0	6.6	7.2	6.7	4.8	6.1	2.8	2.2	2.4	.1	-.1	.0
24	8.0	5.9	6.6	4.8	3.6	4.2	2.3	1.7	2.0	.2	-.1	.0
25	7.9	5.5	6.2	4.4	3.8	4.1	1.8	.4	1.3	.2	-.1	.1
26	7.1	6.0	6.4	4.9	4.3	4.6	.6	.1	.3	.2	.0	.1
27	9.9	6.6	7.9	4.5	1.9	3.3	.5	.0	.2	.1	-.1	.0
28	8.9	6.9	7.6	2.2	1.4	1.7	.5	.0	.2	.2	-.1	.0
29	7.4	6.1	6.6	1.6	1.0	1.3	.6	.1	.4	.1	.0	.0
30	6.2	5.5	5.9	1.9	1.1	1.5	.6	.1	.4	.1	-.1	.0
31	6.9	4.9	5.5	---	---	---	.9	.4	.6	.1	.0	.0
MONTH	21.6	4.9	11.6	13.0	1.0	5.6	3.3	0.0	0.8	1.4	-0.1	0.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.1	0.0	0.0	0.2	-0.2	0.0	5.7	3.2	4.7	15.2	13.1	13.7
2	.2	.0	.0	.0	-.1	-.1	8.0	4.3	6.1	17.9	13.2	15.4
3	.5	-.1	.1	.1	-.2	-.1	7.7	6.0	6.7	17.1	14.2	15.8
4	.2	-.1	.0	.1	-.2	-.1	6.0	3.6	4.7	17.3	13.1	14.9
5	.4	-.1	.0	.0	-.1	-.1	3.6	2.6	2.9	15.1	12.6	13.9
6	.4	-.2	.1	-.1	-.2	-.1	6.5	2.5	4.2	13.7	12.3	12.7
7	.0	-.2	-.1	-.1	-.2	-.1	6.1	2.6	4.0	18.4	12.7	15.2
8	.0	-.2	-.1	.0	-.2	-.1	2.6	.7	1.6	17.4	13.4	15.2
9	.0	-.2	-.1	.2	-.2	.0	2.8	2.2	2.5	15.9	12.5	14.0
10	.0	-.1	-.1	.2	-.2	-.1	7.5	2.0	4.2	18.1	13.6	15.6
11	.0	-.1	-.1	.2	-.2	.0	7.3	4.3	5.3	17.6	14.6	15.9
12	.0	-.2	-.1	.3	-.1	.0	6.8	4.2	5.1	15.5	13.8	14.5
13	.0	-.2	-.1	-.1	-.2	-.1	10.0	5.5	7.5	14.6	13.3	14.0
14	.0	-.1	-.1	.0	-.2	-.1	10.6	6.4	8.7	14.8	12.8	13.9
15	.0	-.1	-.1	.1	-.2	-.1	13.9	8.4	11.0	17.2	13.5	15.0
16	.0	-.1	-.1	.5	-.1	.1	16.6	12.5	14.4	15.3	12.9	14.1
17	-.1	-.2	-.1	.4	-.1	.1	15.6	10.3	12.0	14.9	11.7	13.1
18	.0	-.1	-.1	.5	-.1	.1	10.3	7.2	8.7	16.8	11.6	13.8
19	.0	-.1	-.1	.9	-.1	.4	11.6	8.2	9.7	18.5	12.7	15.2
20	.0	-.1	-.1	1.1	.0	.6	13.0	9.5	11.2	20.8	14.4	16.8
21	.1	-.1	.0	2.3	1.1	1.7	14.4	10.5	12.5	16.6	15.4	15.9
22	.0	-.1	.0	4.8	2.2	3.4	13.3	10.0	11.7	15.5	13.6	14.5
23	-.1	-.2	-.1	5.3	3.3	4.5	11.2	9.3	10.2	13.6	12.3	12.8
24	.0	-.2	-.1	6.4	3.3	5.0	10.7	8.7	9.8	12.3	11.5	11.8
25	.1	-.2	-.1	7.3	4.6	6.1	12.7	8.2	10.5	12.3	11.1	11.6
26	.0	-.2	-.1	10.7	6.4	8.4	12.3	10.1	11.3	12.0	10.9	11.7
27	.1	-.2	-.1	10.9	8.5	9.9	14.1	9.1	11.3	12.0	10.7	11.3
28	.1	-.2	-.1	10.1	7.6	9.1	17.0	11.4	14.0	14.4	11.8	13.0
29	---	---	---	11.9	9.4	10.5	17.1	13.9	15.6	17.5	13.5	15.3
30	---	---	---	11.7	7.0	9.5	17.2	14.0	15.4	17.9	15.3	16.5
31	---	---	---	7.0	5.2	6.1	---	---	---	17.4	16.2	16.8
MONTH	0.5	-0.2	-0.1	11.9	-0.2	2.4	17.2	0.7	8.6	20.8	10.7	14.3

PAWTUXET RIVER BASIN

01115297 WILBUR HOLLOW BROOK AT OLD PLAINFIELD PIKE NEAR CLAYVILLE, RI--Continued

WATER TEMPERATURE (DEG. C), OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.7	14.7	15.8	25.6	20.3	22.3	21.6	20.2	20.9	19.2	18.0	18.5
2	16.2	13.5	14.8	26.2	19.8	22.2	25.3	21.1	22.7	18.0	16.4	17.1
3	17.4	14.3	15.6	22.9	20.1	21.4	26.2	22.3	23.6	18.4	16.2	17.0
4	15.8	14.9	15.4	26.6	20.3	22.7	26.8	22.9	24.2	18.6	17.3	18.0
5	15.0	14.4	14.7	27.4	21.7	24.2	25.2	23.0	23.9	20.8	18.3	19.4
6	18.4	14.4	16.2	28.2	22.9	24.9	27.3	22.7	24.4	20.8	17.9	19.1
7	17.1	16.3	16.7	27.6	22.1	24.4	25.8	22.5	23.8	20.9	17.2	18.8
8	16.7	15.8	16.2	27.8	22.4	24.7	23.0	20.9	22.0	20.5	17.5	18.8
9	17.3	15.9	16.3	24.5	21.2	22.7	22.9	22.1	22.5	18.8	16.6	17.7
10	20.2	15.7	17.5	23.5	19.8	21.3	24.8	22.5	23.4	19.2	15.2	16.9
11	20.2	17.1	18.5	20.6	19.6	19.9	25.8	22.9	24.0	19.2	15.1	16.9
12	19.2	18.2	18.7	25.2	19.3	21.7	25.9	23.1	24.1	19.9	16.0	17.5
13	18.6	16.3	17.4	25.8	20.1	22.4	25.7	23.1	23.9	18.5	16.6	17.5
14	17.5	15.8	16.6	22.7	20.2	21.2	25.9	22.5	23.9	22.0	17.6	19.3
15	20.3	17.5	18.8	25.5	19.6	21.9	26.1	22.3	23.8	22.3	18.9	20.3
16	19.5	17.6	18.5	21.4	20.0	20.7	26.1	22.0	23.8	20.9	19.3	20.0
17	20.8	16.5	17.9	24.4	19.4	21.2	23.6	21.5	22.4	20.3	17.8	18.9
18	17.1	16.2	16.6	23.9	19.7	21.2	22.9	20.5	21.5	19.5	17.5	18.4
19	18.1	16.5	17.3	24.5	20.1	21.9	24.7	19.7	21.6	19.7	18.1	18.8
20	20.2	17.1	18.4	25.0	19.7	21.9	24.7	19.9	22.0	22.4	18.7	20.2
21	18.6	17.3	17.9	23.4	19.9	21.4	26.1	20.5	22.6	21.1	18.4	19.7
22	17.3	15.3	16.2	23.5	20.6	21.7	27.1	21.4	23.8	20.8	17.9	18.9
23	17.5	14.8	15.9	22.9	21.1	21.8	25.4	21.3	23.0	18.8	17.6	18.1
24	20.8	17.5	18.9	23.0	21.6	22.1	22.7	19.1	20.6	21.1	16.9	18.2
25	23.4	19.7	21.4	24.7	21.4	22.7	22.5	18.0	19.6	20.0	16.0	17.5
26	25.6	21.8	23.3	25.2	21.3	22.9	24.0	18.3	20.7	19.5	16.5	17.6
27	26.8	22.9	24.6	26.5	21.9	23.6	24.9	19.6	21.8	20.9	17.1	18.4
28	24.9	22.5	23.6	26.9	22.6	24.2	23.6	19.4	21.1	19.6	18.2	18.8
29	25.1	21.0	22.4	25.5	21.8	23.2	23.0	18.2	20.5	19.8	16.8	18.0
30	25.7	20.6	22.3	25.6	20.5	22.4	23.9	20.4	21.6	18.7	15.4	16.7
31	---	---	---	25.4	19.8	21.8	22.7	18.6	20.3	---	---	---
MONTH	26.8	13.5	18.1	28.2	19.3	22.3	27.3	18.0	22.5	22.4	15.1	18.4
YEAR	28.2	-0.2	10.5									

PAWTUXET RIVER BASIN

01116000 SOUTH BRANCH PAWTUXET RIVER AT WASHINGTON, RI

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

DRAINAGE AREA.--62.8 mi^2 (revised).

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

REVISED RECORDS.--WDR-MA-RI-03-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 217.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Flat River Reservoir 2 mi upstream, usable capacity, 250,000,000 ft^3, and smaller reservoirs. Prior to May 1972, diversion from Carr Pond for municipal supply of Coventry, Warwick, and West Warwick. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--63 years, 130 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,980 ft^3/s, June 6, 1982, gage height, 5.30 ft; minimum, 5.3 ft^3/s, June 6, 1982; minimum daily, 2.8 ft^3/s, Aug. 27, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a discharge of 1,810 ft^3/s, by computation of flow over dam just upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 595 ft^3/s, Mar. 31, gage height, 3.01 ft; minimum, 34 ft^3/s, Feb. 7-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	90	160	248	176	96	501	226	191	118	66	39
2	93	90	160	269	174	127	393	222	245	109	71	73
3	91	90	164	263	162	144	333	205	226	103	70	85
4	90	90	186	289	52	200	325	189	189	106	71	103
5	90	89	187	315	39	205	297	175	217	106	73	109
6	88	94	187	311	36	210	284	166	237	100	72	97
7	88	90	184	287	35	207	262	164	214	91	69	83
8	83	89	182	270	35	201	257	160	216	83	196	71
9	60	88	180	260	34	205	252	159	210	77	323	62
10	58	88	180	257	34	205	261	153	188	76	279	57
11	58	93	181	252	46	200	282	145	162	89	205	53
12	67	94	200	248	79	196	370	144	147	113	158	48
13	67	112	192	245	80	197	410	142	188	111	132	46
14	63	106	215	245	80	194	356	139	247	97	115	45
15	60	101	213	241	80	194	305	135	259	86	101	44
16	77	100	208	240	80	196	269	131	215	83	89	57
17	83	152	201	240	81	203	240	127	175	92	83	68
18	73	168	197	234	86	210	227	125	168	87	82	70
19	66	174	194	232	83	233	206	122	196	83	85	70
20	62	166	213	229	83	240	134	115	187	75	86	71
21	59	161	227	225	83	318	138	51	167	69	79	66
22	58	171	218	222	98	426	167	50	294	67	72	60
23	60	168	221	215	136	389	234	78	393	86	68	56
24	60	164	245	212	120	320	248	104	362	132	57	55
25	59	161	255	209	109	273	221	119	278	162	51	52
26	68	160	267	205	101	247	229	156	219	144	47	49
27	69	162	260	199	98	236	363	319	182	116	45	48
28	67	160	253	195	96	221	373	335	156	94	41	47
29	90	160	248	190	---	210	301	261	138	80	40	47
30	93	160	245	184	---	340	251	205	127	70	40	47
31	91	---	245	180	---	569	---	168	---	63	39	---
TOTAL	2284	3791	6468	7411	2396	7412	8489	4990	6393	2968	3005	1878
MEAN	73.7	126	209	239	85.6	239	283	161	213	95.7	96.9	62.6
MAX	93	174	267	315	176	569	501	335	393	162	323	109
MIN	58	88	160	180	34	96	134	50	127	63	39	39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

MEAN	71.9	103	157	169	178	224	213	150	114	63.9	60.8	63.4
MAX	216	354	422	489	327	434	595	294	444	136	168	240
(WY)	1956	1956	1987	1979	1970	1983	1983	1948	1982	1998	1979	1954
MIN	28.5	28.7	34.5	35.9	45.7	69.2	68.2	55.6	39.2	26.8	13.7	25.5
(WY)	1942	1966	1966	1966	1966	2002	1966	1992	1957	1995	2002	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	32586		57485			
ANNUAL MEAN	89.3		157		130	
HIGHEST ANNUAL MEAN					202	1973
LOWEST ANNUAL MEAN					56.9	1966
HIGHEST DAILY MEAN	361	May 15	569	Mar 31	1680	Jun 7 1982
LOWEST DAILY MEAN	12	Jul 26	34	Feb 9	2.8	Aug 27 1944
ANNUAL SEVEN-DAY MINIMUM	13	Aug 9	37	Feb 5	9.3	Jun 23 1980
MAXIMUM PEAK FLOW			595	Mar 31	1980	Jun 6 1982
MAXIMUM PEAK STAGE			3.01	Mar 31	5.30	Jun 6 1982
INSTANTANEOUS LOW FLOW			34	Feb 7		
10 PERCENT EXCEEDS	185		268		261	
50 PERCENT EXCEEDS	82		153		100	
90 PERCENT EXCEEDS	15		58		29	

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 mi^2.

PERIOD OF RECORD.--Discharge: December 1939 to current year.
Water-quality records: Water years 1962–2002.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharge, which are 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 ft^3. 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. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--62 years (water years 1941–2003), 348 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,440 ft^3/s, June 7, 1982, gage height, 14.5 ft, from floodmark; minimum daily, 22 ft^3/s, Sept. 4, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,220 ft^3/s, Aug. 8, gage height, 7.55 ft, minimum, 80 ft^3/s, Sept. 1, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	165	303	429	326	217	784	605	659	253	205	91
2	157	162	286	690	297	501	618	620	798	241	186	475
3	156	160	277	546	269	612	514	559	707	250	164	265
4	153	156	284	817	212	373	512	482	598	247	174	342
5	173	163	294	635	171	387	477	435	671	235	161	289
6	191	210	295	563	146	404	460	405	649	220	173	215
7	174	186	289	504	145	358	424	410	592	217	167	196
8	160	169	286	457	138	343	416	424	665	194	994	171
9	137	167	280	438	134	405	442	412	601	195	796	148
10	123	170	276	428	131	408	460	375	538	200	658	132
11	125	193	278	407	127	345	563	337	459	292	534	113
12	165	215	562	382	155	342	824	337	423	251	405	103
13	162	438	407	366	166	360	710	316	611	226	307	101
14	151	300	709	356	163	333	585	298	744	209	296	104
15	133	239	597	346	163	323	496	293	718	192	236	99
16	349	239	465	339	158	348	450	284	598	216	212	162
17	415	760	412	329	160	401	411	288	467	220	209	147
18	231	697	356	320	176	410	385	274	498	195	206	162
19	179	453	339	317	170	381	377	251	537	191	190	239
20	162	361	530	314	169	372	317	263	502	174	186	181
21	157	319	765	303	172	644	294	224	431	165	175	160
22	155	499	506	304	314	645	397	190	839	164	161	143
23	159	413	425	294	755	578	451	227	1120	262	166	123
24	154	337	427	287	513	476	447	263	1040	413	150	119
25	148	341	507	286	314	417	436	271	795	340	132	115
26	237	329	619	278	264	381	594	434	645	287	129	112
27	214	314	483	276	240	369	1020	749	517	239	121	105
28	185	299	445	271	227	344	912	781	396	207	115	106
29	157	291	412	251	---	325	778	689	310	170	108	114
30	180	301	397	261	---	858	664	561	273	165	98	105
31	169	---	403	e259	---	940	---	493	---	142	89	---
TOTAL	5558	9046	12914	12053	6375	13600	16218	12550	18401	6972	7903	4937
MEAN	179	302	417	389	228	439	541	405	613	225	255	165
MAX	415	760	765	817	755	940	1020	781	1120	413	994	475
MIN	123	156	276	251	127	217	294	190	273	142	89	91

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	190	279	395	451	477	594	596	391	289	172	174	178
MAX	667	1024	1344	1238	1085	1291	1788	848	1237	442	438	698
(WY)	1956	1956	1973	1979	1970	1983	1983	1998	1982	1998	1955	1954
MIN	70.5	82.6	94.0	100	143	183	140	160	93.0	74.9	57.5	83.2
(WY)	1958	1966	1966	1966	2002	2002	1966	1965	1957	1957	2002	1981

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	75760		126527			
ANNUAL MEAN	208		347		348	
HIGHEST ANNUAL MEAN					595	1973
LOWEST ANNUAL MEAN					126	1966
HIGHEST DAILY MEAN	876	May 14	1120	Jun 23	5170	Jun 7 1982
LOWEST DAILY MEAN	40	Aug 25	89	Aug 31	22	Sep 4 1944
ANNUAL SEVEN-DAY MINIMUM	44	Aug 21	107	Aug 26	44	Aug 21 2002
MAXIMUM PEAK FLOW			1220	Aug 8	5440	Jun 7 1982
MAXIMUM PEAK STAGE			7.55	Aug 8	14.50	Jun 7 1982
INSTANTANEOUS LOW FLOW			80	Sep 1		
10 PERCENT EXCEEDS	392		644		740	
50 PERCENT EXCEEDS	162		298		240	
90 PERCENT EXCEEDS	68		148		101	

e Estimated

POTOWOMUT RIVER BASIN

01117000 HUNT RIVER NEAR EAST GREENWICH, RI

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

DRAINAGE AREA.--22.9 mi^2.

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

REVISED RECORDS.--WSP 1621: 1957–58; 1995.

GAGE.--Water-stage recorder. Datum of gage is 5.42 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--64 years, 46.8 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft^3/s, June 6, 1982, gage height, 3.73 ft, from rating curve extended above 440 ft^3/s; maximum gage height of 6.78 ft, Aug. 31, 1954 (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).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 397 ft^3/s, Aug. 8, gage height, 2.53 ft; minimum, not determined, minimum daily, 5.1 ft^3/s (estimated), Oct. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e6.0	e16	39	70	e37	48	144	82	82	45	49	14
2	e5.5	e14	34	125	e40	116	111	81	103	41	78	67
3	e5.1	e13	32	111	e42	220	95	74	69	44	53	58
4	e8.1	e14	29	200	e45	125	91	67	60	56	39	56
5	e7.2	e15	28	165	49	93	86	63	118	47	35	49
6	e6.3	e30	28	123	39	95	81	62	101	39	32	36
7	e9.6	29	27	103	37	77	74	62	78	35	30	29
8	e7.1	20	26	91	35	67	79	60	88	31	271	24
9	e6.3	15	26	87	32	87	87	59	72	30	213	21
10	e5.5	15	25	83	32	98	102	56	61	31	117	20
11	e5.8	17	25	75	32	74	115	53	52	71	74	18
12	e7.2	17	76	67	30	67	201	60	52	74	57	16
13	e7.0	53	72	62	27	75	161	56	80	51	51	16
14	e6.5	54	130	58	26	65	120	51	111	39	87	15
15	e6.6	39	138	54	25	59	100	48	93	35	63	15
16	e24	33	99	51	23	65	90	43	70	31	49	23
17	e15	123	79	51	26	90	81	43	57	30	47	20
18	e16	141	61	49	34	101	74	41	67	26	53	16
19	e14	97	54	e48	32	91	69	39	79	25	46	19
20	e10	67	85	e47	29	76	66	37	63	23	40	19
21	e8.7	52	164	e46	29	136	63	35	53	21	33	17
22	e7.6	73	117	e44	54	142	95	38	202	22	29	14
23	e7.1	67	87	e42	184	108	143	47	251	102	26	14
24	e6.7	51	72	e40	152	88	105	49	159	84	24	13
25	e6.4	42	81	e36	106	77	83	48	111	66	22	12
26	e20	37	157	e34	76	71	100	80	86	44	21	12
27	e45	38	116	e35	61	67	194	145	71	33	18	12
28	e43	36	88	e32	54	62	138	97	60	28	17	12
29	e32	33	75	e32	---	60	105	70	53	25	16	14
30	e23	37	67	e33	---	181	89	56	49	23	15	14
31	e19	---	65	e34	---	210	---	49	---	21	15	---
TOTAL	397.3	1288	2202	2128	1388	2991	3142	1851	2651	1273	1720	685
MEAN	12.8	42.9	71.0	68.6	49.6	96.5	105	59.7	88.4	41.1	55.5	22.8
MAX	45	141	164	200	184	220	201	145	251	102	271	67
MIN	5.1	13	25	32	23	48	63	35	49	21	15	12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	18.6	36.3	53.0	62.7	70.2	89.4	84.1	61.5	39.4	18.4	16.0	14.1
MAX	70.1	108	151	186	122	169	230	114	182	56.3	65.1	73.6
(WY)	1956	1956	1987	1979	1970	1983	1983	1989	1982	1984	1946	1954
MIN	1.76	8.05	5.53	7.19	17.5	30.0	25.2	23.8	10.8	5.23	3.06	1.59
(WY)	1969	1950	1966	1966	1944	1981	1966	1992	1957	1994	1965	1968

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	12631.5		21716.3			
ANNUAL MEAN	34.6		59.5		46.8	
HIGHEST ANNUAL MEAN					81.5	1984
LOWEST ANNUAL MEAN					17.7	1966
HIGHEST DAILY MEAN	236	May 14	271	Aug 8	861	Jun 6 1982
LOWEST DAILY MEAN	3.1	Sep 15	5.1	Oct 3	0.00	Oct 25 1947
ANNUAL SEVEN-DAY MINIMUM	3.5	Sep 9	6.4	Oct 9	0.10	Sep 13 1943
MAXIMUM PEAK FLOW			397	Aug 8	1020	Jun 6 1982
MAXIMUM PEAK STAGE			2.53	Aug 8	6.78	Aug 31 1954
INSTANTANEOUS LOW FLOW					0.00	Oct 24 1947
10 PERCENT EXCEEDS	75		115		101	
50 PERCENT EXCEEDS	26		51		34	
90 PERCENT EXCEEDS	5.4		15		6.2	

e Estimated

PAWCATUCK RIVER BASIN

01117350 CHIPUXET RIVER AT WEST KINGSTON, RI

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

DRAINAGE AREA.--9.59 mi^2 (revised).

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 National Geodetic Vertical Datum of 1929 (Rhode Island State Board of Public Roads benchmark).

REMARKS.--Records fair except for those estimated daily discharges, which are poor. Diversion upstream for supply of University of Rhode Island.

AVERAGE DISCHARGE.--31 years (water years 1959, 1974–2003), 21.2 ft^3/s.

EXTREMES FOR PERIOD OF RECORD SINCE 1973.--Maximum discharge, about 250 ft^3/s, June 6, 1982; minimum, 0.47 ft^3/s, Nov. 6, 7, 1994. Instantaneous maximum and minimum discharges not available prior to Sept. 14, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 130 ft^3/s, Aug. 10, gage height, 6.75 ft; minimum, 0.68 ft^3/s, Oct. 7–10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	20	18	35	19	33	66	47	30	21	10	16
2	6.3	15	16	40	20	41	57	43	30	19	12	21
3	5.7	12	16	43	20	77	50	40	32	18	11	25
4	4.0	8.7	15	57	21	81	45	e37	31	19	11	30
5	2.5	6.5	15	68	23	68	42	e35	37	28	11	32
6	.87	6.6	16	64	22	61	40	34	44	28	11	31
7	.80	5.4	16	55	22	54	37	33	44	25	11	28
8	.75	5.7	16	48	21	46	38	33	42	22	22	25
9	.69	13	15	44	21	44	38	32	39	18	70	25
10	.74	12	14	42	20	49	40	e31	35	16	111	25
11	.85	10	15	39	20	46	44	e31	32	14	70	23
12	3.4	9.2	21	36	19	42	59	e30	31	16	49	22
13	3.8	12	26	34	18	39	68	e30	31	26	38	22
14	2.7	13	35	31	17	37	62	29	33	26	34	22
15	2.1	13	44	30	17	35	53	29	34	22	31	21
16	1.8	15	45	28	17	34	48	28	33	19	28	21
17	1.7	26	40	28	19	36	42	26	31	16	28	20
18	1.8	33	34	26	20	38	38	25	30	13	34	18
19	1.9	33	30	25	19	40	36	25	31	11	53	16
20	3.2	30	32	24	18	38	35	24	31	9.6	63	15
21	3.2	25	40	23	18	45	33	24	30	7.8	53	13
22	1.6	27	43	22	21	54	36	23	32	6.7	42	11
23	1.3	25	40	21	37	54	46	23	38	8.0	35	10
24	1.3	23	35	20	60	48	53	23	40	10	30	7.4
25	1.1	21	35	19	63	43	49	24	38	12	27	3.6
26	22	20	45	19	52	39	50	26	34	13	24	3.4
27	56	19	52	19	42	37	63	33	31	14	22	6.8
28	38	18	48	18	36	34	67	39	27	15	20	6.2
29	28	17	41	18	---	32	61	38	25	14	18	2.2
30	23	18	37	18	---	46	53	34	23	12	17	4.2
31	21	---	35	19	---	65	---	30	---	9.8	16	---
TOTAL	249.20	512.1	930	1013	722	1436	1449	959	999	508.9	1012	525.8
MEAN	8.04	17.1	30.0	32.7	25.8	46.3	48.3	30.9	33.3	16.4	32.6	17.5
MAX	56	33	52	68	63	81	68	47	44	28	111	32
MIN	0.69	5.4	14	18	17	32	33	23	23	6.7	10	2.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2003, BY WATER YEAR (WY)

MEAN	9.16	14.4	21.6	27.0	28.9	36.3	35.5	27.2	21.6	12.9	11.0	9.22
MAX	29.1	43.4	59.4	64.2	48.4	64.0	85.4	47.6	70.4	35.3	32.6	32.4
(WY)	1990	1990	1987	1979	1998	1983	1983	1998	1982	1982	2003	1985
MIN	2.64	3.66	5.11	3.54	8.50	9.14	12.7	11.5	7.89	3.94	1.65	1.50
(WY)	2002	2002	1981	1981	2002	1981	1985	1981	1976	1976	1993	1993

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1959 - 2003	
ANNUAL TOTAL	5158.20		10316.00			
ANNUAL MEAN	14.1		28.3		21.2	
HIGHEST ANNUAL MEAN					32.8	1984
LOWEST ANNUAL MEAN					6.89	1981
HIGHEST DAILY MEAN	56	Oct 27	111	Aug 10	235	Jun 6 1982
LOWEST DAILY MEAN	0.69	Oct 9	0.69	Oct 9	0.51	Nov 6 1994
ANNUAL SEVEN-DAY MINIMUM	1.0	Oct 5	1.0	Oct 5	0.57	Nov 3 1994
MAXIMUM PEAK FLOW			130	Aug 10	250	Jun 6 1982
MAXIMUM PEAK STAGE			6.75	Aug 10	6.92	Apr 1 1997
INSTANTANEOUS LOW FLOW			0.68	Oct 7	0.47	Nov 6 1994
10 PERCENT EXCEEDS	30		49		43	
50 PERCENT EXCEEDS	12		26		17	
90 PERCENT EXCEEDS	3.2		7.3		5.2	

e Estimated

PAWCATUCK RIVER BASIN

011173545 QUEEN RIVER, 1,400 FT UPSTREAM OF WILLIAMS REYNOLD ROAD, AT EXETER, RI

LOCATION.--Lat 41°33'57", long 71°32'51", Washington County, Hydrologic Unit 01090005, on left bank 1,400 ft upstream of William Reynolds Road, 0.7 mi upstream from Fisherville Brook, and 0.9 mi south of Exeter.

DRAINAGE AREA.--3.78 mi^2 (revised).

PERIOD OF RECORD.--October 1999 to December 2001, July 2002 to September 2003.

REVISED RECORDS.--WDR MA-RI-00-1: (M); WDR MA-RI-03-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 155 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those greater than 100 ft^3/s and those for estimated daily discharge, which are poor. Flow occasionally affected by upstream withdrawals.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 277 ft^3/s, Mar. 22, 2001, gage height, 3.55 ft, minimum, no flow (upstream withdrawals), Nov. 13, 2001, Aug. 26, 27, 28, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 83 ft^3/s, Aug. 18, gage height, 2.83 ft, minimum, 1.4 ft^3/s, Oct. 16, minimum daily, 0.56 ft^3/s, Oct. 10 (estimated).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.3	2.8	7.5	15	5.9	7.0	20	14	13	6.0	4.9	3.0
2	e1.1	2.6	6.4	25	6.5	27	18	14	14	5.3	8.4	12
3	e.88	2.4	5.9	19	6.3	26	16	12	9.0	6.7	5.9	8.3
4	e.70	2.4	5.4	37	7.5	14	16	11	9.0	8.8	4.6	8.9
5	e.76	2.5	5.4	24	8.2	14	15	11	21	6.6	4.4	7.1
6	e.68	5.2	5.4	19	6.3	14	15	11	14	5.6	4.5	5.4
7	e.62	5.2	5.1	17	6.1	11	14	11	11	4.8	4.4	4.7
8	e.60	3.5	5.1	16	5.7	11	14	11	13	4.2	39	4.1
9	e.58	3.0	4.9	16	5.5	19	16	10	10	4.4	18	3.8
10	e.56	3.1	4.6	15	5.5	15	18	9.5	7.9	4.9	11	3.5
11	e.70	3.6	4.9	14	5.3	12	23	8.8	8.0	9.9	8.0	3.4
12	e1.0	3.9	16	13	5.1	12	33	9.9	8.4	9.0	6.9	2.9
13	e2.5	11	12	12	4.8	13	22	9.2	13	5.9	6.7	3.3
14	e2.3	8.5	25	11	4.6	11	17	8.4	21	5.0	7.9	3.3
15	e1.7	5.8	20	11	4.6	10	16	7.9	14	4.5	5.9	3.0
16	6.8	5.4	14	10	4.4	13	15	7.4	11	4.2	4.8	4.3
17	9.2	22	12	9.9	5.6	17	14	7.2	9.1	4.3	6.0	3.8
18	5.1	18	10	9.2	4.8	18	13	6.8	12	3.6	16	3.1
19	3.6	12	9.5	8.5	4.7	16	13	6.4	13	3.9	12	3.4
20	3.8	9.0	21	8.4	4.7	13	12	5.9	10	3.2	7.3	3.4
21	2.2	7.8	28	7.6	5.0	28	11	5.9	9.1	2.8	5.7	3.0
22	1.9	13	17	6.9	10	23	20	6.6	28	3.3	5.4	2.6
23	2.0	11	14	6.4	31	18	23	7.7	26	13	4.8	2.8
24	1.9	8.4	13	6.2	19	15	15	7.6	16	9.7	4.4	2.7
25	1.8	7.4	18	6.2	12	14	13	7.2	12	7.5	4.1	2.3
26	6.1	6.8	26	6.3	8.9	14	22	15	10	5.2	3.8	2.4
27	8.1	7.0	17	6.5	7.7	13	33	21	8.9	4.1	3.6	2.4
28	5.8	6.6	15	6.1	7.3	12	19	12	7.6	3.4	3.3	2.5
29	4.9	6.3	14	5.8	---	12	16	9.7	7.1	3.6	3.0	2.9
30	3.4	6.9	13	5.8	---	41	14	8.1	6.7	3.2	3.1	2.6
31	3.0	---	13	5.8	---	31	---	7.2	---	2.7	3.1	---
TOTAL	85.58	213.1	388.1	379.6	213.0	514.0	526	300.4	372.8	169.3	230.9	120.9
MEAN	2.76	7.10	12.5	12.2	7.61	16.6	17.5	9.69	12.4	5.46	7.45	4.03
MAX	9.2	22	28	37	31	41	33	21	28	13	39	12
MIN	0.56	2.4	4.6	5.8	4.4	7.0	11	5.9	6.7	2.7	3.0	2.3
CFSM	0.73	1.88	3.31	3.24	2.01	4.39	4.64	2.56	3.29	1.44	1.97	1.07
IN.	0.84	2.10	3.82	3.74	2.10	5.06	5.18	2.96	3.67	1.67	2.27	1.19
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)												
MEAN	2.40	4.32	8.76	8.77	9.35	19.9	17.9	9.64	11.7	3.76	3.19	2.23
MAX	4.47	7.10	12.5	12.2	10.2	26.9	18.5	11.5	13.5	5.46	7.45	4.03
(WY)	2000	2003	2003	2003	2000	2001	2000	2000	2001	2003	2003	2003
MIN	1.18	0.76	5.97	6.66	7.61	16.4	17.5	7.72	9.16	2.14	0.40	0.93
(WY)	2001	2002	2000	2001	2003	2000	2003	2001	2000	2000	2002	2002

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL TOTAL	3513.68			
ANNUAL MEAN	9.63		8.73	
HIGHEST ANNUAL MEAN			9.63	2003
LOWEST ANNUAL MEAN			8.09	2000
HIGHEST DAILY MEAN	41	Mar 30	126	Mar 22 2001
LOWEST DAILY MEAN	0.56	Oct 10	0.04	Aug 28 2002
ANNUAL SEVEN-DAY MINIMUM	0.64	Oct 4	0.09	Aug 22 2002
MAXIMUM PEAK FLOW	83	Aug 18	277	Mar 22 2001
MAXIMUM PEAK STAGE	2.83	Aug 18	3.55	Mar 22 2001
INSTANTANEOUS LOW FLOW	0.56	Oct 10	0.00	Nov 13 2001
ANNUAL RUNOFF (CFSM)	2.55		2.31	
ANNUAL RUNOFF (INCHES)	34.58		31.38	
10 PERCENT EXCEEDS	18		18	
50 PERCENT EXCEEDS	7.7		6.1	
90 PERCENT EXCEEDS	2.9		1.6	

e Estimated

PAWCATUCK RIVER BASIN

413550071342901 CLIMATOLOGICAL STATION NEAR EXETER, RI

LOCATION.--Lat 41°35'50", long 71°34'29", Washington County, Hydrologic Unit 01090005, 0.6 mi north of Fisherville Brook bridge, which is on Pardon Joslin Road, 2.3 mi northwest of Exeter.

PERIOD OF RECORD.--

AIR TEMPERATURE: October 2002 to September 2003.

PRECIPITATION: October 2002 to September 2003.

GAGE.--Air temperature and precipitation recorder. Elevation of gage is 265 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Air temperature records good. Precipitation records good except those for the period December through March, which are fair. Extremes for period of record are for those values reported.

EXTREMES FOR THE PERIOD OCTOBER 2002 TO SEPTEMBER 2003.--

AIR TEMPERATURE: Maximum recorded, 33.9 °C, June 25; minimum, -24.6°C, Feb. 14.

PRECIPITATION: Maximum daily total, 1.80 in., Aug. 8; minimum, 0.00 in., many days during the year.

TEMPERATURE, AIR, DEGREES CELSIUS WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	11.2	-2.5	4.8	2.8	-4.8	-0.2	6.8	2.4	4.7
2	---	---	---	5.4	-4.3	.0	3.6	-5.2	.5	3.6	-3.3	-1.5
3	---	---	---	6.1	-5.8	-1.2	-.5	-9.1	-5.9	2.0	-2.7	-.3
4	19.8	12.5	15.3	9.1	-3.7	2.7	-.6	-11.2	-6.0	2.2	-1.0	.2
5	27.5	14.8	22.2	8.9	.3	4.4	-3.1	-7.8	-5.1	.9	-5.7	-1.6
6	17.8	5.2	11.9	9.7	5.0	7.5	.8	-9.4	-3.5	-1.3	-3.2	-2.1
7	21.8	5.2	13.7	7.4	-2.8	2.9	3.1	-15.5	-4.3	-2.0	-8.1	-4.1
8	15.5	3.1	8.9	13.8	-2.4	7.3	6.8	-6.5	1.2	4.4	-6.0	-.5
9	14.4	1.7	8.3	16.3	3.3	11.2	-1.4	-11.8	-7.1	7.7	-2.2	3.0
10	16.3	7.1	11.4	19.6	12.5	15.9	4.4	-11.6	-4.1	5.3	-5.8	.3
11	15.3	9.9	12.8	18.9	14.4	17.9	5.1	-8.1	-.2	-.8	-6.9	-3.8
12	15.6	13.4	14.3	15.2	8.8	11.2	4.7	-1.1	3.0	1.3	-6.0	-2.9
13	15.6	13.6	14.5	8.8	6.4	7.6	7.0	-3.2	2.3	2.3	-8.6	-2.1
14	14.4	-1.0	8.6	11.2	-.7	5.6	8.6	3.5	6.5	-3.4	-9.0	-6.3
15	12.1	-2.1	4.8	15.2	4.8	9.7	7.1	1.5	4.1	-2.6	-11.4	-7.3
16	18.5	5.8	12.2	7.1	2.3	4.9	2.4	-2.4	.5	-2.1	-11.4	-6.6
17	18.0	5.8	10.8	7.9	1.9	5.0	-2.2	-11.6	-6.0	-1.1	-9.8	-4.8
18	13.4	-.1	8.5	8.2	1.4	4.5	5.1	-12.2	-5.7	-6.1	-17.9	-13.0
19	15.6	-1.2	8.5	6.6	-2.3	3.1	7.7	-10.4	.6	-3.6	-16.8	-10.3
20	14.4	3.4	9.5	13.9	-1.6	4.4	15.5	4.3	11.0	-.8	-9.7	-4.6
21	12.3	-.9	4.7	11.7	-2.1	5.0	7.9	.0	3.8	-6.3	-12.2	-9.6
22	12.2	-3.3	3.0	10.1	6.9	8.5	11.1	.7	5.6	-8.1	-14.2	-11.8
23	7.3	-1.9	1.8	7.6	-.1	3.5	5.6	.5	3.3	-9.3	-15.3	-12.6
24	10.9	-4.0	2.4	9.6	-.6	3.6	4.1	-2.1	1.0	-3.1	-14.6	-9.0
25	11.0	-2.0	4.5	9.9	-2.9	3.4	3.6	-1.6	1.1	-1.9	-13.5	-7.0
26	12.1	6.4	9.0	7.9	.1	4.2	2.3	-2.5	-.7	4.5	-7.5	-1.4
27	14.7	.2	7.7	3.0	-6.1	-.9	3.4	-6.5	-2.4	-1.6	-16.1	-8.1
28	10.8	-2.3	5.3	-1.6	-10.4	-6.3	2.0	-6.6	-3.1	-5.3	-19.4	-11.7
29	6.8	-3.6	1.6	3.4	-7.9	-1.2	4.8	-6.1	-.6	-1.1	-6.5	-3.9
30	5.2	-.9	3.1	8.9	1.1	5.8	2.4	-6.6	-2.1	1.4	-12.8	-4.3
31	10.0	-2.2	2.3	---	---	---	9.5	-1.1	4.6	2.9	-1.6	.7
MONTH	---	---	---	19.6	-10.4	5.2	15.5	-15.5	-0.3	7.7	-19.4	-4.6

PAWCATUCK RIVER BASIN

413550071342901 CLIMATOLOGICAL STATION NEAR EXETER, RI--Continued

TEMPERATURE, AIR, DEGREES CELSIUS WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.4	0.1	0.8	4.5	-12.2	-2.4	4.8	-4.3	0.2	14.6	4.4	10.3
2	5.0	.9	2.7	7.6	.2	2.9	12.9	-.8	5.3	21.6	9.3	16.1
3	8.8	1.1	3.6	2.2	-13.2	-7.5	7.1	1.1	4.2	17.3	3.2	11.0
4	11.1	.9	5.0	1.2	-18.2	-6.7	2.5	-.3	.9	17.6	-1.4	8.3
5	2.8	-5.8	-.6	7.3	-2.7	3.7	2.5	-1.1	.8	17.0	-1.6	8.7
6	-.4	-11.6	-5.0	5.3	-9.6	-2.4	5.8	-2.5	1.7	13.1	6.2	10.2
7	-2.5	-6.1	-3.7	-1.4	-17.9	-8.1	1.8	-2.4	-.7	24.4	11.8	16.6
8	-.9	-12.8	-6.5	9.0	-5.1	1.6	1.8	-2.0	-.1	13.7	7.8	9.8
9	2.9	-11.0	-3.8	11.3	-6.9	3.9	2.9	.2	1.3	19.8	7.6	12.6
10	3.0	-7.4	-2.5	-3.5	-12.3	-7.4	10.6	-.7	4.1	22.4	2.4	12.9
11	-1.1	-11.0	-7.2	1.0	-15.4	-5.3	5.5	.1	3.4	16.6	5.3	10.7
12	.5	-14.8	-7.1	10.1	-1.0	3.5	15.9	4.6	7.9	15.8	7.3	10.3
13	-7.2	-21.8	-13.8	3.3	-2.8	-.7	13.9	-.9	7.5	15.9	5.6	11.5
14	-5.1	-24.6	-14.6	-.1	-9.0	-4.9	12.9	-3.7	5.0	18.3	6.8	12.9
15	-7.8	-17.7	-12.0	6.5	-6.7	1.0	22.0	5.8	14.1	18.9	7.1	13.0
16	-9.3	-16.3	-12.8	17.0	-2.1	7.4	30.2	5.8	17.4	11.1	6.3	9.0
17	-3.1	-9.3	-6.0	21.5	-.2	10.1	5.8	-1.4	2.4	15.3	.6	8.9
18	-1.7	-7.6	-4.3	14.7	-1.8	5.6	10.0	-1.8	3.7	21.2	-2.3	9.6
19	5.3	-11.9	-2.3	4.6	-5.1	.5	14.3	-.5	6.8	26.9	.3	14.7
20	10.5	-4.1	2.7	8.3	-6.4	1.7	17.6	.4	9.1	26.4	3.1	15.0
21	13.4	-5.4	3.3	13.6	8.3	11.4	15.6	-.7	8.3	20.8	6.8	13.4
22	3.8	.8	2.6	18.0	6.8	12.6	8.9	6.3	7.6	12.4	8.6	10.9
23	7.4	-3.1	2.8	11.9	-1.8	6.1	11.5	4.0	8.3	11.9	8.6	10.1
24	2.2	-6.5	-2.0	14.0	-2.5	5.0	10.6	2.2	6.1	10.6	8.1	9.2
25	-2.7	-11.2	-5.1	8.6	-.3	3.4	15.9	-2.9	7.6	14.1	8.8	11.3
26	-6.0	-17.7	-11.6	17.4	5.2	10.3	11.9	8.7	10.2	11.0	8.1	10.1
27	-.4	-18.2	-8.4	15.7	.2	8.4	19.4	5.8	11.2	15.9	8.5	12.0
28	-.2	-8.3	-3.5	15.7	-1.9	7.0	23.2	1.7	13.2	19.2	8.4	13.9
29	---	---	---	16.8	8.5	13.4	27.2	8.5	16.7	23.2	11.4	16.7
30	---	---	---	13.3	.9	6.8	17.6	4.4	11.3	25.6	9.0	17.4
31	---	---	---	4.1	-3.6	.7	---	---	---	22.6	9.7	15.7
MONTH	13.4	-24.6	-3.9	21.5	-18.2	2.6	30.2	-4.3	6.5	26.9	-2.3	12.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.5	12.0	14.6	27.3	12.4	20.5	25.1	18.9	21.8	19.8	9.9	15.2
2	21.7	8.7	15.2	29.1	12.2	21.0	29.3	22.6	24.9	17.7	13.3	15.5
3	22.5	4.9	14.9	23.5	15.4	19.6	29.5	23.1	25.4	20.9	14.9	17.2
4	14.6	10.9	13.0	29.9	19.1	23.4	26.0	23.3	24.4	23.6	17.2	21.1
5	16.7	12.3	14.5	33.0	21.2	26.3	25.8	22.2	23.6	25.1	14.5	20.6
6	26.0	12.0	18.4	31.3	18.8	25.6	27.9	20.8	23.9	24.6	11.3	17.4
7	19.2	10.6	14.8	30.5	15.6	23.2	26.6	20.2	23.2	26.2	9.8	17.8
8	19.8	14.1	16.4	31.0	20.7	25.7	27.0	21.3	23.5	22.6	11.0	17.2
9	20.4	13.3	15.5	25.8	15.7	20.2	27.0	21.9	23.9	19.6	7.1	13.5
10	26.4	11.8	18.9	25.1	11.6	18.4	27.9	23.2	25.1	23.1	3.3	12.8
11	23.8	10.5	17.4	23.2	18.0	20.0	28.8	21.8	24.6	24.8	8.8	16.2
12	22.3	16.2	19.1	27.1	18.1	22.4	28.9	22.0	24.7	22.1	13.2	16.6
13	16.2	13.9	14.8	28.4	16.0	22.6	29.3	21.9	25.0	22.6	14.2	18.9
14	26.1	14.1	19.0	24.4	13.9	18.7	30.2	19.3	24.6	26.6	19.4	22.2
15	24.3	13.5	19.7	26.9	15.4	20.6	29.7	18.0	23.7	24.7	18.7	21.1
16	18.4	7.6	13.8	22.9	16.0	20.4	30.5	18.0	24.7	26.3	13.7	21.4
17	19.5	7.6	13.7	28.1	16.3	22.1	22.9	17.7	20.3	24.2	9.2	16.1
18	18.1	9.1	14.4	28.3	13.4	21.2	25.0	16.3	19.7	23.0	11.8	18.0
19	22.7	16.2	18.7	27.5	16.3	21.8	28.7	14.8	21.7	24.0	17.7	21.7
20	23.1	12.9	19.0	28.4	11.5	20.3	30.5	18.1	23.8	28.3	17.3	22.6
21	20.1	11.0	15.6	25.8	14.5	21.2	30.8	16.9	23.9	23.7	12.6	17.8
22	15.5	13.7	14.4	25.6	21.1	23.3	31.2	21.3	25.3	22.8	11.1	16.5
23	25.3	13.8	18.4	25.8	22.3	23.6	27.5	15.8	21.7	22.7	12.4	18.5
24	29.1	13.8	21.6	25.4	21.1	22.7	22.8	7.0	15.3	23.0	9.3	15.5
25	33.9	13.6	24.4	28.8	18.8	23.2	25.9	10.7	19.0	23.4	7.6	15.3
26	32.3	18.6	25.6	29.5	15.3	23.2	27.7	15.4	21.2	23.9	12.6	17.7
27	32.6	18.8	25.9	30.3	20.3	25.3	29.8	18.0	23.3	25.4	12.9	19.1
28	27.0	15.4	21.6	28.4	17.3	24.0	25.4	11.3	19.0	21.5	17.8	19.9
29	26.0	13.4	19.4	25.2	16.1	19.8	25.4	8.4	18.5	21.0	8.4	14.9
30	29.4	18.6	23.6	26.5	13.0	19.5	28.9	19.3	24.0	18.4	4.9	11.1
31	---	---	---	25.7	10.6	18.9	22.1	10.5	16.6	---	---	---
MONTH	33.9	4.9	17.9	33.0	10.6	21.9	31.2	7.0	22.6	28.3	3.3	17.6

PAWCATUCK RIVER BASIN

413550071342901 CLIMATOLOGICAL STATION NEAR EXETER, RI--Continued

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0.00	0.01	0.67	0.02	0.00	0.00	0.15	0.94	0.00	0.54	0.18
2	---	.00	.00	.30	.18	1.51	.00	.00	.00	.00	.43	1.35
3	---	.00	.00	.88	.06	.01	.03	.00	.00	.46	.00	.01
4	.00	.06	.01	.34	.22	.01	.06	.00	.50	.00	.04	.39
5	.03	.01	.13	.04	.03	.19	.05	.00	.63	.02	.14	.00
6	.00	.76	.14	.09	.00	.80	.00	.10	.01	.00	.00	.01
7	.00	.00	.06	.05	.95	.00	.00	.01	.37	.00	.59	.00
8	.00	.00	.03	.11	.06	.00	.32	.11	.00	.00	1.80	.00
9	.00	.00	.00	.04	.00	.00	.32	.01	.00	.11	.02	.00
10	.00	.20	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00
11	.39	.03	.36	.01	.00	.00	.91	.19	.00	.63	.00	.00
12	.88	.69	.36	.00	.00	.00	.22	.06	.22	.01	.00	.00
13	.21	.73	.22	.00	.00	.00	.00	.00	.56	.00	.34	.00
14	.00	.01	1.00	.00	.00	.00	.00	.01	.58	.00	.00	.04
15	.00	.00	.08	.00	.00	.00	.00	.00	.01	.00	.00	.00
16	2.05	.75	.05	.00	.00	.00	.00	.00	.00	.03	.03	.32
17	.00	1.53	.04	.00	.81	.00	.00	.00	.00	.00	.30	.00
18	.01	.08	.08	.00	.14	.00	.00	.00	.61	.06	.57	.00
19	.00	.00	.00	.00	.06	.00	.00	.00	.00	.03	.00	.16
20	.00	.00	1.40	.00	.05	.03	.00	.00	.00	.00	.00	.00
21	.00	.01	.03	.00	.00	.78	.00	.12	.59	.00	.00	.00
22	.00	.68	.00	.00	1.17	.09	1.05	.11	.60	1.01	.01	.00
23	.13	.00	.00	.00	.59	.00	.01	.21	.08	.28	.00	.03
24	.01	.00	.00	.00	.01	.00	.00	.09	.00	.47	.00	.00
25	.00	.00	.98	.00	.04	.00	.00	.03	.00	.00	.00	.00
26	1.28	.00	.20	.00	.00	.00	1.55	1.58	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12
29	.00	.15	.00	.00	---	.62	.00	.00	.00	.16	.00	.11
30	.00	.10	.00	.00	---	1.49	.00	.00	.00	.00	.00	.00
31	.00	---	.06	.00	---	.59	---	.14	---	.00	.00	---
TOTAL	---	5.79	5.24	2.53	4.39	6.17	4.52	2.92	5.70	3.27	4.83	2.72
MAX	---	1.53	1.40	0.88	1.17	1.51	1.55	1.58	0.94	1.01	1.80	1.35

PAWCATUCK RIVER BASIN

01117370 QUEEN RIVER AT LIBERTY ROAD AT LIBERTY, RI

LOCATION.--Lat 41°32'20", long 71°34'09", Washington County, Hydrologic Unit 01090005, on left bank 2ft downstream from bridge on Liberty Road, at Liberty, RI.

DRAINAGE AREA.--19.6 mi^2 (revised).

PERIOD OF RECORD.--Discharge: October 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for discharges greater than 500 ft^3/s, which are poor.

AVERAGE DISCHARGE.--5 years, 35.1 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 779 ft^3/s, Mar. 22, 2001, gage height, 5.55 ft^3/s; minumum, 1.6 ft^3/s, Aug. 4, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 211 ft^3/s, Mar. 3, gage height, 3.77 ft; maximum gage height, 3.87 ft (backwater from ice), Mar. 3, minimum, 4.2 ft^3/s, Oct. 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	12	37	69	36	39	118	68	52	31	22	17
2	7.0	11	33	107	38	71	94	69	68	29	35	42
3	5.6	9.9	32	101	37	e169	85	62	46	32	33	44
4	5.4	10	29	153	40	e101	82	56	43	43	25	40
5	5.8	10	28	144	44	74	79	53	87	34	23	37
6	4.9	20	28	110	37	76	75	51	76	31	23	29
7	5.9	26	27	97	36	64	69	53	55	28	22	25
8	5.6	19	26	89	35	58	74	53	63	26	111	22
9	4.9	15	26	85	33	72	77	50	53	25	119	21
10	5.2	15	25	83	33	82	91	48	47	28	60	20
11	8.0	20	25	76	33	62	98	44	41	42	41	19
12	18	19	57	69	31	59	147	47	40	54	34	18
13	22	45	60	64	29	63	127	45	55	35	31	18
14	20	47	80	60	28	55	96	43	86	27	33	18
15	17	29	94	56	28	51	83	41	77	25	28	17
16	30	24	68	52	27	57	76	39	55	23	24	21
17	51	68	58	51	24	76	68	38	45	23	27	21
18	30	83	50	48	31	87	62	36	52	21	40	19
19	20	57	47	44	30	80	60	36	68	21	64	19
20	16	43	68	44	29	66	58	33	53	20	38	19
21	13	37	126	42	29	111	55	32	44	18	30	18
22	11	52	90	39	39	126	73	35	81	18	27	16
23	10	55	72	37	107	98	113	39	112	53	24	16
24	10	42	64	36	e104	80	85	39	93	50	22	16
25	9.6	37	68	36	73	70	68	38	63	43	21	15
26	26	34	116	36	53	65	79	54	50	29	20	14
27	42	35	91	37	45	62	153	101	43	23	19	13
28	24	33	75	35	41	58	110	65	38	20	18	14
29	20	31	68	35	---	58	86	48	35	19	17	16
30	15	34	62	35	---	139	73	40	34	19	17	15
31	13	---	63	35	---	183	---	37	---	17	17	---
TOTAL	484.8	972.9	1793	2005	1150	2512	2614	1493	1755	907	1065	639
MEAN	15.6	32.4	57.8	64.7	41.1	81.0	87.1	48.2	58.5	29.3	34.4	21.3
MAX	51	83	126	153	107	183	153	101	112	54	119	44
MIN	4.9	9.9	25	35	24	39	55	32	34	17	17	13
CFSM	0.80	1.65	2.95	3.30	2.10	4.13	4.45	2.46	2.98	1.49	1.75	1.09
IN.	0.92	1.85	3.40	3.81	2.18	4.77	4.96	2.83	3.33	1.72	2.02	1.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	13.6	20.3	28.0	39.1	45.7	78.4	65.7	42.9	41.6	16.6	15.5	14.5
MAX	25.5	32.8	57.8	64.7	78.6	124	87.2	51.0	58.5	29.3	34.4	21.3
(WY)	2000	2000	2003	2003	1999	2001	2001	2000	2003	2003	2003	2003
MIN	7.50	4.71	8.53	13.3	14.2	28.4	34.6	34.2	16.0	5.70	3.78	9.56
(WY)	2001	2002	2002	2002	2002	2002	2002	1999	1999	1999	1999	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL TOTAL	9205.0		17390.7			
ANNUAL MEAN	25.2		47.6		35.1	
HIGHEST ANNUAL MEAN					47.6	2003
LOWEST ANNUAL MEAN					18.1	2002
HIGHEST DAILY MEAN	126	Dec 21	183	Mar 31	458	Mar 23 2001
LOWEST DAILY MEAN	2.9	Sep 10	4.9	Oct 6	1.7	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	3.1	Sep 9	5.4	Oct 4	1.9	Aug 1 1999
MAXIMUM PEAK FLOW			211	Mar 3	779	Mar 22 2001
MAXIMUM PEAK STAGE			3.87	Mar 3	5.55	Mar 22 2001
INSTANTANEOUS LOW FLOW			4.2	Oct 6	1.6	Aug 4 1999
ANNUAL RUNOFF (CFSM)	1.29		2.43		1.79	
ANNUAL RUNOFF (INCHES)	17.47		33.01		24.31	
10 PERCENT EXCEEDS	50		88		73	
50 PERCENT EXCEEDS	20		39		26	
90 PERCENT EXCEEDS	5.9		17		6.2	

e Estimated

PAWCATUCK RIVER BASIN

01117410 USQUEPAUG RIVER AT RT. 138, AT USQUEPAUG, RI

LOCATION.--Lat 41°30'09", long 71°36'30", Washington County, Hydrologic Unit 01090005, on right bank on upstream side of bridge on State Route 138, 700 ft downstream from Glen Rock Reservoir, and 0.1 mi south of Usquepaug.

DRAINAGE AREA.--32.8 mi^2.

PERIOD OF RECORD.--July 1999 to December 2001, July 2002 to September 2003. Discharge measurements made in water years 1972, 1989–91, and 1993.

GAGE.--Water-stage recorder. Elevation of gage is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Flow occasionally affected by upstream withdrawals.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 584 ft^3/s, Mar. 23, 2001, gage height, 6.71 ft; minimum, 4.2 ft^3/s, Aug. 5, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 267 ft^3/s, Mar. 31, gage height, 5.21 ft; minimum, 8.7 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	19	62	113	53	65	206	118	86	52	34	25
2	13	18	57	165	56	115	163	133	116	47	51	69
3	12	17	54	163	56	228	144	118	83	53	53	81
4	11	17	48	213	61	177	136	103	74	74	42	75
5	11	17	48	214	71	139	131	94	149	60	38	69
6	10	31	49	175	58	135	125	89	147	50	38	52
7	9.5	37	48	150	55	116	117	91	106	44	36	42
8	9.7	28	46	137	53	103	123	90	113	41	159	37
9	9.7	23	45	131	50	114	129	86	99	39	197	33
10	9.6	22	42	126	49	139	150	81	81	41	124	31
11	11	27	43	117	49	109	157	76	73	59	76	29
12	19	28	89	106	46	98	214	80	72	83	60	27
13	27	66	99	98	43	106	205	79	99	59	54	27
14	25	73	135	92	40	95	165	73	144	45	61	27
15	19	51	160	86	40	86	140	69	142	42	53	26
16	34	42	127	81	38	94	129	65	103	39	45	33
17	71	113	102	79	40	125	119	62	81	38	55	32
18	45	149	84	75	46	142	107	59	93	35	65	28
19	26	111	76	69	46	135	102	56	122	35	90	27
20	21	76	112	69	43	117	98	54	101	32	72	28
21	18	64	196	65	42	173	92	52	80	29	52	26
22	15	86	165	59	60	205	122	56	103	30	45	25
23	14	96	125	56	174	171	184	62	154	72	40	24
24	14	77	106	55	180	142	151	64	150	85	36	24
25	13	64	111	55	138	123	120	61	111	75	33	24
26	43	58	175	55	96	113	136	93	83	53	32	24
27	77	59	159	56	78	106	221	173	72	40	30	23
28	42	57	126	51	71	100	190	129	63	34	28	23
29	28	54	111	52	---	96	147	89	58	32	27	25
30	24	58	101	51	---	209	129	72	56	31	26	24
31	21	---	101	51	---	257	---	64	---	29	26	---
TOTAL	716.5	1638	3002	3065	1832	4133	4352	2591	3014	1478	1778	1040
MEAN	23.1	54.6	96.8	98.9	65.4	133	145	83.6	100	47.7	57.4	34.7
MAX	77	149	196	214	180	257	221	173	154	85	197	81
MIN	9.5	17	42	51	38	65	92	52	56	29	26	23
CFSM	0.71	1.67	2.96	3.02	2.00	4.07	4.43	2.55	3.07	1.46	1.75	1.06
IN.	0.81	1.86	3.41	3.48	2.08	4.69	4.94	2.94	3.42	1.68	2.02	1.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	25.0	39.3	71.8	69.7	76.1	149	146	81.7	95.4	38.7	26.0	25.7
MAX	46.6	56.8	96.8	98.9	82.2	186	160	85.1	113	47.7	57.4	34.7
(WY)	2000	2000	2003	2003	2000	2001	2001	2000	2001	2003	2003	2003
MIN	13.9	12.1	54.0	51.5	65.4	127	133	76.4	73.0	27.0	7.42	15.8
(WY)	2001	2002	2000	2001	2003	2000	2000	2001	2000	2000	2002	2002

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL TOTAL	28639.5			
ANNUAL MEAN	78.5		72.4	
HIGHEST ANNUAL MEAN			78.5	2003
LOWEST ANNUAL MEAN			66.5	2000
HIGHEST DAILY MEAN	257	Mar 31	540	Mar 23 2001
LOWEST DAILY MEAN	9.5	Oct 7	4.4	Aug 5 1999
ANNUAL SEVEN-DAY MINIMUM	10	Oct 4	4.8	Aug 1 1999
MAXIMUM PEAK FLOW	267	Mar 31	584	Mar 23 2001
MAXIMUM PEAK STAGE	5.21	Mar 31	6.71	Mar 23 2001
INSTANTANEOUS LOW FLOW	8.7	Oct 10	4.2	Aug 5 1999
ANNUAL RUNOFF (CFSM)	2.40		2.21	
ANNUAL RUNOFF (INCHES)	32.53		30.02	
10 PERCENT EXCEEDS	149		145	
50 PERCENT EXCEEDS	65		55	
90 PERCENT EXCEEDS	25		19	

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 mi^2.

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 National Geodetic Vertical Datum of 1929 (State of Rhode Island benchmark).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow affected at times by irrigation upstream.

AVERAGE DISCHARGE.--29 years (water years 1959, 1976–2003), 76.0 ft^3/s, 28.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,060 ft^3/s, June 6, 1982, gage height, 9.23 ft; no flow part of Sept. 13, 1995. Instantaneous maximum and minimum discharges not available prior to Dec. 5, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 308 ft^3/s, Mar. 31, gage height, 5.88 ft; minimum, 13 ft^3/s, Oct. 7–10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	37	70	124	59	73	261	122	91	64	45	38
2	17	37	67	159	62	104	193	124	112	59	58	69
3	15	36	64	193	62	245	155	123	102	61	62	90
4	15	36	58	224	65	261	137	114	89	86	54	85
5	16	36	57	257	78	182	129	106	119	75	49	83
6	15	42	58	228	65	153	125	101	152	63	49	64
7	14	48	58	191	60	141	120	102	124	56	47	53
8	14	43	55	169	58	122	119	101	114	53	107	49
9	14	40	54	157	56	121	123	99	111	51	196	45
10	14	39	52	149	54	147	138	95	98	52	162	44
11	16	42	52	140	55	133	152	92	89	65	100	42
12	21	43	86	130	52	113	205	93	87	92	76	41
13	27	68	108	119	e51	114	238	94	100	75	65	40
14	26	84	125	111	50	109	195	90	118	58	73	40
15	22	64	170	103	47	98	153	86	140	54	64	40
16	28	53	168	96	46	99	131	83	120	51	56	45
17	61	96	135	92	45	119	122	79	97	50	65	45
18	41	146	108	89	50	143	115	76	96	47	80	42
19	28	150	92	84	54	150	109	73	115	48	88	41
20	25	110	103	82	49	135	106	70	112	45	88	42
21	24	81	182	e78	49	153	102	67	96	43	64	40
22	22	91	209	75	58	221	108	71	100	43	56	39
23	21	108	168	67	148	211	170	77	125	72	52	38
24	21	98	135	64	220	172	173	81	145	91	47	38
25	21	78	124	62	191	145	133	77	126	88	45	37
26	42	69	170	61	140	129	123	87	100	66	44	37
27	91	67	196	62	113	120	210	149	87	53	43	36
28	57	66	165	e61	84	113	230	153	79	47	41	36
29	43	62	138	58	---	107	174	112	71	44	39	39
30	41	66	123	58	---	168	136	90	68	44	39	38
31	38	---	117	57	---	294	---	82	---	42	38	---
TOTAL	868	2036	3467	3600	2121	4595	4585	2969	3183	1838	2092	1416
MEAN	28.0	67.9	112	116	75.8	148	153	95.8	106	59.3	67.5	47.2
MAX	91	150	209	257	220	294	261	153	152	92	196	90
MIN	14	36	52	57	45	73	102	67	68	42	38	36
CFSM	0.78	1.88	3.10	3.22	2.10	4.11	4.23	2.65	2.94	1.64	1.87	1.31
IN.	0.89	2.10	3.57	3.71	2.19	4.74	4.72	3.06	3.28	1.89	2.16	1.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

MEAN	35.4	58.4	84.0	101	106	134	135	95.1	72.7	36.1	30.6	26.8
MAX	85.7	150	212	266	180	250	335	179	276	80.1	67.5	75.7
(WY)	1990	1990	1987	1979	1982	1998	1983	1978	1982	1998	2003	1985
MIN	12.1	16.6	21.1	16.9	29.2	56.2	46.3	45.5	30.4	13.3	9.89	7.40
(WY)	1995	2002	1981	1981	2002	1981	1985	1981	1994	1994	2002	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003	
ANNUAL TOTAL	18134.4		32770			
ANNUAL MEAN	49.7		89.8		76.0	
HIGHEST ANNUAL MEAN					110	1984
LOWEST ANNUAL MEAN					30.6	1981
HIGHEST DAILY MEAN	209	Dec 22	294	Mar 31	1020	Jun 7 1982
LOWEST DAILY MEAN	5.3	Aug 28	14	Oct 7	1.1	Sep 14 1993
ANNUAL SEVEN-DAY MINIMUM	7.2	Aug 22	15	Oct 4	3.8	Sep 6 1995
MAXIMUM PEAK FLOW			308	Mar 31	1060	Jun 6 1982
MAXIMUM PEAK STAGE			5.88	Mar 31	9.23	Jun 6 1982
INSTANTANEOUS LOW FLOW			13	Oct 7	0.00	Sep 13 1995
ANNUAL RUNOFF (CFSM)	1.38		2.49		2.11	
ANNUAL RUNOFF (INCHES)	18.69		33.77		28.62	
10 PERCENT EXCEEDS	103		160		158	
50 PERCENT EXCEEDS	39		78		56	
90 PERCENT EXCEEDS	13		38		17	

e Estimated

PAWCATUCK RIVER BASIN

01117424 CHICKASHEEN BROOK AT WEST KINGSTON, RI

LOCATION.--Lat. 41°28'51", long 71°34'26", Washington County, Hydrologic Unit 01090005, at bridge on Liberty Lane, 1.0 mi west of West Kingston.

DRAINAGE AREA.--4.82 mi^2.

PERIOD OF RECORD.--October 2002 to September 2003. Discharge measurements made in water years 1959–60, 1991–92, 2002.

GAGE.--Water-stage recorder. Elevation of gage is 95 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharge, which are poor. Flow occasionally affected by upstream withdrawals.

EXTREMES FOR THE PERIOD OCTOBER 2002 TO SEPTEMBER 2003.--Maximum discharge, 69 ft^3/s, Mar. 2, gage height, 2.43 ft.; minimum, 0.73 ft^3/s, Oct. 9–11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.92	3.1	6.3	18	5.7	9.0	28	20	13	8.3	5.0	4.3
2	.87	2.6	6.3	25	6.0	28	24	19	13	7.7	5.6	10
3	.84	2.3	6.4	23	5.7	36	21	17	12	8.9	4.9	9.9
4	.82	2.0	7.1	35	6.7	22	20	17	12	9.7	4.6	12
5	.82	1.8	9.0	30	6.5	20	22	17	21	8.6	4.3	10
6	.77	3.2	7.8	27	5.8	21	19	16	18	7.7	4.2	8.9
7	.76	2.8	7.0	24	5.8	19	17	15	16	7.0	3.9	7.9
8	.76	2.5	6.5	22	5.7	18	19	15	17	6.6	23	6.8
9	.74	2.3	5.9	21	5.5	21	20	14	15	6.2	17	6.2
10	.74	2.2	5.5	19	5.4	20	21	13	14	6.0	13	5.3
11	.79	2.3	5.6	17	5.3	17	22	12	13	8.6	11	4.8
12	1.2	2.6	11	16	4.8	17	27	12	13	9.3	12	4.3
13	1.2	5.6	8.7	15	4.8	16	26	12	15	8.0	10	4.3
14	1.0	8.4	17	14	4.9	16	24	11	16	7.3	10	4.2
15	.88	7.0	15	14	4.7	15	22	11	15	6.9	8.8	4.0
16	2.8	6.9	18	13	4.8	15	20	10	14	6.4	7.6	4.6
17	2.5	14	20	12	6.6	17	18	9.9	13	6.0	14	4.4
18	1.5	12	19	12	13	17	17	9.2	15	5.7	18	4.4
19	1.5	11	17	12	7.9	16	17	8.8	15	5.7	18	5.5
20	1.5	9.6	24	10	5.4	15	16	8.6	14	5.2	13	7.2
21	1.3	8.3	27	10	5.1	23	15	8.4	13	4.8	11	3.5
22	1.2	10	23	10	8.8	23	20	8.6	14	4.7	9.4	3.0
23	1.2	8.1	20	11	21	21	23	9.1	14	6.3	8.3	2.8
24	1.1	7.3	18	10	20	18	20	8.8	13	7.4	7.6	2.8
25	1.1	6.9	22	9.1	15	17	18	8.6	12	6.7	6.9	2.7
26	20	6.7	28	7.9	12	17	24	13	11	5.2	6.4	2.7
27	17	6.9	23	7.0	10	17	28	16	11	4.6	5.9	3.3
28	8.4	6.5	21	6.7	9.4	15	25	14	10	4.2	5.1	2.8
29	5.7	6.4	19	6.1	---	15	23	13	9.4	4.2	5.0	2.7
30	3.9	6.8	18	5.9	---	30	21	12	8.9	4.2	4.6	2.5
31	3.3	---	18	5.8	---	30	---	11	---	3.8	4.6	---
TOTAL	87.11	178.1	460.1	468.5	222.3	601.0	637	390.0	410.3	201.9	282.7	157.8
MEAN	2.81	5.94	14.8	15.1	7.94	19.4	21.2	12.6	13.7	6.51	9.12	5.26
MAX	20	14	28	35	21	36	28	20	21	9.7	23	12
MIN	0.74	1.8	5.5	5.8	4.7	9.0	15	8.4	8.9	3.8	3.9	2.5
CFSM	0.58	1.23	3.08	3.14	1.65	4.02	4.41	2.61	2.84	1.35	1.89	1.09
IN.	0.67	1.37	3.55	3.62	1.72	4.64	4.92	3.01	3.17	1.56	2.18	1.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2003, BY WATER YEAR (WY)

MEAN	2.81	5.94	14.8	15.1	7.94	19.4	21.2	12.6	13.7	6.51	9.12	5.26
MAX	2.81	5.94	14.8	15.1	7.94	19.4	21.2	12.6	13.7	6.51	9.12	5.26
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	2.81	5.94	14.8	15.1	7.94	19.4	21.2	12.6	13.7	6.51	9.12	5.26
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS FOR 2003 WATER YEAR

ANNUAL TOTAL	4096.81		
ANNUAL MEAN	11.2		
HIGHEST DAILY MEAN	36	Mar	3
LOWEST DAILY MEAN	0.74	Oct	9
ANNUAL SEVEN-DAY MINIMUM	0.77	Oct	5
MAXIMUM PEAK FLOW	69	Mar	2
MAXIMUM PEAK STAGE	2.43	Mar	2
INSTANTANEOUS LOW FLOW	0.73	Oct	9
ANNUAL RUNOFF (CFSM)	2.33		
ANNUAL RUNOFF (INCHES)	31.62		
10 PERCENT EXCEEDS	21		
50 PERCENT EXCEEDS	9.7		
90 PERCENT EXCEEDS	2.7		

e Estimated

PAWCATUCK RIVER BASIN

01117430 PAWCATUCK RIVER AT KENYON, RI

LOCATION.--Lat. 41°26'46", long 71°37'18", Washington County, Hydrologic Unit 01090005, at bridge on State Route 2, 0.2 mi east of Kenyon.

DRAINAGE AREA.--72.7 mi^2.

PERIOD OF RECORD.--November 1957 to July 1960, August 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 85 ft above National Geodetic Vertical Datum of 1929, from topographic map. During the period November 1957 to July 1960, gage was located 0.3 mi downstream, 400 ft upstream from Pasquiset Brook, at datum, 81.91 ft above National Geodetic Vertical Datum of 1929; data are considered comparable to those from the current gage location.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 475 $ft.^3/s$, Apr. 1, 2003, gage height, 2.71 ft; maximum daily discharge, 639 $ft.^3/s$, Apr. 9, 1958; minimum, 9.4 $ft.^3/s$, Aug. 29, 2002; minimum daily, 11 $ft.^3/s$, Sept. 12, 13, 2002.

EXTREMES FOR THE PERIOD AUGUST 2002 TO SEPTEMBER 2003.--Maximum discharge, 475 $ft.^3/s$, Apr. 1, gage height, 2.71 ft.; minimum, 9.4 $ft.^3/s$, Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	15
2	---	---	---	---	---	---	---	---	---	---	---	25
3	---	---	---	---	---	---	---	---	---	---	---	37
4	---	---	---	---	---	---	---	---	---	---	---	37
5	---	---	---	---	---	---	---	---	---	---	---	29
6	---	---	---	---	---	---	---	---	---	---	19	22
7	---	---	---	---	---	---	---	---	---	---	18	19
8	---	---	---	---	---	---	---	---	---	---	17	17
9	---	---	---	---	---	---	---	---	---	---	16	16
10	---	---	---	---	---	---	---	---	---	---	16	15
11	---	---	---	---	---	---	---	---	---	---	16	13
12	---	---	---	---	---	---	---	---	---	---	16	11
13	---	---	---	---	---	---	---	---	---	---	15	11
14	---	---	---	---	---	---	---	---	---	---	15	12
15	---	---	---	---	---	---	---	---	---	---	15	13
16	---	---	---	---	---	---	---	---	---	---	15	20
17	---	---	---	---	---	---	---	---	---	---	13	25
18	---	---	---	---	---	---	---	---	---	---	13	20
19	---	---	---	---	---	---	---	---	---	---	12	18
20	---	---	---	---	---	---	---	---	---	---	12	17
21	---	---	---	---	---	---	---	---	---	---	13	16
22	---	---	---	---	---	---	---	---	---	---	14	16
23	---	---	---	---	---	---	---	---	---	---	13	26
24	---	---	---	---	---	---	---	---	---	---	13	30
25	---	---	---	---	---	---	---	---	---	---	14	28
26	---	---	---	---	---	---	---	---	---	---	13	26
27	---	---	---	---	---	---	---	---	---	---	13	42
28	---	---	---	---	---	---	---	---	---	---	12	45
29	---	---	---	---	---	---	---	---	---	---	13	39
30	---	---	---	---	---	---	---	---	---	---	19	32
31	---	---	---	---	---	---	---	---	---	---	17	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	692
MEAN	---	---	---	---	---	---	---	---	---	---	---	23.1
MAX	---	---	---	---	---	---	---	---	---	---	---	45
MIN	---	---	---	---	---	---	---	---	---	---	---	11
CFSM	---	---	---	---	---	---	---	---	---	---	---	0.32
IN.	---	---	---	---	---	---	---	---	---	---	---	0.36

PAWCATUCK RIVER BASIN

01117430 PAWCATUCK RIVER AT KENYON, RI--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	53	123	225	103	186	468	300	182	116	74	66
2	25	49	122	276	110	215	432	275	206	109	84	110
3	22	47	116	303	111	329	367	265	210	112	90	141
4	22	47	107	373	119	e387	323	246	193	135	88	156
5	21	46	102	402	126	383	293	223	267	138	81	152
6	20	59	103	407	122	335	274	207	311	123	76	132
7	20	68	103	367	110	e300	255	200	309	113	74	111
8	20	68	105	318	108	290	256	199	295	106	172	97
9	19	61	100	296	104	281	259	195	270	101	238	90
10	20	57	93	273	102	292	275	185	242	100	265	87
11	22	57	93	248	101	e277	296	175	209	110	213	83
12	32	62	130	e226	101	261	350	176	197	135	159	80
13	40	95	156	e212	e95	244	393	172	214	137	134	76
14	40	119	211	e198	89	233	393	166	235	114	127	75
15	35	116	233	180	90	218	349	158	248	101	126	71
16	50	102	249	167	86	213	306	149	249	94	114	75
17	75	140	237	160	87	229	275	142	212	89	135	76
18	82	193	211	151	87	253	249	134	197	85	162	73
19	57	209	186	139	93	264	229	129	220	84	159	70
20	40	200	211	138	95	254	214	124	224	79	171	69
21	36	169	270	126	96	289	202	119	203	75	149	67
22	32	170	307	121	108	339	221	120	187	73	127	64
23	30	177	302	115	160	370	289	130	209	88	115	59
24	29	172	257	109	e247	342	320	136	240	124	104	58
25	28	160	241	104	303	299	299	134	239	131	97	56
26	101	144	291	103	e274	263	299	159	206	115	91	55
27	191	136	312	104	e219	243	375	243	168	93	86	54
28	142	131	305	94	201	225	417	280	145	79	81	54
29	89	125	270	100	---	214	397	254	131	73	77	56
30	68	124	241	99	---	311	342	202	123	69	73	55
31	59	---	229	100	---	419	---	172	---	65	69	---
TOTAL	1495	3356	6016	6234	3647	8758	9417	5769	6541	3166	3811	2468
MEAN	48.2	112	194	201	130	283	314	186	218	102	123	82.3
MAX	191	209	312	407	303	419	468	300	311	138	265	156
MIN	19	46	93	94	86	186	202	119	123	65	69	54
CFSM	0.67	1.56	2.71	2.80	1.82	3.94	4.38	2.60	3.04	1.42	1.71	1.15
IN.	0.78	1.74	3.12	3.23	1.89	4.54	4.89	2.99	3.39	1.64	1.98	1.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

MEAN	76.7	113	152	195	183	300	313	199	148	101	84.4	57.2
MAX	136	148	194	294	262	352	396	316	218	115	123	85.9
(WY)	1959	1959	2003	1958	1960	1958	1958	1958	2003	1959	2003	1958
MIN	45.7	79.8	101	121	130	239	255	140	86.8	87.1	55.0	23.1
(WY)	1960	1960	1958	1959	2003	1960	1959	1959	1960	1958	1959	2002

SUMMARY STATISTICS	FOR 2003 WATER YEAR			WATER YEARS 1958 - 2003		
ANNUAL TOTAL	60678					
ANNUAL MEAN	166			156		
HIGHEST ANNUAL MEAN				166		2003
LOWEST ANNUAL MEAN				146		1959
HIGHEST DAILY MEAN	468	Apr	1	639	Apr 9	1958
LOWEST DAILY MEAN	19	Oct	9	11	Sep 12	2002
ANNUAL SEVEN-DAY MINIMUM	20	Oct	4	13	Aug 17	2002
MAXIMUM PEAK FLOW	475	Apr	1	475	Apr 1	2003
MAXIMUM PEAK STAGE	2.71	Apr	1	2.71	Apr 1	2003
INSTANTANEOUS LOW FLOW	19	Oct	9	19	Oct 9	2002
ANNUAL RUNOFF (CFSM)	0.000			0.000		
ANNUAL RUNOFF (INCHES)	0.00			0.00		
10 PERCENT EXCEEDS	301			296		
50 PERCENT EXCEEDS	137			132		
90 PERCENT EXCEEDS	58			55		

e Estimated

PAWCATUCK RIVER BASIN

01117468 BEAVER RIVER NEAR USQUEPAUG, RI

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

DRAINAGE AREA.--8.87 mi^2.

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 National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--28 years (water years 1976-2003), 21.1 ft^3/s, 32.33 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 370 ft^3/s, June 6, 1982, gage height, 3.83 ft; minimum, 1.1 ft^3/s, Sept. 7, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 91 ft^3/s, Mar. 30, gage height, 2.57 ft; minimum, 2.8 ft^3/s, Oct. 7–11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	6.6	23	e38	17	20	52	46	26	17	9.6	6.5
2	4.5	5.8	20	e46	17	37	47	44	28	16	13	21
3	4.1	5.5	19	e54	17	63	44	41	24	19	11	17
4	3.8	5.3	17	70	20	50	42	38	24	24	9.7	18
5	3.7	5.3	17	59	21	38	41	37	39	19	9.6	15
6	3.3	7.5	16	50	18	39	39	36	33	16	9.3	11
7	3.2	7.1	15	47	16	37	37	41	31	14	11	9.4
8	3.1	6.5	14	44	15	33	40	39	32	13	55	8.7
9	3.0	7.3	13	44	14	37	42	36	28	12	37	9.9
10	2.9	6.8	14	42	14	39	51	33	27	12	24	9.2
11	3.1	6.9	13	39	13	33	50	31	26	18	19	7.8
12	4.5	7.7	33	36	13	33	58	33	25	17	17	7.3
13	5.2	19	30	34	13	34	48	31	31	13	18	7.1
14	5.2	19	52	33	14	32	42	30	39	12	20	7.1
15	4.5	17	52	31	12	30	39	30	34	15	15	6.7
16	8.9	14	41	29	12	34	42	31	29	13	13	8.9
17	11	37	36	28	14	41	39	30	28	11	17	8.3
18	9.0	44	32	27	21	44	34	27	33	10	21	7.0
19	7.6	34	30	25	12	40	32	24	34	11	17	6.9
20	7.1	29	46	24	12	35	32	22	29	9.6	14	6.9
21	6.2	25	69	22	11	57	30	21	27	9.1	12	6.3
22	5.5	34	52	20	18	57	42	22	28	9.8	14	6.0
23	5.2	32	46	e18	46	48	57	23	30	21	13	6.1
24	5.0	28	40	18	47	43	42	26	29	21	9.8	6.0
25	4.6	26	e36	17	37	40	35	24	26	21	9.0	5.8
26	15	22	e57	17	e29	39	47	33	23	17	8.8	5.6
27	12	21	e58	17	e26	37	75	42	21	13	8.4	5.6
28	11	20	e41	e16	22	34	52	36	19	11	7.5	5.7
29	12	22	e38	16	---	33	47	31	18	11	7.4	6.1
30	10	23	e35	16	---	75	48	25	17	11	7.1	5.8
31	8.0	---	e35	16	---	72	---	21	---	9.2	6.7	---
TOTAL	197.1	544.3	1040	993	541	1284	1326	984	838	445.7	463.9	258.7
MEAN	6.36	18.1	33.5	32.0	19.3	41.4	44.2	31.7	27.9	14.4	15.0	8.62
MAX	15	44	69	70	47	75	75	46	39	24	55	21
MIN	2.9	5.3	13	16	11	20	30	21	17	9.1	6.7	5.6
CFSM	0.72	2.05	3.78	3.61	2.18	4.67	4.98	3.58	3.15	1.62	1.69	0.97
IN.	0.83	2.28	4.36	4.16	2.27	5.38	5.56	4.13	3.51	1.87	1.95	1.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2003, BY WATER YEAR (WY)

MEAN	8.65	16.0	23.8	27.9	28.0	36.5	37.3	27.9	22.0	10.3	8.11	6.90
MAX	25.5	43.5	60.8	74.0	46.2	62.9	102	48.3	82.1	23.9	16.4	25.2
(WY)	1990	1990	1987	1979	1982	1983	1983	1979	1982	1998	1989	1985
MIN	3.01	4.26	4.43	3.17	7.97	15.6	13.9	13.7	9.02	3.70	2.21	1.90
(WY)	1995	2002	1981	1981	2002	2002	1985	1981	1994	1994	1993	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1975 - 2003	
ANNUAL TOTAL	5308.1		8915.7			
ANNUAL MEAN	14.5		24.4		21.1	
HIGHEST ANNUAL MEAN					30.4	1983
LOWEST ANNUAL MEAN					8.67	1981
HIGHEST DAILY MEAN	69	Dec 21	75	Mar 30	324	Jun 6 1982
LOWEST DAILY MEAN	2.0	Aug 28	2.9	Oct 10	1.2	Sep 7 1993
ANNUAL SEVEN-DAY MINIMUM	2.2	Aug 22	3.2	Oct 5	1.3	Sep 1 1993
MAXIMUM PEAK FLOW			91	Mar 30	370	Jun 6 1982
MAXIMUM PEAK STAGE			2.57	Mar 30	3.83	Jun 6 1982
INSTANTANEOUS LOW FLOW			2.8	Oct 7	1.1	Sep 7 1993
ANNUAL RUNOFF (CFSM)	1.64		2.75		2.38	
ANNUAL RUNOFF (INCHES)	22.26		37.39		32.33	
10 PERCENT EXCEEDS	31		46		43	
50 PERCENT EXCEEDS	10		21		16	
90 PERCENT EXCEEDS	3.3		6.6		4.3	

e Estimated

PAWCATUCK RIVER BASIN

01117471 BEAVER RIVER, SHANNOCK HILL ROAD, NEAR SHANNOCK, RI

LOCATION.--Lat. 41°27'51", long 71°37'42", Washington County, Hydrologic Unit 01090005, at bridge on Shannock Hill Road, 1.2 mi northeast of Shannock.

DRAINAGE AREA.--11.2 mi^2.

PERIOD OF RECORD.--Discharge: October 2002 to September 2003. Discharge measurements made in water years 1966–67, 1974–76, 1991, 1997.

GAGE.--Water-stage recorder. Elevation of gage is 90 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Flow occasionally affected by upstream withdrawals.

EXTREMES FOR THE PERIOD OCTOBER 2002 TO SEPTEMBER 2003.--Maximum discharge, 94 ft^3/s, Mar. 31, gage height, 2.71 ft; minimum daily, 4.5 ft^3/s, Oct. 10 (estimated).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e6.5	9.6	22	41	e21	24	66	47	30	20	13	10
2	e6.0	8.4	20	56	e21	47	56	45	35	18	15	21
3	e5.7	7.9	e20	56	e21	80	52	42	30	20	15	23
4	e5.4	7.4	e19	66	e24	63	50	39	29	28	14	22
5	e5.1	7.4	e19	66	e25	46	48	36	47	23	13	20
6	e4.8	11	e19	56	e21	45	47	36	45	20	13	16
7	e4.8	11	e18	50	e20	e43	44	36	37	17	13	14
8	e4.8	9.9	17	e47	e20	39	46	38	39	27	48	13
9	e4.7	9.7	16	46	e19	44	48	35	35	16	56	13
10	e4.5	10	e15	45	e18	46	56	32	32	17	31	14
11	e5.1	10	15	e41	e18	e38	58	30	32	22	23	12
12	e6.6	10	29	e40	e17	36	66	40	31	24	20	11
13	e7.1	20	31	e38	e18	38	60	33	39	19	19	11
14	e7.1	23	43	e36	19	36	50	29	44	16	21	10
15	e6.4	19	54	e34	16	34	45	30	45	17	19	10
16	e11	17	43	e33	15	36	45	30	36	17	16	11
17	e15	31	35	e32	15	43	46	29	32	15	20	12
18	e11	43	31	e31	21	47	40	27	37	14	24	11
19	9.6	36	29	e29	20	44	38	25	43	14	21	10
20	9.0	29	38	e28	17	39	37	24	38	14	18	10
21	7.6	25	65	e27	16	55	35	22	32	12	16	9.7
22	6.7	29	56	e25	20	65	42	23	32	13	16	9.5
23	6.1	32	47	e23	53	55	63	24	35	20	17	9.1
24	5.7	27	41	e22	e54	47	53	26	32	22	14	11
25	5.5	25	40	e22	46	44	42	26	30	22	13	9.2
26	22	22	58	e21	e36	42	45	33	27	20	13	8.4
27	30	21	52	e21	e32	41	75	57	24	16	12	8.7
28	16	20	44	e20	27	38	60	47	23	14	11	8.5
29	14	21	39	e20	---	36	49	41	22	14	10	9.2
30	14	22	37	e20	---	67	47	31	21	14	11	8.7
31	11	---	36	e20	---	88	---	28	---	13	11	---
TOTAL	278.8	574.3	1048	1112	670	1446	1509	1041	1014	558	576	366.0
MEAN	8.99	19.1	33.8	35.9	23.9	46.6	50.3	33.6	33.8	18.0	18.6	12.2
MAX	30	43	65	66	54	88	75	57	47	28	56	23
MIN	4.5	7.4	15	20	15	24	35	22	21	12	10	8.4
CFSM	0.80	1.71	3.02	3.20	2.14	4.16	4.49	3.00	3.02	1.61	1.66	1.09
IN.	0.93	1.91	3.48	3.69	2.23	4.80	5.01	3.46	3.37	1.85	1.91	1.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2003, BY WATER YEAR (WY)

MEAN	8.99	19.1	33.8	35.9	23.9	46.6	50.3	33.6	33.8	18.0	18.6	12.2
MAX	8.99	19.1	33.8	35.9	23.9	46.6	50.3	33.6	33.8	18.0	18.6	12.2
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	8.99	19.1	33.8	35.9	23.9	46.6	50.3	33.6	33.8	18.0	18.6	12.2
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS	FOR 2003 WATER YEAR	
ANNUAL TOTAL	10193.1	
ANNUAL MEAN	27.9	
HIGHEST DAILY MEAN	88	Mar 31
LOWEST DAILY MEAN	4.5	Oct 10
ANNUAL SEVEN-DAY MINIMUM	4.8	Oct 5
MAXIMUM PEAK FLOW	94	Mar 31
MAXIMUM PEAK STAGE	2.71	Mar 31
ANNUAL RUNOFF (CFSM)	2.49	
ANNUAL RUNOFF (INCHES)	33.86	
10 PERCENT EXCEEDS	48	
50 PERCENT EXCEEDS	24	
90 PERCENT EXCEEDS	9.7	

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 mi^2.

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 National Geodetic Vertical Datum of 1929. Prior to June 19, 1984, at site 10 ft upstream at same datum. Satellite gage-height telemeter at station.

REMARKS.--Records good. 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.

AVERAGE DISCHARGE.--62 years, 196 ft^3/s, 26.57 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft^3/s, June 7, 1982, gage height, 8.75 ft; minimum, 7.4 ft^3/s, Oct. 10, 1947; minimum daily, 15 ft^3/s, Oct. 11, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 652 ft^3/s, Apr. 1, gage height, 4.23 ft; minimum, 32 ft^3/s, Oct. 8–11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	90	181	329	161	269	649	436	282	179	112	98
2	44	83	175	393	170	321	608	409	315	167	127	155
3	41	79	169	419	172	475	523	392	316	170	132	187
4	39	77	156	514	183	504	460	373	299	208	129	210
5	37	75	150	558	197	500	426	350	386	210	121	207
6	36	96	150	554	188	461	405	330	434	187	116	183
7	34	107	147	511	175	409	382	318	424	167	111	156
8	33	105	149	445	168	397	382	319	420	162	267	138
9	32	96	145	417	161	394	388	311	393	150	359	128
10	33	92	137	395	161	408	409	294	362	147	361	122
11	35	92	137	371	158	391	431	277	325	164	302	115
12	47	97	192	344	154	372	504	284	305	193	225	109
13	57	147	221	319	142	360	546	277	333	193	190	106
14	57	176	299	294	139	345	541	266	359	167	176	104
15	52	171	344	277	138	324	487	252	370	149	174	102
16	72	153	347	251	131	317	436	242	366	140	159	111
17	107	210	332	241	126	342	405	231	328	133	182	111
18	115	281	290	223	131	373	378	217	313	127	223	105
19	89	291	263	209	140	383	355	208	347	128	213	100
20	70	274	292	206	145	371	336	199	347	121	216	99
21	62	238	385	193	145	413	318	191	318	115	197	98
22	56	239	412	181	170	471	341	194	294	113	169	94
23	53	251	407	171	282	502	432	207	312	133	157	91
24	50	241	367	165	335	471	453	214	341	173	141	90
25	48	225	344	161	392	425	429	212	344	187	131	87
26	138	205	406	161	356	387	424	254	307	170	124	84
27	291	193	420	163	308	364	550	380	256	142	119	83
28	220	186	411	150	289	344	584	403	221	123	113	83
29	153	178	380	157	---	326	555	384	202	115	108	86
30	118	182	347	156	---	450	486	325	189	110	105	84
31	101	---	330	157	---	606	---	274	---	106	101	---
TOTAL	2368	4930	8485	9085	5417	12475	13623	9023	9808	4749	5360	3526
MEAN	76.4	164	274	293	193	402	454	291	327	153	173	118
MAX	291	291	420	558	392	606	649	436	434	210	361	210
MIN	32	75	137	150	126	269	318	191	189	106	101	83
CFSM	0.76	1.64	2.74	2.93	1.93	4.02	4.54	2.91	3.27	1.53	1.73	1.18
IN.	0.88	1.83	3.16	3.38	2.02	4.64	5.07	3.36	3.65	1.77	1.99	1.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

MEAN	87.6	142	207	243	271	349	339	254	187	100	85.6	79.0
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	89.5	145	124	130	82.3	38.2	28.8	29.5
(WY)	1950	1966	1966	1981	2002	1981	1985	1981	1957	1957	1999	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	49378		88849			
ANNUAL MEAN	135		243		196	
HIGHEST ANNUAL MEAN					311	1984
LOWEST ANNUAL MEAN					84.4	1981
HIGHEST DAILY MEAN	426	May 20	649	Apr 1	1830	Jun 7 1982
LOWEST DAILY MEAN	20	Aug 27	32	Oct 9	15	Oct 11 1947
ANNUAL SEVEN-DAY MINIMUM	23	Aug 22	34	Oct 5	20	Sep 1 1995
MAXIMUM PEAK FLOW			652	Apr 1	1860	Jun 7 1982
MAXIMUM PEAK STAGE			4.23	Apr 1	8.75	Jun 7 1982
INSTANTANEOUS LOW FLOW			32	Oct 8	7.4	Oct 10 1947
ANNUAL RUNOFF (CFSM)	1.35		2.43		1.96	
ANNUAL RUNOFF (INCHES)	18.37		33.05		26.57	
10 PERCENT EXCEEDS	277		424		398	
50 PERCENT EXCEEDS	107		207		155	
90 PERCENT EXCEEDS	35		92		50	

PAWCATUCK RIVER BASIN

01117600 MEADOW BROOK NEAR CAROLINA, RI

LOCATION.--Lat 41°27'59", long 71°41'26", Washington County, Hydrologic Unit 01090005, at culvert on Pine Hill Road, 1.5 mi northwest of Carolina.

DRAINAGE AREA.--5.53 mi^2.

PERIOD OF RECORD.--June 1965 to September 1974, August 2002 to September 2003. Discharge measurements made in water year 1977.

GAGE.--Water-stage recorder. Elevation of gage is 75 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to August 2002, at site 50 ft upstream of culvert at different datum.

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

AVERAGE DISCHARGE.--10 years (water years 1966–74, 2003), 10.1 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 164 ft^3/s, Mar. 18, 1968, gage height 6.07 ft (at different datum), from rating curve extended above 84 ft^3/s; minimum, 0.07 ft^3/s, Sept. 12, 13, 1965.

EXTREMES FOR THE PERIOD AUGUST 2002 TO SEPTEMBER 2003.--Maximum discharge, 47 ft^3/s, Mar. 3, gage height, 1.89 ft; minimum, 0.17 ft^3/s, Oct. 5, 6, 8–11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	0.17
2	---	---	---	---	---	---	---	---	---	---	e0.32	1.9
3	---	---	---	---	---	---	---	---	---	---	.37	2.4
4	---	---	---	---	---	---	---	---	---	---	.28	1.1
5	---	---	---	---	---	---	---	---	---	---	.26	.64
6	---	---	---	---	---	---	---	---	---	---	.23	.35
7	---	---	---	---	---	---	---	---	---	---	.20	.24
8	---	---	---	---	---	---	---	---	---	---	.22	.19
9	---	---	---	---	---	---	---	---	---	---	.22	.16
10	---	---	---	---	---	---	---	---	---	---	.21	.14
11	---	---	---	---	---	---	---	---	---	---	.22	.14
12	---	---	---	---	---	---	---	---	---	---	.24	.13
13	---	---	---	---	---	---	---	---	---	---	.15	.12
14	---	---	---	---	---	---	---	---	---	---	.15	.13
15	---	---	---	---	---	---	---	---	---	---	.19	.14
16	---	---	---	---	---	---	---	---	---	---	.19	.44
17	---	---	---	---	---	---	---	---	---	---	.16	.41
18	---	---	---	---	---	---	---	---	---	---	.16	.23
19	---	---	---	---	---	---	---	---	---	---	.16	.18
20	---	---	---	---	---	---	---	---	---	---	.18	.15
21	---	---	---	---	---	---	---	---	---	---	.17	.14
22	---	---	---	---	---	---	---	---	---	---	.16	.13
23	---	---	---	---	---	---	---	---	---	---	.16	.63
24	---	---	---	---	---	---	---	---	---	---	.16	.50
25	---	---	---	---	---	---	---	---	---	---	.17	.31
26	---	---	---	---	---	---	---	---	---	---	.15	.25
27	---	---	---	---	---	---	---	---	---	---	.15	2.1
28	---	---	---	---	---	---	---	---	---	---	.14	1.6
29	---	---	---	---	---	---	---	---	---	---	.25	.71
30	---	---	---	---	---	---	---	---	---	---	.25	.46
31	---	---	---	---	---	---	---	---	---	---	.18	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	16.19
MEAN	---	---	---	---	---	---	---	---	---	---	---	0.54
MAX	---	---	---	---	---	---	---	---	---	---	---	2.4
MIN	---	---	---	---	---	---	---	---	---	---	---	0.12
CFSM	---	---	---	---	---	---	---	---	---	---	---	0.10
IN.	---	---	---	---	---	---	---	---	---	---	---	0.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2002, BY WATER YEAR (WY)

MEAN	2.01	6.09	13.4	11.4	14.6	20.8	18.0	14.9	9.50	3.97	1.91	1.39
MAX	4.29	19.3	28.3	19.9	23.0	34.7	25.4	26.6	26.9	11.1	4.82	3.87
(WY)	1973	1973	1973	1974	1970	1968	1969	1972	1972	1972	1973	1973
MIN	0.31	0.32	0.40	0.80	5.19	12.8	5.76	8.81	4.47	1.26	0.46	0.18
(WY)	1969	1966	1966	1966	1967	1970	1966	1974	1974	1965	1966	1965

SUMMARY STATISTICS	WATER YEARS 1965 - 2002		
ANNUAL MEAN	9.86		
HIGHEST ANNUAL MEAN	14.1		1973
LOWEST ANNUAL MEAN	4.19		1966
HIGHEST DAILY MEAN	151	Mar 18	1968
LOWEST DAILY MEAN	0.07	Sep 12	1965
ANNUAL SEVEN-DAY MINIMUM	0.09	Sep 24	1965
MAXIMUM PEAK FLOW	164	Mar 18	1968
MAXIMUM PEAK STAGE	6.07	Mar 18	1968
INSTANTANEOUS LOW FLOW	0.07	Sep 12	1965
ANNUAL RUNOFF (CFSM)	1.78		
ANNUAL RUNOFF (INCHES)	24.22		
10 PERCENT EXCEEDS	23		
50 PERCENT EXCEEDS	6.8		
90 PERCENT EXCEEDS	0.55		

e Estimated

PAWCATUCK RIVER BASIN

01117600 MEADOW BROOK NEAR CAROLINA, RI--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.36	1.9	8.5	17	9.2	12	36	20	15	6.8	3.3	2.4
2	.29	1.6	7.8	24	9.7	20	31	19	16	6.3	4.3	9.3
3	.23	1.5	7.6	24	9.5	40	27	18	13	7.4	4.3	11
4	.24	1.4	6.8	33	11	31	24	16	13	9.5	3.7	11
5	.19	1.3	6.5	33	12	27	22	15	26	8.0	3.4	9.6
6	.19	2.7	6.5	30	9.6	24	21	15	25	7.0	3.2	6.9
7	.19	3.2	6.3	28	9.2	22	19	15	20	6.0	3.1	5.5
8	.19	2.7	6.3	25	8.6	20	20	15	20	5.4	26	4.6
9	.17	2.3	5.8	24	8.3	21	21	14	18	5.1	29	4.2
10	.17	2.1	5.4	23	8.2	24	25	13	15	5.0	19	3.8
11	.20	2.6	5.7	21	7.9	20	25	13	13	7.4	13	3.4
12	.38	2.9	12	19	7.4	19	32	13	14	9.4	9.6	3.0
13	.56	7.7	12	18	7.0	19	30	12	19	7.0	7.8	2.7
14	.48	9.0	19	17	6.4	18	25	12	22	5.7	6.5	2.5
15	.36	7.5	22	16	6.4	17	22	11	22	5.1	5.6	2.5
16	1.9	6.8	19	15	5.9	18	20	10	18	4.7	5.0	3.8
17	3.5	13	16	14	5.6	21	18	10	15	4.5	6.6	4.0
18	2.2	17	14	13	6.3	23	17	9.4	18	4.1	10	3.2
19	1.3	16	13	12	6.5	22	16	9.0	21	4.2	14	2.8
20	.83	14	17	12	6.9	19	15	8.6	18	3.7	9.4	2.7
21	.62	12	29	11	7.1	27	15	8.3	15	3.5	6.9	2.4
22	.55	13	26	9.9	10	31	20	8.7	16	3.6	5.6	2.3
23	.48	13	22	8.8	23	28	27	9.3	17	6.1	4.5	2.1
24	.38	11	18	8.5	27	24	24	9.5	15	9.5	3.8	2.1
25	.34	10	18	8.5	23	21	20	9.2	12	9.6	3.4	1.9
26	4.3	9.6	25	8.6	18	19	23	16	11	6.8	3.1	1.8
27	7.7	9.3	23	8.8	15	18	36	28	9.6	5.2	2.9	1.8
28	5.4	8.8	19	8.2	13	16	31	22	8.6	4.2	2.6	1.8
29	3.8	8.1	17	8.2	---	16	26	17	7.8	3.8	2.3	2.1
30	2.8	8.7	16	8.4	---	36	23	14	7.3	3.5	2.3	1.9
31	2.2	---	16	8.7	---	42	---	12	---	3.1	2.2	---
TOTAL	42.50	220.7	446.2	515.6	297.7	715	711	422.0	480.3	181.2	226.4	119.1
MEAN	1.37	7.36	14.4	16.6	10.6	23.1	23.7	13.6	16.0	5.85	7.30	3.97
MAX	7.7	17	29	33	27	42	36	28	26	9.6	29	11
MIN	0.17	1.3	5.4	8.2	5.6	12	15	8.3	7.3	3.1	2.2	1.8
CFSM	0.25	1.33	2.60	3.01	1.92	4.17	4.29	2.46	2.90	1.06	1.32	0.72
IN.	0.29	1.48	3.00	3.47	2.00	4.81	4.78	2.84	3.23	1.22	1.52	0.80
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)												
MEAN	1.94	6.22	13.5	11.9	14.2	21.0	18.6	14.8	10.2	4.14	2.40	1.61
MAX	4.29	19.3	28.3	19.9	23.0	34.7	25.4	26.6	26.9	11.1	7.30	3.97
(WY)	1973	1973	1973	1974	1970	1968	1969	1972	1972	1972	2003	2003
MIN	0.31	0.32	0.40	0.80	5.19	12.8	5.76	8.81	4.47	1.26	0.46	0.18
(WY)	1969	1966	1966	1966	1967	1970	1966	1974	1974	1965	1966	1965

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL TOTAL	4377.70			
ANNUAL MEAN	12.0		10.1	
HIGHEST ANNUAL MEAN			14.1	1973
LOWEST ANNUAL MEAN			4.19	1966
HIGHEST DAILY MEAN	42	Mar 31	151	Mar 18 1968
LOWEST DAILY MEAN	0.17	Oct 9	0.07	Sep 12 1965
ANNUAL SEVEN-DAY MINIMUM	0.19	Oct 5	0.09	Sep 24 1965
MAXIMUM PEAK FLOW	47	Mar 3	164	Mar 18 1968
MAXIMUM PEAK STAGE	1.89	Mar 3	6.07	Mar 18 1968
INSTANTANEOUS LOW FLOW	0.17	Oct 5	0.07	Sep 12 1965
ANNUAL RUNOFF (CFSM)	2.17		1.82	
ANNUAL RUNOFF (INCHES)	29.45		24.75	
10 PERCENT EXCEEDS	24		23	
50 PERCENT EXCEEDS	9.6		7.2	
90 PERCENT EXCEEDS	2.1		0.58	

PAWCATUCK RIVER BASIN

01117800 WOOD RIVER NEAR ARCADIA, RI

LOCATION.--Lat 41°34'26", long 71°43'16", Washington County, Hydrologic Unit 01090005, on left bank at upstream side of bridge on Ten Rod Road, 1.8 mi northwest of Arcadia, and 4.5 mi north of Hope Valley.

DRAINAGE AREA.--35.2 mi^2.

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 National Geodetic Vertical Datum of 1929 (Rhode Island State Board of Public Roads benchmark). Prior to Oct. 1, 1985, datum erroneously published as 137.97 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--38 years (water years 1965–81, 1983–2003), 75.6 ft^3/s, 29.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 896 ft^3/s, Mar. 18, 1968, gage height, 8.64 ft; minimum, 4.1 ft^3/s, Sept. 1, 1995.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 6, 1982, reached a discharge of 1,010 ft^3/s, gage height, 8.97 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 327 ft^3/s, Mar. 31, gage height, 5.48 ft; minimum, 14 ft^3/s, Oct. 8–11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	22	60	110	51	84	252	111	118	57	37	23
2	18	21	56	157	56	118	200	110	127	54	39	64
3	17	20	54	152	57	176	174	101	101	53	35	63
4	16	21	49	202	62	149	166	93	89	54	33	65
5	18	21	48	182	68	136	161	87	138	47	37	72
6	16	29	49	161	61	133	156	84	119	43	37	63
7	15	29	47	143	61	122	144	84	108	36	36	53
8	15	25	47	129	57	110	144	82	118	36	149	43
9	15	25	44	122	54	113	146	81	103	43	139	36
10	16	28	43	116	53	119	155	77	91	43	116	31
11	15	33	44	107	52	105	164	73	79	62	91	29
12	21	34	93	98	49	101	204	83	83	70	78	27
13	27	77	95	91	45	103	193	104	123	51	71	27
14	25	80	153	86	44	95	169	84	155	43	62	27
15	22	65	175	80	45	88	152	79	133	39	53	27
16	32	58	156	75	42	96	139	70	108	42	45	57
17	44	127	129	75	41	128	125	65	93	53	44	52
18	30	162	105	68	55	e142	116	62	107	46	47	45
19	24	141	91	59	48	e139	111	59	115	44	48	44
20	21	109	133	58	55	e124	104	54	102	39	42	41
21	20	87	228	55	53	e196	98	53	94	37	38	36
22	19	113	209	53	67	e238	124	56	119	39	35	33
23	18	110	166	51	150	e204	159	60	165	59	36	31
24	18	98	136	50	163	e164	134	63	153	87	32	31
25	17	92	129	50	152	e146	119	62	135	93	33	29
26	28	77	155	50	132	e128	135	106	111	69	31	28
27	37	73	135	50	113	130	182	177	93	63	29	27
28	31	66	120	48	97	120	154	153	79	53	27	27
29	27	62	116	48	---	116	136	127	69	46	25	27
30	25	61	104	48	---	265	118	107	61	40	24	25
31	23	---	102	49	---	314	---	90	---	36	23	---
TOTAL	690	1966	3271	2823	1983	4402	4534	2697	3289	1577	1572	1183
MEAN	22.3	65.5	106	91.1	70.8	142	151	87.0	110	50.9	50.7	39.4
MAX	44	162	228	202	163	314	252	177	165	93	149	72
MIN	15	20	43	48	41	84	98	53	61	36	23	23
CFSM	0.63	1.86	3.00	2.59	2.01	4.03	4.29	2.47	3.11	1.45	1.44	1.12
IN.	0.73	2.08	3.46	2.98	2.10	4.65	4.79	2.85	3.48	1.67	1.66	1.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	35.3	63.0	94.6	100	106	135	131	91.4	63.4	33.2	29.3	24.1
MAX	112	163	229	310	187	256	320	153	182	89.3	90.0	55.1
(WY)	1990	1973	1973	1979	1970	1972	1983	1979	1998	1998	1979	1979
MIN	11.6	11.2	15.5	19.0	32.4	70.1	44.2	48.7	25.4	11.4	8.86	7.05
(WY)	1998	1966	1966	1966	2002	2002	1966	1986	1999	1999	1995	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1964 - 2003	
ANNUAL TOTAL	18111.4		29987			
ANNUAL MEAN	49.6		82.2		75.6	
HIGHEST ANNUAL MEAN					114	1973
LOWEST ANNUAL MEAN					33.3	1966
HIGHEST DAILY MEAN	228	Dec 21	314	Mar 31	826	Jan 27 1978
LOWEST DAILY MEAN	7.0	Aug 28	15	Oct 7	4.2	Sep 1 1995
ANNUAL SEVEN-DAY MINIMUM	7.7	Aug 22	16	Oct 5	4.2	Aug 31 1995
MAXIMUM PEAK FLOW			327	Mar 31	896	Mar 18 1968
MAXIMUM PEAK STAGE			5.48	Mar 31	8.64	Mar 18 1968
INSTANTANEOUS LOW FLOW			14	Oct 8	4.1	Sep 1 1995
ANNUAL RUNOFF (CFSM)	1.41		2.33		2.15	
ANNUAL RUNOFF (INCHES)	19.14		31.69		29.19	
10 PERCENT EXCEEDS	104		153		155	
50 PERCENT EXCEEDS	37		66		58	
90 PERCENT EXCEEDS	12		27		15	

e Estimated

PAWCATUCK RIVER BASIN

413223071423001 CLIMATOLOGICAL STATION NEAR ARCADIA, RI

LOCATION.--Lat 41°32'23", long 71°42'30", Washington County, Hydrologic Unit 01090005, 0.6 mi west of Wood River bridge, which is on Old Nooesneck Road, 1.1 mi southwest of Arcadia.

PERIOD OF RECORD.--

AIR TEMPERATURE: December 2002 to September 2003.

PRECIPITATION: December 2002 to September 2003.

GAGE.--Air temperature and precipitation recorder. Elevation of gage is 150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Air temperature records good. Precipitation records good except those for the period December through March, which are fair. Extremes for period of record are for those values reported.

EXTREMES FOR THE PERIOD DECEMBER 2002 TO SEPTEMBER 2003.--

AIR TEMPERATURE: Maximum recorded, 33.3 °C, June 25; minimum, -27.2°C, Feb. 14.

PRECIPITATION: Maximum daily total, 3.02 in., Mar. 30; minimum, 0.00 in., many days during the year.

TEMPERATURE, AIR, DEGREES CELSIUS WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	---	---	---	---	---	---	5.7	1.7	3.4
2	---	---	---	---	---	---	---	---	---	3.5	-3.2	-1.2
3	---	---	---	---	---	---	---	---	---	1.9	-2.8	-.3
4	---	---	---	---	---	---	---	---	---	2.0	-.6	.3
5	---	---	---	---	---	---	---	---	---	.4	-5.0	-1.6
6	---	---	---	---	---	---	---	---	---	-.7	-3.1	-1.9
7	---	---	---	---	---	---	---	---	---	-1.6	-10.9	-4.5
8	---	---	---	---	---	---	---	---	---	4.0	-9.0	-.7
9	---	---	---	---	---	---	---	---	---	7.1	-2.8	2.7
10	---	---	---	---	---	---	---	---	---	5.1	-5.2	-.6
11	---	---	---	---	---	---	---	---	---	-.9	-7.6	-4.0
12	---	---	---	---	---	---	---	---	---	1.1	-5.7	-2.8
13	---	---	---	---	---	---	---	---	---	2.5	-11.2	-2.5
14	---	---	---	---	---	---	---	---	---	-3.4	-10.1	-6.1
15	---	---	---	---	---	---	---	---	---	-2.4	-14.3	-7.8
16	---	---	---	---	---	---	---	---	---	-2.3	-14.9	-7.0
17	---	---	---	---	---	---	---	---	---	-.5	-9.8	-4.9
18	---	---	---	---	---	---	---	---	---	-6.0	-18.2	-13.0
19	---	---	---	---	---	---	7.3	-11.1	-1.0	-3.9	-17.1	-11.4
20	---	---	---	---	---	---	14.8	3.3	9.9	-.8	-14.8	-5.2
21	---	---	---	---	---	---	7.6	.9	4.0	-6.2	-12.8	-9.4
22	---	---	---	---	---	---	10.8	-1.1	4.7	-7.8	-13.9	-11.5
23	---	---	---	---	---	---	5.5	1.4	3.5	-8.7	-15.1	-12.3
24	---	---	---	---	---	---	3.8	-2.2	.9	-3.1	-14.5	-9.0
25	---	---	---	---	---	---	3.5	-1.7	1.1	-2.1	-16.0	-8.2
26	---	---	---	---	---	---	2.3	-2.3	-.5	4.3	-13.7	-3.9
27	---	---	---	---	---	---	3.7	-7.4	-2.2	-1.9	-16.3	-8.1
28	---	---	---	---	---	---	1.7	-8.4	-4.3	-5.8	-20.2	-11.9
29	---	---	---	---	---	---	4.8	-8.0	-1.3	-.9	-7.6	-4.1
30	---	---	---	---	---	---	2.7	-7.1	-2.0	2.3	-12.4	-3.9
31	---	---	---	---	---	---	9.5	-1.5	4.2	3.0	-1.3	.8
MONTH	---	---	---	---	---	---	---	---	---	7.1	-20.2	-4.9

PAWCATUCK RIVER BASIN

413223071423001 CLIMATOLOGICAL STATION NEAR ARCADIA, RI--Continued

TEMPERATURE, AIR, DEGREES CELSIUS WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.6	0.2	0.8	3.7	-11.2	-2.4	3.9	-5.2	-0.2	13.8	2.8	9.1
2	5.4	.9	2.8	7.4	.0	2.8	13.7	-.9	5.3	21.1	9.9	15.0
3	8.6	.7	3.4	1.9	-13.6	-7.7	7.5	1.4	4.4	17.5	1.7	10.8
4	10.6	1.0	5.2	1.0	-18.0	-7.2	2.7	-.2	1.1	17.3	-1.2	8.2
5	2.9	-5.7	-.6	7.2	-4.1	2.7	2.5	-.9	.8	17.3	-1.4	8.4
6	-.8	-11.1	-5.0	5.2	-11.0	-2.5	6.1	-3.1	1.7	12.9	5.8	10
7	-2.2	-6.3	-3.7	-1.2	-17.5	-8.1	1.6	-3.4	-.9	23.6	11.4	16.0
8	-1.3	-15.0	-7.2	9.4	-7.7	1.0	2.0	-2.0	.0	13.3	7.7	10
9	2.4	-13.6	-4.6	10.8	-6.7	3.7	3.0	.1	1.3	20.1	7.5	12.6
10	2.8	-7.8	-2.9	-3.6	-12.6	-7.4	11.0	-1.2	4.1	20.9	3.0	12.5
11	-.8	-10.9	-7.1	.7	-15.9	-5.5	5.4	1.0	3.5	16.6	5.2	10.8
12	.2	-15.4	-7.5	9.6	-2.3	2.8	16.5	4.8	8.5	15.6	7.3	10.0
13	-6.9	-23.5	-14.5	2.4	-3.0	-1.2	14.0	-1.1	6.9	15.4	3.3	10.5
14	-5.2	-27.2	-15.4	-.2	-8.9	-4.7	13.2	-3.1	5.2	19.3	3.9	12.1
15	-6.9	-16.8	-11.5	5.8	-7.4	-.3	20.4	2.6	12.5	18.8	7.6	12.8
16	-9.1	-16.0	-12.3	16.6	-4.2	5.3	29.3	6.1	17.1	11.9	6.2	9.0
17	-3.2	-9.3	-6.0	21.4	-1.1	9.3	6.1	-1.5	2.7	15.8	1.4	9.2
18	-.8	-7.7	-3.9	15.9	-1.4	6.1	10.5	-2.1	3.8	20.7	-1.9	9.7
19	4.8	-13.2	-2.8	5.6	-5.8	.1	14.9	.6	7.3	26.4	.4	14.5
20	9.5	-6.7	1.5	8.4	-6.7	1.8	18.4	2.0	9.6	26.0	2.1	14.0
21	11.7	-11.6	.1	12.1	8.4	10.6	16.0	-.9	8.2	19.9	4.4	12.0
22	3.7	.0	2.2	18.5	5.6	12.8	8.7	6.3	7.5	11.9	8.5	10.7
23	7.7	-3.0	3.0	12.2	-1.6	5.7	11.2	3.8	8.2	12.1	8.5	10.2
24	2.1	-5.8	-2.2	14.1	-2.6	4.8	10.7	2.1	6.6	10.9	8.1	9.3
25	-2.6	-10.8	-5.3	7.8	-.7	3.1	15.8	-3.2	7.2	14.4	8.8	11.5
26	-5.4	-16.2	-11.0	16.1	4.4	9.4	12.0	8.8	10.1	10.8	8.1	9.9
27	.3	-17.1	-7.8	15.6	.2	8.4	19.7	6.0	11.4	16.4	7.9	12.1
28	.1	-7.1	-3.2	15.2	-2.6	6.9	22.1	.6	13.2	18.2	7.6	12.8
29	---	---	---	17.3	9.2	12.7	26.2	4.1	14.6	22.7	10.3	16.0
30	---	---	---	12.6	.6	6.5	17.7	3.4	11.2	25.2	7.0	16.5
31	---	---	---	4.0	-3.2	.7	---	---	---	22.6	9.2	15.5
MONTH	11.7	-27.2	-4.1	21.4	-18.0	2.3	29.3	-5.2	6.4	26.4	-1.9	11.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.8	11.9	14.7	27.3	12.3	20.2	24.4	18.8	21.6	19.7	9.5	14.8
2	21.3	8.0	14.8	29.1	10.3	20.0	28.3	22.5	24.2	17.2	13.3	15.3
3	21.8	4.7	14.1	23.2	13.6	18.7	28.5	22.6	24.8	21.2	14.9	17.1
4	14.3	10.6	12.8	28.7	18.8	22.8	26.0	22.6	24.2	23.2	16.9	20.9
5	17.0	12.3	14.6	32.2	18.1	25.3	24.8	22.2	23.3	25.6	15.1	20.4
6	25.5	10.6	17.9	31.0	18.9	24.9	27.2	19.5	23.5	23.8	11.4	17.1
7	18.9	9.0	14.0	29.8	16.1	22.9	26.5	19.5	22.8	25.3	7.7	16.7
8	20.1	13.8	16.2	30.4	20.6	25.2	25.8	21.0	23.0	22.8	11.2	17.4
9	19.2	12.6	15.2	25.0	15.8	19.7	26.2	21.6	23.4	19.9	7.6	13.9
10	25.5	9.9	18.0	25.1	12.2	18.6	27.0	23.1	24.4	23.3	3.5	12.9
11	23.2	9.2	16.3	23.6	17.2	20.0	27.3	21.5	24.0	25.1	8.8	16.2
12	21.7	15.9	18.7	26.4	18.8	22.5	28.4	22.0	24.5	21.8	11.3	15.8
13	15.9	13.7	14.5	27.4	15.5	21.5	28.3	22.0	24.7	22.2	14.0	19.1
14	25.9	13.8	18.6	24.1	13.8	18.4	30.1	19.2	24.4	26.1	19.7	22.3
15	24.7	13.2	19.5	26.8	14.6	20.0	29.8	17.9	23.5	25.3	18.8	21.3
16	18.7	6.5	13.9	22.2	16.3	20.3	29.7	15.8	23.1	26.2	13.6	21.2
17	19.0	6.4	13.2	27.2	15.8	21.7	22.1	17.6	19.8	24.1	10.2	16.4
18	17.8	8.0	13.7	27.3	12.8	20.5	24.8	16.0	19.4	23.0	12.4	18.2
19	22.2	16.0	18.3	26.6	15.0	21.0	28.1	13.5	20.9	23.9	17.9	21.8
20	23.3	12.4	19.0	27.3	11.8	19.6	29.7	14.9	22.3	27.1	17.4	22.2
21	20.4	11.4	15.4	24.6	13.4	20.2	30.1	15.6	22.8	23.8	12.6	17.7
22	15.5	13.6	14.4	24.8	21.5	22.9	30.2	18.3	23.9	23.1	11.2	16.2
23	25.4	13.4	18.5	25.1	22.0	23.1	27.0	14.3	21.4	22.7	12.1	18.3
24	28.5	14.1	21.5	24.5	20.8	22.3	22.8	7.5	15.0	22.3	8.2	14.8
25	33.3	12.6	23.7	27.2	17.2	22.2	25.6	10.2	17.9	22.8	6.3	14.4
26	32.5	18.7	25.5	28.4	13.6	22.0	26.9	15.4	20.3	23.8	12.3	17.8
27	31.4	17.8	25.2	29.4	19.9	24.8	29.0	16.4	22.1	26.1	12.7	19.2
28	27.0	13.3	21.1	27.2	17.1	23.5	24.9	11.6	18.4	22.9	16.5	20.1
29	25.6	12.7	18.6	25.1	14.4	19.6	25.0	8.8	18.4	20.4	7.0	14.5
30	27.5	17.5	22.8	25.8	12.4	18.6	28.9	19.3	23.8	17.9	3.3	9.9
31	---	---	---	25.5	11.1	18.8	22.8	10.0	16.7	---	---	---
MONTH	33.3	4.7	17.5	32.2	10.3	21.3	30.2	7.5	22.0	27.1	3.3	17.5

PAWCATUCK RIVER BASIN

413223071423001 CLIMATOLOGICAL STATION NEAR ARCADIA, RI--Continued

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	1.05	0.02	0.00	0.00	0.15	0.63	0.00	0.55	0.30
2	---	---	---	.56	.21	2.88	.06	.00	.00	.00	.44	1.49
3	---	---	---	.86	.11	.00	.04	.00	.00	.53	.00	.01
4	---	---	---	.42	.24	.03	.04	.00	.65	.01	.01	.45
5	---	---	---	.05	.03	.30	.05	.00	.37	.00	.07	.00
6	---	---	---	.16	.00	.57	.00	.12	.00	.00	.00	.00
7	---	---	---	.04	.45	.22	.00	.01	.46	.00	.69	.00
8	---	---	---	.09	.21	.09	.25	.11	.00	.01	2.28	.00
9	---	---	---	.06	.02	.01	.33	.01	.00	.07	.02	.00
10	---	---	---	.00	.03	.00	.00	.00	.00	.00	.23	.00
11	---	---	---	.00	.11	.00	.79	.25	.00	.60	.11	.00
12	---	---	---	.00	.04	.00	.12	.06	.27	.01	.04	.00
13	---	---	---	.01	.00	.00	.00	.00	.72	.00	.00	.00
14	---	---	---	.00	.00	.13	.00	.02	.79	.00	.00	.02
15	---	---	---	.00	.00	.02	.00	.00	.00	.00	.00	.00
16	---	---	---	.00	.00	.11	.00	.00	.00	.01	.05	1.05
17	---	---	---	.00	.98	.07	.00	.00	.00	.00	1.06	.00
18	---	---	---	.00	.56	.00	.00	.00	.87	.09	.50	.00
19	---	---	0.00	.00	.00	.01	.00	.00	.01	.04	.00	.14
20	---	---	2.48	.00	.00	.17	.00	.00	.00	.00	.00	.00
21	---	---	.08	.00	.00	1.72	.00	.08	.13	.00	.00	.00
22	---	---	.02	.00	1.77	.23	1.19	.15	.40	.87	.00	.00
23	---	---	.11	.00	1.29	.01	.01	.15	.11	.13	.00	.12
24	---	---	.00	.00	.06	.00	.00	.08	.00	.84	.00	.00
25	---	---	.97	.00	.00	.00	.00	.03	.00	.00	.00	.00
26	---	---	.18	.00	.00	.01	1.57	1.93	.00	.00	.00	.00
27	---	---	.01	.00	.00	.12	.01	.01	.00	.00	.00	.01
28	---	---	.00	.00	.00	.01	.00	.02	.00	.00	.00	.10
29	---	---	.00	.01	---	1.22	.00	.00	.00	.16	.00	.12
30	---	---	.00	.04	---	3.02	.00	.00	.00	.00	.00	.00
31	---	---	.22	.00	---	.08	---	.18	---	.00	.00	---
TOTAL	---	---	---	3.35	6.13	11.03	4.46	3.36	5.41	3.37	6.05	3.81
MAX	---	---	---	1.05	1.77	3.02	1.57	1.93	0.87	0.87	2.28	1.49

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 mi^2.

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 National Geodetic Vertical Datum of 1929. August to December 1909, nonrecording gage at site 1,000 ft upstream at different datum.

REMARKS.--Records 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.

AVERAGE DISCHARGE.--62 years, 155 ft^3/s, 29.14 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,390 ft^3/s, June 6, 1982, gage height, 10.26 ft; minimum, 4.0 ft^3/s, Sept. 9, 1987; minimum daily, 10 ft^3/s, Oct. 13, 1941.

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 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 788 ft^3/s, Mar. 30, gage height, 5.32 ft; minimum, 24 ft^3/s, Oct. 8–11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	44	124	213	100	174	568	240	210	116	78	49
2	35	41	121	303	99	262	436	239	251	110	101	137
3	32	46	116	304	111	475	369	223	203	113	100	161
4	29	57	104	421	118	325	339	204	186	125	86	144
5	29	60	101	411	135	286	319	193	284	112	84	148
6	30	77	102	334	121	285	306	189	283	101	90	124
7	27	81	97	291	120	253	280	190	235	90	85	103
8	25	71	99	256	114	236	283	186	253	85	356	87
9	24	61	94	239	108	242	286	182	224	86	327	74
10	25	58	87	229	107	260	320	175	195	89	240	65
11	26	66	93	212	105	227	329	176	171	104	191	60
12	34	71	164	197	101	215	451	172	170	150	158	56
13	46	140	192	186	93	221	427	190	230	117	136	55
14	47	162	278	174	90	207	355	174	366	97	123	56
15	39	129	363	163	93	194	305	168	326	90	106	58
16	55	115	300	153	92	200	276	156	256	88	93	110
17	94	229	252	152	95	246	249	143	215	109	112	150
18	74	318	211	140	99	283	230	136	242	91	147	110
19	52	273	188	128	98	280	219	128	282	89	154	80
20	43	222	246	126	99	250	208	121	233	79	117	73
21	39	182	471	121	102	431	199	119	204	74	98	67
22	35	211	421	113	125	552	239	123	217	81	87	64
23	34	227	333	107	315	436	347	133	288	129	80	61
24	33	193	268	107	369	349	280	137	275	169	73	61
25	31	177	253	105	294	293	243	134	241	200	68	58
26	54	155	321	105	246	267	280	199	205	150	66	56
27	91	147	276	105	211	257	467	426	177	124	61	54
28	74	140	241	99	195	239	356	322	154	102	57	53
29	60	128	225	100	---	227	299	257	138	91	53	56
30	52	124	213	99	---	550	261	210	127	83	51	54
31	47	---	202	99	---	732	---	183	---	75	50	---
TOTAL	1357	4005	6556	5792	3955	9454	9526	5828	6841	3319	3628	2484
MEAN	43.8	134	211	187	141	305	318	188	228	107	117	82.8
MAX	94	318	471	421	369	732	568	426	366	200	356	161
MIN	24	41	87	99	90	174	199	119	127	74	50	49
CFSM	0.60	1.84	2.92	2.58	1.95	4.21	4.39	2.60	3.15	1.48	1.62	1.14
IN.	0.70	2.06	3.37	2.98	2.03	4.86	4.89	2.99	3.51	1.71	1.86	1.28
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)												
MEAN	74.8	127	183	201	216	280	264	191	135	70.2	62.3	59.5
MAX	341	386	477	666	398	465	664	365	540	178	183	311
(WY)	1956	1956	1987	1979	1970	1972	1983	1979	1982	1998	1979	1954
MIN	22.6	24.9	35.1	36.8	65.6	137	89.4	91.9	48.3	23.8	18.9	17.4
(WY)	1958	1966	1966	1981	2002	2002	1966	1986	1957	1999	2002	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	37646		62745			
ANNUAL MEAN	103		172		155	
HIGHEST ANNUAL MEAN					235	1973
LOWEST ANNUAL MEAN					71.2	1966
HIGHEST DAILY MEAN	471	Dec 21	732	Mar 31	2200	Jun 6 1982
LOWEST DAILY MEAN	15	Aug 19	24	Oct 9	10	Oct 13 1941
ANNUAL SEVEN-DAY MINIMUM	15	Aug 22	27	Oct 5	13	Aug 1 1999
MAXIMUM PEAK FLOW			788	Mar 30	2390	Jun 6 1982
MAXIMUM PEAK STAGE			5.32	Mar 30	10.26	Jun 6 1982
INSTANTANEOUS LOW FLOW			24	Oct 8	4.0	Sep 9 1987
ANNUAL RUNOFF (CFSM)	1.42		2.37		2.14	
ANNUAL RUNOFF (INCHES)	19.34		32.24		29.14	
10 PERCENT EXCEEDS	216		318		316	
50 PERCENT EXCEEDS	80		140		119	
90 PERCENT EXCEEDS	24		55		34	

PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1977 to current year.

WATER TEMPERATURE: October 1977 to current year.

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

REMARKS.--Specific conductance records fair, except those for estimated values, which are poor; temperature records good. Interruptions in the record are due to malfunctions of the instrument. Extremes for period of daily record and current year are for those values reported.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

WATER TEMPERATURE: Maximum recorded, 29.5°C, July 24, 1987, July 26, 27, 28, 1989; minimum, -0.1°C, Feb. 14, 17, 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 227 µS/cm, Feb. 22; minimum, 71 µS/cm, Dec. 22.

WATER TEMPERATURE: Maximum recorded, 25.3°C, July 6, Aug. 14, 15; minimum, -0.1°C, Feb. 14, 17.

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	123	119	121	110	109	109	95	92	93	109	92	95
2	126	123	124	112	110	110	93	92	92	113	88	97
3	---	---	e127	113	110	112	106	91	97	106	86	90
4	132	127	129	110	103	106	92	87	90	109	85	94
5	---	---	e122	125	104	114	132	88	94	85	82	83
6	121	118	120	---	---	e131	124	94	106	97	83	87
7	121	118	119	139	133	136	95	88	92	88	84	85
8	121	119	120	139	133	136	98	90	94	94	85	89
9	120	118	119	134	132	133	96	90	93	97	88	90
10	122	119	120	---	---	e134	99	90	95	95	89	91
11	---	---	---	---	---	---	143	94	101	91	88	89
12	---	---	---	---	---	e122	214	100	128	90	86	89
13	---	---	---	---	---	e112	100	95	96	93	88	91
14	121	119	120	108	98	102	118	94	102	94	89	92
15	120	117	118	98	96	97	94	83	87	95	91	93
16	120	118	119	97	96	96	96	81	84	98	92	95
17	118	109	112	96	88	92	84	79	82	99	95	97
18	116	110	113	88	83	85	83	77	80	100	93	96
19	122	116	119	83	80	82	88	83	85	100	95	97
20	124	122	123	82	80	81	117	88	100	104	97	101
21	124	122	123	84	82	83	89	75	82	105	99	101
22	123	118	120	84	81	82	75	71	72	107	100	102
23	---	---	e116	82	80	81	76	72	74	109	102	105
24	115	115	115	84	82	82	80	76	78	111	104	107
25	129	114	115	84	82	83	115	80	87	111	105	108
26	114	104	110	85	82	83	109	84	94	112	105	108
27	112	107	108	115	84	98	86	81	83	110	103	107
28	110	106	107	91	88	89	83	80	82	110	102	106
29	113	110	112	97	87	89	87	83	85	114	109	111
30	113	113	113	100	92	95	87	85	86	116	104	111
31	113	110	111	---	---	---	119	87	97	115	113	114
MONTH	---	---	---	---	---	---	214	71	91	116	82	97

PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	119	113	115	112	101	106	73	72	72	---	---	e105
2	138	118	127	182	110	133	79	73	75	107	104	105
3	120	113	115	121	79	93	83	79	81	110	107	109
4	124	111	115	86	76	81	87	83	85	111	108	109
5	116	106	110	108	79	93	90	87	88	111	109	110
6	107	104	106	119	92	98	91	90	91	---	---	e109
7	183	105	131	134	90	104	141	90	97	---	---	e111
8	138	109	119	109	87	97	142	101	117	---	---	---
9	112	104	108	109	99	103	122	98	104	113	111	112
10	187	104	119	103	96	100	101	95	99	115	112	113
11	152	111	125	97	91	95	109	93	97	114	108	111
12	114	104	109	99	94	97	96	85	91	113	108	110
13	111	102	106	158	97	107	87	86	86	113	103	109
14	113	102	106	123	103	107	90	86	87	106	101	103
15	111	102	106	106	102	104	95	90	92	113	106	109
16	106	102	103	104	102	103	101	95	98	117	113	115
17	115	99	103	102	96	100	101	98	100	121	115	118
18	193	101	142	96	84	89	99	97	98	124	115	117
19	147	112	125	85	81	82	102	97	99	127	117	122
20	163	109	129	106	80	82	104	98	101	127	125	126
21	127	104	115	126	79	93	105	100	103	---	---	e126
22	227	108	141	80	76	78	112	105	106	---	---	---
23	150	116	127	76	74	75	110	98	103	---	---	e125
24	116	96	104	76	74	75	98	96	97	---	---	e122
25	99	91	94	81	76	78	102	96	99	---	---	e121
26	102	91	95	85	81	83	107	99	101	---	---	---
27	104	92	98	89	85	87	108	96	101	---	---	e102
28	105	94	101	91	88	89	97	94	96	95	92	94
29	---	---	---	93	90	91	101	97	98	100	95	97
30	---	---	---	98	85	93	106	101	103	104	100	101
31	---	---	---	85	73	78	---	---	---	105	104	104
MONTH	227	91	114	182	73	93	142	72	96	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	120	111	118	---	---	---	---	---	e132
2	108	103	105	124	111	114	---	---	e116	---	---	---
3	105	103	104	---	---	---	120	113	116	120	110	113
4	---	---	---	116	111	113	126	120	123	---	---	e113
5	---	---	---	122	116	117	---	---	---	116	114	116
6	100	97	98	120	115	118	128	125	127	116	111	114
7	---	---	e100	122	120	121	127	118	125	127	110	112
8	101	99	100	134	121	127	119	106	112	111	110	111
9	101	99	100	---	---	e127	106	97	100	114	110	112
10	104	101	103	148	116	126	100	96	98	117	112	114
11	107	104	105	---	---	---	102	98	100	121	116	117
12	---	---	---	---	---	e103	110	102	106	121	118	119
13	---	---	---	103	100	102	112	107	110	123	120	121
14	99	90	94	108	103	106	112	107	110	---	---	e125
15	100	90	93	114	108	111	115	110	113	128	125	126
16	98	93	93	---	---	e115	117	114	116	126	116	120
17	99	94	96	115	110	113	---	---	e117	116	97	106
18	---	---	e99	113	98	109	122	103	116	116	97	109
19	103	94	97	122	108	113	126	111	121	---	---	e120
20	108	96	100	124	112	115	119	116	117	125	123	124
21	---	---	e100	---	---	e116	120	116	118	124	121	122
22	102	98	100	129	107	121	124	120	121	124	119	121
23	101	90	95	---	---	e117	127	124	125	---	---	---
24	98	90	94	---	---	e114	130	127	128	121	119	120
25	98	97	97	112	105	107	129	127	128	120	119	119
26	102	98	100	108	106	107	129	126	128	120	119	119
27	106	102	104	113	108	111	129	126	127	120	118	119
28	116	103	108	114	110	112	132	127	130	---	---	e120
29	107	105	106	---	---	e112	135	129	132	123	121	122
30	124	107	114	115	112	114	147	130	131	126	122	123
31	---	---	---	116	114	115	133	129	131	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.4	15.9	17.2	7.4	6.0	6.8	3.2	2.2	2.7	3.3	2.6	3.1
2	19.0	16.5	17.7	6.8	5.5	6.0	2.6	2.1	2.3	3.3	2.5	3.0
3	18.7	17.6	18.1	6.0	4.7	5.3	2.1	.6	1.4	2.5	2.1	2.2
4	17.7	16.7	17.0	5.7	4.5	5.1	1.1	.2	.6	2.4	2.1	2.3
5	19.1	17.0	18.1	6.0	4.5	5.3	.6	.2	.4	2.1	1.7	1.9
6	18.3	16.1	16.9	6.9	5.5	6.3	1.1	.1	.6	1.8	1.6	1.8
7	16.9	15.6	16.3	7.2	5.7	6.4	1.0	.0	.4	1.6	1.0	1.4
8	16.4	14.6	15.3	7.2	5.4	6.3	1.4	.3	.8	1.6	.9	1.2
9	14.8	13.6	14.1	7.8	6.2	7.0	.9	.1	.5	2.5	1.5	2.1
10	14.8	13.7	14.3	9.5	7.5	8.5	1.2	.2	.6	3.0	2.1	2.5
11	14.6	14.0	14.2	11.4	9.5	10.6	1.4	.3	.9	2.1	1.2	1.7
12	14.8	14.2	14.5	11.9	11.1	11.5	1.8	1.3	1.5	1.6	.8	1.2
13	14.7	14.2	14.4	11.5	10.3	11.0	2.1	1.4	1.7	1.7	.8	1.2
14	14.5	12.9	13.7	10.3	8.8	9.6	3.0	2.0	2.6	1.3	.6	.9
15	12.9	11.1	12.1	9.3	8.2	8.7	3.2	2.7	2.9	1.3	.6	.9
16	12.9	11.8	12.3	8.2	7.5	7.9	2.9	2.4	2.8	1.4	.6	.9
17	12.9	11.3	12.1	7.8	7.1	7.5	2.4	1.1	1.9	1.5	.7	1.0
18	13.1	11.6	12.3	7.1	6.6	6.9	1.5	.7	1.0	1.1	.3	.6
19	12.3	10.6	11.5	6.6	6.1	6.3	1.6	.6	1.1	.9	.2	.5
20	12.4	11.2	11.8	6.7	5.7	6.2	4.0	1.5	2.8	1.1	.3	.6
21	11.5	10.0	10.7	6.3	5.8	6.1	4.1	3.4	3.8	.9	.2	.4
22	10.6	8.9	9.8	7.3	6.3	6.8	3.5	3.1	3.2	.9	.2	.4
23	10.0	8.8	9.2	7.3	6.1	6.9	3.5	3.1	3.3	.8	.2	.4
24	8.8	7.3	8.3	6.1	5.2	5.6	3.2	2.7	2.9	1.0	.2	.5
25	8.8	7.7	8.4	5.5	4.6	5.1	2.8	2.5	2.7	1.2	.4	.7
26	9.3	8.4	8.8	5.8	4.9	5.3	2.5	1.5	2.0	1.4	.4	.9
27	9.6	7.9	8.7	5.4	3.7	4.6	1.5	.9	1.2	1.1	.3	.7
28	9.5	8.1	8.7	3.7	2.2	2.9	1.5	.8	1.1	1.0	.2	.5
29	8.5	7.3	8.0	2.4	1.7	2.1	1.7	.9	1.2	1.1	.5	.8
30	8.0	7.3	7.6	2.8	2.1	2.4	1.8	1.1	1.4	2.2	.3	.8
31	7.7	6.3	7.1	---	---	---	2.6	1.6	2.1	1.5	1.0	1.3
MONTH	19.1	6.3	12.6	11.9	1.7	6.6	4.1	0.0	1.8	3.3	0.2	1.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.9	1.4	1.6	1.9	0.4	1.1	6.9	5.9	6.3	14.3	13.0	13.8
2	2.5	1.6	2.0	2.0	1.2	1.6	7.7	6.1	6.9	14.9	12.7	13.8
3	3.2	1.8	2.4	1.4	.3	.8	7.8	7.2	7.6	16.3	14.3	15.1
4	3.5	2.6	3.0	1.2	.1	.6	7.2	5.8	6.6	16.0	13.4	14.5
5	3.4	2.0	2.7	1.4	.7	1.1	5.8	5.0	5.3	14.8	12.8	13.7
6	2.6	1.3	1.9	1.5	.3	1.0	6.7	4.6	5.6	13.3	12.7	13.0
7	1.7	1.0	1.3	1.4	.1	.6	6.1	3.9	5.4	15.2	12.5	13.8
8	1.7	.4	.9	2.3	.4	1.3	3.9	3.4	3.7	15.0	14.0	14.8
9	1.9	.5	1.0	3.7	1.7	2.6	4.3	3.7	4.0	15.0	13.3	14.0
10	1.4	.8	1.0	2.5	1.2	1.9	6.2	3.7	4.9	16.5	13.2	14.7
11	1.4	.4	.9	2.4	.8	1.5	6.1	5.5	5.9	16.4	14.4	15.4
12	1.5	.3	.8	3.6	1.6	2.6	6.5	5.5	5.9	15.7	14.2	14.7
13	1.0	.0	.4	3.3	2.3	2.9	8.5	6.3	7.3	14.4	13.4	13.9
14	1.0	-.1	.3	3.0	1.5	2.2	9.5	7.6	8.5	15.1	12.8	13.9
15	1.0	.0	.3	3.7	2.1	2.7	11.1	8.8	9.9	15.9	13.7	14.8
16	.5	.0	.2	5.5	2.6	3.9	14.1	11.0	12.5	14.5	13.2	14.0
17	.3	-.1	.0	6.4	4.2	5.2	13.5	10.8	12.4	15.4	12.3	13.7
18	.5	.0	.3	6.6	5.2	5.7	11.0	9.6	10.2	16.3	12.1	14.0
19	.9	.0	.4	6.1	4.5	5.2	11.8	9.2	10.3	17.6	12.9	15.0
20	1.4	.2	.7	5.2	4.1	4.5	12.9	9.9	11.3	18.1	14.3	15.9
21	1.5	.0	.6	5.8	4.7	5.3	13.7	10.6	12.0	16.4	15.4	15.9
22	1.1	.6	.9	6.5	4.9	5.7	12.2	11.1	11.8	15.8	13.7	14.8
23	1.0	.5	.9	7.4	6.1	6.7	11.9	10.7	11.3	13.7	12.9	13.4
24	.8	.1	.5	7.8	6.0	6.8	11.5	10.4	10.8	12.9	12.3	12.6
25	1.0	.3	.5	8.1	6.9	7.4	12.1	9.7	10.8	13.3	12.0	12.7
26	.8	.0	.3	9.6	7.6	8.6	11.5	10.9	11.3	12.8	12.3	12.5
27	.9	.0	.4	11.3	9.2	10.2	12.6	10.5	11.5	12.8	11.8	12.4
28	1.1	.3	.7	11.2	9.4	10.2	14.0	12.0	13.0	13.5	12.4	13.0
29	---	---	---	11.5	10.2	10.8	15.2	13.5	14.2	15.9	13.2	14.6
30	---	---	---	11.4	9.5	10.8	16.0	13.9	14.7	17.3	15.5	16.4
31	---	---	---	9.5	6.9	8.0	---	---	---	18.0	16.4	17.1
MONTH	3.5	-0.1	1.0	11.5	0.1	4.5	16.0	3.4	9.1	18.1	11.8	14.3

PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.9	15.6	16.4	23.3	20.5	21.7	22.0	20.8	21.2	20.1	18.4	18.9
2	16.8	14.6	15.7	23.1	20.1	21.4	22.6	20.8	21.4	18.7	17.4	18.0
3	17.3	15.3	16.1	21.3	20.4	20.8	24.1	21.4	22.5	18.1	16.9	17.5
4	16.1	15.3	15.7	22.3	20.0	20.9	24.0	22.5	23.2	18.8	17.7	18.3
5	15.3	14.8	15.0	24.0	20.8	22.2	23.6	22.8	23.1	20.4	18.4	19.3
6	17.8	14.6	16.1	25.3	22.5	23.7	24.4	22.4	23.1	20.7	18.8	19.6
7	17.2	16.4	16.9	24.3	22.6	23.5	23.7	22.5	23.0	20.6	18.0	19.2
8	16.8	16.0	16.3	25.0	22.5	23.6	23.1	22.2	22.6	20.2	18.4	19.2
9	16.9	15.9	16.2	23.6	21.6	22.7	23.3	22.7	23.0	19.3	17.4	18.4
10	19.0	16.0	17.3	22.7	20.5	21.5	23.7	22.7	23.2	18.9	16.0	17.5
11	18.8	17.5	18.1	21.1	19.9	20.2	24.5	23.1	23.6	18.8	16.0	17.4
12	18.3	17.8	18.1	21.6	19.5	20.5	24.9	23.6	24.0	18.5	16.3	17.4
13	17.8	16.6	17.2	23.6	20.7	21.9	24.8	23.6	24.1	18.1	16.9	17.6
14	18.1	16.2	17.1	22.2	20.9	21.5	25.3	23.3	24.2	19.6	17.7	18.5
15	19.3	17.6	18.5	22.8	20.2	21.3	25.3	23.1	24.0	20.1	18.1	19.0
16	19.1	17.5	18.5	21.2	20.2	20.6	24.8	22.7	23.6	21.1	19.2	19.9
17	18.6	16.8	17.6	22.5	20.2	21.2	23.2	22.1	22.7	21.5	19.0	20.1
18	17.5	16.6	17.1	23.8	19.9	21.0	22.5	21.2	21.7	19.8	18.7	19.3
19	17.3	16.4	16.8	23.1	20.4	21.5	23.0	20.7	21.6	19.4	18.5	18.9
20	19.7	17.3	18.3	23.4	19.9	21.5	23.6	20.8	22.0	20.9	18.5	19.5
21	18.9	17.7	18.4	22.2	20.4	21.1	24.1	21.2	22.4	21.0	18.8	19.7
22	17.7	16.4	17.0	21.2	20.7	20.9	24.3	21.8	22.7	20.3	18.5	19.3
23	18.5	15.9	17.1	21.7	20.6	21.1	24.2	21.9	22.9	19.3	18.2	18.7
24	23.6	17.9	19.1	21.9	21.0	21.4	22.4	20.2	21.3	19.2	17.1	18.1
25	22.5	19.7	21.1	23.2	21.1	22.0	21.7	19.4	20.4	18.6	16.2	17.3
26	23.6	21.6	22.4	23.7	21.7	22.5	21.6	19.3	20.2	18.9	16.8	17.7
27	24.1	22.2	23.1	24.0	22.0	22.8	22.1	19.4	20.5	19.2	16.9	17.8
28	24.0	22.0	23.1	24.7	22.6	23.3	21.9	19.6	20.7	18.8	17.9	18.3
29	22.7	20.8	21.7	24.3	22.1	23.0	21.5	18.8	20.2	18.6	17.2	17.9
30	22.3	20.6	21.4	23.4	21.1	22.1	22.3	20.2	21.1	17.6	15.7	16.7
31	---	---	---	23.2	20.1	21.6	21.2	19.4	20.4	---	---	---
MONTH	24.1	14.6	18.1	25.3	19.5	21.8	25.3	18.8	22.3	21.5	15.7	18.5
YEAR	25.3	-0.1	11.0									

PAWCATUCK RIVER BASIN

01118010 PAWCATUCK RIVER AT BURDICKVILLE, RI

LOCATION.--Lat 41°24'58", long 71°43'46", Washington County, Hydrologic Unit 01090005, 400 ft upstream from bridge on Burdickville Road, 0.4 mi east of Burdickville.

DRAINAGE AREA.--205 mi^2.

PERIOD OF RECORD.--August 2002 to September 2003. Discharge measurements made in water years 1966–67, 1977, and 1991.

GAGE.--Water-stage recorder. Elevation of gage is 45 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR THE PERIOD AUGUST 2002 TO SEPTEMBER 2003.--Maximum discharge, 1,490 ft^3/s, Mar. 31, gage height, 3.94 ft; minimum, 42 ft^3/s, Aug. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	63
2	---	---	---	---	---	---	---	---	---	---	---	104
3	---	---	---	---	---	---	---	---	---	---	---	154
4	---	---	---	---	---	---	---	---	---	---	---	148
5	---	---	---	---	---	---	---	---	---	---	---	124
6	---	---	---	---	---	---	---	---	---	---	e65	98
7	---	---	---	---	---	---	---	---	---	---	63	85
8	---	---	---	---	---	---	---	---	---	---	60	76
9	---	---	---	---	---	---	---	---	---	---	57	69
10	---	---	---	---	---	---	---	---	---	---	56	64
11	---	---	---	---	---	---	---	---	---	---	55	61
12	---	---	---	---	---	---	---	---	---	---	54	55
13	---	---	---	---	---	---	---	---	---	---	52	52
14	---	---	---	---	---	---	---	---	---	---	50	51
15	---	---	---	---	---	---	---	---	---	---	50	53
16	---	---	---	---	---	---	---	---	---	---	53	92
17	---	---	---	---	---	---	---	---	---	---	50	138
18	---	---	---	---	---	---	---	---	---	---	48	124
19	---	---	---	---	---	---	---	---	---	---	46	96
20	---	---	---	---	---	---	---	---	---	---	45	81
21	---	---	---	---	---	---	---	---	---	---	48	74
22	---	---	---	---	---	---	---	---	---	---	49	70
23	---	---	---	---	---	---	---	---	---	---	48	103
24	---	---	---	---	---	---	---	---	---	---	46	138
25	---	---	---	---	---	---	---	---	---	---	48	115
26	---	---	---	---	---	---	---	---	---	---	45	98
27	---	---	---	---	---	---	---	---	---	---	44	169
28	---	---	---	---	---	---	---	---	---	---	44	200
29	---	---	---	---	---	---	---	---	---	---	55	165
30	---	---	---	---	---	---	---	---	---	---	76	125
31	---	---	---	---	---	---	---	---	---	---	70	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	3045
MEAN	---	---	---	---	---	---	---	---	---	---	---	102
MAX	---	---	---	---	---	---	---	---	---	---	---	200
MIN	---	---	---	---	---	---	---	---	---	---	---	51
CFSM	---	---	---	---	---	---	---	---	---	---	---	0.50
IN.	---	---	---	---	---	---	---	---	---	---	---	0.55
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)												
MEAN	---	---	---	---	---	---	---	---	---	---	---	102
MAX	---	---	---	---	---	---	---	---	---	---	---	102
(WY)	---	---	---	---	---	---	---	---	---	---	---	2002
MIN	---	---	---	---	---	---	---	---	---	---	---	102
(WY)	---	---	---	---	---	---	---	---	---	---	---	2002

e Estimated

PAWCATUCK RIVER BASIN

01118010 PAWCATUCK RIVER AT BURDICKVILLE, RI--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	168	356	608	308	520	1410	797	552	337	213	186
2	93	153	346	752	312	633	1220	750	638	317	259	346
3	84	144	337	844	324	1100	1050	707	598	326	274	459
4	80	153	310	1020	345	e976	931	660	559	397	251	468
5	76	157	291	1120	386	928	856	612	739	378	234	461
6	74	208	290	1040	360	879	808	582	850	348	230	397
7	71	232	279	947	343	e777	755	572	775	322	220	332
8	66	213	282	837	327	728	751	569	779	296	681	272
9	62	191	274	759	310	708	773	558	728	285	871	234
10	62	174	253	717	310	759	841	533	644	283	733	206
11	66	183	257	667	303	698	866	513	567	310	607	189
12	86	195	402	613	292	657	1060	518	545	392	493	175
13	113	330	476	569	272	642	1120	523	623	370	427	167
14	118	411	625	535	260	613	1040	504	757	314	388	170
15	103	374	784	505	255	574	928	479	820	287	363	169
16	137	336	763	e461	246	566	821	458	728	267	325	234
17	228	492	696	e456	225	628	740	434	636	271	345	296
18	218	681	596	e422	271	706	683	411	622	254	452	291
19	160	682	531	e394	275	734	641	392	733	242	488	227
20	121	604	579	387	271	697	603	373	683	222	439	212
21	104	518	888	e364	277	824	568	355	604	207	390	199
22	97	511	969	e340	331	1110	623	367	574	202	331	190
23	92	557	888	e319	684	1090	857	397	638	282	301	185
24	89	515	766	e317	841	966	856	417	682	371	272	176
25	83	470	689	308	813	839	773	410	641	448	250	171
26	228	430	811	307	733	745	787	512	567	388	240	164
27	479	404	826	313	654	691	1130	885	484	314	225	163
28	398	391	762	e291	575	645	1130	881	423	263	213	172
29	292	364	698	301	---	607	1010	766	380	232	204	169
30	226	363	646	300	---	971	894	637	356	222	196	153
31	191	---	607	303	---	1440	---	536	---	210	189	---
TOTAL	4402	10604	17277	17116	10903	24451	26525	17108	18925	9357	11104	7233
MEAN	142	353	557	552	389	789	884	552	631	302	358	241
MAX	479	682	969	1120	841	1440	1410	885	850	448	871	468
MIN	62	144	253	291	225	520	568	355	356	202	189	153
CFSM	0.69	1.72	2.72	2.69	1.90	3.85	4.31	2.69	3.08	1.47	1.75	1.18
IN.	0.80	1.92	3.14	3.11	1.98	4.44	4.81	3.10	3.43	1.70	2.01	1.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	142	353	557	552	389	789	884	552	631	302	358	171
MAX	142	353	557	552	389	789	884	552	631	302	358	241
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	142	353	557	552	389	789	884	552	631	302	358	102
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2002

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	175005			
ANNUAL MEAN	479		479	
HIGHEST ANNUAL MEAN			479	2003
LOWEST ANNUAL MEAN			479	2003
HIGHEST DAILY MEAN	1440	Mar 31	1440	Mar 31 2003
LOWEST DAILY MEAN	62	Oct 9	44	Aug 27 2002
ANNUAL SEVEN-DAY MINIMUM	68	Oct 5	46	Aug 22 2002
MAXIMUM PEAK FLOW	1490	Mar 31	1490	Mar 31 2003
MAXIMUM PEAK STAGE	3.94	Mar 31	3.94	Mar 31 2003
INSTANTANEOUS LOW FLOW	60	Oct 9	42	Aug 27 2002
ANNUAL RUNOFF (CFSM)	2.34		2.34	
ANNUAL RUNOFF (INCHES)	31.76		31.78	
10 PERCENT EXCEEDS	846		846	
50 PERCENT EXCEEDS	410		410	
90 PERCENT EXCEEDS	172		172	

e Estimated

PAWCATUCK RIVER BASIN

01118360 ASHAWAY RIVER AT ASHAWAY, RI

LOCATION.--Lat 41°25'24", long 71°47'32", Washington County, Hydrologic Unit 01090005, at bridge on Laurel Street, 0.4 mi west of Ashaway.

DRAINAGE AREA.--28.6 mi^2.

PERIOD OF RECORD.--August 2002 to September 2003. Discharge measurements made in water year 1991.

GAGE.--Water-stage recorder. Elevation of gage is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR THE PERIOD AUGUST 2002 TO SEPTEMBER 2003.--Maximum discharge, 434 ft^3/s, Mar. 30, gage height, 3.00 ft; minimum, 0.70 ft^3/s, Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	4.9
2	---	---	---	---	---	---	---	---	---	---	---	13
3	---	---	---	---	---	---	---	---	---	---	---	12
4	---	---	---	---	---	---	---	---	---	---	---	11
5	---	---	---	---	---	---	---	---	---	---	---	9.3
6	---	---	---	---	---	---	---	---	---	---	---	6.9
7	---	---	---	---	---	---	---	---	---	---	---	6.2
8	---	---	---	---	---	---	---	---	---	---	---	5.9
9	---	---	---	---	---	---	---	---	---	---	---	5.6
10	---	---	---	---	---	---	---	---	---	---	---	5.2
11	---	---	---	---	---	---	---	---	---	---	---	4.9
12	---	---	---	---	---	---	---	---	---	---	---	4.6
13	---	---	---	---	---	---	---	---	---	---	---	5.0
14	---	---	---	---	---	---	---	---	---	---	---	5.2
15	---	---	---	---	---	---	---	---	---	---	---	5.2
16	---	---	---	---	---	---	---	---	---	---	e4.0	12
17	---	---	---	---	---	---	---	---	---	---	4.1	9.3
18	---	---	---	---	---	---	---	---	---	---	4.0	6.5
19	---	---	---	---	---	---	---	---	---	---	4.0	5.6
20	---	---	---	---	---	---	---	---	---	---	4.1	5.1
21	---	---	---	---	---	---	---	---	---	---	4.0	4.8
22	---	---	---	---	---	---	---	---	---	---	3.6	4.6
23	---	---	---	---	---	---	---	---	---	---	3.5	14
24	---	---	---	---	---	---	---	---	---	---	3.4	9.8
25	---	---	---	---	---	---	---	---	---	---	3.4	7.4
26	---	---	---	---	---	---	---	---	---	---	3.3	7.3
27	---	---	---	---	---	---	---	---	---	---	2.8	24
28	---	---	---	---	---	---	---	---	---	---	.96	19
29	---	---	---	---	---	---	---	---	---	---	2.8	12
30	---	---	---	---	---	---	---	---	---	---	8.9	10
31	---	---	---	---	---	---	---	---	---	---	5.8	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	256.3
MEAN	---	---	---	---	---	---	---	---	---	---	---	8.54
MAX	---	---	---	---	---	---	---	---	---	---	---	24
MIN	---	---	---	---	---	---	---	---	---	---	---	4.6
CFSM	---	---	---	---	---	---	---	---	---	---	---	0.30
IN.	---	---	---	---	---	---	---	---	---	---	---	0.33
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)												
MEAN	---	---	---	---	---	---	---	---	---	---	---	8.54
MAX	---	---	---	---	---	---	---	---	---	---	---	8.54
(WY)	---	---	---	---	---	---	---	---	---	---	---	2002
MIN	---	---	---	---	---	---	---	---	---	---	---	8.54
(WY)	---	---	---	---	---	---	---	---	---	---	---	2002

e Estimated

PAWCATUCK RIVER BASIN

01118360 ASHAWAY RIVER AT ASHAWAY, RI--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	13	62	88	33	63	196	94	80	32	25	15
2	8.5	11	56	146	36	168	144	92	93	28	35	56
3	7.6	11	52	134	38	329	120	85	69	32	32	63
4	7.1	11	48	224	42	167	110	76	69	40	28	60
5	7.1	11	45	180	49	126	101	69	146	33	29	52
6	6.6	22	45	132	39	129	94	67	131	30	26	39
7	6.3	28	42	111	38	e103	86	68	96	27	22	29
8	6.0	22	41	98	35	95	90	69	109	24	149	23
9	6.3	18	38	93	33	113	102	68	94	22	120	19
10	6.4	16	35	92	33	118	128	62	76	22	75	16
11	7.1	17	37	82	33	96	136	57	72	33	54	15
12	8.8	20	98	73	31	88	216	60	72	50	46	13
13	9.1	63	101	66	28	92	176	58	114	43	37	12
14	8.5	71	164	62	26	74	128	54	162	33	32	19
15	7.7	52	181	57	26	76	106	50	157	27	28	19
16	15	43	125	55	24	84	96	46	110	24	24	57
17	22	108	99	54	26	106	86	43	86	22	33	61
18	13	159	80	49	29	115	78	40	110	19	42	44
19	12	117	70	46	29	102	74	37	148	20	45	34
20	9.5	86	113	44	30	87	71	34	115	17	40	32
21	9.0	69	242	41	30	180	67	32	88	16	33	27
22	8.6	98	161	37	48	223	101	35	83	18	26	24
23	8.7	106	119	33	202	156	157	43	95	54	22	22
24	8.8	81	98	32	238	118	116	48	85	83	19	21
25	8.8	67	100	32	137	100	92	45	68	88	19	19
26	31	61	147	32	105	90	138	101	57	58	18	18
27	47	60	116	33	81	87	265	253	49	40	16	17
28	30	58	94	32	68	79	165	147	43	30	16	16
29	21	53	83	31	---	76	123	102	40	28	15	16
30	17	56	74	31	---	312	104	75	36	24	15	16
31	15	---	77	32	---	337	---	62	---	21	15	---
TOTAL	388.9	1608	2843	2252	1567	4089	3666	2172	2753	1038	1136	874
MEAN	12.5	53.6	91.7	72.6	56.0	132	122	70.1	91.8	33.5	36.6	29.1
MAX	47	159	242	224	238	337	265	253	162	88	149	63
MIN	6.0	11	35	31	24	63	67	32	36	16	15	12
CFSM	0.44	1.87	3.21	2.54	1.96	4.61	4.27	2.45	3.21	1.17	1.28	1.02
IN.	0.51	2.09	3.70	2.93	2.04	5.32	4.77	2.83	3.58	1.35	1.48	1.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	12.5	53.6	91.7	72.6	56.0	132	122	70.1	91.8	33.5	36.6	18.8
MAX	12.5	53.6	91.7	72.6	56.0	132	122	70.1	91.8	33.5	36.6	29.1
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	12.5	53.6	91.7	72.6	56.0	132	122	70.1	91.8	33.5	36.6	8.54
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2002

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	24386.9			
ANNUAL MEAN	66.8		66.8	
HIGHEST ANNUAL MEAN			66.8	2003
LOWEST ANNUAL MEAN			66.8	2003
HIGHEST DAILY MEAN	337	Mar 31	337	Mar 31 2003
LOWEST DAILY MEAN	6.0	Oct 8	0.96	Aug 28 2002
ANNUAL SEVEN-DAY MINIMUM	6.5	Oct 4	2.9	Aug 23 2002
MAXIMUM PEAK FLOW	434	Mar 30	434	Mar 30 2003
MAXIMUM PEAK STAGE	3.00	Mar 30	3.00	Mar 30 2003
INSTANTANEOUS LOW FLOW	6.0	Oct 7		
ANNUAL RUNOFF (CFSM)	2.34		2.34	
ANNUAL RUNOFF (INCHES)	31.72		31.74	
10 PERCENT EXCEEDS	135		135	
50 PERCENT EXCEEDS	52		52	
90 PERCENT EXCEEDS	15		15	

e Estimated

PAWCATUCK RIVER BASIN

01118400 SHUNOCK RIVER NEAR NORTH STONINGTON, CT

LOCATION.--Lat 41°24'36", long 71°50'43", New London County, Hydrologic Unit 01090005, at bridge on State Route 49, 900 ft upstream from mouth, and 2.9 mi southeast of North Stonington.

DRAINAGE AREA.--17.2 mi^2.

PERIOD OF RECORD.--October 2002 to September 2003. Discharge measurements made in water years 1961–73.

GAGE.--Water-stage recorder. Elevation of gage is 25 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR THE PERIOD OCTOBER 2002 TO SEPTEMBER 2003.--Maximum discharge, 245 ft^3/s, Mar. 3, gage height, 3.65 ft; minimum, 2.4 ft^3/s, Oct. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	7.3	31	53	18	37	127	62	48	25	16	8.4
2	4.2	6.5	29	86	20	86	96	59	55	23	18	25
3	3.8	6.5	27	89	21	197	83	54	45	24	17	32
4	3.4	6.0	24	120	25	e123	75	49	46	26	15	30
5	3.4	5.9	23	114	28	80	69	46	78	23	14	26
6	3.1	11	23	88	23	83	63	43	80	21	13	20
7	3.0	14	e22	75	21	e70	59	45	63	20	12	15
8	2.7	13	22	66	e20	60	60	44	66	18	57	13
9	2.6	12	21	62	e18	66	67	42	62	17	55	11
10	2.5	11	20	60	18	76	78	39	51	16	39	9.9
11	2.8	11	21	54	18	60	86	36	44	20	29	9.4
12	3.5	12	43	48	e17	55	131	38	49	31	22	8.7
13	3.4	32	54	43	e17	57	126	35	68	26	20	8.3
14	3.2	40	90	40	e16	51	93	34	84	20	17	8.6
15	2.7	32	109	36	e16	46	75	32	88	17	15	9.3
16	6.0	25	81	34	e15	49	68	29	68	15	12	22
17	7.5	56	62	34	e19	62	59	27	53	16	14	25
18	7.0	87	49	e31	e21	73	53	26	65	14	19	19
19	5.5	66	44	e28	e17	67	51	26	93	14	30	15
20	4.8	47	66	e27	15	56	48	25	74	13	32	15
21	4.3	37	134	e25	e15	99	46	23	58	12	25	13
22	3.8	50	107	e24	26	130	59	25	55	14	18	11
23	3.7	57	77	e22	100	102	94	27	62	37	14	11
24	3.4	47	62	e21	141	77	76	31	57	54	12	9.2
25	3.2	38	62	e19	99	64	60	29	48	57	11	9.3
26	12	33	83	18	e61	58	78	61	43	40	10	8.5
27	17	32	74	e18	e46	54	135	134	36	27	9.6	8.3
28	17	30	60	e18	40	53	108	94	31	21	9.0	8.4
29	13	28	53	17	---	48	79	63	28	17	9.3	9.3
30	10	30	49	e17	---	148	69	48	27	16	8.6	8.1
31	8.5	---	48	17	---	197	---	41	---	14	8.3	---
TOTAL	176.1	883.2	1670	1404	911	2484	2371	1367	1725	708	600.8	426.7
MEAN	5.68	29.4	53.9	45.3	32.5	80.1	79.0	44.1	57.5	22.8	19.4	14.2
MAX	17	87	134	120	141	197	135	134	93	57	57	32
MIN	2.5	5.9	20	17	15	37	46	23	27	12	8.3	8.1
CFSM	0.33	1.71	3.13	2.63	1.89	4.66	4.59	2.56	3.34	1.33	1.13	0.83
IN.	0.38	1.91	3.61	3.04	1.97	5.37	5.13	2.96	3.73	1.53	1.30	0.92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2003, BY WATER YEAR (WY)

MEAN	5.68	29.4	53.9	45.3	32.5	80.1	79.0	44.1	57.5	22.8	19.4	14.2
MAX	5.68	29.4	53.9	45.3	32.5	80.1	79.0	44.1	57.5	22.8	19.4	14.2
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	5.68	29.4	53.9	45.3	32.5	80.1	79.0	44.1	57.5	22.8	19.4	14.2
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS	FOR 2003 WATER YEAR	
ANNUAL TOTAL	14726.8	
ANNUAL MEAN	40.3	
HIGHEST DAILY MEAN	197	Mar 3
LOWEST DAILY MEAN	2.5	Oct 10
ANNUAL SEVEN-DAY MINIMUM	2.9	Oct 5
MAXIMUM PEAK FLOW	245	Mar 3
MAXIMUM PEAK STAGE	3.65	Mar 3
INSTANTANEOUS LOW FLOW	2.4	Oct 10
ANNUAL RUNOFF (CFSM)	2.35	
ANNUAL RUNOFF (INCHES)	31.85	
10 PERCENT EXCEEDS	83	
50 PERCENT EXCEEDS	30	
90 PERCENT EXCEEDS	8.5	

e Estimated

PAWCATUCK RIVER BASIN

01118500 PAWCATUCK RIVER AT WESTERLY, RI

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

DRAINAGE AREA.--295 mi^2.

PERIOD OF RECORD.--Discharge: November 1940 to current year.
Water-quality records: Water years 1953, 1963, 1976-2002.

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 discharge, which are fair. Many days are adjusted for tidal backwater, which lasts as much as 4 hours during times of high tide. Diurnal fluctuation at low flow prior to 1962 by mills upstream; regulation much greater prior to 1958. Diversion upstream for municipal supply of Westerly.

AVERAGE DISCHARGE.--62 years (water years 1942–2003), 576 ft^3/s, 26.52 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,070 ft^3/s, June 6, 1982, gage height, 12.86 ft; minimum daily, 25 ft^3/s, Aug. 17, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a discharge of 3,150 ft^3/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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,110 ft^3/s, Mar. 31, gage height, 6.94 ft; minimum, 66 ft^3/s, Oct. 4, 5, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	250	539	903	407	765	2060	1260	855	473	246	181
2	94	221	516	1120	423	1010	1910	1170	949	431	288	318
3	85	204	495	1260	438	1780	1710	1080	922	422	318	490
4	70	199	460	1560	460	1630	1490	995	873	509	308	528
5	78	205	430	1670	520	1440	1340	920	1140	510	286	532
6	80	250	424	1600	502	1390	1240	859	1300	467	275	483
7	80	311	416	1440	471	1250	1160	839	1250	414	264	399
8	83	294	408	1310	448	1170	1110	829	1240	376	739	336
9	79	266	404	1200	428	1150	1140	820	1210	352	1140	286
10	77	243	378	1120	414	1210	1250	781	1050	334	1040	251
11	77	241	377	1030	411	1120	1300	739	915	362	823	239
12	85	251	562	928	397	1030	1640	734	852	470	651	224
13	102	409	712	852	367	994	1730	726	975	491	528	213
14	108	562	1000	785	350	946	1620	714	1190	422	458	221
15	106	551	1270	727	346	881	1440	673	1300	370	408	219
16	117	488	1240	669	327	862	1300	640	1210	327	366	309
17	218	663	1120	641	e331	938	1170	607	1030	314	364	389
18	238	1030	962	611	e352	1050	1060	575	1000	311	473	375
19	206	1080	828	579	e362	1090	973	544	1200	296	528	320
20	163	962	895	553	e372	1050	908	518	1160	279	506	283
21	137	828	1370	528	380	1240	850	499	986	254	445	255
22	124	820	1450	502	438	1600	914	501	886	249	375	236
23	118	870	1370	463	1040	1640	1260	533	917	338	324	223
24	113	823	1240	438	1410	1490	1290	575	971	486	287	217
25	108	722	1140	417	1290	1320	1200	578	934	592	256	208
26	207	654	1230	408	1110	1190	1250	735	854	549	239	202
27	603	609	1250	410	956	1080	1750	1400	735	439	228	210
28	585	578	1180	393	860	1000	1750	1430	624	352	215	208
29	454	540	1060	382	---	937	1590	1270	549	296	201	208
30	343	533	963	390	---	1520	1390	1080	508	272	191	203
31	286	---	907	389	---	2060	---	892	---	251	188	---
TOTAL	5326	15657	26596	25278	15610	37833	40795	25516	29585	12008	12958	8766
MEAN	172	522	858	815	558	1220	1360	823	986	387	418	292
MAX	603	1080	1450	1670	1410	2060	2060	1430	1300	592	1140	532
MIN	70	199	377	382	327	765	850	499	508	249	188	181
CFSM	0.58	1.77	2.91	2.76	1.89	4.14	4.61	2.79	3.34	1.31	1.42	0.99
IN.	0.67	1.97	3.35	3.19	1.97	4.77	5.14	3.22	3.73	1.51	1.63	1.11
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)												
MEAN	255	442	651	745	808	1047	990	720	518	266	234	217
MAX	1186	1450	1789	2151	1377	1775	2603	1274	2246	642	763	1233
(WY)	1956	1956	1987	1979	1982	1994	1983	1948	1982	1959	1946	1954
MIN	87.2	88.9	115	131	223	453	371	325	210	98.5	71.9	65.7
(WY)	1950	2002	1966	1981	2002	2002	1966	1986	1942	1957	1999	1964

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	144838		255928			
ANNUAL MEAN	397		701		576	
HIGHEST ANNUAL MEAN					871	1973
LOWEST ANNUAL MEAN					251	1981
HIGHEST DAILY MEAN	1600	May 19	2060	Mar 31	6220	Jun 6 1982
LOWEST DAILY MEAN	59	Aug 28	70	Oct 4	25	Aug 17 1941
ANNUAL SEVEN-DAY MINIMUM	64	Sep 9	78	Oct 4	47	Sep 2 1995
MAXIMUM PEAK FLOW			2110	Mar 31	7070	Jun 6 1982
MAXIMUM PEAK STAGE			6.94	Mar 31	12.86	Jun 6 1982
INSTANTANEOUS LOW FLOW			66	Oct 4		
ANNUAL RUNOFF (CFSM)	1.35		2.38		1.95	
ANNUAL RUNOFF (INCHES)	18.26		32.27		26.52	
10 PERCENT EXCEEDS	877		1300		1210	
50 PERCENT EXCEEDS	281		551		450	
90 PERCENT EXCEEDS	85		209		126	

e Estimated

THAMES RIVER BASIN

01123360 QUINEBAUG RIVER BELOW EAST BRIMFIELD DAM AT FISKDALE, MA

LOCATION.--Lat 42°06'31", long 72°07'27", Worcester County, Hydrologic Unit 01100001, stage sensor located on right bank, 750 ft downstream from East Brimfield Dam and 2.4 mi upstream from Cedar Pond outlet, at Fiskdale.

DRAINAGE AREA.--62.6 mi^2 (revised).

PERIOD OF RECORD.--October 1972 to September 1990, October 2002 to current year. Gage operated from October 1990 to September 2002 for U.S. Army Corps of Engineers flood-control project information but missing and erroneous data were not estimated.

REVISED RECORDS.--WDR MA-RI-03-1 (drainage area).

GAGE.--Water-stage recorder in gate house. Datum of gage is 613.51 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Telephone and satellite gage-height telemeter at station.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Flow regulated by East Brimfield Lake.

AVERAGE DISCHARGE.--19 years (water years 1973–90, 2003), 131 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft^3/s, Jan. 30, 1976, gage height, 6.42 ft; maximum gage height, 6.52 ft, Mar. 17, 1977; minimum daily, 2.2 ft^3/s, Sept. 10, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 814 ft^3/s, Mar. 24; gage height, 5.96 ft; minimum, 9.7 ft^3/s, Oct. 9, 10; minimum daily, 10 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	28	95	165	58	143	509	146	201	131	31	27
2	35	22	89	241	61	143	367	134	211	120	40	27
3	30	22	87	267	64	183	330	136	213	107	48	25
4	24	24	70	272	71	194	330	136	189	94	67	24
5	20	27	55	271	88	195	330	128	178	82	95	24
6	17	27	46	252	93	190	329	115	173	72	124	25
7	16	27	40	215	94	178	322	108	175	62	132	27
8	12	27	37	196	87	168	290	110	214	56	147	28
9	10	27	35	183	79	159	231	117	222	51	147	27
10	12	27	32	178	73	149	221	120	220	48	144	26
11	28	28	32	152	69	141	222	111	202	50	133	25
12	54	28	44	129	66	137	227	106	199	66	116	24
13	69	28	50	120	63	133	233	107	219	72	100	24
14	75	28	89	111	59	127	316	105	227	69	87	24
15	75	34	146	108	56	122	352	99	230	61	74	24
16	83	40	165	103	52	123	268	89	228	53	63	24
17	96	66	161	100	54	153	229	80	223	50	52	24
18	97	139	158	96	57	215	190	73	195	47	45	24
19	86	240	149	87	58	345	117	67	172	58	41	35
20	66	240	184	81	58	386	118	61	162	60	35	69
21	49	235	309	77	58	474	118	55	149	61	31	89
22	41	177	351	71	68	635	119	51	192	66	28	89
23	40	150	431	65	128	700	119	52	299	72	25	113
24	38	139	452	61	186	766	119	59	414	81	21	189
25	35	129	419	59	217	737	119	70	441	87	23	216
26	44	119	285	58	218	546	208	112	343	81	23	197
27	55	117	e232	59	200	437	331	216	230	70	23	149
28	54	107	e210	59	167	382	323	229	184	59	26	111
29	50	100	e190	58	---	338	227	231	147	48	28	82
30	43	97	e162	58	---	404	176	226	133	40	27	74
31	35	---	157	57	---	494	---	236	---	33	27	---
TOTAL	1429	2499	4962	4009	2602	9497	7390	3685	6585	2107	2003	1866
MEAN	46.1	83.3	160	129	92.9	306	246	119	220	68.0	64.6	62.2
MAX	97	240	452	272	218	766	509	236	441	131	147	216
MIN	10	22	32	57	52	122	117	51	133	33	21	24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2003, BY WATER YEAR (WY)

MEAN	88.1	100	144	151	166	221	239	153	127	48.0	45.8	42.3
MAX	271	237	312	371	308	393	552	326	423	89.5	149	122
(WY)	1990	1990	1973	1979	1976	1983	1987	1989	1982	1989	1989	1975
MIN	26.1	15.2	15.6	22.1	46.2	79.2	76.2	65.6	43.8	23.9	9.30	11.3
(WY)	2002	2002	2002	1981	1980	2002	1985	1986	1974	1979	1974	1986

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 1973 - 2003	
ANNUAL TOTAL	48634			
ANNUAL MEAN	133		131	
HIGHEST ANNUAL MEAN			178	1984
LOWEST ANNUAL MEAN			56.7	1985
HIGHEST DAILY MEAN	766	Mar 24	997	Mar 17 1977
LOWEST DAILY MEAN	10	Oct 9	2.2	Sep 10 1983
ANNUAL SEVEN-DAY MINIMUM	16	Oct 4	5.1	Aug 19 2002
MAXIMUM PEAK FLOW	814	Mar 24	1040	Jan 30 1976
MAXIMUM PEAK STAGE	5.96	Mar 24	6.52	Mar 17 1977
INSTANTANEOUS LOW FLOW	9.7	Oct 9		
10 PERCENT EXCEEDS	271		271	
50 PERCENT EXCEEDS	97		92	
90 PERCENT EXCEEDS	27		21	

e Estimated

THAMES RIVER BASIN

01123600 QUINEBAUG RIVER BELOW WESTVILLE DAM NEAR SOUTHBRIDGE, MA

LOCATION.--Lat 42°04'58", long 72°03'27", Worcester County, Hydrologic Unit 01100001, stage sensor located on right bank, 200 ft downstream from Westville Dam, 1.0 mi upstream from McKinstry Brook, and 1.3 mi west of Southbridge.

DRAINAGE AREA.--94.4 mi^2 (revised).

PERIOD OF RECORD.--October 1962 to September 1990, October 2002 to current year. Gage operated from October 1990 to September 2002 for U.S. Army Corps of Engineers flood-control project information; missing and erroneous data were not estimated.

REVISED RECORDS.--WDR MA-RI-03-1: Drainage area.

GAGE.--Water-stage recorder in gate house. Datum of gage is 613.51 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Telephone and satellite gage-height telemeter at station.

REMARKS.--Records good except those for discharges greater than 200 ft^3/s, which are poor. Flow regulated by Westville and East Brimfield Lakes and by other mills and reservoirs upstream.

AVERAGE DISCHARGE.--29 years (water years 1963–90, 2003), 173 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft^3/s, Mar. 23, 1980, gage height, 6.83 ft; minimum daily, 7.3 ft^3/s, Nov. 21, 28, 1964, July 30, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,370 ft^3/s, Mar. 22, gage height, 6.16 ft; minimum daily, 22 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	56	125	231	96	209	860	231	349	242	56	39
2	44	46	117	421	102	232	679	193	375	186	81	52
3	41	43	114	474	106	338	605	208	331	157	79	52
4	34	41	102	478	112	319	604	235	279	145	103	45
5	33	43	87	475	138	317	595	219	276	129	146	44
6	31	51	78	451	136	311	585	183	272	115	162	42
7	28	48	72	385	134	283	557	163	268	102	164	42
8	26	46	68	317	128	260	529	165	385	93	225	42
9	23	45	62	290	120	254	457	178	374	84	215	41
10	22	45	61	278	115	229	415	170	335	80	193	39
11	26	47	59	245	108	211	440	154	289	77	175	38
12	61	49	85	203	105	204	525	156	307	94	149	37
13	79	76	93	184	98	200	507	151	369	99	130	36
14	86	63	168	170	97	193	519	145	425	95	134	37
15	83	57	268	162	94	183	571	143	419	87	112	37
16	89	64	266	155	87	190	498	125	377	77	98	47
17	108	122	236	153	87	266	395	116	340	73	82	45
18	121	211	217	142	98	393	363	105	311	69	73	42
19	116	339	202	133	99	590	211	95	285	82	67	55
20	100	326	289	128	99	635	203	87	252	85	62	86
21	83	304	503	120	98	854	195	81	214	80	55	104
22	83	261	540	111	115	1150	185	77	357	84	49	109
23	80	210	697	105	249	1210	185	77	694	99	45	145
24	74	179	698	102	327	1190	180	83	724	105	39	261
25	69	169	614	100	345	1190	175	98	691	118	35	274
26	82	154	487	100	335	985	264	195	608	112	38	251
27	101	150	346	97	307	694	535	441	393	98	35	187
28	100	142	303	96	248	706	535	425	300	89	37	141
29	92	132	262	98	---	656	407	390	238	72	40	118
30	76	128	229	96	---	725	297	320	213	62	40	100
31	67	---	220	91	---	869	---	389	---	55	39	---
TOTAL	2106	3647	7668	6591	4183	16046	13076	5798	11050	3145	2958	2588
MEAN	67.9	122	247	213	149	518	436	187	368	101	95.4	86.3
MAX	121	339	698	478	345	1210	860	441	724	242	225	274
MIN	22	41	59	91	87	183	175	77	213	55	35	36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

MEAN	105	128	186	184	219	324	353	209	174	65.5	54.7	54.5
MAX	418	333	488	517	548	615	783	464	604	150	228	180
(WY)	1990	1990	1973	1979	1970	1972	1987	1989	1982	1972	1989	1975
MIN	17.1	24.4	28.9	28.0	59.4	123	98.2	81.3	33.7	12.8	16.0	16.5
(WY)	1966	1966	2002	2002	2002	2002	1985	1985	1964	1965	1974	1965

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 1963 - 2003	
ANNUAL TOTAL	78856			
ANNUAL MEAN	216		173	
HIGHEST ANNUAL MEAN			259	1984
LOWEST ANNUAL MEAN			76.2	1985
HIGHEST DAILY MEAN	1210	Mar 23	1620	Oct 24 1989
LOWEST DAILY MEAN	22	Oct 10	7.3	Nov 21 1964
ANNUAL SEVEN-DAY MINIMUM	27	Oct 5	7.9	Jul 24 1965
MAXIMUM PEAK FLOW	1370	Mar 22	1850	Mar 23 1980
MAXIMUM PEAK STAGE	6.16	Mar 22	6.83	Mar 23 1980
INSTANTANEOUS LOW FLOW	20	Oct 9		
10 PERCENT EXCEEDS	500		377	
50 PERCENT EXCEEDS	141		113	
90 PERCENT EXCEEDS	45		27	

CONNECTICUT RIVER BASIN

01162000 MILLERS RIVER NEAR WINCHENDON, MA

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

DRAINAGE AREA.--81.8 mi^2.

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, 1994–95.

REVISED RECORDS.--WSP 451: 1916. WSP 1051: 1919, 1920–21(M), 1922–24, 1928(M), 1933–34. WDR MA-RI-84-1: Drainage area. WDR MA-RI-01-1: (M).

GAGE.--Water-stage recorder. Concrete control since Oct. 6, 1933. Datum of gage is 826.66 ft above National Geodetic Vertical Datum of 1929. Prior to July 27, 1916, nonrecording gage at bridge at same datum.

REMARKS.--Records fair except those for estimated daily discharge, which are poor. Flow affected for most of year by backwater from beaver dam located approximately 0.5 mi downstream from gage. Flow regulated by powerplant and by Lake Monomonac and other reservoirs upstream, by waste-water treatment plant 500 ft upstream, and infrequent backwater from U. S. Army Corps of Engineers Flood-Control Project at Birch Hill Dam.

AVERAGE DISCHARGE.--87 years, 144 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,500 ft^3/s, Sept. 22, 1938, gage height, 21.55 ft, from floodmarks, from rating curve extended above 2,000 ft^3/s, on basis of computation of peak flow over dam; practically no flow because of regulation Sept. 20, 1918, Jan. 14, 1925.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft^3/s (estimated), Mar. 31, gage height, unknown; minimum, 12 ft^3/s, (estimated) Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e23	e32	e105	e120	e65	e150	e920	189	290	32	e35	e20
2	e21	e30	e100	e143	e65	e175	e820	207	291	e40	e45	e25
3	e19	e27	e95	e165	e70	e190	e720	315	257	e38	e55	e25
4	e17	e27	e80	e167	e75	e185	e655	302	218	e35	e70	e45
5	e15	e30	e75	e161	e75	e165	e600	268	209	e36	e90	e46
6	e14	e35	e70	e149	e72	e155	491	246	199	e30	e110	e47
7	e13	e45	e65	e135	e70	e145	428	247	171	e29	e125	e49
8	e13	e47	e65	e125	e67	e130	392	245	186	e27	e135	e45
9	e12	e48	e62	e117	e65	e120	368	229	173	e26	e150	e35
10	e13	e50	e60	e110	e63	e115	348	197	151	e26	e170	e32
11	e15	e55	e65	e103	e61	e112	358	179	136	e28	e200	e30
12	e22	e60	e70	e98	e61	e111	506	230	147	e28	e210	e28
13	e26	e80	93	e91	e60	e110	557	292	158	e27	e195	e30
14	e26	e100	151	e82	e60	e105	532	286	175	e25	e165	e33
15	e27	e95	e200	e80	e60	e100	487	262	175	e25	e135	e35
16	e28	e105	e215	e79	e60	e105	456	220	132	e28	e115	e40
17	e32	e120	e200	e81	e62	111	423	201	100	e29	e110	e45
18	e34	e135	e195	e75	e65	183	390	153	84	e28	e95	e42
19	e33	e145	e160	e74	e65	228	361	116	95	e26	e90	e45
20	e32	e135	e180	e74	e70	227	337	97	87	e25	e80	e40
21	e29	e140	e220	e74	e75	339	310	80	77	e25	e70	e40
22	e27	e155	e250	e73	e85	e520	302	101	127	e28	e60	e45
23	e26	e195	e235	e72	e85	e630	273	112	223	e32	e55	e84
24	e26	e200	e200	e71	e82	641	254	118	171	e35	e50	e105
25	e27	e190	e175	e70	e80	700	238	135	137	e38	e45	e115
26	e30	e180	e160	e70	e77	779	235	169	109	e41	e40	e120
27	e35	e155	e155	e70	e80	1030	260	287	84	e36	e37	e130
28	e40	e140	e140	e68	e110	1020	242	312	62	e32	e35	e150
29	e39	e125	e125	e66	---	962	232	357	43	e28	e30	e175
30	e37	e110	e115	e65	---	e1000	204	338	35	e25	e26	e170
31	e35	---	e110	e65	---	e1100	---	287	---	e28	e23	---
TOTAL	786	2991	4191	2993	1985	11643	12699	6777	4502	936	2851	1871
MEAN	25.4	99.7	135	96.5	70.9	376	423	219	150	30.2	92.0	62.4
MAX	40	200	250	167	110	1100	920	357	291	41	210	175
MIN	12	27	60	65	60	100	204	80	35	25	23	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2003, BY WATER YEAR (WY)

MEAN	94.3	118	140	139	135	262	371	180	114	60.7	51.7	65.2
MAX	520	416	500	385	400	931	788	412	515	261	249	752
(WY)	1956	1956	1997	1996	1976	1936	1960	1967	1984	1938	1928	1938
MIN	11.6	15.7	30.7	13.3	24.4	39.0	83.3	44.7	14.1	8.17	8.24	5.75
(WY)	1948	1979	1979	1981	1980	1965	1999	1999	1964	1965	1965	1964

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1916 - 2003	
ANNUAL TOTAL	33378.4		54225			
ANNUAL MEAN	91.4		149		144	
HIGHEST ANNUAL MEAN					231	1956
LOWEST ANNUAL MEAN					38.5	1965
HIGHEST DAILY MEAN	414	May 15	1100	Mar 31	6130	Sep 22 1938
LOWEST DAILY MEAN	7.7	Aug 22	12	Oct 9	3.1	Oct 4 1930
ANNUAL SEVEN-DAY MINIMUM	7.9	Aug 20	14	Oct 5	4.5	Sep 24 1939
MAXIMUM PEAK FLOW			1300	Mar 31	8500	Sep 22 1938
MAXIMUM PEAK STAGE			9.08	Mar 31	21.55	Sep 22 1938
INSTANTANEOUS LOW FLOW			12	Oct 9	0.00	Sep 20 1918
10 PERCENT EXCEEDS	202		305		333	
50 PERCENT EXCEEDS	70		95		89	
90 PERCENT EXCEEDS	11		28		18	

e Estimated

CONNECTICUT RIVER BASIN

01162500 PRIEST BROOK NEAR WINCHENDON, MA

LOCATION.--Lat 42°40'57", long 72°06'56", Worcester County, Hydrologic Unit 01080202, on right bank 100 ft downstream from highway bridge, 3 mi upstream from mouth, and 3.5 mi west of Winchendon.

DRAINAGE AREA.--19.4 mi^2.

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: August 1994.

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 National Geodetic Vertical Datum of 1929. Prior to Sept. 11, 1936, nonrecording gage on left bank at same datum.

REMARKS.--Records good except those for 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.

AVERAGE DISCHARGE.--88 years, 32.9 ft^3/s, 23.03 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,000 ft^3/s, Sept. 21, 1938, gage height, 9.90 ft, from rating curve extended above 620 ft^3/s on basis of contracted-opening measurements at gage heights 8.4 ft and 9.90 ft; minimum, 0.08 ft^3/s, several times in September 1929.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 357 ft^3/s, Mar. 30, gage height, 4.83 ft; minimum, 1.3 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	4.6	19	21	e10	26	214	31	76	6.4	5.6	5.4
2	2.7	4.4	16	29	e10	27	161	31	91	5.7	16	5.6
3	2.4	4.0	e14	33	e10	38	143	77	77	5.0	20	5.6
4	2.1	3.8	e11	33	e10	39	135	80	65	4.8	17	7.6
5	2.0	3.6	e10	32	e10	37	118	64	57	4.6	22	10
6	1.9	5.2	e9.8	28	e9.9	34	101	54	56	4.1	30	10
7	1.7	6.2	e9.5	25	e9.8	31	86	46	46	3.7	28	8.2
8	1.6	6.4	e9.3	23	e10	28	72	43	47	3.4	45	6.6
9	1.4	6.4	e9.1	22	e9.9	27	63	43	45	3.2	41	5.6
10	1.5	6.2	e9.0	22	e9.8	25	57	39	40	3.3	45	4.8
11	1.7	6.1	e8.8	20	e9.7	22	62	34	35	3.6	61	4.5
12	3.1	6.7	e10	19	e9.6	22	116	42	33	3.5	58	4.2
13	3.6	14	e11	19	e9.6	21	153	59	32	3.3	48	4.0
14	3.5	19	19	e19	e9.6	21	139	54	41	3.1	38	4.7
15	3.6	17	47	e18	e9.6	20	121	45	42	3.1	28	4.5
16	3.9	15	66	e17	e9.4	20	113	38	34	3.4	23	6.7
17	4.6	18	58	e17	e9.5	26	101	33	26	3.7	28	6.7
18	4.3	25	43	e16	e9.7	41	82	28	22	3.9	36	6.5
19	4.2	27	e30	e15	e9.8	60	67	26	22	3.6	39	6.2
20	4.1	25	e32	e15	e10	70	61	23	20	3.3	29	6.3
21	3.8	24	e50	e15	10	106	70	19	19	3.2	22	5.6
22	3.4	30	73	e15	12	209	66	18	26	4.2	19	5.1
23	3.5	52	60	e14	23	277	71	18	47	5.1	16	11
24	3.6	55	47	e13	35	241	65	20	36	4.4	13	38
25	3.5	51	38	e13	41	226	55	24	23	5.2	11	36
26	4.5	43	33	e12	37	229	50	34	17	9.0	9.2	35
27	5.6	36	32	e12	33	265	60	88	13	7.5	7.4	41
28	6.2	28	28	e11	30	237	64	87	11	5.8	6.5	36
29	6.1	23	25	e11	---	220	55	86	8.6	4.7	5.6	51
30	5.6	20	22	e10	---	340	45	77	7.3	4.2	5.1	51
31	5.0	---	21	e10	---	299	---	64	---	3.8	4.6	---
TOTAL	107.6	585.6	870.5	579	416.9	3284	2766	1425	1114.9	135.8	777.0	433.4
MEAN	3.47	19.5	28.1	18.7	14.9	106	92.2	46.0	37.2	4.38	25.1	14.4
MAX	6.2	55	73	33	41	340	214	88	91	9.0	61	51
MIN	1.4	3.6	8.8	10	9.4	20	45	18	7.3	3.1	4.6	4.0
CFSM	0.18	1.01	1.45	0.96	0.77	5.46	4.75	2.37	1.92	0.23	1.29	0.74
IN.	0.21	1.12	1.67	1.11	0.80	6.30	5.30	2.73	2.14	0.26	1.49	0.83
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2003, BY WATER YEAR (WY)												
MEAN	15.9	28.6	34.0	30.4	28.0	64.2	92.3	42.5	25.3	12.2	10.1	12.3
MAX	69.2	124	120	90.3	102	162	225	93.9	125	62.5	68.8	178
(WY)	1976	1928	1997	1996	1984	1979	1940	1989	1922	1922	1928	1938
MIN	0.55	1.38	4.67	1.23	5.28	13.6	21.8	12.6	2.53	1.04	0.47	0.29
(WY)	1965	1965	1930	1925	1980	1940	1985	1999	1964	1965	1964	1964

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1916 - 2003	
ANNUAL TOTAL	8083.89		12495.7			
ANNUAL MEAN	22.1		34.2		32.9	
HIGHEST ANNUAL MEAN					55.0	1928
LOWEST ANNUAL MEAN					8.19	1965
HIGHEST DAILY MEAN	129	May 15	340	Mar 30	2280	Sep 21 1938
LOWEST DAILY MEAN	0.57	Aug 22	1.4	Oct 9	0.10	Sep 4 1929
ANNUAL SEVEN-DAY MINIMUM	0.63	Aug 16	1.7	Oct 5	0.19	Sep 2 1929
MAXIMUM PEAK FLOW			357	Mar 30	3000	Sep 21 1938
MAXIMUM PEAK STAGE			4.83	Mar 30	9.90	Sep 21 1938
INSTANTANEOUS LOW FLOW			1.3	Oct 9	0.08	Sep 18 1929
ANNUAL RUNOFF (CFSM)	1.14		1.76		1.70	
ANNUAL RUNOFF (INCHES)	15.50		23.96		23.03	
10 PERCENT EXCEEDS	53		71		81	
50 PERCENT EXCEEDS	14		20		17	
90 PERCENT EXCEEDS	1.4		3.8		2.4	

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 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: December 1964 to current year.
Water-quality records: Water year 1965–69, 1994.

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

GAGE.--Water-stage recorder. Elevation of gage is 900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--38 years (water years 1966–2003), 62.2 ft^3/s, 24.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 948 ft^3/s, Mar. 7, 1979, gage height, 5.02 ft; minimum, 2.0 ft^3/s, Sept. 5, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 458 ft^3/s, Mar. 31, gage height, 3.31 ft; minimum, 4.8 ft^3/s, Sept. 8, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	27	46	65	34	e60	396	82	103	e34	e18	6.1
2	18	26	41	e89	38	e62	279	86	113	e32	e50	7.1
3	16	24	39	e100	36	e90	235	162	107	e29	e34	16
4	14	21	37	104	36	e100	226	164	86	e26	e62	48
5	14	19	32	98	e39	82	217	126	79	e24	e48	19
6	9.7	22	31	84	e40	e75	196	102	73	e22	e38	9.6
7	9.1	30	30	74	39	e70	172	88	69	e21	e34	7.4
8	7.6	36	29	e69	40	64	153	84	79	e20	e69	6.3
9	7.9	35	27	65	36	e61	136	76	72	e21	e37	6.3
10	7.9	30	27	62	34	e58	125	75	63	e20	e32	6.3
11	7.7	26	26	e59	34	e55	141	69	70	e39	e27	6.2
12	14	28	34	56	e33	54	303	94	109	e36	e65	5.9
13	24	66	40	53	e33	54	363	112	109	e28	e100	5.5
14	29	87	71	e50	e32	e53	301	102	114	e23	e65	29
15	27	86	126	e47	32	51	234	88	108	e21	e46	16
16	24	69	133	45	e32	52	192	77	89	e18	e35	15
17	36	67	e106	44	e35	73	155	68	66	e19	e29	15
18	37	91	e86	e42	e36	e105	131	58	66	e19	e34	10
19	32	89	78	e40	e34	140	124	50	66	e17	e30	9.9
20	27	72	88	39	e34	152	109	46	56	e15	e19	15
21	21	70	e141	39	e37	214	97	46	53	e14	e15	14
22	18	83	e167	e38	e45	311	94	47	77	e15	11	12
23	19	107	161	e38	e88	339	118	44	149	e15	13	27
24	22	104	125	e37	e112	304	112	50	e170	e15	11	64
25	23	85	101	e37	e110	279	102	56	e92	e14	9.2	45
26	26	68	e89	e37	e100	281	108	76	e59	e13	9.7	42
27	33	60	e83	e36	e84	335	143	164	e51	e12	16	39
28	31	58	76	e36	e65	332	137	169	e44	e12	94	38
29	27	53	e71	36	---	285	112	139	e40	e12	28	62
30	28	50	e66	36	---	369	93	104	e37	e11	8.2	59
31	29	---	62	34	---	422	---	84	---	e11	6.6	---
TOTAL	659.9	1689	2269	1689	1348	4982	5304	2788	2469	628	1093.7	661.6
MEAN	21.3	56.3	73.2	54.5	48.1	161	177	89.9	82.3	20.3	35.3	22.1
MAX	37	107	167	104	112	422	396	169	170	39	100	64
MIN	7.6	19	26	34	32	51	93	44	37	11	6.6	5.5
CFSM	0.62	1.65	2.15	1.60	1.41	4.71	5.18	2.64	2.41	0.59	1.03	0.65
IN.	0.72	1.84	2.48	1.84	1.47	5.43	5.79	3.04	2.69	0.69	1.19	0.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	40.0	56.7	66.8	61.5	65.5	111	129	74.5	55.4	26.7	25.2	24.6
MAX	117	123	200	149	153	223	279	139	155	58.2	87.5	85.5
(WY)	1980	1996	1997	1979	1976	1979	1987	1984	1998	1967	1991	1991
MIN	8.27	12.9	18.1	9.64	17.3	38.4	45.0	27.6	9.22	8.20	4.44	5.48
(WY)	1969	2002	1965	1981	1977	1965	1985	1965	1999	1966	1966	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL TOTAL	14410.9		25581.2			
ANNUAL MEAN	39.5		70.1		62.2	
HIGHEST ANNUAL MEAN					90.0	1984
LOWEST ANNUAL MEAN					30.2	1966
HIGHEST DAILY MEAN	278	May 15	422	Mar 31	883	Mar 7 1979
LOWEST DAILY MEAN	2.8	Aug 15	5.5	Sep 13	2.4	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	3.4	Aug 9	6.3	Sep 7	2.6	Sep 7 1995
MAXIMUM PEAK FLOW			458	Mar 31	948	Mar 7 1979
MAXIMUM PEAK STAGE			3.31	Mar 31	5.02	Mar 7 1979
INSTANTANEOUS LOW FLOW			4.8	Sep 8	2.0	Sep 5 1995
ANNUAL RUNOFF (CFSM)	1.16		2.06		1.82	
ANNUAL RUNOFF (INCHES)	15.72		27.91		24.79	
10 PERCENT EXCEEDS	88		141		137	
50 PERCENT EXCEEDS	30		48		41	
90 PERCENT EXCEEDS	5.8		14		11	

e Estimated

CONNECTICUT RIVER BASIN

01163200 OTTER RIVER AT OTTER RIVER, MA--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Intermittent water-quality samples, water years 1965–69, 1994, 2003.

DATE	TIME	INSTAN-TANEOUS DISCHARGE, CFS (00061)	BARO-METRIC PRESSURE, MM HG (00025)	DISSOLVED OXYGEN, MG/L (00300)	DISSOLVED OXYGEN, PERCENT OF SAT-URATION (00301)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, WATER, DEG C (00010)
DEC 2002								
17...	0830	E80	746	--	--	6.2	500	0.0
JAN 2003								
14...	0920	E56	741	14.7	105	6.4	471	.6
FEB								
21...	0945	E35	759	12.1	83	6.6	765	.0
MAR								
10...	0925	E84	738	11.9	84	6.6	638	.0
APR								
02...	0935	287	743	8.2	64	6.0	271	3.6
10...	0930	121	743	11.9	90	6.5	422	3.5
15...	0940	233	743	7.3	64	6.4	298	8.2
MAY								
06...	0950	102	744	9.1	89	6.4	308	13.3
15...	0950	88	747	9.3	91	6.5	319	13.2
JUN								
18...	1225	66	743	8.0	88	6.5	294	18.5
JUL								
16...	1140	E18	741	7.3	83	6.9	421	20.3
AUG								
04...	1530	E62	741	7.0	84	6.6	408	22.9
18...	1215	E34	745	6.6	77	6.2	358	21.9
SEP								
09...	1110	6.4	752	8.6	91	7.0	515	17.6

CONNECTICUT RIVER BASIN

01163200 OTTER RIVER AT OTTER RIVER, MA--Continued

DATE	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PHOSPHORUS, WATER, UNFLTRD MG/L (00665)	SUSPENDED SEDIMENT CONCEN-TRATION MG/L (80154)
DEC 2002							
17...	0.43	0.07	0.90	<0.008	0.05	0.098	4
JAN 2003							
14...	.57	.25	1.80	.015	.14	.20	4
FEB							
21...	1.1	.71	1.86	.048	.21	.28	3
MAR							
10...	.68	.36	1.00	.040	.10	.170	4
APR							
02...	.33	.076	.307	.026	<.02	.023	4
10...	.56	.28	.37	.045	<.02	.028	2
15...	.36	.14	.23	.026	<.02	.023	2
MAY							
06...	.76	.344	.266	.030	<.02	.045	7
15...	.73	.26	.44	.032	<.02	.058	6
JUN							
18...	.78	.05	.97	E.006	.02	.111	14
JUL							
16...	.94	.06	4.69	.016	.04	.21	13
AUG							
04...	.89	.027	3.09	.010	.03	.134	8
18...	.93	.08	2.74	E.007	<.18	.151	9
SEP							
09...	.84	E.03	9.66	.017	E.01	.111	5

CONNECTICUT RIVER BASIN

01166500 MILLERS RIVER AT ERVING, MA

LOCATION.--Lat 42°35'51", long 72°26'19", Franklin County, Hydrologic Unit 01080202, on right bank 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 mi^2.

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, 1994.

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 National Geodetic Vertical Datum of 1929, 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, non-recording 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 discharge and those for the period Dec. 26 to Jan. 22, which are poor. Flow regulated by powerplants and by Lake Monomonac 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.

AVERAGE DISCHARGE.--88 years, 637 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft^3/s, Sept. 22, 1938, gage height, 13.37 ft, from floodmarks, site and datum then in use, mean of two slope-area measurements; practically no flow at times during 1915 and 1916 because of regulations; minimum daily, 8 ft^3/s, Sept. 6, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,730 ft^3/s, Apr. 1, gage height, 5.87 ft; minimum daily, 60 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	163	492	527	e325	e725	3550	752	1080	325	124	129
2	98	150	476	651	e335	e965	3350	773	1100	287	236	148
3	91	140	412	804	378	e1000	3300	1160	1020	278	215	178
4	84	134	320	780	400	e980	3080	1300	868	289	215	275
5	77	149	385	773	e395	e900	2870	1210	828	224	319	277
6	73	197	372	734	e380	e800	2630	993	794	199	524	276
7	67	215	314	646	e370	e700	2310	876	748	186	505	253
8	62	229	329	601	e360	e600	1730	856	762	148	576	232
9	61	245	282	578	e355	e550	1460	790	728	160	579	219
10	60	242	281	542	e350	e480	1190	728	693	148	696	146
11	61	237	291	499	e340	e450	1360	664	634	133	759	118
12	105	251	353	495	e335	e440	2490	771	649	166	1040	132
13	129	417	393	462	e333	e425	2610	885	771	150	875	106
14	132	433	595	402	e330	e420	2470	958	868	127	837	118
15	122	524	912	402	e328	e410	2500	873	833	138	672	141
16	124	445	951	372	e325	e440	2410	798	719	121	561	224
17	160	530	948	443	e330	e530	2300	692	585	154	493	207
18	166	716	842	357	e340	e680	1950	606	501	132	443	177
19	212	717	764	368	e355	e880	1530	501	479	128	445	204
20	184	666	712	375	e390	e1250	1260	472	470	118	388	190
21	165	606	1060	353	e420	e1800	1020	391	466	112	340	172
22	143	715	1200	342	e430	e2400	975	411	744	118	283	165
23	140	872	1170	e325	e420	e2700	1060	419	1230	156	253	323
24	133	887	1060	e315	e410	e2600	1010	438	1240	157	253	505
25	125	829	933	e330	e400	e2580	930	479	1010	207	219	505
26	146	774	782	e340	e390	e2800	897	646	786	165	175	490
27	156	722	771	e335	e380	e3250	1020	1190	637	149	183	484
28	158	657	702	e330	e430	3430	1020	1310	484	130	156	567
29	166	603	667	e325	---	3340	930	1320	397	118	166	812
30	172	547	569	e320	---	2670	857	1200	354	109	175	741
31	166	---	532	e315	---	3070	---	1030	---	92	127	---
TOTAL	3848	14012	19870	14441	10334	44265	56069	25492	22478	5124	12832	8514
MEAN	124	467	641	466	369	1428	1869	822	749	165	414	284
MAX	212	887	1200	804	430	3430	3550	1320	1240	325	1040	812
MIN	60	134	281	315	325	410	857	391	354	92	124	106
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2003, BY WATER YEAR (WY)												
MEAN	345	524	649	615	612	1165	1586	833	534	287	231	267
MAX	1622	1617	2324	1444	1894	3989	3584	1687	1932	1118	1052	3030
(WY)	1976	1928	1997	1978	1984	1936	1940	1996	1984	1938	1928	1938
MIN	74.0	79.7	143	69.5	132	362	443	286	92.5	61.7	52.6	43.2
(WY)	1940	1965	1931	1981	1931	1989	1985	1999	1964	1966	1964	1964

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1916 - 2003	
ANNUAL TOTAL	148784		237279			
ANNUAL MEAN	408		650		637	
HIGHEST ANNUAL MEAN					1044	1984
LOWEST ANNUAL MEAN					196	1965
HIGHEST DAILY MEAN	2140	May 15	3550	Apr 1	22000	Sep 22 1938
LOWEST DAILY MEAN	47	Aug 21	60	Oct 10	8.0	Sep 6 1926
ANNUAL SEVEN-DAY MINIMUM	48	Aug 21	66	Oct 5	31	Aug 25 1995
MAXIMUM PEAK FLOW			3730	Apr 1	29000	Sep 22 1938
MAXIMUM PEAK STAGE			5.87	Apr 1	13.37	Sep 22 1938
INSTANTANEOUS LOW FLOW			59	Oct 10		
10 PERCENT EXCEEDS	877		1220		1490	
50 PERCENT EXCEEDS	320		440		401	
90 PERCENT EXCEEDS	61		133		105	

e Estimated

CONNECTICUT RIVER BASIN

01168500 DEERFIELD RIVER AT CHARLEMONT, MA

LOCATION.--Lat 42°37'33", long 72°51'20", Franklin County, Hydrologic Unit 01080203, on left bank 0.8 mi east of Charlemont, 2.5 mi downstream from Chickley River, and at mile 24.5.

DRAINAGE AREA.--361 mi^2.

PERIOD OF RECORD.--Discharge: June 1913 to current year.
Water-quality records: Water years 1954–55, 1958, 1967–69, 1995.

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 National Geodetic Vertical Datum of 1929.

REMARKS--Records good except those above 1,000 ft^3/s, which are fair. Flow regulated by Somerset Reservoir, since 1924 by Harriman Reservoir, and by several powerplants upstream. Telephone and satellite gage-height telemeter at station. Measurements of water temperature and air temperature were made during the year.

AVERAGE DISCHARGE.--90 years, 900 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,300 ft^3/s, Sept. 21, 1938, gage height, 20.17 ft, from floodmarks, from rating curve extended above 31,000 ft^3/s on basis of slope-area and contracted-opening measurements at gage heights 17.75 ft and 20.17 ft; minimum daily, 5 ft^3/s, June 17, 1921.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,040 ft^3/s, Mar. 29, gage height, 7.05 ft; minimum daily, 154 ft^3/s, Oct. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	241	621	533	950	955	821	1730	1110	1110	295	526	482
2	238	504	708	974	892	790	1540	1110	1180	272	1100	824
3	263	654	759	1020	862	769	1590	2110	892	249	735	447
4	290	358	837	1020	953	818	1700	1100	413	259	802	1010
5	249	379	869	965	939	786	1460	1080	379	348	1190	756
6	267	338	728	993	896	728	1320	966	394	495	1190	585
7	154	386	674	933	674	658	969	864	398	440	1190	631
8	308	464	597	1040	840	684	674	755	460	439	1120	597
9	345	817	740	968	885	726	670	771	383	397	875	615
10	244	462	523	965	824	680	924	708	435	233	1070	629
11	245	714	743	1010	968	628	1120	657	351	256	1540	625
12	1320	704	635	962	860	575	1620	1170	317	255	2140	636
13	803	1220	672	781	884	474	2110	2210	410	244	2110	600
14	553	753	914	890	892	451	2030	1990	892	216	1740	587
15	403	595	1230	959	888	408	2430	1410	522	290	1490	734
16	682	959	1170	1080	679	418	3620	1280	599	319	1260	826
17	1140	920	1040	856	626	644	3680	694	641	426	1070	739
18	812	1440	924	927	697	1520	2670	591	738	480	1080	592
19	717	1230	909	855	727	1360	1930	820	739	312	1180	806
20	385	1310	1010	823	701	1120	1990	710	499	251	1060	970
21	340	1290	1530	1090	692	2280	2310	561	491	160	965	750
22	310	1450	1040	1180	727	2950	2280	611	766	204	978	319
23	437	2090	1020	1070	762	2410	2160	705	573	390	776	752
24	421	1450	940	1060	788	1820	1760	847	329	439	747	1050
25	425	1300	927	1050	894	1880	1370	811	405	407	696	660
26	684	1090	1080	998	1040	2500	1380	828	599	287	697	735
27	718	1010	992	919	1020	2360	1570	1640	824	246	825	569
28	931	952	965	954	946	2050	1550	1450	375	271	613	2230
29	564	798	924	877	---	3290	1360	1420	364	231	679	2080
30	504	820	862	866	---	4240	900	967	452	298	658	1360
31	493	---	851	974	---	2230	---	928	---	227	585	---
TOTAL	15486	27078	27346	30009	23511	43068	52417	32874	16930	9636	32687	24196
MEAN	500	903	882	968	840	1389	1747	1060	564	311	1054	807
MAX	1320	2090	1530	1180	1040	4240	3680	2210	1180	495	2140	2230
MIN	154	338	523	781	626	408	670	561	317	160	526	319

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2003, BY WATER YEAR (WY)

MEAN	601	832	984	991	986	1369	1851	1128	668	452	465	482
MAX	2766	2123	2026	2092	2450	3642	4106	2889	1820	1611	1886	2404
(WY)	1956	1956	1928	1978	1981	1921	1914	1943	1998	1915	1976	1938
MIN	90.8	177	133	363	268	429	529	280	188	78.1	131	74.0
(WY)	1915	1915	1915	1914	1919	1931	1995	1995	1941	1962	1964	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1913 - 2003	
ANNUAL TOTAL	304648		335238			
ANNUAL MEAN	835		918		900	
HIGHEST ANNUAL MEAN					1364	1928
LOWEST ANNUAL MEAN					455	1965
HIGHEST DAILY MEAN	3710	Jun 7	4240	Mar 30	31100	Dec 31 1948
LOWEST DAILY MEAN	154	Oct 7	154	Oct 7	5.0	Jun 17 1921
ANNUAL SEVEN-DAY MINIMUM	236	Sep 9	243	Oct 1	34	Sep 19 1953
MAXIMUM PEAK FLOW			7040	Mar 29	56300	Sep 21 1938
MAXIMUM PEAK STAGE			7.05	Mar 29	20.17	Sep 21 1938
INSTANTANEOUS LOW FLOW			132	Jul 30		
10 PERCENT EXCEEDS	1540		1600		1690	
50 PERCENT EXCEEDS	728		818		690	
90 PERCENT EXCEEDS	288		339		193	

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 mi^2.

WATER DISCHARGE RECORDS

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, 1994–95, 2003.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation at times caused by mill upstream; because storage capacity is small, daily flows are not affected appreciably. Prior to 1950, greater regulation by mill. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--64 years, 187 ft^3/s, 28.52 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,200 ft^3/s, Apr. 5, 1987, gage height, 11.19 ft, from rating curve extended above 2,900 ft^3/s on basis of slope-area measurements at gage heights 9.55 ft and 11.19 ft; minimum daily, 5.1 ft^3/s, Oct. 3, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,630 ft^3/s, Sept. 28, gage height, 7.02 ft; minimum, 13 ft^3/s, July 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	76	e142	e83	71	e73	582	200	258	58	98	42
2	27	71	e119	e93	76	e78	523	319	200	52	237	59
3	24	67	e95	e91	e79	e77	622	316	153	48	107	67
4	25	67	e92	e86	e86	e77	534	228	129	50	109	490
5	34	76	e90	e77	e90	e78	433	188	129	43	245	258
6	42	107	e89	e78	e89	e78	371	178	120	39	177	135
7	32	174	e87	e79	78	e77	315	171	118	37	110	91
8	28	122	e84	e76	e68	e76	291	189	155	36	82	72
9	26	136	e81	e88	e70	e76	266	179	129	36	67	63
10	25	202	e77	e77	e72	e76	285	153	118	38	227	57
11	28	217	e76	e76	e69	e77	384	150	103	53	318	52
12	301	207	e78	e69	e73	e77	795	469	113	61	457	48
13	197	534	e93	e85	e70	e77	747	409	277	45	221	45
14	109	291	243	e79	e65	e76	617	275	502	39	135	113
15	71	202	416	e85	e60	e77	779	218	278	35	93	143
16	145	162	254	e89	e59	e82	1180	187	178	61	74	185
17	481	230	195	e89	e61	163	782	168	139	74	188	118
18	178	455	176	e80	e62	412	498	151	125	47	263	82
19	111	276	184	e82	e59	513	425	135	125	41	153	332
20	90	245	189	e89	e60	342	429	120	110	35	100	326
21	74	264	294	e89	e55	1010	413	114	104	32	77	174
22	64	460	207	e89	e60	1330	416	116	262	68	68	118
23	66	722	178	e87	e95	1050	398	107	207	57	80	552
24	74	373	158	e87	e106	878	313	137	146	46	60	465
25	66	297	e105	e88	e109	1010	261	151	109	37	52	239
26	159	267	e98	e87	e101	1120	371	359	91	33	49	189
27	294	238	e89	e86	e89	1120	540	410	81	29	76	164
28	177	198	e83	78	e81	961	346	321	70	27	56	1340
29	121	191	e80	69	---	1570	271	286	63	26	47	935
30	97	179	e74	68	---	1700	224	202	60	21	47	498
31	84	---	e79	68	---	843	---	167	---	22	45	---
TOTAL	3281	7106	4305	2547	2113	15254	14411	6773	4652	1326	4118	7452
MEAN	106	237	139	82.2	75.5	492	480	218	155	42.8	133	248
MAX	481	722	416	93	109	1700	1180	469	502	74	457	1340
MIN	24	67	74	68	55	73	224	107	60	21	45	42
CFSM	1.19	2.66	1.56	0.92	0.85	5.53	5.40	2.45	1.74	0.48	1.49	2.79
IN.	1.37	2.97	1.80	1.06	0.88	6.38	6.02	2.83	1.94	0.55	1.72	3.11
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)												
MEAN	100	173	178	146	156	337	560	272	142	68.8	52.7	58.8
MAX	832	468	522	398	801	866	1076	772	417	316	285	306
(WY)	1956	1956	1974	1978	1981	1953	1969	1984	1973	2000	2000	1960
MIN	11.8	25.4	47.3	24.2	23.7	46.2	169	85.3	28.4	17.5	12.5	9.00
(WY)	1965	1965	1999	1981	1940	1940	1981	1986	1965	1962	1956	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	56537.5		73338			
ANNUAL MEAN	155		201		187	
HIGHEST ANNUAL MEAN					299	1984
LOWEST ANNUAL MEAN					79.9	1965
HIGHEST DAILY MEAN	1230	May 14	1700	Mar 30	8740	Oct 15 1955
LOWEST DAILY MEAN	9.7	Sep 14	21	Jul 30	5.1	Oct 3 1948
ANNUAL SEVEN-DAY MINIMUM	12	Sep 9	28	Jul 25	6.3	Sep 1 1953
MAXIMUM PEAK FLOW			3630	Sep 28	14200	Apr 5 1987
MAXIMUM PEAK STAGE			7.02	Sep 28	11.19	Apr 5 1987
INSTANTANEOUS LOW FLOW			13	Jul 30		
ANNUAL RUNOFF (CFSM)	1.74		2.26		2.10	
ANNUAL RUNOFF (INCHES)	23.63		30.65		28.52	
10 PERCENT EXCEEDS	357		458		426	
50 PERCENT EXCEEDS	111		106		94	
90 PERCENT EXCEEDS	23		47		21	

e Estimated

CONNECTICUT RIVER BASIN

01169000 NORTH RIVER AT SHATTUCKVILLE, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Intermittent water-quality samples, water years 1957, 1967–69, 1994–95, 2003.

DATE	TIME	INSTAN-TANEOUS DISCHARGE, CFS (00061)	BAROMETRIC PRESSURE, MM HG (00025)	DISSOLVED OXYGEN, MG/L (00300)	DISSOLVED OXYGEN, PERCENT OF SATURATION (00301)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPERATURE, WATER, DEG C (00010)
DEC 2002								
17...	1415	178	760	--	--	7.2	105	0.3
JAN 2003								
15...	0925	E84	753	11.6	80	7.2	145	.0
FEB								
19...	1535	E41	753	8.0	55	7.4	148	.0
MAR								
10...	1530	E72	752	11.7	82	7.6	140	.4
APR								
02...	1445	462	754	12.5	95	7.2	82	3.3
10...	1400	240	753	12.1	100	7.1	108	7.0
15...	1545	630	749	10.3	92	7.7	65	9.5
MAY								
06...	1525	160	754	11.6	102	7.4	105	9.2
14...	0825	274	747	11.5	101	7.4	78	8.7
JUN								
17...	1250	126	763	10.4	104	7.7	90	15.6
JUL								
15...	1310	31	756	9.4	108	8.3	212	21.7
AUG								
05...	1300	200	751	8.6	99	7.5	85	22.0
19...	0845	148	759	9.8	103	7.6	92	17.6
SEP								
08...	1245	64	757	9.7	103	8.1	129	17.8

CONNECTICUT RIVER BASIN

01169000 NORTH RIVER AT SHATTUCKVILLE, MA--Continued

DATE	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PHOSPHORUS, WATER, UNFLTRD MG/L (00665)	SUSPENDED SEDIMENT CONCENTRATION MG/L (80154)
DEC 2002							
17...	0.16	<0.04	0.33	<0.008	<0.02	0.013	6
JAN 2003							
15...	.13	<.04	.39	<.008	<.02	.010	.2
FEB							
19...	.20	E.02	.74	<.008	.05	.064	2
MAR							
10...	.11	<.04	.37	<.008	E.01	.023	.5
APR							
02...	.11	E.008	.322	<.008	<.02	.015	4
10...	.13	E.009	.399	<.008	E.01	.018	.6
15...	.10	<.015	.190	<.008	<.02	.016	10
MAY							
06...	.12	<.015	.296	<.008	<.02	.019	2
14...	.12	<.015	.169	<.008	<.02	.014	5
JUN							
17...	.17	<.015	.171	<.008	<.02	.010	2
JUL							
15...	.35	.015	1.35	<.008	.13	.159	2
AUG							
05...	.47	<.015	.158	E.004	E.01	.052	9
19...	.26	<.015	.185	<.008	<.18	.026	4
SEP							
08...	.22	E.008	.321	E.004	.02	.035	1

< Less than
E Estimated value

CONNECTICUT RIVER BASIN

01169900 SOUTH RIVER NEAR CONWAY, MA

LOCATION.--Lat 42°32'31", long 72°41'39", Franklin County, Hydrologic Unit 01080203, on left bank at upstream side of Reeds Bridge just off Bardwell Road, 2.2 mi north of Conway, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--24.1 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: June 1966 to current year.
Water-quality records: Water years 1967–69, 1994–95, 2003.

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 7, 1970, at downstream side of bridge at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diurnal fluctuation by small powerplant upstream since April 1982.

AVERAGE DISCHARGE.--37 years, 52.8 ft^3/s, 29.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,750 ft^3/s, Apr. 4, 1987, gage height, 10.16 ft, minimum, 2.1 ft^3/s (estimated), Sept. 13, 1995, but may have been lower earlier in the month.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,870 ft^3/s, Sept. 28, gage height, 6.91 ft; minimum, 3.6 ft^3/s, Aug. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e7.3	e18	e43	e41	e27	e30	139	57	98	14	15	8.3
2	e7.0	e17	e37	e60	e27	e51	125	114	66	13	35	22
3	e7.2	e16	e31	e47	e27	e75	164	97	49	12	16	17
4	e6.8	e16	e32	e46	e29	e47	197	67	44	11	44	35
5	e8.9	e18	e34	e41	e32	e42	131	59	70	10	39	24
6	e8.6	e33	e35	e40	e30	e44	118	54	53	9.0	52	17
7	e6.7	e46	e33	e38	e28	e37	102	52	52	8.1	24	14
8	e6.0	e29	e33	e42	e28	e32	95	59	60	8.0	20	10
9	e5.6	e32	e29	e42	e28	e32	87	57	47	8.5	17	7.7
10	e5.6	e33	e33	e39	e28	e33	100	48	40	9.5	134	7.2
11	e8.4	28	e33	e38	e28	e31	173	47	38	11	252	6.8
12	e113	31	e38	e38	e28	e27	392	138	40	11	179	6.4
13	e48	e116	e39	e38	e29	e27	219	75	64	8.2	74	6.3
14	e28	e55	e97	e38	e29	e27	153	59	76	6.9	43	23
15	e40	e42	e82	e38	e29	e26	152	52	51	6.9	32	23
16	e49	33	e55	e37	e29	e31	151	47	38	9.0	30	40
17	e127	86	e48	e36	e30	e70	114	44	34	12	49	22
18	e39	164	e45	e36	e30	e171	95	40	33	8.0	44	16
19	e28	77	e44	e36	e30	169	87	37	34	8.0	31	98
20	e23	73	e44	e36	e30	81	80	34	30	6.5	24	51
21	e19	77	e44	e36	e30	378	73	34	29	5.8	19	30
22	e18	216	e44	e36	e30	375	75	34	83	13	18	22
23	e19	217	e43	e31	e86	294	75	34	77	10	19	232
24	e18	95	e41	e31	e85	288	63	51	44	15	14	87
25	e17	83	e40	e30	e68	346	57	51	32	12	13	52
26	e40	78	e39	e30	e44	361	129	152	26	7.4	12	54
27	e53	72	e45	e30	e43	356	158	101	23	6.3	11	48
28	e32	63	e44	e30	e34	273	82	86	19	5.6	11	612
29	e25	58	e37	e29	---	412	75	72	17	4.9	9.1	234
30	e22	e47	e33	e27	---	448	62	55	16	4.4	8.6	115
31	e19	---	e34	e27	---	220	---	49	---	4.1	8.9	---
TOTAL	855.1	1969	1309	1144	996	4834	3723	1956	1383	279.1	1297.6	1940.7
MEAN	27.6	65.6	42.2	36.9	35.6	156	124	63.1	46.1	9.00	41.9	64.7
MAX	127	217	97	60	86	448	392	152	98	15	252	612
MIN	5.6	16	29	27	27	26	57	34	16	4.1	8.6	6.3
CFSM	1.14	2.72	1.75	1.53	1.48	6.47	5.15	2.62	1.91	0.37	1.74	2.68
IN.	1.32	3.04	2.02	1.77	1.54	7.46	5.75	3.02	2.13	0.43	2.00	3.00
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)												
MEAN	28.9	49.1	52.5	46.6	50.9	96.9	129	72.4	48.3	21.9	18.7	19.6
MAX	85.5	142	142	135	163	183	263	171	144	80.7	91.9	101
(WY)	1976	1996	1974	1996	1981	1999	2001	1984	1982	2000	2000	1999
MIN	6.22	8.20	12.6	7.27	14.1	32.3	32.6	23.5	12.6	5.92	4.45	4.17
(WY)	1983	2002	1999	1981	1980	1967	1985	1995	1985	1991	1999	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	13308.6		21686.5			
ANNUAL MEAN	36.5		59.4		52.8	
HIGHEST ANNUAL MEAN					82.6	1996
LOWEST ANNUAL MEAN					21.5	1985
HIGHEST DAILY MEAN	336	May 13	612	Sep 28	1570	Jun 6 1982
LOWEST DAILY MEAN	2.7	Aug 15	4.1	Jul 31	1.6	Aug 8 1999
ANNUAL SEVEN-DAY MINIMUM	3.1	Aug 14	6.4	Jul 25	2.0	Aug 5 1999
MAXIMUM PEAK FLOW			1870	Sep 28	5750	Apr 4 1987
MAXIMUM PEAK STAGE			6.91	Sep 28	10.16	Apr 4 1987
INSTANTANEOUS LOW FLOW			3.6	Aug 1		
ANNUAL RUNOFF (CFSM)	1.51		2.47		2.19	
ANNUAL RUNOFF (INCHES)	20.54		33.47		29.79	
10 PERCENT EXCEEDS	76		128		112	
50 PERCENT EXCEEDS	28		37		30	
90 PERCENT EXCEEDS	6.0		9.0		7.3	

e Estimated

CONNECTICUT RIVER BASIN

01169900 SOUTH RIVER NEAR CONWAY, MA--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Intermittent water-quality samples, water years 1967–69, 1994–95, 2003.

DATE	TIME	INSTAN-TANEOUS DISCHARGE, CFS (00061)	BAROMETRIC PRESSURE, MM HG (00025)	DISSOLVED OXYGEN, MG/L (00300)	DISSOLVED OXYGEN, PERCENT OF SATURATION (00301)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, WATER, DEG C (00010)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)
DEC 2002									
18...	0800	E45	765	11.3	77	7.0	157	0.0	E0.09
JAN 2003									
15...	1215	E38	753	12.1	84	7.2	167	.0	--
FEB									
20...	0940	E30	756	10.3	71	7.2	164	.0	E.08
MAR									
11...	0910	E31	757	11.0	76	7.3	182	.0	<.10
APR									
03...	0900	169	756	11.0	82	7.3	118	3.0	.14
10...	1530	94	753	11.6	99	7.4	150	7.5	.10
16...	0930	149	747	--	--	7.3	110	7.4	E.10
MAY									
07...	0935	53	752	11.4	102	7.5	152	9.7	.11
14...	1155	60	745	11.0	102	7.7	148	10.9	.11
JUN									
17...	1530	35	759	9.6	103	8.0	162	18.6	.16
JUL									
15...	1550	7.5	755	8.6	103	8.3	211	24.0	.15
AUG									
06...	0920	66	753	8.6	96	7.6	138	20.1	.31
19...	1040	35	759	9.5	102	7.7	182	18.5	.14
SEP									
08...	1415	11	757	9.0	98	8.0	206	19.0	E.08

CONNECTICUT RIVER BASIN

01169900 SOUTH RIVER NEAR CONWAY, MA--Continued

DATE	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PHOSPHORUS, WATER, UNFLTRD MG/L (00665)	SUSPENDED SEDIMENT CONCENTRATION MG/L (80154)
DEC 2002						
18...	<0.04	0.40	<0.008	<0.02	0.004	0.2
JAN 2003						
15...	<.04	.46	<.008	<.02	.006	.6
FEB						
20...	<.04	.55	<.008	<.02	.005	.5
MAR						
11...	<.04	.49	<.008	<.02	.008	1
APR						
03...	<.015	.374	<.008	<.02	.015	13
10...	<.015	.451	<.008	<.02	.015	10
16...	<.015	.269	<.008	<.02	.011	10
MAY						
07...	<.015	.341	--	<.02	.007	3
14...	<.015	.265	<.008	<.02	.009	2
JUN						
17...	<.015	.272	<.008	<.02	.006	2
JUL						
15...	<.015	.386	<.008	<.02	.007	.9
AUG						
06...	<.015	.175	<.008	<.02	.036	11
19...	<.015	.283	<.008	<.18	.009	2
SEP						
08...	<.015	.344	<.008	<.02	.006	2

< Less than
E Estimated value

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 mi^2.

PERIOD OF RECORD.--Discharge: March to November 1904, January 1905, March to December 1905, October 1940 to current year, published as "at Deerfield" 1904–05.
Water-quality records: June 1994.

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 16, 1905, nonrecording gage at site 1.5 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since 1913 by Somerset Reservoir, since 1924 by Harriman Reservoir, and by several powerplants upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--62 years (water years 1941–2003), 1,315 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,700 ft^3/s, Apr. 5, 1987, gage height, 17.71 ft; minimum daily, 28 ft^3/s, July 29, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,800 ft^3/s , Mar. 29, gage height, 8.14; minimum daily, 265 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	330	755	972	1310	1350	e1250	2960	1560	1740	389	694	614
2	329	688	975	1490	1290	e1180	2520	1700	1770	405	1590	1020
3	318	776	1110	1470	1260	e1150	2870	2880	1410	395	1130	727
4	306	578	1180	1380	1240	e1200	2930	1960	767	393	1200	1490
5	327	481	1220	1480	1470	e1170	2400	1580	768	449	1630	1400
6	320	725	994	1390	1550	e1090	2150	1440	775	606	1690	850
7	415	590	994	1450	1090	e995	1750	1320	778	646	1620	839
8	317	640	939	1460	1400	e1010	1430	1230	922	588	1340	810
9	284	1010	1020	1370	1360	1110	1180	1230	725	583	1130	765
10	271	871	984	1350	1270	1210	1450	1050	667	300	1690	830
11	265	1090	1280	1310	1270	1060	1870	1100	672	360	2480	730
12	1780	1090	1030	1470	1400	893	3340	1900	674	396	3680	821
13	1540	1890	918	1070	1250	814	3630	2970	896	350	2930	668
14	665	1600	1490	1270	1290	676	3140	2780	1740	311	2240	892
15	743	908	2140	1440	1300	663	3650	2130	1170	318	2130	1010
16	927	1300	1790	1630	1080	707	5230	1820	1000	496	1740	1220
17	1970	1480	1690	1350	e944	1030	5220	1270	913	646	1480	1090
18	1310	2450	1280	1320	e1010	2230	3620	944	1110	656	1690	753
19	1050	1870	1330	1390	e1070	2430	2830	994	1140	355	1530	1340
20	625	1800	1490	1280	e1050	1950	2710	1140	809	329	1520	1700
21	451	1970	1990	1520	e1030	4270	2980	975	773	300	1210	1140
22	483	2480	1690	1470	e1070	5870	3030	868	1390	389	1190	575
23	475	3670	1500	1540	e1130	4900	3060	967	1410	447	1050	1650
24	640	2290	1420	1550	e1180	3720	2460	1270	751	701	807	2210
25	624	2000	1190	1510	e1310	3850	1990	1210	680	452	962	1190
26	885	1750	1570	1520	e1510	4780	2090	1560	852	373	902	1100
27	1180	1640	1580	1510	e1520	4670	2710	2540	1050	308	1060	909
28	1130	1440	1410	1540	e1420	3900	2230	2140	621	415	802	4860
29	1020	1380	1300	1530	---	5730	2000	2190	570	309	799	4190
30	760	1260	1230	1320	---	8110	1580	1550	656	325	839	2390
31	673	---	1190	1390	---	4090	---	1320	---	332	675	---
TOTAL	22413	42472	40896	44080	35114	77708	81010	49588	29199	13322	45430	39783
MEAN	723	1416	1319	1422	1254	2507	2700	1600	973	430	1465	1326
MAX	1970	3670	2140	1630	1550	8110	5230	2970	1770	701	3680	4860
MIN	265	481	918	1070	944	663	1180	868	570	300	675	575

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2003, BY WATER YEAR (WY)

MEAN	832	1205	1428	1406	1436	2111	2918	1706	992	586	581	615
MAX	4632	3302	3156	2801	3890	4771	5320	4094	2693	1955	2142	2112
(WY)	1956	1956	1997	1978	1981	1953	1993	1984	1998	2000	1976	1905
MIN	228	244	385	622	693	1083	928	484	307	119	167	94.5
(WY)	1983	1965	1965	1965	1944	1962	1995	1995	1964	1962	1964	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1904 - 2003	
ANNUAL TOTAL	433125		521015			
ANNUAL MEAN	1187		1427		1315	
HIGHEST ANNUAL MEAN					1840	1996
LOWEST ANNUAL MEAN					629	1965
HIGHEST DAILY MEAN	6130	May 14	8110	Mar 30	38300	Dec 31 1948
LOWEST DAILY MEAN	265	Oct 11	265	Oct 11	28	Jul 29 1962
ANNUAL SEVEN-DAY MINIMUM	283	Sep 7	314	Oct 5	39	Jul 27 1962
MAXIMUM PEAK FLOW			14800	Mar 29	61700	Apr 5 1987
MAXIMUM PEAK STAGE			8.14	Mar 29	17.71	Apr 5 1987
INSTANTANEOUS LOW FLOW			265	Oct 11		
10 PERCENT EXCEEDS	2210		2530		2620	
50 PERCENT EXCEEDS	1020		1230		986	
90 PERCENT EXCEEDS	330		479		273	

e Estimated

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA
(National Water-Quality Assessment Site)

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 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1967 to current year.
Water-quality records: Water years 1968–69, 1993–95, 2002.

REVISED RECORDS.--WDR MA-NH-RI-VT-71-1: 1968(M), 1969.

GAGE.--Water-stage recorder. Elevation of gage is 435 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--36 years, 89.7 ft^3/s, 29.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,560 ft^3/s, Dec. 21, 1973, gage height, 8.2 ft, from floodmarks, from rating curve extended above 1,500 ft^3/s on basis of slope area measurement of peak flow and conveyance-slope study; maximum gage height, 12.71 ft, Feb. 23, 1997 (ice jam); minimum discharge, 1.9 ft^3/s, Aug. 1, 1968, caused by unusual regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 2,060 ft^3/s, Sept. 28, gage height, 5.67 ft, from rating curve extended above 1,100 ft^3/s; minimum, 9.1 ft^3/s, Oct. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	42	82	e38	e55	40	279	107	131	28	55	18
2	11	39	74	e42	e57	e35	242	181	107	25	126	25
3	11	36	60	e42	e58	e35	254	166	83	23	61	26
4	11	36	e42	e39	e58	e35	221	122	71	22	80	171
5	17	38	e41	e35	e57	e36	187	104	69	20	96	88
6	17	56	e41	e36	46	e36	166	95	64	18	97	50
7	13	81	e40	e36	41	e35	144	91	64	17	64	36
8	11	57	e38	e35	39	46	133	99	75	16	44	30
9	9.8	62	e37	e40	36	45	122	91	68	17	36	25
10	9.2	93	e35	e42	e38	40	135	78	60	18	127	22
11	12	106	e35	e42	e36	39	182	76	55	28	130	21
12	140	92	e36	e41	33	37	343	201	57	29	145	19
13	90	233	e43	e41	32	37	328	166	151	21	84	18
14	52	133	e110	e43	31	35	283	124	240	18	57	47
15	e37	94	e187	e46	30	34	396	104	139	16	42	61
16	78	76	e115	e48	28	38	598	91	95	31	34	97
17	249	103	e88	e50	29	97	375	81	78	39	58	55
18	91	184	e80	e48	e28	e217	239	72	70	23	182	37
19	58	117	e83	e52	e27	e266	210	64	69	19	83	133
20	48	109	e86	e55	e24	250	219	59	61	16	51	157
21	39	120	e133	e56	e27	533	209	58	58	16	38	78
22	34	201	e94	e58	e33	578	207	58	107	37	35	53
23	36	299	e81	e60	e43	450	195	53	88	27	35	277
24	38	165	e72	e60	e48	394	155	68	68	22	26	223
25	34	139	e48	e59	e49	455	131	75	54	19	24	112
26	81	128	e45	e62	e46	512	190	185	46	16	23	84
27	141	115	e40	e64	e41	504	266	199	40	14	31	72
28	96	97	e38	e63	48	451	173	168	34	13	23	722
29	66	96	e36	e61	---	730	135	156	31	12	19	476
30	53	87	e34	e60	---	740	113	112	31	11	19	241
31	46	---	e36	e57	---	399	---	93	---	10	18	---
TOTAL	1642.0	3234	2010	1511	1118	7179	6830	3397	2364	641	1943	3474
MEAN	53.0	108	64.8	48.7	39.9	232	228	110	78.8	20.7	62.7	116
MAX	249	299	187	64	58	740	598	201	240	39	182	722
MIN	9.2	36	34	35	24	34	113	53	31	10	18	18
CFSM	1.28	2.60	1.57	1.18	0.96	5.59	5.50	2.65	1.90	0.50	1.51	2.80
IN.	1.48	2.91	1.81	1.36	1.00	6.45	6.14	3.05	2.12	0.58	1.75	3.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

MEAN	48.8	84.5	86.2	71.8	77.8	163	250	129	74.8	35.5	27.8	27.6
MAX	190	214	236	178	277	355	442	287	188	105	126	116
(WY)	1976	1996	1997	1996	1981	1979	1969	1984	1973	1973	2000	2003
MIN	11.4	12.3	21.9	11.6	18.1	53.2	77.6	42.1	21.7	10.6	6.32	6.55
(WY)	1983	2002	1999	1981	1980	1971	1995	1986	1999	1995	1999	1983

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	26426.7		35343.0			
ANNUAL MEAN	72.4		96.8		89.7	
HIGHEST ANNUAL MEAN					136	1973
LOWEST ANNUAL MEAN					44.4	1985
HIGHEST DAILY MEAN	524	May 14	740	Mar 30	2420	Mar 31 1987
LOWEST DAILY MEAN	4.4	Sep 14	9.2	Oct 10	3.3	Sep 16 1983
ANNUAL SEVEN-DAY MINIMUM	5.0	Sep 9	13	Oct 4	3.6	Sep 11 1983
MAXIMUM PEAK FLOW			2060	Sep 28	4560	Dec 21 1973
MAXIMUM PEAK STAGE			5.67	Sep 28	8.87	Jan 27 1976
INSTANTANEOUS LOW FLOW			9.1	Oct 10	1.9	Aug 1 1968
ANNUAL RUNOFF (CFSM)	1.75		2.34		2.17	
ANNUAL RUNOFF (INCHES)	23.75		31.76		29.43	
10 PERCENT EXCEEDS	151		213		202	
50 PERCENT EXCEEDS	58		58		49	
90 PERCENT EXCEEDS	8.9		21		11	

e Estimated

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Intermittent water-quality samples, water years 1968–69, 1993–95, 2002–03; continuous water-quality records, water years 2002 and 2003.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: December 2001 to current year.

WATER TEMPERATURE: December 2001 to current year.

INSTRUMENTATION.—Specific conductance and temperature water-quality monitor.

REMARKS.—Specific conductance and water temperature records good. Extremes for period of daily record and current year are for those values reported.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 162 µS/cm, July 27, 2003; minimum, 42 µS/cm, Mar. 29, 2003.

WATER TEMPERATURE: Maximum recorded, 27.9°C, Aug.16, 2002; minimum, 0.0°C, many days during winter period.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 162 µS/cm, July 27; minimum, 42 µS/cm, Mar. 29.

WATER TEMPERATURE: Maximum recorded, 26.4°C, July 6; minimum, 0.0°C, many days during winter period.

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	123	116	121	82	80	81	84	81	82	84	81	83
2	131	122	125	84	82	83	90	83	86	85	81	82
3	134	130	132	85	84	84	96	83	88	88	83	85
4	135	133	134	87	85	86	103	96	99	90	85	88
5	133	121	128	87	86	86	98	93	96	88	83	86
6	128	123	126	87	81	84	93	87	90	86	83	84
7	128	126	127	84	76	78	94	88	92	87	85	85
8	128	126	127	81	77	79	94	90	92	88	85	86
9	132	126	128	81	79	80	97	90	93	86	83	85
10	136	132	133	80	71	75	103	97	100	88	84	85
11	136	124	134	71	67	68	98	92	96	90	87	89
12	124	66	87	75	69	71	92	89	90	88	86	87
13	77	74	75	73	61	63	89	87	88	90	88	89
14	87	77	82	67	62	64	87	76	83	92	87	90
15	92	87	89	70	67	68	76	68	71	95	91	93
16	107	67	89	71	70	71	77	72	74	91	89	90
17	67	61	64	73	70	71	85	77	83	90	88	89
18	73	67	71	72	65	67	88	85	87	94	89	92
19	79	73	76	73	69	71	91	85	88	96	93	94
20	82	79	80	76	73	74	85	80	82	94	92	93
21	85	82	83	73	71	72	80	73	75	92	91	92
22	88	85	86	74	67	71	77	76	76	94	92	93
23	90	87	88	67	58	62	80	77	78	97	94	96
24	90	87	88	70	63	67	82	80	81	107	95	100
25	89	87	88	74	70	72	85	82	83	105	94	97
26	92	72	86	75	73	74	88	83	86	100	95	96
27	72	67	68	77	75	76	93	82	87	96	93	94
28	71	67	68	80	77	79	88	84	86	95	93	94
29	75	71	73	81	80	80	85	83	84	100	95	96
30	78	75	76	82	81	81	87	84	86	100	97	98
31	80	78	79	---	---	---	87	84	85	111	98	101
MONTH	136	61	97	87	58	75	103	68	86	111	81	91

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	124	111	121	95	95	95	66	62	64	66	64	65
2	121	103	108	97	93	95	69	66	68	69	59	64
3	105	101	102	94	91	93	69	68	68	73	61	67
4	103	92	96	96	94	95	71	69	70	86	72	78
5	92	86	88	96	93	94	73	70	72	89	79	85
6	94	87	92	95	92	94	75	72	74	89	82	85
7	94	92	93	96	94	95	77	75	77	94	88	91
8	94	92	93	98	94	96	78	76	77	97	84	94
9	95	92	95	100	97	99	79	78	79	84	78	80
10	95	94	95	99	98	98	80	76	79	81	79	80
11	94	91	93	100	98	99	76	73	75	82	81	81
12	92	91	91	100	98	99	73	62	68	92	74	82
13	91	91	91	98	96	97	66	62	65	97	92	95
14	93	91	92	97	96	97	67	64	65	100	97	98
15	94	93	94	98	96	97	64	51	62	101	70	85
16	96	94	95	100	98	99	52	46	50	72	70	71
17	96	96	96	99	91	97	57	48	53	74	72	73
18	96	95	95	91	76	84	62	57	60	78	74	76
19	95	93	94	81	75	79	65	62	63	82	76	78
20	94	93	93	87	81	85	64	60	62	84	81	82
21	94	93	94	87	52	75	62	60	61	82	80	81
22	97	94	94	68	60	65	62	60	61	80	79	79
23	96	90	94	64	60	63	63	60	61	80	80	80
24	92	90	91	68	63	66	66	59	62	80	77	79
25	92	90	90	67	61	65	62	59	60	78	77	77
26	96	92	95	63	58	61	62	51	59	84	78	80
27	96	94	95	62	58	60	54	50	52	86	82	84
28	96	94	95	64	58	61	59	54	56	82	81	81
29	---	---	---	59	42	56	61	59	60	81	80	80
30	---	---	---	55	43	49	65	61	62	84	80	82
31	---	---	---	62	55	59	---	---	---	86	84	85
MONTH	124	86	95	100	42	83	80	46	65	101	59	81

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	86	85	86	119	117	118	125	83	112	124	121	122
2	85	85	85	120	118	119	83	74	78	123	119	122
3	86	85	85	123	120	121	98	82	88	119	112	115
4	88	86	87	125	123	124	91	80	86	116	71	91
5	89	88	89	126	125	125	90	74	81	92	81	87
6	92	89	90	129	126	127	92	83	87	100	92	96
7	94	92	93	129	128	128	94	84	89	107	100	103
8	94	93	93	130	128	129	99	93	95	111	107	108
9	93	92	93	130	129	130	103	97	99	114	110	111
10	96	93	94	129	126	127	106	81	95	117	114	115
11	98	96	97	126	105	115	93	86	90	118	116	117
12	100	98	99	105	100	102	86	78	81	120	117	118
13	100	99	100	118	102	104	91	85	88	121	119	120
14	99	97	98	111	107	109	101	91	96	122	94	116
15	99	97	98	114	111	112	107	101	103	99	90	93
16	106	99	102	148	102	111	112	106	108	104	91	97
17	111	106	109	102	88	91	112	91	106	102	92	98
18	111	111	111	106	95	100	102	64	73	108	102	105
19	114	111	112	110	106	108	87	76	82	107	76	99
20	116	114	115	113	110	111	98	87	93	88	78	83
21	117	116	117	115	104	112	105	98	101	95	88	92
22	118	117	118	115	106	109	111	104	106	98	93	95
23	118	117	117	108	102	104	107	105	106	99	70	89
24	119	117	118	113	107	109	113	107	109	81	70	75
25	123	119	121	114	109	112	116	112	114	90	81	86
26	126	122	124	119	113	115	117	114	116	95	90	92
27	126	123	125	162	113	117	121	113	116	99	95	98
28	123	117	118	120	117	118	116	112	114	99	51	81
29	117	116	116	121	117	119	126	116	120	69	56	63
30	118	116	117	122	119	120	123	121	122	75	69	71
31	---	---	---	124	120	122	123	121	122	---	---	---
MONTH	126	85	104	162	88	115	126	64	99	124	51	99

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.4	13.1	15.4	4.9	3.0	3.9	2.1	0.0	1.2	0.2	0.0	0.1
2	19.7	15.3	17.3	3.3	1.4	2.2	.5	.0	.1	.0	.0	.0
3	18.0	15.2	16.9	3.0	1.0	1.8	.5	.0	.0	.0	.0	.0
4	15.2	13.1	13.9	3.3	1.5	2.5	.0	.0	.0	.0	.0	.0
5	17.5	13.0	14.8	4.4	2.0	3.2	.0	.0	.0	.0	.0	.0
6	15.1	11.2	13.1	3.3	.0	1.5	.0	.0	.0	.0	.0	.0
7	13.3	11.0	12.0	2.9	1.1	2.1	.0	.0	.0	.0	.0	.0
8	12.3	8.4	10.3	2.7	.3	1.6	.1	.0	.0	.0	.0	.0
9	11.4	7.2	9.4	4.9	1.6	3.2	.0	.0	.0	.0	.0	.0
10	12.6	10.2	11.3	7.1	4.2	5.5	.0	.0	.0	.1	.0	.0
11	12.4	11.6	12.0	9.6	7.1	8.5	.0	.0	.0	.0	.0	.0
12	12.0	11.2	11.7	8.8	7.4	7.6	.1	.0	.0	.0	.0	.0
13	12.2	11.1	11.6	7.4	6.9	7.2	.1	.0	.0	.0	.0	.0
14	12.0	8.1	10.3	6.9	5.3	6.0	.1	.0	.0	.0	.0	.0
15	8.6	5.6	7.2	7.2	4.8	6.0	.1	.0	.0	.0	.0	.0
16	8.4	7.0	7.7	6.5	1.4	4.5	.2	.0	.1	.0	.0	.0
17	10.1	7.8	8.9	1.7	.0	.7	.1	.0	.0	.0	.0	.0
18	9.5	7.3	8.8	3.0	1.7	2.5	.0	.0	.0	.0	.0	.0
19	8.2	6.5	7.3	3.3	2.6	3.0	.1	.0	.0	.0	.0	.0
20	8.8	6.8	7.8	4.3	3.0	3.5	.1	.0	.0	.0	.0	.0
21	7.9	5.7	6.7	3.7	2.6	3.2	.2	.0	.1	.0	.0	.0
22	6.7	4.2	5.6	4.4	3.7	4.1	.6	.1	.3	.0	.0	.0
23	6.4	4.2	5.4	4.3	2.7	3.5	1.2	.2	.6	.1	.0	.0
24	5.6	2.6	4.2	4.2	2.7	3.5	1.1	.2	.7	.1	.0	.0
25	5.2	2.4	3.9	4.0	3.3	3.7	.2	.0	.0	.1	.0	.0
26	4.3	2.6	3.7	4.1	3.1	3.6	.0	.0	.0	.0	.0	.0
27	6.6	4.3	5.5	3.1	.8	2.2	.0	.0	.0	.0	.0	.0
28	6.8	4.9	5.7	.8	.0	.1	.0	.0	.0	.0	.0	.0
29	4.9	3.3	4.3	.8	.0	.3	.1	.0	.0	.0	.0	.0
30	5.1	3.3	4.2	2.2	.7	1.5	.0	.0	.0	.0	.0	.0
31	4.2	1.8	3.2	---	---	---	.1	.0	.0	.0	.0	.0
MONTH	19.7	1.8	9.0	9.6	0.0	3.4	2.1	0.0	0.1	0.2	0.0	0.0

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

WATER TEMPERATURE (DEG. C), WATER YEAR OCTOBER 1–15, 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.3	1.7	11.3	8.4	9.8
2	.1	.0	.0	.0	.0	.0	3.3	1.8	2.5	13.0	10.0	11.1
3	.1	.0	.0	.0	.0	.0	2.8	2.3	2.5	13.0	8.1	10.3
4	.0	.0	.0	.0	.0	.0	2.3	.0	1.1	12.4	6.6	9.6
5	.0	.0	.0	.0	.0	.0	.9	.0	.3	12.1	7.1	9.8
6	.1	.0	.0	.0	.0	.0	4.1	.2	1.7	10.5	8.4	8.8
7	.0	.0	.0	.1	.0	.0	1.8	.1	1.0	13.4	8.4	10.8
8	.0	.0	.0	.1	.0	.0	1.8	.1	1.0	11.7	9.6	10.4
9	.0	.0	.0	.1	.0	.0	2.4	1.5	1.9	13.6	9.2	11.0
10	.0	.0	.0	.1	.0	.0	7.0	1.6	3.8	14.4	8.3	11.3
11	.0	.0	.0	.1	.0	.0	3.7	1.8	2.6	12.7	9.4	11.3
12	.0	.0	.0	.1	.0	.0	6.7	2.5	4.1	11.2	9.3	9.8
13	.0	.0	.0	.1	.0	.0	7.0	2.3	4.4	9.7	8.7	9.3
14	.0	.0	.0	.1	.0	.0	7.2	2.0	4.5	11.4	8.4	9.9
15	.0	.0	.0	.1	.0	.1	9.5	3.4	6.1	12.6	8.8	10.7
16	.0	.0	.0	.2	.0	.1	9.4	4.5	6.5	12.9	9.8	10.9
17	.0	.0	.0	.1	.0	.0	6.3	2.8	4.5	14.2	8.4	10.9
18	.0	.0	.0	.0	.0	.0	5.8	2.8	4.2	14.0	7.6	10.8
19	.0	.0	.0	.0	.0	.0	9.4	3.9	6.4	16.3	8.7	12.3
20	.0	.0	.0	.0	.0	.0	9.9	4.6	7.2	16.4	10.3	13.4
21	.0	.0	.0	.2	.0	.1	10.6	5.4	7.9	13.7	11.2	12.1
22	.0	.0	.0	2.6	.2	1.2	8.6	7.0	7.5	12.6	10.6	11.6
23	.0	.0	.0	3.8	1.1	2.2	7.5	5.7	6.7	11.3	10.3	10.7
24	.0	.0	.0	5.2	1.5	2.9	7.2	4.5	5.7	10.3	9.7	9.9
25	.0	.0	.0	5.3	1.3	3.0	9.9	3.1	6.4	12.8	9.3	10.9
26	.0	.0	.0	4.6	2.2	3.2	8.0	6.6	6.9	11.7	10.1	10.8
27	.0	.0	.0	5.6	1.9	3.4	10.9	6.1	8.0	12.9	9.7	11.1
28	.0	.0	.0	6.0	1.8	3.7	13.1	6.4	9.6	12.7	10.9	11.7
29	---	---	---	4.6	2.5	3.6	12.9	8.4	10.6	14.0	10.9	12.3
30	---	---	---	3.0	2.0	2.7	12.8	8.0	10.2	15.9	11.4	13.6
31	---	---	---	3.9	1.3	2.3	---	---	---	14.2	11.7	13.1
MONTH	0.1	0.0	0.0	6.0	0.0	0.9	13.1	0.0	4.9	16.4	6.6	11.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.9	11.4	12.4	22.5	15.1	18.6	20.7	16.5	18.1	16.6	14.2	15.4
2	14.5	9.4	12.0	22.5	15.3	18.9	19.6	16.0	17.6	15.9	15.0	15.5
3	14.6	9.5	12.1	23.9	16.7	20.1	20.8	18.2	19.4	18.0	15.0	16.2
4	14.4	10.9	12.7	25.2	17.8	21.2	20.9	18.9	19.7	16.1	14.9	15.5
5	13.1	12.2	12.7	24.2	19.4	21.5	22.3	19.0	20.4	17.2	14.9	16.0
6	17.4	11.5	14.2	26.4	19.5	22.5	22.1	19.4	20.5	18.0	13.2	15.5
7	14.5	12.7	13.2	24.3	18.9	21.7	22.0	19.1	20.4	18.4	12.7	15.5
8	13.7	12.3	13.0	25.1	19.7	22.2	22.6	19.6	20.9	19.5	15.0	16.8
9	16.1	12.7	13.9	22.0	18.2	19.8	23.0	20.0	21.4	17.9	13.2	15.2
10	18.8	12.6	15.4	22.2	15.8	19.0	21.4	19.9	20.5	18.0	11.6	14.6
11	15.3	13.5	14.3	---	---	---	21.4	19.5	20.3	19.2	13.1	15.8
12	17.0	13.8	15.4	22.1	16.1	18.7	20.6	18.8	19.6	18.6	13.8	15.9
13	15.6	13.2	14.3	20.8	16.1	18.5	23.1	19.2	20.8	16.0	14.1	15.0
14	13.9	12.7	13.3	20.8	15.5	18.0	23.6	18.9	21.1	16.6	15.3	15.8
15	17.5	12.6	14.7	23.9	15.4	19.4	23.6	19.1	21.2	17.9	15.7	16.7
16	16.3	12.4	14.1	19.8	17.4	18.5	23.5	18.9	21.1	19.0	16.2	17.5
17	17.9	12.1	14.6	22.3	16.1	18.8	22.0	18.8	20.0	17.6	13.6	15.6
18	14.7	13.0	13.5	19.7	17.0	18.2	20.4	17.5	18.7	17.6	13.3	15.3
19	17.1	12.6	14.6	22.8	16.2	19.1	21.5	17.0	18.9	16.5	14.9	15.7
20	15.8	14.5	15.1	22.4	15.4	18.9	21.8	16.3	19.0	18.7	16.4	17.2
21	16.4	13.8	15.1	22.4	17.6	19.7	22.6	17.1	19.7	17.1	13.9	15.6
22	14.7	13.7	14.2	23.6	18.3	20.5	22.8	18.7	20.4	16.0	12.9	14.8
23	19.9	13.6	16.3	23.2	19.3	20.9	22.2	17.4	19.4	15.3	14.4	15.0
24	20.8	15.6	18.0	24.2	19.8	21.4	19.4	13.6	16.4	15.2	12.7	13.9
25	22.0	15.8	18.8	25.0	18.2	21.3	19.4	14.8	16.8	14.9	12.2	13.7
26	24.1	17.6	20.5	24.1	17.4	20.6	22.0	15.5	18.6	14.6	13.9	14.2
27	23.9	18.5	21.0	23.2	19.4	21.2	22.7	17.9	19.9	14.9	13.8	14.2
28	23.1	17.0	19.8	24.4	18.8	21.4	20.5	15.8	18.0	15.9	14.6	15.1
29	21.5	16.3	19.0	22.9	17.2	20.2	18.3	14.0	16.5	14.7	12.2	13.3
30	21.1	17.2	19.0	24.3	16.4	20.2	19.4	16.7	18.2	15.1	10.9	11.9
31	---	---	---	24.5	17.3	20.8	19.0	13.5	16.2	---	---	---
MONTH	24.1	9.4	15.2	26.4	15.1	20.1	23.6	13.5	19.3	19.5	10.9	15.3

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

WATER-QUALITY RECORDS

DATE	TIME	INSTANTANEOUS DISCHARGE, CFS (00061)	TURBIDITY, NTU (00076)	BAROMETRIC PRESSURE, MM HG (00025)	DISSOLVED OXYGEN, MG/L (00300)	DISSOLVED OXYGEN, PERCENT OF SATURATION (00301)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPERATURE, AIR, DEG C (00020)	TEMPERATURE, WATER, DEG C (00010)
OCT 2002										
08...	1000	11	0.05	758	11.6	101	7.6	111	12.0	9.5
NOV										
19...	1040	117	.25	759	13.3	99	7.7	71	1.0	3.0
DEC										
10...	1205	E41	.25	756	14.6	100	7.8	106	-4.0	.5
17...	1200	E88	--	761	--	--	7.0	--	--	.0
JAN 2003										
07...	1150	E35	--	742	13.8	95	7.7	93	<-5.0	.5
14...	1420	E43	--	736	11.1	79	7.1	100	--	.1
FEB										
19...	1240	E26	--	753	13.8	95	7.2	101	4.0	.5
19...	1300	E26	--	757	12.8	88	7.1	92	--	.0
MAR										
10...	1310	38	--	752	10.8	75	7.6	102	--	.0
26...	1200	419	--	745	12.7	100	7.5	67	6.0	4.5
APR										
02...	1300	225	--	754	9.1	69	7.4	70	--	3.0
10...	1230	115	--	755	12.6	98	7.1	83	--	4.7
15...	1300	285	--	752	9.8	82	7.8	64	--	7.1
24...	0915	158	.25	745	12.4	99	7.7	67	7.0	5.0
MAY										
06...	1325	93	--	756	11.9	102	7.5	83	--	8.5
13...	1430	156	--	744	11.2	100	7.7	74	--	9.5
15...	0915	106	.20	755	11.0	98	7.6	85	17.0	10.0
JUN										
17...	1030	78	--	763	10.9	103	7.6	87	--	12.9
19...	0900	71	--	746	10.6	104	7.6	93	19.5	13.5
JUL										
11...	0815	21	--	750	9.1	96	7.8	120	15.0	17.0
15...	1100	16	--	758	9.7	105	8.2	114	--	18.8
AUG										
05...	0900	104	--	752	8.8	97	7.5	72	--	19.2
05...	0915	104	1.2	--	8.8	--	7.5	72	--	19.2
13...	0745	90	--	757	9.2	100	8.0	88	23.5	19.5
18...	1505	158	--	757	8.7	97	7.7	61	--	20.3
SEP										
08...	1105	29	--	757	9.6	98	8.1	101	--	15.9
30...	1030	245	--	755	10.9	101	7.7	77	12.5	11.5

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

DATE	ANC, WAT UNF FIXED END PT, FIELD, MG/L AS CACO3 (00410)	ALKALINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)	BICARBONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)	CHLORIDE, WATER, FLTRD, MG/L (00940)	SULFATE WATER, FLTRD, MG/L (00945)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)
OCT 2002									
08...	36	35	43	3.87	6.7	0.62	<0.04	<0.06	<0.008
NOV									
19...	21	20	25	3.70	6.0	E.08	<.04	.06	<.008
DEC									
10...	34	33	40	4.06	7.6	E.09	<.04	.17	<.008
17...	--	--	--	--	--	.27	<.015	.112	<.008
JAN 2003									
07...	28	27	33	2.98	6.6	<.10	<.04	.11	<.008
14...	--	--	--	--	--	E.07	<.015	.127	<.008
FEB									
19...	33	33	40	2.98	7.0	<.10	<.04	.15	<.008
19...	--	--	--	--	--	E.07	<.015	.167	<.008
MAR									
10...	--	--	--	--	--	<.10	<.015	.158	<.008
26...	17	14	17	4.39	5.6	.12	<.04	.14	<.008
APR									
02...	--	--	--	--	--	E.07	<.015	.139	<.008
10...	--	--	--	--	--	E.07	<.015	.150	<.008
15...	--	--	--	--	--	.14	<.015	.110	<.008
24...	20	19	24	3.56	5.6	E.08	<.04	.08	<.008
MAY									
06...	--	--	--	--	--	E.09	<.015	.064	<.008
13...	--	--	--	--	--	E.10	<.015	.042	<.008
15...	27	26	32	4.41	6.0	E.07	<.04	E.05	<.008
JUN									
17...	--	--	--	--	--	.12	<.015	.037	<.008
19...	32	30	37	4.11	6.3	.11	<.04	E.05	<.008
JUL									
11...	44	43	52	3.98	6.2	E.08	<.04	.09	<.008
15...	--	--	--	--	--	.20	<.015	.044	<.008
AUG									
05...	--	--	--	--	--	.22	<.015	.053	<.008
05...	--	--	--	--	--	.32	<.015	.052	--
13...	29	29	35	4.74	4.7	.16	<.04	E.03	<.008
18...	--	--	--	--	--	.27	<.015	.025	<.008
SEP									
08...	--	--	--	--	--	E.07	<.015	.057	<.008
30...	--	25	30	3.38	4.5	--	<.04	E.05	<.008

CONNECTICUT RIVER BASIN

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

DATE	ORTHO-PHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PARTIC-ULATE NITROGEN, SUSP, WATER, MG/L (49570)	PHOSPHORUS, WATER, UNFLTRD MG/L (00665)	TOTAL CARBON, SUSPND SEDIMNT TOTAL, MG/L (00694)	INORGANIC CARBON, SUSPND SEDIMNT TOTAL, MG/L (00688)	ORGANIC CARBON, SUSPND SEDIMNT TOTAL, MG/L (00689)	ORGANIC CARBON, WATER, FLTRD, MG/L (00681)	CHLORO-PHYLL A PERIPHYTON, CHROMO-FLUORO, MG/M2 (70957)	SUSPENDED SEDIMENT CONCEN-TRATION MG/L (80154)
OCT 2002									
08...	<0.02	<0.02	0.004	<0.1	<0.1	<0.1	1.7	--	0.9
NOV									
19...	<.02	<.02	.005	<.1	<.1	<.1	1.7	--	.4
DEC									
10...	<.02	<.02	E.002	<.1	<.1	<.1	1.0	--	.8
17...	<.02	--	.004	--	--	--	--	--	.4
JAN 2003									
07...	<.02	<.02	E.003	<.1	<.1	<.1	1.1	--	2
14...	<.02	--	<.004	--	--	--	--	--	.4
FEB									
19...	<.02	<.02	E.003	<.1	<.1	<.1	.8	--	2
19...	<.02	--	E.002	--	--	--	--	--	8
MAR									
10...	<.02	--	<.004	--	--	--	--	--	.4
26...	<.02	.03	.009	.3	<.1	.3	1.8	--	4
APR									
02...	<.02	--	E.003	--	--	--	--	--	.6
10...	<.02	--	E.003	--	--	--	--	--	.6
15...	<.02	--	.004	--	--	--	--	--	1
24...	<.02	<.02	E.003	<.1	<.1	<.1	1.5	--	3
MAY									
06...	<.02	--	E.002	--	--	--	--	--	.8
13...	<.02	--	.006	--	--	--	--	--	.7
15...	<.02	<.02	E.003	<.1	<.1	<.1	1.4	--	5
JUN									
17...	<.02	--	.005	--	--	--	--	--	2
19...	<.02	<.02	E.004	.2	<.1	.2	1.4	--	5
JUL									
11...	<.02	<.02	.004	.2	<.1	.2	1.4	--	2
15...	<.02	--	E.002	--	--	--	--	--	1
AUG									
05...	<.02	--	.015	--	--	--	--	--	5
05...	--	--	.015	--	--	--	--	17.6	--
13...	<.02	.02	.008	.3	<.1	.3	2.7	--	4
18...	<.18	--	.017	--	--	--	--	--	6
SEP									
08...	<.02	--	.004	--	--	--	--	--	1
30...	<.007	<.02	.008	.2	<.1	.2	2.8	--	2

< Less than
E Estimated value

CONNECTICUT RIVER BASIN

01170500 CONNECTICUT RIVER AT MONTAGUE CITY, MA

LOCATION.--Lat 42°34'43", 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 mi^2.

PERIOD OF RECORD.--Discharge: March 1904 to current year. Prior to October 1929, published as "at Sunderland." Records published for both sites October 1929 to September 1932.
Water-quality records: Water years 1994–95.

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1917, nonrecording gage; Oct. 1, 1917, to Oct. 8, 1921, water-stage recorder used for low stages, nonrecording gage otherwise; and Oct. 9, 1921, to Sept. 30, 1932, water-stage recorder; all at site 9 mi 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 ft^3. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--99 years, 13,930 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 236,000 ft^3/s, Mar. 19, 1936, gage height, 49.2 ft, from floodmarks; minimum daily, 215 ft^3/s, Aug. 31, Sept. 1, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 81,000 ft^3/s, Mar. 30, gage height, 28.40 ft; minimum daily, 1,760 ft^3/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3820	6210	10900	8710	6250	5830	68000	21500	16400	2850	4120	4640
2	3830	4800	10600	10300	5050	5710	60500	25300	16000	4460	12400	6160
3	4470	3140	9260	10000	8100	6440	49700	30900	15400	4920	13300	3450
4	3410	3900	10700	9530	6760	7780	35600	37300	12700	3270	10300	9660
5	3450	5030	8200	9030	6630	5600	28700	32200	11100	6260	10000	13000
6	2580	7510	6740	8610	7890	8060	27500	26200	9740	4170	13400	9780
7	4080	7110	4980	9010	8600	8690	24400	22400	10000	6160	25100	5140
8	3480	6090	5830	8210	5570	4540	23200	21100	9630	6140	14000	6430
9	2890	5120	9840	8330	4930	4630	18700	17500	10700	2790	12000	4980
10	2750	4410	6990	9550	6330	5670	18100	16500	10800	1760	17500	3720
11	3650	10600	7250	10100	6110	4810	22600	14900	7120	4730	28900	8130
12	6160	12900	7500	8660	5770	5390	26700	19300	8510	3890	29100	4980
13	4910	14200	7460	9510	6230	6090	31400	28400	8090	4090	31000	3860
14	5240	19200	9890	8070	6230	5310	37100	29700	11100	4270	26200	4700
15	6050	15200	10400	7390	6340	4750	36200	29400	14700	4560	20300	7830
16	7850	10800	11900	8420	6400	5940	43400	25600	15800	4870	12200	8500
17	7710	11500	13500	7250	7080	6090	50200	22200	15000	4050	11400	5910
18	9520	14800	10000	8360	9410	10700	43900	18600	15000	5390	15200	5090
19	8250	18700	10900	7290	6680	15700	33700	16700	7190	3370	14500	5310
20	8340	13900	8910	6490	5300	15500	25600	16100	9050	2580	10800	8860
21	7180	15200	12100	9090	7400	23900	25200	12400	7360	4060	8960	3660
22	7220	15400	15200	7870	6880	39100	26900	10500	7630	5990	8490	4090
23	7000	22600	15600	6970	5450	49100	30700	11600	8820	8010	9210	8730
24	5660	25100	13500	8050	6750	46200	30100	10300	7800	7650	5360	22500
25	4060	23900	11800	7800	8650	45700	26800	10800	8140	7720	5350	18600
26	5150	19200	9080	5530	8040	54900	24900	13800	6380	8110	4810	11900
27	6700	16300	10200	7710	7500	65900	31300	16900	8140	6370	6080	6150
28	11200	14400	9520	8470	7930	56100	33000	21100	3610	7410	4470	16500
29	8590	12400	8300	8610	---	54500	29400	18500	2830	4380	3910	30400
30	8170	9850	10300	6240	---	73600	25300	16300	5900	4230	5320	25700
31	7030	---	10000	6060	---	74900	---	15900	---	2640	3040	---
TOTAL	180400	369470	307350	255220	190260	727130	988800	629900	300640	151150	396720	278360
MEAN	5819	12320	9915	8233	6795	23460	32960	20320	10020	4876	12800	9279
MAX	11200	25100	15600	10300	9410	74900	68000	37300	16400	8110	31000	30400
MIN	2580	3140	4980	5530	4930	4540	18100	10300	2830	1760	3040	3450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2003, BY WATER YEAR (WY)

MEAN	8457	12270	12450	11000	10450	20790	38850	23240	11490	6691	5656	5952
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	11390	8080	4270	2250	2412	1834
(WY)	1909	1909	1911	1905	1905	1940	1995	1941	1964	1911	1965	1908

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1904 - 2003	
ANNUAL TOTAL	4719720		4775400			
ANNUAL MEAN	12930		13080		13930	
HIGHEST ANNUAL MEAN					20680	1928
LOWEST ANNUAL MEAN					6768	1965
HIGHEST DAILY MEAN	68200	Apr 16	74900	Mar 31	233000	Mar 19 1936
LOWEST DAILY MEAN	2110	Aug 24	1760	Jul 10	215	Aug 31 1958
ANNUAL SEVEN-DAY MINIMUM	2340	Aug 18	3230	Oct 4	1300	Jul 29 1965
MAXIMUM PEAK FLOW			81000	Mar 30	236000	Mar 19 1936
MAXIMUM PEAK STAGE			28.40	Mar 30	49.20	Mar 19 1936
INSTANTANEOUS LOW FLOW			1480	Jul 10		
10 PERCENT EXCEEDS	28200		28500		31600	
50 PERCENT EXCEEDS	9460		8610		8960	
90 PERCENT EXCEEDS	3140		4250		3020	

CONNECTICUT RIVER BASIN

01171500 MILL RIVER AT NORTHAMPTON, MA

LOCATION.--Lat 42°19'08", long 72°39'56", Hampshire County, Hydrologic Unit 01080201, on left bank, 5 ft downstream from Clement Street bridge near Northampton, and about 4 mi upstream from mouth. Prior to October 1, 2002, gage located at lat 42°19'05", long 72°39'21", on right bank about 2.5 mi downstream, at different datum.

DRAINAGE AREA.--52.6 mi^2 (revised).

WATER DISCHARGE RECORDS

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, 1994.

REVISED RECORDS.--WSP 921: 1940. WSP 1231: 1940–42(M), 1944–45(M), 1948(M), 1949.

GAGE.--Water-stage recorder and satellite telemeter. Elevation of gage is 170 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 2002, gage was at 140 ft elevation, at different datum, and was discontinued due to unstable channel conditions.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by mill upstream.

AVERAGE DISCHARGE.--64 years, 98.5 ft^3/s, 25.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,300 ft^3/s, Aug. 19, 1955, gage height, 11.78 ft, from rating curve extended above 3,700 ft^3/s on basis of computation of peak flow over dam; minimum, 2.2 ft^3/s, Oct. 1, 1950; minimum daily, 4.2 ft^3/s, Aug. 21, 23, 24, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,910 ft^3/s, Sept. 28, gage height, 12.11 ft; minimum, 9.6 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	28	85	99	e61	e74	297	110	213	40	18	14
2	16	27	74	211	e60	e115	256	155	160	37	46	36
3	17	26	65	136	e52	e178	291	205	110	35	31	33
4	14	26	e61	134	e55	144	328	134	95	32	66	38
5	16	29	60	113	e70	91	266	117	136	29	58	35
6	14	69	65	e104	e54	86	238	104	118	26	106	25
7	12	90	e66	e97	51	99	209	101	110	24	e55	20
8	11	56	e63	e101	e50	79	194	110	153	22	47	18
9	10	50	e57	94	e45	81	178	113	114	24	37	16
10	10	46	e59	95	e43	108	187	95	93	28	325	15
11	12	44	e60	e92	e44	92	292	91	89	26	129	14
12	195	47	87	e82	e47	69	604	230	99	29	147	14
13	111	154	89	e75	e51	70	394	156	162	23	119	13
14	58	92	252	e80	e50	73	282	119	199	20	63	28
15	37	67	330	e78	e47	71	251	103	125	19	46	36
16	80	56	185	e75	e46	82	243	87	89	22	43	70
17	228	167	131	e70	e44	142	203	81	77	28	45	41
18	83	337	127	e68	e49	303	169	75	76	22	56	27
19	53	169	115	e69	e52	311	158	83	84	20	54	97
20	41	137	135	e68	e49	227	146	67	75	17	38	85
21	34	130	201	e69	e44	768	140	61	72	17	31	44
22	38	279	138	e65	e60	778	144	61	175	29	28	32
23	42	340	117	e66	e198	620	166	61	281	30	29	315
24	33	175	106	e63	e185	523	136	86	156	27	23	207
25	30	139	97	e62	e151	501	120	92	101	24	20	87
26	59	122	e99	e63	e131	494	202	257	79	19	19	108
27	70	116	e101	e73	e108	503	313	262	65	17	18	91
28	46	100	95	e80	e87	390	177	205	54	16	16	1070
29	37	92	87	e67	---	433	139	205	48	14	15	564
30	33	89	e83	e63	---	598	120	130	44	13	15	238
31	31	---	82	e62	---	422	---	109	---	12	15	---
TOTAL	1485	3299	3372	2674	1984	8525	6843	3865	3452	741	1758	3431
MEAN	47.9	110	109	86.3	70.9	275	228	125	115	23.9	56.7	114
MAX	228	340	330	211	198	778	604	262	281	40	325	1070
MIN	10	26	57	62	43	69	120	61	44	12	15	13
CFSM	0.91	2.09	2.07	1.64	1.35	5.23	4.34	2.37	2.19	0.45	1.08	2.17
IN.	1.05	2.33	2.38	1.89	1.40	6.03	4.84	2.73	2.44	0.52	1.24	2.43
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)												
MEAN	54.8	87.7	99.1	91.0	102	194	232	132	79.9	39.3	35.3	36.8
MAX	456	334	307	287	338	475	478	326	300	146	254	215
(WY)	1956	1956	1997	1978	1981	1953	1993	1984	1982	2000	1955	1999
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1939 - 2003	
ANNUAL TOTAL	23736.1		41429			
ANNUAL MEAN	65.0		114		98.5	
HIGHEST ANNUAL MEAN					157	1996
LOWEST ANNUAL MEAN					39.1	1965
HIGHEST DAILY MEAN	679	May 14	1070	Sep 28	3870	Aug 19 1955
LOWEST DAILY MEAN	4.4	Sep 13	10	Oct 9	3.8	Aug 8 1999
ANNUAL SEVEN-DAY MINIMUM	5.2	Sep 9	12	Oct 5	4.3	Aug 4 1999
MAXIMUM PEAK FLOW			2910	Sep 28	6300	Aug 19 1955
MAXIMUM PEAK STAGE			12.11	Sep 28	11.78	Aug 19 1955
INSTANTANEOUS LOW FLOW			9.6	Oct 10	2.2	Oct 1 1950
ANNUAL RUNOFF (CFSM)	1.24		2.16		1.87	
ANNUAL RUNOFF (INCHES)	16.79		29.30		25.44	
10 PERCENT EXCEEDS	147		246		218	
50 PERCENT EXCEEDS	45		78		56	
90 PERCENT EXCEEDS	8.2		20		14	

e Estimated

CONNECTICUT RIVER BASIN

01171500 MILL RIVER AT NORTHAMPTON, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Intermittent water-quality samples, water years 1957–59, 1971, 1973, 1994, 2003.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	INSTANTANEOUS DISCHARGE, CFS (00061)	BAROMETRIC PRESSURE, MM HG (00025)	DISSOLVED OXYGEN, MG/L (00300)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUCTANCE, WAT UNF US/CM 25 DEG C (00095)	TEMPER-ATURE, WATER, DEG C (00010)	AMMONIA + ORG-N, WATER, UNFLTRD MG/L AS N (00625)
DEC 2002								
18...	1000	141	773	11.4	7.1	101	0.0	0.15
JAN 2003								
15...	1435	E102	760	14.4	7.1	109	.0	E.09
FEB								
20...	1230	E54	765	11.8	7.3	160	.4	.12
MAR								
11...	1130	128	766	11.2	7.7	121	.0	E.08
APR								
03...	1115	299	763	8.7	7.4	84	3.7	.12
10...	1715	184	760	12.2	7.1	102	7.0	E.10
16...	1205	239	754	11.7	7.6	86	10.2	.11
MAY								
07...	1155	102	760	11.3	7.4	100	12.6	.18
14...	1425	120	759	11.1	7.8	95	12.5	.17
JUN								
18...	0840	68	764	9.8	7.2	106	15.5	.23
JUL								
16...	0830	19	761	8.8	7.4	142	19.4	.19
AUG								
07...	0800	52	761	8.3	7.2	107	21.2	.31
19...	1245	56	766	9.2	7.3	111	21.3	.28
SEP								
09...	0820	16	769	9.4	7.6	141	16.2	.14

CONNECTICUT RIVER BASIN

01171500 MILL RIVER AT NORTHAMPTON, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHOPHOSPHATE, WATER, FLTRD, MG/L AS P (00671)	PHOSPHORUS, WATER, UNFLTRD MG/L (00665)	SUSPENDED SEDIMENT CONCENTRATION MG/L (80154)
DEC 2002						
18...	<0.04	0.42	<0.008	<0.02	0.009	0.8
JAN 2003						
15...	<.04	.47	<.008	<.02	.011	.6
FEB						
20...	E.02	.52	<.008	<.02	.006	.5
MAR						
11...	<.04	.44	<.008	<.02	.012	1
APR						
03...	<.015	.256	<.008	<.02	.009	2
10...	<.015	.334	<.008	<.02	.007	.6
16...	<.015	.206	<.008	<.02	.007	.8
MAY						
07...	<.015	.238	--	<.02	.009	.8
14...	<.015	.192	<.008	<.02	.012	2
JUN						
18...	<.015	.299	<.008	<.02	.016	2
JUL						
16...	<.015	.474	<.008	<.02	.015	2
AUG						
07...	E.010	.246	<.008	<.02	.026	4
19...	<.015	.223	<.008	<.18	.020	2
SEP						
09...	<.015	.477	E.004	<.02	.015	2

< Less than
E Estimated value

CONNECTICUT RIVER BASIN

01172010 CONNECTICUT RIVER AT I-391 BRIDGE AT HOLYOKE, MA

LOCATION.--Lat 42°11'26", long 72°36'32", Hampden County, Hydrologic Unit 01080201, on right bank, 300 ft upstream from the Interstate 391 bridge behind the flood barrier near water access through wall at flood barrier mile 85.

DRAINAGE AREA.--8,332 mi^2.

PERIOD OF RECORD.--October 2002 to September 2003.

GAGE.--Water-stage recorder. Satellite and telephone telemeters at station.

REMARKS.--Records good except those for periods of estimated daily discharge, which are fair. Data from October 1–31 estimated using equivalent data from former upstream station, Connecticut River at Power Dam at Holyoke, Mass. (01172003). 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 ft^3.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1854, 244,000 ft^3/s, March 20, 1936, gage height, 35.0 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 77,800 ft^3/s, Mar. 31, gage height, 22.94 ft; minimum, 1,960 ft^3/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3300	5830	11600	e9000	7150	7660	69100	21100	16400	4470	2820	3520
2	e2700	5420	11700	e9800	7180	6750	62500	24000	16800	4430	8390	5540
3	e3080	4140	9640	e9500	7780	8110	53600	30100	15900	4810	10500	4980
4	e2900	3750	10800	e9700	8390	8280	41100	36100	13600	3980	10100	6200
5	e2550	4890	e8000	e9000	7310	7660	30700	33300	11000	4600	8980	10400
6	e2000	6270	e7100	e9100	8960	7890	28100	27000	10200	5050	10600	9650
7	e2600	7270	e6100	e9000	8930	9370	26600	21900	11300	5000	18900	5130
8	e2400	6710	e4300	e8200	8810	7490	23600	20900	10300	5020	16300	5340
9	e2290	5900	e8000	e8700	6160	5720	20500	17900	10700	4570	11300	4670
10	e2000	5190	e6100	e8800	6260	5890	19200	16100	10800	2490	13000	4360
11	e2110	8010	e6200	e9700	6970	6060	21700	14800	8740	3200	24600	4410
12	e5020	11600	e7000	e8600	6090	5870	27900	16700	8840	4320	28400	5700
13	e6320	12900	e7500	e9100	7210	7280	31700	25700	9320	3920	28800	4000
14	e3420	17200	e8000	e8000	7790	6130	37000	28300	12000	3970	26000	3280
15	e5300	15600	e11000	e7200	7300	5720	36000	28700	14200	4140	20700	5790
16	e6220	12700	e10800	e7400	8500	6040	41000	25600	15200	4200	12600	7390
17	e8140	12500	e11500	e7300	9570	7950	48000	21500	14400	4450	11300	6650
18	e8890	16100	e8500	e7200	10400	10700	44400	17700	14500	4460	12400	4570
19	e7130	18900	e10000	e8000	8900	17500	35300	16400	9610	3870	13500	5800
20	e7260	16300	e9000	8990	7760	18300	26100	15500	8300	3100	10600	7330
21	e6710	15000	e10500	11100	7830	25300	24300	12300	8360	3060	8300	5840
22	e6610	16800	e11500	10600	8510	40800	25500	10200	9360	4540	7620	3460
23	e6530	21600	e13500	9550	8760	51800	29100	10300	13900	6570	7450	7680
24	e6590	23700	e11300	10200	9450	50600	29300	10700	11900	7470	6410	19700
25	e4240	24800	e10000	10600	10200	47900	27300	9190	9750	5380	4760	17500
26	e4860	20600	e8300	8360	10700	53500	24400	13600	8310	7130	4450	14300
27	e5610	17000	e9000	8460	9610	64200	29500	17300	7670	5490	4740	7350
28	e9490	16500	e9700	11000	8860	60100	32800	21000	6990	5950	4940	15500
29	e9060	13400	e8500	10200	---	54700	29500	19200	4310	4150	3620	33500
30	e7580	11900	e9400	8840	---	68700	25600	17000	4970	3720	4230	28300
31	e7500	---	e9700	7580	---	75400	---	15400	---	2890	3650	---
TOTAL	160410	378480	284240	278780	231340	759370	1001400	615490	327630	140400	359960	267840
MEAN	5175	12620	9169	8993	8262	24500	33380	19850	10920	4529	11610	8928
MAX	9490	24800	13500	11100	10700	75400	69100	36100	16800	7470	28800	33500
MIN	2000	3750	4300	7200	6090	5720	19200	9190	4310	2490	2820	3280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2003, BY WATER YEAR (WY)

MEAN	5175	12620	9169	8993	8262	24500	33380	19850	10920	4529	11610	8928
MAX	5175	12620	9169	8993	8262	24500	33380	19850	10920	4529	11610	8928
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	5175	12620	9169	8993	8262	24500	33380	19850	10920	4529	11610	8928
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS	FOR 2003 WATER YEAR	
ANNUAL TOTAL	4805340	
ANNUAL MEAN	13170	
HIGHEST DAILY MEAN	75400	Mar 31
LOWEST DAILY MEAN	2000	Oct 6
ANNUAL SEVEN-DAY MINIMUM	2280	Oct 5
MAXIMUM PEAK FLOW	77800	Mar 31
MAXIMUM PEAK STAGE	22.94	Mar 31
INSTANTANEOUS LOW FLOW	1960	Jul 10
10 PERCENT EXCEEDS	28200	
50 PERCENT EXCEEDS	9000	
90 PERCENT EXCEEDS	4280	

e Estimated

CONNECTICUT RIVER BASIN

01172500 WARE RIVER NEAR BARRE, MA

LOCATION.--Lat 42°25'34", 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 mi^2.

PERIOD OF RECORD.--Discharge: July 1946 to current year.
Water-quality records: Water years 1957, 1994.

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to August 1955, slight regulation at low flow at times by Long Pond. Flow regulated by Barre Falls Reservoir since 1958. Diversion at times since 1955 from 6.5 mi^2 upstream of station for municipal supply of Fitchburg. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--57 years, 94.9 ft^3/s, 23.39 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft^3/s, Oct. 16, 1955, gage height, 6.31 ft; no flow part of each day Sept. 3–8, 13, 1996; minimum daily discharge, 0.1 ft^3/s, Sept. 8, 11, 1995. Maximum discharge since construction of Barre Falls Reservoir in 1958, 1,630 ft^3/s, Apr. 13, 1987, gage height, 5.56 ft; maximum gage height, 5.62 ft, Mar. 14, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 725 ft^3/s, Apr. 1, gage height, 4.71 ft; minimum daily, 3.1 ft^3/s, Oct. 8, 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	65	69	96	42	e28	690	108	195	109	23	e13
2	12	25	50	140	42	31	693	e115	206	e75	23	e16
3	8.6	20	47	161	42	e155	629	e170	199	e60	e28	18
4	6.2	16	47	161	53	e220	429	e175	185	e50	e36	22
5	10	20	47	161	70	e210	324	e150	175	e40	e54	23
6	6.7	27	39	159	74	e180	270	122	176	e38	e74	20
7	4.2	34	33	143	65	e130	235	110	170	e35	e63	17
8	3.2	31	33	126	61	98	212	107	186	e30	e57	15
9	3.2	39	34	102	60	99	196	106	132	28	e53	13
10	3.3	37	34	93	49	e110	185	100	122	28	e52	11
11	3.7	36	34	95	41	e90	199	93	124	e32	e51	9.5
12	14	30	34	94	41	86	338	110	123	e36	e60	10
13	22	63	35	84	e42	111	390	120	124	e38	e120	8.4
14	21	86	35	82	e40	83	305	112	137	e34	e146	8.3
15	17	76	36	e74	e40	69	245	103	131	e22	e152	8.3
16	32	65	193	67	e42	70	211	93	132	e20	e140	13
17	72	75	276	58	e42	71	193	85	115	e16	e78	12
18	41	106	266	e57	e41	144	168	79	101	e14	e54	9.7
19	23	106	255	e54	e43	226	147	79	98	e16	e47	12
20	18	109	101	53	e45	254	135	78	100	e20	e39	15
21	16	116	38	53	44	291	126	79	93	e23	e32	13
22	14	115	41	53	39	317	119	81	95	e30	e26	12
23	15	117	242	55	40	333	125	87	47	22	e23	35
24	15	119	343	48	42	441	129	97	108	e16	e18	126
25	13	138	334	44	42	559	118	107	143	e15	e15	153
26	17	144	323	43	e200	582	121	151	179	e13	e13	120
27	21	123	315	43	e300	641	173	278	211	e12	e12	102
28	26	104	303	43	e110	591	185	288	195	e11	e9.4	104
29	33	71	189	e43	---	398	152	267	176	e11	e11	129
30	22	69	115	e43	---	387	127	215	139	e17	e11	121
31	39	---	100	42	---	551	---	194	---	23	e12	---
TOTAL	566.1	2182	4041	2570	1792	7556	7569	4059	4317	934	1532.4	1189.2
MEAN	18.3	72.7	130	82.9	64.0	244	252	131	144	30.1	49.4	39.6
MAX	72	144	343	161	300	641	693	288	211	109	152	153
MIN	3.2	16	33	42	39	28	118	78	47	11	9.4	8.3
IN.	0.38	1.47	2.73	1.74	1.21	5.10	5.11	2.74	2.91	0.63	1.03	0.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2003, BY WATER YEAR (WY)

MEAN	51.5	80.5	102	101	108	180	231	121	77.2	32.5	28.9	26.0
MAX	275	233	327	285	274	365	559	257	368	102	169	205
(WY)	1956	1956	1997	1979	1996	1983	1987	1989	1984	1998	1955	1954
MIN	4.17	6.78	13.1	8.14	18.0	69.3	77.4	39.1	9.37	4.45	1.97	2.00
(WY)	1965	1965	1966	1981	1977	1967	1985	1999	1999	1999	1965	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1946 - 2003	
ANNUAL TOTAL	22476.97		38307.7			
ANNUAL MEAN	61.6		105		94.9	
HIGHEST ANNUAL MEAN					157	1984
LOWEST ANNUAL MEAN					29.5	1965
HIGHEST DAILY MEAN	343	Dec 24	693	Apr 2	1520	Oct 16 1955
LOWEST DAILY MEAN	0.51	Aug 28	3.2	Oct 8	0.10	Sep 8 1995
ANNUAL SEVEN-DAY MINIMUM	0.71	Aug 22	4.9	Oct 5	0.11	Sep 6 1995
MAXIMUM PEAK FLOW			725	Apr 1	1890	Oct 16 1955
MAXIMUM PEAK STAGE			4.71	Apr 1	6.31	Oct 16 1955
INSTANTANEOUS LOW FLOW			3.1	Oct 8		
ANNUAL RUNOFF (INCHES)	15.18		25.86		23.39	
10 PERCENT EXCEEDS	158		230		219	
50 PERCENT EXCEEDS	35		70		59	
90 PERCENT EXCEEDS	2.2		14		7.3	

e Estimated

CONNECTICUT RIVER BASIN

01173000 WARE RIVER AT INTAKE WORKS NEAR BARRE, MA

LOCATION.--Lat 42°23'26", long 72°03'39", Worcester County, Hydrologic Unit 01080204, on right bank above diversion dam at Ware River intake works, 2.7 mi downstream from Burnshirt River, 3 mi southeast of Barre, and at mile 29.1.

DRAINAGE AREA.--96.3 mi^2.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Figures of discharge include diversion as needed for Boston metropolitan district during period Oct. 15 to June 14 of each year and at other times for emergency flood-control purposes as authorized by U.S. Army Corps of Engineers; diversion began in March 1931. Flow regulated by Barre Falls Reservoir 4.3 mi upstream (see table with station 01172500) since 1958. Diversion at times since 1955 from 6.5 mi^2 upstream for municipal supply of Fitchburg.

COOPERATION.--Computations of daily discharge made in cooperation with Department of Conservation and Recreation, Division of Water-Supply Protection, which collected gage-height and venturi-meter records.

AVERAGE DISCHARGE.--75 years, 167 ft^3/s, 23.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft^3/s, Sept. 21, 1938, gage height, 664.28 ft, by computation of flow over dam; minimum daily, 0.46 ft^3/s, Sept. 15, 1987, caused by unusual regulation. Maximum daily discharge since construction of Barre Falls Reservoir in 1958, 1,590 ft^3/s, Apr. 14, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,050 ft^3/s, Mar. 27; minimum daily, 9.0 ft^3/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	60	103	177	87	116	1000	173	245	138	44	27
2	18	39	95	283	90	117	975	211	248	136	53	35
3	15	35	83	256	91	243	903	358	198	95	66	34
4	12	21	76	246	101	313	691	291	176	82	78	26
5	16	26	76	239	117	294	555	253	177	82	123	36
6	12	40	60	227	119	266	486	219	173	76	155	31
7	12	30	61	200	107	161	429	179	199	71	119	27
8	9.0	50	61	179	106	160	404	190	241	60	116	23
9	36	50	56	162	105	153	340	194	244	62	110	10
10	21	50	58	149	92	191	333	155	167	63	105	9.3
11	28	51	60	142	84	153	451	173	171	73	100	16
12	35	53	79	144	83	138	863	225	217	78	117	16
13	42	109	81	153	82	157	751	222	252	79	298	16
14	34	121	132	131	80	141	573	223	276	68	296	16
15	28	111	159	122	80	134	449	152	234	40	282	16
16	44	114	310	115	80	132	392	147	194	43	255	22
17	82	114	309	104	77	142	331	143	162	35	123	23
18	47	138	288	100	76	307	308	134	151	29	104	23
19	40	143	282	99	79	395	266	133	152	40	98	22
20	32	143	250	101	95	408	226	123	154	40	86	22
21	24	145	277	97	81	672	248	106	156	60	64	22
22	21	161	202	94	98	818	229	109	456	70	57	22
23	22	161	387	93	130	778	253	116	440	43	50	58
24	23	146	433	92	146	815	224	121	415	37	39	143
25	22	140	382	90	141	935	218	128	442	35	35	145
26	31	152	399	89	234	981	236	226	447	31	31	140
27	31	146	374	89	358	1050	324	483	479	26	29	114
28	39	136	359	88	183	937	305	399	443	25	26	131
29	37	112	207	85	---	787	249	314	410	29	23	160
30	32	107	161	88	---	919	209	229	237	37	25	134
31	55	---	173	87	---	949	---	177	---	53	24	---
TOTAL	923.0	2904	6033	4321	3202	13762	13221	6306	7956	1836	3131	1519.3
MEAN	29.8	96.8	195	139	114	444	441	203	265	59.2	101	50.6
MAX	82	161	433	283	358	1050	1000	483	479	138	298	160
MIN	9.0	21	56	85	76	116	209	106	151	25	23	9.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2003, BY WATER YEAR (WY)

MEAN	86.1	134	169	177	178	325	405	217	141	67.7	53.8	63.2
MAX	465	445	570	499	488	1066	963	438	503	337	319	893
(WY)	1956	1956	1997	1979	1976	1936	1940	1989	1984	1938	1955	1938
MIN	7.86	13.9	29.1	17.2	37.5	118	129	73.8	18.2	9.00	4.94	6.12
(WY)	1965	1965	1966	1981	1980	1940	1985	1999	1999	1999	1999	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1928 - 2003	
ANNUAL TOTAL	35274.1		65114.3			
ANNUAL MEAN	96.6		178		167	
HIGHEST ANNUAL MEAN					277	1938
LOWEST ANNUAL MEAN					56.4	1965
HIGHEST DAILY MEAN	472	May 14	1050	Mar 27	8740	Sep 21 1938
LOWEST DAILY MEAN	5.4	Aug 27	9.0	Oct 8	0.46	Sep 15 1987
ANNUAL SEVEN-DAY MINIMUM	6.1	Sep 10	13	Oct 2	2.3	Aug 7 1999
MAXIMUM PEAK FLOW					14000	Sep 21 1938
MAXIMUM PEAK STAGE					664.28	Sep 21 1938
10 PERCENT EXCEEDS	233		399		383	
50 PERCENT EXCEEDS	69		121		108	
90 PERCENT EXCEEDS	8.4		26		19	

CONNECTICUT RIVER BASIN

01173500 WARE RIVER AT GIBBS CROSSING, MA

LOCATION.--Lat 42°14'10", long 72°16'23", Hampshire County, Hydrologic Unit 01080204, on right bank 0.5 mi 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 mi^2.

PERIOD OF RECORD.--Discharge: August 1912 to current year.
Water-quality records: Water years 1953–54.

REVISED RECORDS.--WSP 1031: 1944.

WSP 1301: 1914(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.79 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 1, 1930, at site 0.5 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversion at times: Since March 1931 from 96.3 mi^2 for supply of Boston metropolitan district and since 1955 from 6.5 mi^2 for municipal supply of Fitchburg. Flow regulated by mills upstream and by Barre Falls Reservoir (see station 01172500) since 1958. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--18 years (water years 1913–30), 313 ft^3/s, 21.36 in/yr; 73 years (water years 1931–2003), affected by diversion and storage, 292 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,700 ft^3/s, Sept. 21, 1938, gage height, 18.2 ft, from floodmarks, from rating curve extended above 4,600 ft^3/s on basis of contracted-opening measurement at gage height 12.83 ft and slope-area measurement at gage height 18.2 ft; minimum, 4.2 ft^3/s, Aug. 24, 1995; minimum daily, 6.0 ft^3/s, Oct. 4, 1914. Maximum discharge since construction of Barre Falls Reservoir in 1958, 5,050 ft^3/s, Mar. 6, 1979, gage height, 7.94 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,170 ft^3/s, June 23, gage height, 5.18 ft; minimum daily, 22 ft^3/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	67	171	317	186	323	827	300	493	350	104	57
2	59	99	168	565	187	303	729	347	438	241	194	96
3	57	70	158	489	192	e377	646	760	354	233	160	96
4	46	60	e153	395	203	e452	663	522	328	181	172	96
5	27	55	166	377	e232	362	662	408	383	173	239	94
6	28	69	142	e354	e187	370	586	347	372	168	299	88
7	43	95	133	e333	e173	e361	554	327	372	152	279	78
8	22	94	e139	331	e152	323	507	326	569	130	223	71
9	35	86	e137	295	e153	356	471	349	502	108	217	64
10	25	92	133	293	e157	e351	442	314	335	142	230	59
11	59	87	137	e299	e138	394	537	318	347	127	201	55
12	74	95	164	e295	e179	285	1210	387	406	175	195	53
13	176	200	210	e274	e155	285	870	364	639	166	307	50
14	120	238	364	e234	e161	337	634	335	704	150	439	51
15	96	211	704	e251	e152	307	518	295	628	123	403	53
16	93	166	548	e232	e148	308	440	184	500	116	358	85
17	97	241	368	e221	e142	397	398	159	387	113	308	84
18	109	416	424	e205	e144	685	373	161	350	109	184	41
19	95	343	349	e201	e147	869	366	175	358	109	174	58
20	69	300	538	e186	e136	675	344	254	325	104	154	100
21	58	290	1450	e190	e140	1300	298	229	336	89	128	79
22	63	352	854	e182	e163	1770	370	214	706	103	128	38
23	66	362	610	e174	e324	1500	400	235	1970	169	119	118
24	53	312	458	e155	e445	1060	363	245	1230	144	93	253
25	67	272	379	e153	e525	915	325	276	937	110	90	256
26	69	248	355	e155	447	859	374	374	784	108	66	277
27	70	257	387	162	414	886	510	838	745	66	64	270
28	89	242	353	167	338	870	419	544	694	69	56	234
29	77	217	301	170	---	710	356	416	620	54	57	330
30	87	202	325	169	---	1230	312	353	557	68	59	302
31	73	---	287	179	---	1040	---	314	---	81	59	---
TOTAL	2149	5838	11065	8003	6120	20260	15504	10670	17369	4231	5759	3586
MEAN	69.3	195	357	258	219	654	517	344	579	136	186	120
MAX	176	416	1450	565	525	1770	1210	838	1970	350	439	330
MIN	22	55	133	153	136	285	298	159	325	54	56	38
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)												
MEAN	165	249	302	325	323	522	596	373	259	140	122	134
MAX	750	922	1295	794	802	1838	1394	830	746	714	890	1707
(WY)	1956	1956	1997	1996	1976	1936	1956	1996	1984	1938	1955	1938
MIN	29.0	37.6	68.5	29.6	77.7	210	231	167	60.4	30.9	16.0	14.5
(WY)	1965	2002	1966	1981	1980	1989	1966	1965	1999	1999	1999	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	64269.5		110554			
ANNUAL MEAN	176		303		292	
HIGHEST ANNUAL MEAN					581	1938
LOWEST ANNUAL MEAN					107	1965
HIGHEST DAILY MEAN	1450	Dec 21	1970	Jun 23	16700	Sep 21 1938
LOWEST DAILY MEAN	9.7	Sep 15	22	Oct 8	7.0	Sep 12 1953
ANNUAL SEVEN-DAY MINIMUM	12	Sep 9	32	Oct 4	9.4	Sep 8 1953
MAXIMUM PEAK FLOW			2170	Jun 23	22700	Sep 21 1938
MAXIMUM PEAK STAGE			5.18	Jun 23	18.20	Sep 21 1938
INSTANTANEOUS LOW FLOW			15	May 18	4.2	Aug 24 1995
10 PERCENT EXCEEDS	351		630		612	
50 PERCENT EXCEEDS	139		235		213	
90 PERCENT EXCEEDS	28		67		48	

e Estimated

CONNECTICUT RIVER BASIN

01174500 EAST BRANCH SWIFT RIVER NEAR HARDWICK, MA

LOCATION.--Lat 42°23'36", long 72°14'21", Worcester County, Hydrologic Unit 01080204, on left bank 100 ft above spillway of regulating dam and 4.6 mi northwest of Hardwick.

DRAINAGE AREA.--43.7 mi^2.

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 National Geodetic Vertical Datum of 1929. Satellite gage-height telemeter at station.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--66 years, 71.4 ft^3/s, 22.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,780 ft^3/s, Sept. 21, 1938, average of slope-area and contracted-opening measurements; maximum gage height since construction of concrete spillway in 1940; 22.49 ft, June 25, 1944; no flow at times during several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 755 ft^3/s, June 23, gage height, 20.81 ft; minimum, no flow, Oct. 1–12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	5.0	30	68	29	79	332	93	152	67	15	7.0
2	.00	3.9	28	136	33	88	275	100	158	63	29	13
3	.00	3.9	27	136	33	116	262	194	128	56	34	17
4	.00	3.8	21	130	34	117	283	187	109	52	40	23
5	.00	4.6	19	109	39	108	284	153	111	49	61	26
6	.00	10	21	93	37	99	244	124	111	45	94	22
7	.00	13	20	83	40	88	212	112	108	40	82	19
8	.00	12	19	79	37	84	193	104	143	38	73	16
9	.00	13	17	87	33	80	174	104	136	39	70	13
10	.00	14	15	84	32	77	163	97	118	40	66	11
11	.00	16	16	73	31	71	181	93	112	46	57	10
12	.00	15	32	69	28	68	400	133	161	50	75	8.9
13	.05	31	38	61	26	66	397	165	200	44	119	8.1
14	.10	36	74	54	24	65	286	152	233	38	106	8.2
15	.10	33	151	46	23	62	221	129	190	34	72	8.3
16	.63	26	146	45	21	64	188	108	134	33	50	14
17	1.5	44	109	45	24	81	156	94	107	37	40	14
18	1.9	73	79	39	32	132	136	84	97	34	34	13
19	1.5	73	65	35	30	208	125	78	104	32	31	13
20	1.9	64	107	34	29	219	112	69	104	29	26	16
21	1.7	55	287	33	26	365	100	63	104	24	22	14
22	1.2	71	234	30	33	596	99	62	291	28	21	13
23	1.9	84	161	29	77	565	112	69	690	32	23	30
24	2.2	77	120	27	112	439	112	79	430	30	18	83
25	2.2	65	103	27	113	404	103	84	254	27	15	74
26	4.6	56	101	27	89	401	111	113	172	23	14	69
27	7.8	51	84	27	72	455	163	242	125	20	12	65
28	7.6	40	73	26	77	382	161	225	94	19	11	66
29	6.7	33	67	26	---	324	139	181	78	17	9.1	97
30	5.9	33	58	27	---	491	112	142	71	15	8.9	90
31	5.8	---	58	27	---	456	---	116	---	14	7.9	---
TOTAL	55.28	1059.2	2380	1812	1214	6850	5836	3749	5025	1115	1335.9	881.5
MEAN	1.78	35.3	76.8	58.5	43.4	221	195	121	168	36.0	43.1	29.4
MAX	7.8	84	287	136	113	596	400	242	690	67	119	97
MIN	0.00	3.8	15	26	21	62	99	62	71	14	7.9	7.0
CFSM	0.04	0.81	1.76	1.34	0.99	5.06	4.45	2.77	3.83	0.82	0.99	0.67
IN.	0.05	0.90	2.03	1.54	1.03	5.83	4.97	3.19	4.28	0.95	1.14	0.75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2003, BY WATER YEAR (WY)

MEAN	37.8	61.8	75.7	79.8	79.9	135	161	91.6	61.1	28.7	23.0	25.7
MAX	155	177	264	240	207	266	420	189	175	179	127	390
(WY)	1980	1956	1997	1999	1984	1979	1940	1984	1984	1938	1955	1938
MIN	0.72	4.17	15.6	5.30	18.5	46.4	34.8	30.5	6.87	3.23	0.000	0.000
(WY)	2002	2002	2002	1981	1940	2002	1985	1985	1999	1949	1999	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1937 - 2003	
ANNUAL TOTAL	12595.26		31312.88			
ANNUAL MEAN	34.5		85.8		71.4	
HIGHEST ANNUAL MEAN					123	1938
LOWEST ANNUAL MEAN					22.8	1965
HIGHEST DAILY MEAN	322	May 14	690	Jun 23	4690	Sep 21 1938
LOWEST DAILY MEAN	0.00	Aug 14	0.00	Oct 1	0.00	Aug 15 1939
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 14	0.00	Oct 1	0.00	Aug 31 1953
MAXIMUM PEAK FLOW			755	Jun 23	6780	Sep 21 1938
MAXIMUM PEAK STAGE			20.81	Jun 23	22.49	Jun 25 1944
INSTANTANEOUS LOW FLOW			0.00	Oct 1	0.00	Aug 7 1939
ANNUAL RUNOFF (CFSM)	0.79		1.96		1.63	
ANNUAL RUNOFF (INCHES)	10.72		26.66		22.21	
10 PERCENT EXCEEDS	85		191		161	
50 PERCENT EXCEEDS	19		61		44	
90 PERCENT EXCEEDS	0.00		7.7		6.5	

CONNECTICUT RIVER BASIN

01174565 WEST BRANCH SWIFT RIVER NEAR SHUTESBURY, MA

LOCATION.--Lat 42°27'18", long 72°22'56", Franklin County, Hydrologic Unit 01080204, on left bank 800 ft downstream from State Highway 202 and 1.4 mi east of Shutesbury.

DRAINAGE AREA.--12.6 mi^2.

PERIOD OF RECORD.--November 1983 to September 1985, April 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 540 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges and those for discharges greater than 100 ft^3/s, which are poor.

AVERAGE DISCHARGE.--9 years (water years 1985, 1996–2003), 21.5 ft^3/s, 23.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft^3/s, Sept. 17, 1999, gage height, 5.96 ft, from rating curve extended above 310 ft^3/s on basis of slope-area measurement at gage height 4.28 ft; minimum, about 0.35 ft^3/s, mid-September 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 228 ft^3/s, Mar. 29, gage height, 2.90 ft; minimum, 0.37 ft^3/s, Oct. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.4	12	19	10	15	71	25	31	14	5.4	3.8
2	1.1	2.3	10	32	10	22	63	42	26	12	7.3	7.0
3	.95	2.2	9.2	26	10	32	66	56	20	11	5.9	6.3
4	.82	2.3	e8.4	25	e9.2	e27	75	37	18	10	10	9.0
5	1.1	2.6	8.6	22	e9.3	e23	64	30	22	9.5	14	8.0
6	.81	6.3	8.8	20	e10	21	55	26	18	8.7	25	6.2
7	.70	8.5	e8.4	19	e10	e17	47	25	21	8.0	29	5.2
8	.59	5.8	e7.8	e18	e10	17	43	25	24	7.6	46	4.6
9	.44	5.2	e6.5	e17	e10	17	39	24	20	7.9	26	4.0
10	.47	4.6	e6.0	e16	e9.6	e15	39	22	17	7.7	40	3.7
11	.87	4.6	7.4	e16	9.9	e13	58	23	21	7.9	29	3.4
12	9.5	5.0	12	e14	e8.8	14	120	34	22	7.6	29	3.2
13	8.9	17	12	e13	e8.8	14	95	30	52	6.5	35	3.0
14	5.0	13	34	e13	e8.8	14	69	24	42	6.1	33	3.9
15	3.1	9.2	60	e12	e8.8	14	60	22	28	5.8	18	4.3
16	2.9	7.3	37	e12	e8.8	15	55	19	21	5.9	15	15
17	4.4	20	26	e11	e8.8	21	44	17	19	6.2	15	9.3
18	3.9	35	e16	e11	e8.4	41	38	15	19	5.5	19	6.2
19	3.1	23	e18	e11	e8.4	56	36	14	19	5.1	13	12
20	2.7	20	e33	e10	e8.4	45	33	12	22	4.6	10	13
21	2.1	18	56	e10	8.7	119	32	12	26	4.7	8.3	8.2
22	1.8	32	38	e10	11	148	35	11	123	6.6	9.5	6.2
23	1.9	36	30	e10	29	124	36	12	89	7.2	8.9	48
24	2.0	25	26	e10	32	101	32	13	49	6.0	6.7	36
25	2.0	21	24	e10	e28	104	29	15	33	7.1	5.8	19
26	3.6	18	24	e11	e23	110	42	43	26	6.0	5.6	20
27	5.7	16	21	e11	e20	123	48	44	22	5.0	5.0	17
28	4.1	14	e18	e11	17	95	36	34	19	4.3	4.3	61
29	3.2	12	18	e11	---	109	30	28	17	3.8	4.0	61
30	2.7	12	17	e11	---	152	26	23	15	3.6	4.0	31
31	2.4	---	17	11	---	96	---	22	---	3.3	3.8	---
TOTAL	84.25	400.3	630.1	453	354.7	1734	1516	779	901	215.2	490.5	438.5
MEAN	2.72	13.3	20.3	14.6	12.7	55.9	50.5	25.1	30.0	6.94	15.8	14.6
MAX	9.5	36	60	32	32	152	120	56	123	14	46	61
MIN	0.44	2.2	6.0	10	8.4	13	26	11	15	3.3	3.8	3.0
CFSM	0.22	1.06	1.61	1.16	1.01	4.44	4.01	1.99	2.38	0.55	1.26	1.16
IN.	0.25	1.18	1.86	1.34	1.05	5.12	4.48	2.30	2.66	0.64	1.45	1.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2003, BY WATER YEAR (WY)

MEAN	10.9	17.3	24.5	24.2	28.7	41.6	42.3	29.1	24.7	9.23	6.85	9.37
MAX	29.5	39.2	75.3	51.0	70.6	60.1	83.0	78.1	52.8	24.3	29.3	52.9
(WY)	2000	1996	1997	1996	1984	1999	1984	1984	1998	1996	2000	1999
MIN	1.84	1.72	4.11	2.61	7.15	19.7	15.3	10.5	3.73	1.98	1.70	1.02
(WY)	2002	2002	2002	2002	2002	2002	1985	1985	1999	1999	2002	1998

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1984 - 2003	
ANNUAL TOTAL	4442.17		7996.55			
ANNUAL MEAN	12.2		21.9		21.5	
HIGHEST ANNUAL MEAN					33.0	1996
LOWEST ANNUAL MEAN					9.76	2002
HIGHEST DAILY MEAN	125	May 14	152	Mar 30	636	Sep 17 1999
LOWEST DAILY MEAN	0.44	Oct 9	0.44	Oct 9	0.35	Sep 7 1995
ANNUAL SEVEN-DAY MINIMUM	0.70	Sep 8	0.70	Oct 4	0.38	Sep 7 1995
MAXIMUM PEAK FLOW			228	Mar 29	1490	Sep 17 1999
MAXIMUM PEAK STAGE			2.90	Mar 29	5.87	Jun 14 1996
INSTANTANEOUS LOW FLOW			0.37	Oct 9	0.35	Sep 7 1995
ANNUAL RUNOFF (CFSM)	0.97		1.74		1.71	
ANNUAL RUNOFF (INCHES)	13.11		23.61		23.21	
10 PERCENT EXCEEDS	30		46		47	
50 PERCENT EXCEEDS	6.5		14		13	
90 PERCENT EXCEEDS	1.1		3.8		1.9	

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 mi^2, includes 1.6 mi^2 drained by Beaver Brook, flow of which is diverted from Ware River basin. Prior to January 1937, 186 mi^2.

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 National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1912, nonrecording gage at site 400 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharge and those greater than 200 ft^3/s, which are fair. Flow regulated since August 1939 by Quabbin Reservoir, usable capacity, 53.8 billion ft^3, (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.

AVERAGE DISCHARGE.--27 years (water years 1913–39) prior to completion of Quabbin Reservoir, 314 ft^3/s, 22.56 in/yr; 64 years (water years 1940–2003), affected by storage and diversions, 94.4 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,590 ft^3/s, Mar. 19, 1936, gage height, 15.00 ft; minimum daily, 9.1 ft^3/s, Dec. 15, 1968. Maximum discharge since construction of Quabbin Reservoir in 1939, 3,070 ft^3/s, June 1, 1984, gage height, 11.58 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 160 ft^3/s, July 1, gage height, 2.89 ft; minimum daily, 28 ft^3/s, June 20, 21 .

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	32	33	35	31	31	36	34	37	128	115	35
2	30	32	33	38	31	33	38	39	36	114	117	37
3	31	32	33	34	31	33	40	38	35	91	115	85
4	69	32	33	34	32	33	40	35	35	107	71	117
5	102	82	33	33	32	32	39	35	36	114	38	69
6	102	86	33	33	31	32	39	35	35	113	37	38
7	104	31	33	33	31	31	39	35	37	112	36	38
8	107	31	33	33	31	31	38	35	36	70	36	38
9	107	31	32	33	31	32	38	35	36	34	36	37
10	107	31	32	33	31	32	38	34	35	89	37	37
11	107	31	32	33	31	31	41	35	37	123	36	37
12	113	32	34	33	31	31	41	36	36	123	36	37
13	109	34	33	33	31	31	39	35	42	122	36	37
14	109	32	38	33	31	31	37	35	37	116	36	37
15	109	32	35	32	31	31	37	34	35	115	35	37
16	61	32	34	32	31	32	36	34	35	116	35	38
17	31	36	33	32	31	34	36	34	34	115	35	37
18	31	36	33	32	31	35	36	34	34	115	35	37
19	31	33	33	32	31	35	36	34	31	115	35	38
20	31	33	40	32	31	34	36	34	28	115	35	38
21	31	33	37	32	31	45	35	34	28	115	35	37
22	31	35	34	31	32	42	36	34	34	116	35	37
23	32	34	34	31	36	39	36	34	37	115	35	92
24	31	33	33	31	33	38	35	34	36	72	35	70
25	31	33	34	31	33	37	35	34	36	41	35	38
26	33	33	33	31	32	37	36	39	37	36	35	39
27	32	34	33	31	32	37	36	37	37	33	81	38
28	32	33	33	31	32	35	e35	35	36	34	66	41
29	32	33	33	31	---	38	e35	35	36	34	35	40
30	32	33	33	31	---	41	34	35	77	82	35	39
31	32	---	33	31	---	37	---	36	---	114	35	---
TOTAL	1871	1085	1043	1005	883	1071	1113	1087	1101	2939	1454	1375
MEAN	60.4	36.2	33.6	32.4	31.5	34.5	37.1	35.1	36.7	94.8	46.9	45.8
MAX	113	86	40	38	36	45	41	39	77	128	117	117
MIN	30	31	32	31	31	31	34	34	28	33	35	35
†	41972	41963	42683	43244	43566	46400	48766	50220	51624	50190	49258	48426

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	71.8	76.5	71.9	71.1	76.5	82.4	166	159	124	76.5	78.9	79.3
MAX	222	858	656	572	467	511	1099	775	1192	301	149	139
(WY)	1956	1956	1997	1997	1997	1997	1953	1953	1984	1948	1961	1963
MIN	30.3	31.3	28.0	27.5	27.6	27.7	26.2	27.4	28.6	31.2	30.7	30.3
(WY)	1945	1945	1995	1995	1995	1995	1995	1995	1945	1944	1944	1990

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	17993		16027			
ANNUAL MEAN	49.3		43.9		94.4	
HIGHEST ANNUAL MEAN					369	1997
LOWEST ANNUAL MEAN					30.7	1945
HIGHEST DAILY MEAN	113	Oct 12	128	Jul 1	3040	Jun 1 1984
LOWEST DAILY MEAN	30	Jun 20	28	Jun 20	9.1	Dec 15 1968
ANNUAL SEVEN-DAY MINIMUM	30	Jun 20	31	Jan 22	24	Nov 11 1996
MAXIMUM PEAK FLOW			160	Jul 1	3070	Jun 1 1984
MAXIMUM PEAK STAGE			2.89	Jul 1	11.58	Jun 1 1984
INSTANTANEOUS LOW FLOW			27	Apr 21		
10 PERCENT EXCEEDS	108		91		146	
50 PERCENT EXCEEDS	34		35		45	
90 PERCENT EXCEEDS	31		31		32	

† Monthend contents, in millions of cubic feet (mcf) in Quabbin Reservoir. Records furnished by Water Supply Protection Division of the Department of Conservation and Recreation.

e Estimated

CONNECTICUT RIVER BASIN

01175670 SEVENMILE RIVER NEAR SPENCER, MA

LOCATION.--Lat 42°15'54", long 72°00'19", Worcester County, Hydrologic Unit 01080204, on right bank 40 ft upstream from bridge on Cooney Road and 1.5 mi north of Spencer.

DRAINAGE AREA.--8.81 mi^2 (revised).

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, WDR MA-RI-03-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 630 ft above National Geodetic Vertical Datum of 1929, 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.

AVERAGE DISCHARGE.--43 years (water years 1961 - 2003), 14.9 ft^3/s, 22.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 412 ft^3/s, Mar. 18, 1968, gage height, 5.19 ft, datum then in use; maximum gage height, unknown, Apr. 1, 1987, present datum; minimum discharge, 0.03 ft^3/s, Sept.6, 7, 9, 18, 2001 (regulated); minimum daily, 0.07 ft^3/s, Aug. 28, Sept. 11, 15, 21, 22.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 178 ft^3/s, Mar. 21 gage height, 11.59 ft; minimum, 0.19 ft^3/s, Oct. 7, 8; minimum daily, 0.61 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.2	8.8	e20	9.2	e17	62	14	22	12	3.1	1.3
2	1.6	2.0	7.6	e29	10	e23	54	17	20	11	6.1	3.6
3	1.6	1.8	7.2	e33	9.5	e32	51	27	15	9.6	4.9	3.2
4	1.3	1.8	e6.9	e28	e11	e27	52	21	12	9.4	13	5.3
5	1.7	1.9	6.3	e25	e12	e25	49	17	17	8.0	11	4.6
6	1.1	4.1	e6.2	e21	e11	e21	44	14	16	7.1	9.3	3.6
7	.72	4.0	e6.2	e19	e10	e20	39	15	20	6.4	8.4	3.0
8	.69	3.4	e5.9	e17	e9.0	e18	37	15	33	4.7	13	2.7
9	.74	3.5	e5.6	e16	e8.5	17	34	15	23	4.9	10	2.2
10	.65	4.3	e6.2	e15	e8.0	e20	32	15	18	5.4	10	1.7
11	.61	4.1	e5.9	e14	7.6	e16	38	13	19	8.7	8.8	1.5
12	3.3	4.9	e8.2	e13	e7.2	14	52	14	20	21	6.6	.89
13	4.0	13	12	e12	e6.8	13	45	16	33	15	6.7	.76
14	4.3	11	34	e11	e6.3	e13	37	14	35	9.7	9.1	1.2
15	7.3	9.5	53	e10	e6.0	e13	31	13	28	7.6	9.9	1.3
16	9.0	7.8	37	e9.8	e5.9	14	e28	12	32	6.6	8.0	2.9
17	6.4	14	e30	e9.4	e6.0	25	e26	11	18	7.3	7.1	2.4
18	4.2	24	e24	e9.3	e6.2	e40	e24	10	14	7.1	6.4	3.3
19	3.5	18	e24	e9.1	e6.5	e50	23	8.6	15	6.8	6.0	2.7
20	2.5	14	e49	e9.0	e7.5	49	21	8.0	13	5.9	4.9	3.3
21	3.2	13	e90	e9.1	e10	119	19	7.6	14	8.3	4.5	2.5
22	4.8	16	66	e9.2	e20	128	18	8.1	48	23	3.8	2.1
23	3.9	19	47	e9.3	e30	108	19	9.1	85	17	3.9	12
24	3.0	16	37	e9.4	e40	87	18	11	53	14	3.0	22
25	2.2	13	e31	e9.5	e30	79	16	12	36	9.7	2.3	13
26	6.7	12	e28	e9.5	e25	74	21	26	25	8.8	1.8	8.5
27	5.8	12	e25	e9.5	e20	78	33	49	20	6.8	1.8	6.8
28	3.4	10	e21	e9.5	e16	64	27	33	16	4.8	1.5	7.2
29	2.6	10	19	e9.6	---	59	19	23	14	3.5	1.2	10
30	1.9	9.7	e17	e9.7	---	96	16	16	13	2.9	1.3	8.0
31	1.9	---	e16	e9.4	---	86	---	13	---	2.5	1.2	---
TOTAL	96.71	280.0	741.0	433.3	355.2	1445	985	497.4	747	275.5	188.6	143.55
MEAN	3.12	9.33	23.9	14.0	12.7	46.6	32.8	16.0	24.9	8.89	6.08	4.79
MAX	9.0	24	90	33	40	128	62	49	85	23	13	22
MIN	0.61	1.8	5.6	9.0	5.9	13	16	7.6	12	2.5	1.2	0.76
CFSM	0.35	1.06	2.71	1.59	1.44	5.29	3.73	1.82	2.83	1.01	0.69	0.54
IN.	0.41	1.18	3.13	1.83	1.50	6.10	4.16	2.10	3.15	1.16	0.80	0.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

MEAN	7.56	11.8	17.3	17.8	18.1	31.1	31.9	18.0	12.4	5.05	4.05	3.72
MAX	29.2	28.0	56.2	56.5	44.8	66.2	69.5	40.5	46.5	20.3	14.4	15.7
(WY)	1997	1976	1997	1979	1970	1983	1987	1967	1982	1996	1979	1975
MIN	0.74	1.18	2.80	2.75	3.87	12.9	9.91	6.00	1.09	0.80	0.39	0.32
(WY)	2002	2002	1999	1981	1977	1967	1999	1982	1999	1965	1999	1964

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1961 - 2003	
ANNUAL TOTAL	3732.59		6188.26			
ANNUAL MEAN	10.2		17.0		14.9	
HIGHEST ANNUAL MEAN					22.3	1996
LOWEST ANNUAL MEAN					5.40	1965
HIGHEST DAILY MEAN	90	Dec 21	128	Mar 22	284	Mar 19 1968
LOWEST DAILY MEAN	0.07	Aug 28	0.61	Oct 11	0.05	Sep 6 2001
ANNUAL SEVEN-DAY MINIMUM	0.13	Sep 9	0.89	Oct 5	0.10	Sep 1 2001
MAXIMUM PEAK FLOW			178	Mar 21	412	Mar 18 1968
MAXIMUM PEAK STAGE			11.59	Mar 21	13.39	Jan 25 1992
INSTANTANEOUS LOW FLOW			0.19	Oct 7	0.02	Sep 22 1997
ANNUAL RUNOFF (CFSM)	1.16		1.92		1.69	
ANNUAL RUNOFF (INCHES)	15.76		26.13		22.94	
10 PERCENT EXCEEDS	24		37		34	
50 PERCENT EXCEEDS	6.9		11		9.2	
90 PERCENT EXCEEDS	0.61		2.5		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 mi^2.

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 National Geodetic Vertical Datum of 1929, 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.

AVERAGE DISCHARGE.--91 years (water years 1913–2003), 247 ft^3/s, 22.39 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft^3/s, Aug. 19, 1955, gage height, 15.36 ft, from floodmarks, present site and datum, from rating curve extended above 2,700 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 6.6 ft^3/s, Sept. 28, 29, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft^3/s, Mar. 24, gage height, 6.03 ft; minimum, 38 ft^3/s, Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	97	213	412	e147	e292	1120	343	423	351	72	39
2	58	93	184	540	e149	e284	1070	362	385	307	86	53
3	64	98	e139	526	e154	e299	1040	417	358	271	86	53
4	63	101	e133	453	e172	e358	1010	385	330	243	129	62
5	63	101	e130	e402	e185	e387	964	366	329	219	168	65
6	57	118	e131	e370	e178	e375	902	347	311	197	179	62
7	57	118	e125	e346	e155	354	874	325	323	177	170	61
8	55	124	e119	e320	e133	e349	837	333	377	158	180	59
9	53	121	e116	e308	e135	e352	782	334	369	142	185	56
10	52	121	e114	e295	e132	348	740	303	346	134	187	52
11	47	123	e125	e279	e143	e338	744	284	357	137	179	49
12	63	129	e147	e267	e148	334	808	281	387	183	169	48
13	72	200	259	e253	e157	325	785	265	572	158	158	46
14	73	199	329	e235	e152	305	761	252	539	150	145	45
15	78	201	408	e216	e147	294	720	237	484	143	138	43
16	101	200	427	e206	e144	295	670	229	440	136	135	52
17	119	261	422	e212	e138	365	626	216	402	132	129	49
18	121	320	431	e205	e134	513	575	203	390	126	121	48
19	134	310	415	e197	e131	631	534	192	383	125	114	59
20	114	306	534	e184	e127	658	488	176	360	118	104	95
21	104	292	709	e180	e133	965	449	163	334	110	95	86
22	97	315	702	e180	e153	1160	418	156	538	112	86	81
23	93	310	669	e177	e205	1250	373	154	778	112	75	134
24	88	298	627	e167	e269	1260	330	159	712	113	64	202
25	83	290	604	e156	e316	1250	319	170	677	111	59	200
26	98	280	e509	e152	e321	1190	335	254	616	106	56	208
27	111	272	e418	e154	e311	1160	374	375	544	101	51	191
28	115	257	e363	e156	e300	1110	375	377	470	94	47	166
29	112	247	e347	e153	---	1070	368	377	413	84	43	177
30	109	237	e288	e152	---	1170	355	369	381	79	42	169
31	102	---	e289	e150	---	1160	---	353	---	74	39	---
TOTAL	2616	6139	10426	8003	4969	20201	19746	8757	13328	4703	3491	2710
MEAN	84.4	205	336	258	177	652	658	282	444	152	113	90.3
MAX	134	320	709	540	321	1260	1120	417	778	351	187	208
MIN	47	93	114	150	127	284	319	154	311	74	39	39
CFSM	0.56	1.36	2.24	1.72	1.18	4.34	4.39	1.88	2.96	1.01	0.75	0.60
IN.	0.65	1.52	2.59	1.98	1.23	5.01	4.90	2.17	3.31	1.17	0.87	0.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2003, BY WATER YEAR (WY)

MEAN	126	187	251	272	279	488	548	315	193	103	103	103
MAX	607	693	911	821	748	1399	1352	573	789	524	1440	1369
(WY)	1956	1956	1997	1979	1970	1936	1940	1943	1984	1938	1955	1938
MIN	11.9	26.9	48.5	46.6	65.2	169	173	108	35.2	17.6	12.8	12.0
(WY)	1958	1950	1931	1981	1977	1989	1915	1930	1999	1965	1957	1957

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1912 - 2003	
ANNUAL TOTAL	57460		105089			
ANNUAL MEAN	157		288		247	
HIGHEST ANNUAL MEAN					430	1938
LOWEST ANNUAL MEAN					104	1965
HIGHEST DAILY MEAN	709	Dec 21	1260	Mar 24	7800	Sep 21 1938
LOWEST DAILY MEAN	16	Sep 13	39	Aug 31	4.6	Oct 17 1997
ANNUAL SEVEN-DAY MINIMUM	19	Sep 9	45	Aug 27	6.3	Oct 13 1997
MAXIMUM PEAK FLOW			1270	Mar 24	12800	Aug 19 1955
MAXIMUM PEAK STAGE			6.03	Mar 24	15.36	Aug 19 1955
INSTANTANEOUS LOW FLOW			38	Sep 1		
ANNUAL RUNOFF (CFSM)	1.05		1.92		1.65	
ANNUAL RUNOFF (INCHES)	14.25		26.06		22.39	
10 PERCENT EXCEEDS	349		626		550	
50 PERCENT EXCEEDS	118		200		166	
90 PERCENT EXCEEDS	27		64		40	

e Estimated

CONNECTICUT RIVER BASIN

01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MA

LOCATION.--Lat 42°09'38", long 72°30'52", Hampden County, Hydrologic Unit 01080204, on left bank 1,000 ft downstream from West Street Bridge at Indian Orchard, 1.1 mi upstream from Fuller Brook, and 7.2 mi upstream from mouth.

DRAINAGE AREA.--689 mi^2.

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, 1994.

REVISED RECORDS.--WSP 1231: 1934. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 125 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 1, 1938, water-stage recorder at site 1.8 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Diversion since 1941 from 186 mi^2 in Swift River basin and at times since 1931 from 97 mi^2 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 mi^2 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.

AVERAGE DISCHARGE.--75 years, 906 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,200 ft^3/s, Sept. 21, 1938, by computation of flow over dam; minimum daily, 16 ft^3/s, several times in 1929–31.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,540 ft^3/s, Mar. 23, gage height, 8.75 ft; minimum daily, 138 ft^3/s, Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	288	615	1060	548	e1080	2770	999	1300	1310	580	226
2	286	258	525	1830	550	e1020	2510	999	1460	e1050	648	576
3	203	271	525	1810	567	e1120	2440	1720	1160	976	643	395
4	216	275	457	1500	e578	e1180	2320	1550	1010	772	608	470
5	221	311	501	1360	e792	e1240	2330	1340	1070	793	906	359
6	245	381	531	1360	e688	e1320	2200	1140	1070	582	965	296
7	246	378	480	1150	e475	e1230	2040	1090	1060	884	864	316
8	310	356	489	1130	e451	e1140	1940	1060	1450	533	803	625
9	251	350	455	1140	e419	e1270	1880	1120	1490	589	729	199
10	228	324	429	1110	e512	e1120	1760	1030	1120	459	788	173
11	203	325	480	1030	e430	e1080	1790	808	1090	679	692	303
12	354	354	571	981	e637	e1050	2630	1150	1340	703	671	244
13	453	639	775	959	e603	e999	2560	1070	1700	715	722	138
14	471	728	980	869	e574	e938	2070	981	2010	770	714	235
15	424	573	1760	717	e559	e928	1860	979	1800	612	904	225
16	399	540	1680	784	e552	e997	1700	838	1410	560	809	385
17	384	720	1300	801	e522	e1400	1530	835	1240	649	733	424
18	355	1310	997	828	e478	e1900	1440	777	1150	563	587	279
19	278	1080	904	750	e507	e1970	1220	752	1230	617	481	317
20	347	927	1280	694	e448	e2020	1290	685	1110	606	456	171
21	346	829	3090	656	e434	3050	1150	648	1050	447	380	307
22	204	887	2440	1090	e500	4380	1130	681	1520	504	471	535
23	236	1100	1920	1050	e773	4220	1230	680	3750	732	385	224
24	254	833	1700	661	e1130	3480	1160	629	3130	609	368	1040
25	252	922	1480	538	e1270	3190	1050	588	2280	469	359	618
26	296	697	1330	532	e1160	2960	1060	1010	1970	432	209	701
27	360	722	1290	604	e1090	2850	1380	1860	1670	484	330	700
28	336	731	1100	779	e1120	2660	1310	1660	1590	403	301	665
29	352	693	1120	597	---	2430	1140	1300	1430	341	208	902
30	324	647	1070	592	---	3330	1100	1090	1350	256	144	805
31	317	---	1010	531	---	3270	---	1000	---	250	226	---
TOTAL	9373	18449	33284	29493	18367	60822	51990	32069	46010	19349	17684	12853
MEAN	302	615	1074	951	656	1962	1733	1034	1534	624	570	428
MAX	471	1310	3090	1830	1270	4380	2770	1860	3750	1310	965	1040
MIN	203	258	429	531	419	928	1050	588	1010	250	144	138

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2003, BY WATER YEAR (WY)

MEAN	521	722	890	968	994	1587	1810	1180	824	481	446	475
MAX	1953	3022	3207	2447	2374	5993	4117	2680	3519	2458	3719	5474
(WY)	1956	1956	1997	1937	1976	1936	1933	1953	1984	1938	1955	1938
MIN	131	154	241	191	332	619	636	471	229	159	176	160
(WY)	1942	1966	1966	1981	1931	2002	1966	1965	1964	1966	1949	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1928 - 2003	
ANNUAL TOTAL	202756		349743			
ANNUAL MEAN	555		958		906	
HIGHEST ANNUAL MEAN					1952	1938
LOWEST ANNUAL MEAN					376	1966
HIGHEST DAILY MEAN	3090	Dec 21	4380	Mar 22	37000	Sep 21 1938
LOWEST DAILY MEAN	81	Aug 23	138	Sep 13	16	Sep 1 1929
ANNUAL SEVEN-DAY MINIMUM	168	Sep 7	217	Sep 9	96	Oct 31 1965
MAXIMUM PEAK FLOW			4540	Mar 23	45200	Sep 21 1938
MAXIMUM PEAK STAGE			8.75	Mar 23	0.00	Sep 21 1938
INSTANTANEOUS LOW FLOW			102	Jul 31		
10 PERCENT EXCEEDS	1070		1840		1850	
50 PERCENT EXCEEDS	424		775		650	
90 PERCENT EXCEEDS	220		296		220	

e Estimated

CONNECTICUT RIVER BASIN

01179500 WESTFIELD RIVER AT KNIGHTVILLE, MA

LOCATION.--Lat 42°17'16", long 72°51'53", Hampshire County, Hydrologic Unit 01080206, on left bank at Knightville, 0.2 mi 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.

DRAINAGE AREA.--161 mi^2.

PERIOD OF RECORD.--Discharge: August 1909 to September 1990, October 1995 to current year.
Water-quality records: Water year 1953.

REVISED RECORDS.--WSP 415: 1909–12. WSP 1001: 1941–43. WSP 1231: 1910, 1912, 1913(M), 1914–15, 1916–19(M), 1921–23(M), 1925–27(M), 1929–33(M), 1935(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Dec. 20, 1940. Datum of gage is 461.25 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Jan. 11, 1936, nonrecording gage at site 0.5 mi upstream at different datum. Jan. 11, 1935, to May 20, 1940, water-stage recorder at site 700 ft upstream at datum 10.57 ft higher. May 21 to Dec. 19, 1940, nonrecording gage at site 700 ft upstream at datum 18.75 ft higher.

REMARKS.--Records good. Flow regulated by Knightville Reservoir since 1941. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--89 years (water years 1910–90, 1996–2003), 332 ft^3/s, 28.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,900 ft^3/s, Sept. 21, 1938, gage height, 29.58 ft, from floodmarks, site and datum then in use, from rating curve extended above 3,800 ft^3/s on basis of slope-area measurements at gage heights 24.07 ft and 29.58 ft; minimum, 0.1 ft^3/s, Apr. 3, 1965; minimum daily, 1.1 ft^3/s, Apr. 2, 1965. Maximum discharge since construction of Knightville Reservoir in 1941, 6,660 ft^3/s, Mar. 21, 1945, gage height, 7.45 ft.

EXTREMES FOR CURRENT YEAR.-- Maximum discharge, 2,840 ft^3/s, Mar. 24, gage height, 6.84 ft; minimum 9.1 ft^3/s, Apr. 7; minimum daily, 29 ft^3/s, Oct. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	113	307	228	192	493	2460	313	619	108	39	72
2	40	105	260	244	185	313	1950	386	645	97	236	112
3	42	99	237	256	116	255	1610	628	400	89	218	204
4	43	94	121	260	65	268	1180	419	311	82	294	302
5	41	97	142	262	69	268	896	346	353	77	339	383
6	41	118	191	332	142	292	722	316	354	72	387	239
7	38	234	233	427	220	331	511	301	295	65	324	168
8	34	235	212	411	216	320	545	306	445	62	239	131
9	30	199	206	342	207	308	495	330	355	62	178	107
10	29	211	186	287	200	298	473	288	294	70	347	92
11	29	216	151	282	195	223	636	260	246	69	550	82
12	161	225	147	277	137	158	1150	763	291	83	1620	75
13	511	452	158	269	105	165	1400	608	313	74	1720	70
14	448	553	172	260	110	171	1090	437	546	62	707	77
15	181	342	198	245	102	173	1040	358	393	57	378	168
16	147	269	211	160	105	174	1160	312	280	53	278	180
17	379	348	328	132	107	180	911	284	234	121	342	208
18	466	776	724	167	107	197	647	262	208	100	336	165
19	273	685	549	167	105	393	768	233	213	74	321	218
20	173	459	413	148	105	1150	866	209	198	64	236	627
21	141	503	438	147	105	1820	729	197	193	54	188	424
22	121	605	453	154	107	2270	518	208	290	80	163	284
23	112	1060	452	155	110	2360	554	194	695	143	148	292
24	115	1140	445	156	199	2450	458	225	452	109	132	794
25	114	685	433	155	270	1900	399	263	294	109	112	418
26	120	479	415	150	272	2040	413	405	223	77	103	357
27	237	425	398	211	361	2030	762	812	184	62	97	342
28	235	358	379	231	486	1610	540	519	156	52	86	517
29	175	323	270	219	---	911	416	499	133	46	77	1710
30	144	315	217	210	---	943	350	375	120	41	73	1150
31	126	---	221	201	---	1870	---	303	---	38	76	---
TOTAL	4797	11723	9267	7145	4700	26334	25649	11359	9733	2352	10344	9968
MEAN	155	391	299	230	168	849	855	366	324	75.9	334	332
MAX	511	1140	724	427	486	2450	2460	812	695	143	1720	1710
MIN	29	94	121	132	65	158	350	194	120	38	39	70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2003, BY WATER YEAR (WY)

MEAN	180	304	304	295	287	617	932	443	261	129	110	127
MAX	1394	1155	989	1305	1001	2050	1853	912	1158	494	745	986
(WY)	1956	1956	1974	1949	1984	1936	1987	1972	1984	1972	1955	1938
MIN	18.3	36.4	68.5	44.7	65.0	158	283	143	41.1	20.7	15.7	14.8
(WY)	1965	1965	1915	1981	1920	1940	1985	1986	1964	1913	1913	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1909 - 2003	
ANNUAL TOTAL	89526		133371			
ANNUAL MEAN	245		365		332	
HIGHEST ANNUAL MEAN					538	1928
LOWEST ANNUAL MEAN					137	1965
HIGHEST DAILY MEAN	1860	May 15	2460	Apr 1	13400	Mar 18 1936
LOWEST DAILY MEAN	16	Sep 13	29	Oct 10	1.1	Apr 2 1965
ANNUAL SEVEN-DAY MINIMUM	17	Aug 18	35	Oct 5	8.9	Aug 29 1953
MAXIMUM PEAK FLOW			2840	Mar 24	37900	Sep 21 1938
MAXIMUM PEAK STAGE			6.84	Mar 24	29.58	Sep 21 1938
INSTANTANEOUS LOW FLOW			9.1	Apr 7		
10 PERCENT EXCEEDS	536		742		800	
50 PERCENT EXCEEDS	194		239		168	
90 PERCENT EXCEEDS	27		76		36	

CONNECTICUT RIVER BASIN

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 mi^2.

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1989, at datum 5.00 ft higher.

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

AVERAGE DISCHARGE.--68 years, 192 ft^3/s, 27.74 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft^3/s, Aug. 19, 1955, gage height, 15.27 ft, datum then in use, from rating curve extended above 9,500 ft^3/s on basis of slope-area measurement of peak flow; minimum, 3.3 ft^3/s, Aug. 9, 1955, Nov. 27, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,880 ft^3/s, Sept. 28, gage height, 7.88 ft; minimum, 14 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	44	174	202	77	126	644	153	695	74	19	25
2	21	42	151	372	79	156	518	206	453	64	56	92
3	19	40	126	257	e66	e247	645	313	270	58	52	88
4	20	40	103	250	e64	e190	654	208	198	54	59	117
5	24	44	115	215	e84	178	493	172	282	49	77	106
6	21	76	126	190	e72	179	401	165	248	45	95	66
7	18	134	112	171	e75	e161	339	156	250	42	79	52
8	16	96	115	170	e79	152	308	174	373	41	85	43
9	15	93	94	172	e68	e145	278	192	262	40	99	39
10	15	85	97	e138	e65	e140	282	162	197	43	249	35
11	18	78	e90	e121	e62	e135	384	148	184	42	328	31
12	282	99	121	e103	e64	125	673	579	210	43	780	28
13	227	349	123	e103	e61	123	633	390	343	37	486	27
14	109	226	393	e105	e60	124	480	281	414	33	206	33
15	65	157	515	e105	e55	116	448	222	274	30	122	41
16	100	126	308	e107	e53	138	472	183	189	40	87	55
17	292	528	217	e97	e50	315	370	163	158	34	94	53
18	140	890	159	e92	e56	836	293	145	161	29	383	39
19	90	413	170	e95	e61	835	255	127	164	27	192	251
20	67	343	395	e97	e58	539	224	114	141	24	113	183
21	55	344	657	e92	e51	1640	200	106	136	24	81	95
22	48	817	374	e93	e80	1950	199	108	436	48	64	66
23	49	1110	284	e95	e246	1330	204	102	781	49	56	521
24	47	521	233	e86	e282	1030	178	120	736	41	47	458
25	43	365	e157	89	e223	1130	161	126	322	39	41	197
26	71	298	e159	86	e181	1200	211	399	199	31	37	222
27	99	267	e165	e86	e155	1170	323	460	149	26	39	186
28	72	217	169	e86	e135	976	226	291	117	24	32	1530
29	59	194	156	81	---	1310	182	239	98	21	28	1030
30	52	181	143	78	---	1660	160	185	87	19	27	477
31	47	---	146	75	---	932	---	158	---	18	26	---
TOTAL	2224	8217	6347	4109	2662	19288	10838	6547	8527	1189	4139	6186
MEAN	71.7	274	205	133	95.1	622	361	211	284	38.4	134	206
MAX	292	1110	657	372	282	1950	673	579	781	74	780	1530
MIN	15	40	90	75	50	116	160	102	87	18	19	25
CFSM	0.76	2.91	2.18	1.41	1.01	6.62	3.84	2.25	3.02	0.41	1.42	2.19
IN.	0.88	3.25	2.51	1.63	1.05	7.63	4.29	2.59	3.37	0.47	1.64	2.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2003, BY WATER YEAR (WY)

MEAN	105	178	198	179	184	373	493	258	145	66.8	58.8	65.7
MAX	1041	544	664	537	712	1098	1176	761	684	307	632	579
(WY)	1956	1956	1974	1996	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1935 - 2003	
ANNUAL TOTAL	52339.7		80273			
ANNUAL MEAN	143		220		192	
HIGHEST ANNUAL MEAN					302	1996
LOWEST ANNUAL MEAN					73.6	1965
HIGHEST DAILY MEAN	1560	May 14	1950	Mar 22	10500	Aug 19 1955
LOWEST DAILY MEAN	7.0	Sep 14	15	Oct 9	3.3	Aug 9 1955
ANNUAL SEVEN-DAY MINIMUM	7.7	Aug 17	18	Oct 5	3.8	Aug 4 1955
MAXIMUM PEAK FLOW			3880	Sep 28	26100	Aug 19 1955
MAXIMUM PEAK STAGE			7.88	Sep 28	15.27	Aug 19 1955
INSTANTANEOUS LOW FLOW			14	Oct 10	3.3	Aug 9 1955
ANNUAL RUNOFF (CFSM)	1.53		2.34		2.04	
ANNUAL RUNOFF (INCHES)	20.71		31.77		27.74	
10 PERCENT EXCEEDS	343		489		438	
50 PERCENT EXCEEDS	96		127		98	
90 PERCENT EXCEEDS	14		37		18	

e Estimated

CONNECTICUT RIVER BASIN

01183500 WESTFIELD RIVER NEAR WESTFIELD, MA

LOCATION.--Lat 42°06'24", long 72°41'58", Hampden County, Hydrologic Unit 01080206, on left bank 0.7 mi downstream from Great Brook, 3 mi east of Westfield, and 8.1 mi upstream from mouth.

DRAINAGE AREA.--497 mi^2.

PERIOD OF RECORD.--Discharge: June 1914 to current year.
Water Quality: Water years 1952–53, 1957, 1967–74, 1994.

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 National Geodetic Vertical Datum of 1929. Prior to Nov. 3, 1933, on right bank at same datum.

REMARKS.--Records fair except those for estimated daily discharge, which are poor. 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.

AVERAGE DISCHARGE.--89 years, 932 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,300 ft^3/s, Aug. 19, 1955, gage height, 34.2 ft, from floodmarks, from rating curve extended above 18,000 ft^3/s on basis of computations of flow over dam at gage heights 27.20 ft, 29.40 ft, and 34.2 ft; minimum, 9 ft^3/s, Oct. 2, 1921; minimum daily, 40 ft^3/s, Dec. 28, 29, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,390 ft^3/s, Sept. 28, gage height, 11.27 ft; minimum, 100 ft^3/s, Oct. 10, 11; minimum daily, 101 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	269	887	765	461	e935	4450	871	1830	456	163	182
2	129	245	777	1400	467	e879	3940	953	2180	403	294	440
3	117	227	706	1180	452	e916	3370	1640	1410	372	474	523
4	127	227	552	1080	e376	e916	3000	1240	1090	348	573	501
5	134	237	437	1010	e376	e879	2410	999	1200	319	738	724
6	138	349	469	930	e376	e842	2000	899	1250	324	967	465
7	129	563	540	1030	e436	e824	1580	849	1100	307	784	344
8	112	598	e538	986	e454	e824	1530	856	1610	309	603	278
9	105	493	e510	971	e417	e787	1380	936	1300	254	470	238
10	101	477	e362	e750	e427	e750	1310	860	1080	268	1050	215
11	107	470	e399	e694	e380	e713	1610	751	908	283	1180	196
12	506	485	529	e676	e494	617	2500	1500	992	289	2910	174
13	1220	1050	543	e639	e461	596	2880	1660	1290	275	3270	176
14	947	1350	1020	e602	e427	572	2360	1250	2060	242	1750	214
15	559	877	1700	e565	e427	562	2170	1030	1510	224	929	319
16	441	675	1280	e547	e444	596	2320	883	1220	220	651	483
17	1120	1110	1050	e473	e392	837	2070	786	1100	244	587	438
18	1010	2630	1360	e436	e417	1640	1590	720	1030	281	923	311
19	681	2070	1240	e417	e362	2270	1710	642	970	236	804	853
20	452	1450	1110	e417	e325	2520	1670	573	819	211	582	1620
21	335	1430	1870	e417	351	4290	1770	537	813	201	443	900
22	287	1880	1520	e399	419	6100	1470	533	1370	268	374	590
23	262	3110	1300	e436	e417	5820	1360	524	2960	418	340	1460
24	259	2600	1180	e436	e454	5040	1150	599	2650	339	295	2800
25	254	1930	1110	e436	e694	4970	1000	705	1780	310	252	1360
26	311	1480	1070	e362	e1020	5100	1040	1080	1370	256	234	1110
27	478	1250	1000	e380	e983	5130	1780	2320	1160	220	223	1050
28	526	1080	944	e399	e1020	4270	1440	1600	781	198	206	3230
29	404	955	859	e454	---	3350	1140	1420	560	178	173	5690
30	335	918	692	e454	---	3710	966	1130	504	166	183	3400
31	294	---	683	e436	---	3700	---	925	---	156	177	---
TOTAL	12024	32485	28237	20177	13729	70955	58966	31271	39897	8575	22602	30284
MEAN	388	1083	911	651	490	2289	1966	1009	1330	277	729	1009
MAX	1220	3110	1870	1400	1020	6100	4450	2320	2960	456	3270	5690
MIN	101	227	362	362	325	562	966	524	504	156	163	174

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2003, BY WATER YEAR (WY)

MEAN	522	826	902	879	891	1689	2302	1226	760	404	388	404
MAX	4587	3344	2623	2635	2663	5064	5225	2630	2792	1738	3237	2938
(WY)	1956	1928	1997	1949	1984	1936	1993	1989	1982	1972	1955	1938
MIN	96.7	140	206	155	215	597	586	408	186	118	91.2	85.0
(WY)	1965	1965	1915	1981	1920	1941	1985	1985	1964	1962	1957	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1914 - 2003	
ANNUAL TOTAL	236336		369202			
ANNUAL MEAN	647		1012		932	
HIGHEST ANNUAL MEAN					1594	1928
LOWEST ANNUAL MEAN					368	1965
HIGHEST DAILY MEAN	4210	May 14	6100	Mar 22	37400	Aug 19 1955
LOWEST DAILY MEAN	81	Sep 15	101	Oct 10	40	Dec 28 1914
ANNUAL SEVEN-DAY MINIMUM	85	Sep 9	118	Oct 5	50	Sep 3 1995
MAXIMUM PEAK FLOW			8390	Sep 28	70300	Aug 19 1955
MAXIMUM PEAK STAGE			11.27	Sep 28	34.20	Aug 19 1955
INSTANTANEOUS LOW FLOW			100	Oct 10	9.0	Oct 2 1921
10 PERCENT EXCEEDS	1360		2110		2140	
50 PERCENT EXCEEDS	496		713		550	
90 PERCENT EXCEEDS	106		237		160	

e Estimated

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 mi^2.

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 National Geodetic Vertical Datum of 1929.

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. Satellite and telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--90 years (water years 1914–2003), 183 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,300 ft^3/s, Aug. 19, 1955, gage height, 14.06 ft, from rating curve extended above 9,600 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 2.4 ft^3/s, Aug. 20, 21, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,320 ft^3/s, June 14, gage height, 6.72 ft, minimum daily, 18.0 ft^3/s, Oct. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	162	e183	185	e77	e126	690	100	414	98	21	20
2	30	159	e162	309	e79	e155	592	118	346	81	37	114
3	26	154	e138	240	e79	e236	520	152	226	72	34	122
4	25	154	e121	238	e87	e219	507	122	163	65	50	186
5	34	158	e124	200	e115	e176	446	103	226	61	64	77
6	26	204	e127	174	e108	e169	400	102	224	64	138	60
7	22	220	e118	158	e93	e168	326	98	243	51	66	48
8	20	198	e117	185	e93	e150	263	111	320	47	101	41
9	18	181	99	175	e92	e146	219	113	238	44	73	35
10	18	170	e102	165	e77	e144	217	103	184	44	209	31
11	20	166	e107	e140	e76	e137	259	99	153	47	120	28
12	153	139	e121	e127	e77	e119	361	235	167	46	151	26
13	158	253	131	e124	e81	118	373	248	439	37	262	24
14	213	245	286	e118	e77	116	308	196	404	32	117	30
15	82	215	359	e112	e76	95	268	155	266	31	85	35
16	82	198	283	e119	e77	108	266	122	189	31	62	48
17	153	392	e205	e114	e65	189	236	102	155	31	57	39
18	221	635	e156	e105	e75	381	195	92	134	27	91	34
19	287	443	202	e105	e79	457	167	81	125	27	92	128
20	249	366	350	e106	e75	525	153	80	124	23	70	134
21	78	290	487	e101	e74	967	131	76	124	22	65	58
22	57	506	385	e98	e92	1200	132	71	304	105	56	49
23	72	762	317	e100	e229	1090	143	65	877	62	65	402
24	73	530	273	e95	e290	936	130	71	983	49	48	456
25	113	430	e219	e95	e227	945	116	72	452	48	39	210
26	305	e329	e207	e94	e182	1000	147	238	381	37	36	185
27	309	e281	e189	e88	e157	1030	187	325	267	32	32	158
28	206	e233	e167	e93	e139	891	154	250	145	28	27	913
29	104	e207	136	e81	---	993	127	210	120	23	24	1040
30	128	e192	126	e77	---	1300	106	168	117	21	23	592
31	145	---	139	e76	---	916	---	135	---	19	20	---
TOTAL	3465	8572	6136	4197	3048	15202	8139	4213	8510	1405	2335	5323
MEAN	112	286	198	135	109	490	271	136	284	45.3	75.3	177
MAX	309	762	487	309	290	1300	690	325	983	105	262	1040
MIN	18	139	99	76	65	95	106	65	117	19	20	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2003, BY WATER YEAR (WY)

MEAN	142	209	196	179	164	303	403	216	133	80.2	84.6	89.9
MAX	774	817	563	529	608	947	934	627	479	290	1002	644
(WY)	1956	1928	1997	1996	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	8.81
(WY)	1915	1915	1918	1981	1980	1965	1985	1941	1964	1962	1957	1995

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1913 - 2003	
ANNUAL TOTAL	47254.1		70545			
ANNUAL MEAN	129		193		183	
HIGHEST ANNUAL MEAN					341	1928
LOWEST ANNUAL MEAN					66.1	1965
HIGHEST DAILY MEAN	937	May 14	1300	Mar 30	16100	Aug 19 1955
LOWEST DAILY MEAN	6.6	Sep 14	18	Oct 9	2.4	Aug 20 1957
ANNUAL SEVEN-DAY MINIMUM	8.1	Sep 9	23	Oct 5	3.1	Sep 9 1957
MAXIMUM PEAK FLOW			2320	Jun 23	34300	Aug 19 1955
MAXIMUM PEAK STAGE			6.72	Jun 23	14.06	Aug 19 1955
INSTANTANEOUS LOW FLOW			17	Oct 8		
10 PERCENT EXCEEDS	282		401		400	
50 PERCENT EXCEEDS	100		128		115	
90 PERCENT EXCEEDS	14		34		26	

e Estimated

HOUSATONIC RIVER BASIN

01197000 EAST BRANCH HOUSATONIC RIVER AT COLTSVILLE, MA

LOCATION.--Lat 42°28'10", long 73°11'49", Berkshire County, Hydrologic Unit 01100005, on right bank 250 ft downstream from Hubbard Avenue Bridge at Coltsville, 1.2 mi upstream from Unkamet Brook, and 2 mi northeast of Pittsfield. Prior to Nov. 8, 1994, at site 200 ft upstream.

DRAINAGE AREA.--57.6 mi^2.

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 National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1994, at site 200 ft upstream at same datum.

REMARKS.--Records good. Flow regulated by powerplants upstream and, since 1949, by Cleveland Brook Reservoir, usable capacity, 214,000,000 ft^3, 5.4 mi upstream; regulation greater prior to 1955. Diversion upstream from Cleveland Brook Reservoir for municipal supply of Pittsfield since May 1950. Satellite and telephone gage-height telemeter at station.

AVERAGE DISCHARGE.--67 years, 106 ft^3/s (water years, 1937– 2003).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft^3/s, Sept. 21, 1938, gage height, 10.80 ft, from rating curve extended above 2,300 ft^3/s on basis of computation of peak flow over dam; minimum daily, 4.4 ft^3/s, Aug. 15, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1755, that of Sept. 21, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,400 ft^3/s, Aug. 13, gage height, 4.90 ft; minimum daily, 16 ft^3/s, Oct. 10, July 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	40	94	95	39	58	380	53	179	26	36	30
2	30	41	81	149	39	72	304	97	173	24	100	75
3	32	49	71	128	40	87	336	162	104	22	71	101
4	25	48	63	123	46	88	354	112	75	21	101	195
5	22	50	64	114	55	93	268	83	78	21	87	156
6	20	64	66	105	51	90	219	70	79	22	180	92
7	18	78	59	97	48	82	187	66	71	22	130	75
8	17	67	60	105	44	79	173	74	119	22	93	75
9	17	60	53	117	41	74	156	66	100	24	64	65
10	16	59	51	111	41	66	148	60	85	24	182	48
11	21	66	55	91	40	64	184	57	80	26	494	39
12	172	89	66	78	38	63	251	223	90	25	877	38
13	159	195	68	73	36	61	298	189	89	20	1150	40
14	73	151	116	66	34	59	227	128	117	19	343	41
15	49	104	193	67	33	58	225	99	95	18	178	43
16	61	85	156	67	31	66	312	90	66	34	148	73
17	122	101	107	68	33	102	247	81	54	43	146	79
18	99	195	81	59	37	189	154	73	49	37	320	68
19	93	145	79	58	37	261	128	66	49	32	241	74
20	74	117	139	63	37	247	121	59	48	22	150	127
21	63	116	269	59	36	473	113	57	68	22	88	73
22	59	165	179	54	44	757	114	59	106	49	68	50
23	61	445	122	52	86	738	108	56	191	43	57	189
24	53	237	96	51	88	512	79	69	110	33	53	262
25	39	163	82	42	84	587	70	67	70	27	47	115
26	58	141	88	41	77	703	71	105	62	23	47	105
27	65	123	81	41	70	668	92	166	50	21	45	98
28	55	105	78	39	63	551	85	128	33	20	38	572
29	48	102	74	40	---	897	72	131	28	19	34	674
30	44	100	68	39	---	1300	59	99	27	18	33	278
31	41	---	72	38	---	572	---	81	---	17	30	---
TOTAL	1728	3501	2931	2330	1348	9717	5535	2926	2545	796	5631	3950
MEAN	55.7	117	94.5	75.2	48.1	313	184	94.4	84.8	25.7	182	132
MAX	172	445	269	149	88	1300	380	223	191	49	1150	674
MIN	16	40	51	38	31	58	59	53	27	17	30	30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2003, BY WATER YEAR (WY)

MEAN	69.2	95.2	100	94.7	95.0	176	260	139	86.6	52.6	48.6	54.6
MAX	318	279	321	252	274	417	582	366	326	220	188	326
(WY)	1956	1956	1974	1949	1984	1979	1993	1984	1972	1945	1990	1938
MIN	19.9	19.1	31.2	15.5	16.0	50.4	66.3	37.8	25.4	12.9	14.9	14.3
(WY)	1965	1965	1981	1981	1980	1965	1985	1985	1964	1962	1980	1983

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1936 - 2003	
ANNUAL TOTAL	28253		42938			
ANNUAL MEAN	77.4		118		106	
HIGHEST ANNUAL MEAN					163	1996
LOWEST ANNUAL MEAN					42.6	1965
HIGHEST DAILY MEAN	618	May 14	1300	Mar 30	4460	Mar 18 1936
LOWEST DAILY MEAN	13	Aug 24	16	Oct 10	4.4	Aug 15 1936
ANNUAL SEVEN-DAY MINIMUM	14	Aug 19	19	Oct 5	9.5	Sep 11 1983
MAXIMUM PEAK FLOW			2400	Aug 13	6400	Sep 21 1938
MAXIMUM PEAK STAGE			4.90	Aug 13	10.80	Sep 21 1938
INSTANTANEOUS LOW FLOW			15	Oct 10		
10 PERCENT EXCEEDS	162		226		230	
50 PERCENT EXCEEDS	62		73		61	
90 PERCENT EXCEEDS	17		30		23	

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 mi^2.

PERIOD OF RECORD.--Discharge: May 1913 to current year.
Water-quality records: Water years 1957–59, 1964, 1971, and 1980.
Suspended sediment records: Water years 1980, 1994–96.

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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, nonrecording gage at same site and datum.

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

AVERAGE DISCHARGE.--90 years, 525 ft^3/s, 25.30 in/yr (water years 1914–2003).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft^3/s, Jan. 1, 1949, gage height, 12.08 ft, from rating curve extended above 6,400 ft^3/s on basis of computations of flow over dams at gage heights 11.72 ft and 12.08 ft; minimum daily, 1.0 ft^3/s, Oct. 18, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,140 ft^3/s, Mar. 31, gage height, 7.42 ft; minimum daily, 87 ft^3/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	235	569	e501	262	401	2940	337	574	196	105	152
2	117	213	519	e845	261	426	2130	413	690	173	211	248
3	110	195	470	778	250	e490	1800	568	578	165	348	342
4	112	189	e386	711	262	e507	1750	508	454	158	398	434
5	106	196	e376	693	e322	460	1690	431	446	156	373	579
6	97	247	e389	634	e336	482	1500	392	466	153	415	534
7	90	287	e376	597	e308	472	1280	372	448	145	459	393
8	87	269	e359	564	e298	427	1120	360	551	141	375	289
9	98	243	e339	568	e285	396	993	377	505	136	341	259
10	93	233	e319	565	e262	355	897	366	434	144	428	232
11	100	235	e319	515	e259	e345	888	363	381	145	687	200
12	261	311	398	e471	e260	331	955	647	401	150	1380	192
13	631	542	412	e429	e254	322	1040	823	504	143	1660	177
14	550	625	553	e399	e243	301	996	727	619	136	1540	181
15	358	517	805	e381	e234	299	850	598	567	133	1010	192
16	298	442	770	e389	e231	313	823	510	455	124	590	217
17	346	541	639	e367	e213	451	844	469	373	174	556	258
18	407	1070	e519	e353	e236	800	725	423	336	185	724	263
19	340	1010	e465	e333	e253	1210	610	385	328	166	798	265
20	290	796	e642	e330	258	1240	545	340	313	155	611	275
21	249	713	e1030	e340	e244	1830	496	307	310	137	434	305
22	227	786	e1120	e351	255	2800	479	301	462	185	355	250
23	218	1400	e826	e340	e417	3360	504	289	816	253	345	341
24	220	1510	e652	e300	e594	3110	468	287	723	207	280	688
25	212	1130	628	e295	e531	2640	418	290	507	181	241	622
26	217	879	579	e271	e477	2580	413	356	371	157	206	487
27	249	774	608	e272	e438	2710	458	610	318	142	196	433
28	251	683	566	e275	e403	2560	446	605	272	130	180	786
29	236	611	539	e259	---	2390	406	576	234	120	164	1790
30	217	581	510	e257	---	3440	361	512	217	112	159	1900
31	215	---	e492	e252	---	3960	---	454	---	102	158	---
TOTAL	7134	17463	17174	13635	8646	41408	28825	13996	13653	4804	15727	13284
MEAN	230	582	554	440	309	1336	961	451	455	155	507	443
MAX	631	1510	1120	845	594	3960	2940	823	816	253	1660	1900
MIN	87	189	319	252	213	299	361	287	217	102	105	152
CFSM	0.82	2.06	1.96	1.56	1.09	4.74	3.41	1.60	1.61	0.55	1.80	1.57
IN.	0.94	2.30	2.27	1.80	1.14	5.46	3.80	1.85	1.80	0.63	2.07	1.75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2003, BY WATER YEAR (WY)

MEAN	306	462	522	510	491	903	1222	684	427	276	240	258
MAX	1170	2040	1588	1744	1319	2528	2646	1502	1325	1140	937	1601
(WY)	1978	1928	1974	1949	1984	1936	1920	1984	2000	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1913 - 2003	
ANNUAL TOTAL	135348		195749			
ANNUAL MEAN	371		536		525	
HIGHEST ANNUAL MEAN					962	1928
LOWEST ANNUAL MEAN					211	1965
HIGHEST DAILY MEAN	1790	May 15	3960	Mar 31	11100	Jan 1 1949
LOWEST DAILY MEAN	63	Sep 13	87	Oct 8	1.0	Oct 18 1914
ANNUAL SEVEN-DAY MINIMUM	68	Sep 9	96	Oct 5	40	Aug 10 1913
MAXIMUM PEAK FLOW			4140	Mar 31	12200	Jan 1 1949
MAXIMUM PEAK STAGE			7.42	Mar 31	12.08	Jan 1 1949
INSTANTANEOUS LOW FLOW			86	Oct 8		
ANNUAL RUNOFF (CFSM)	1.31		1.90		1.86	
ANNUAL RUNOFF (INCHES)	17.85		25.82		25.30	
10 PERCENT EXCEEDS	758		994		1150	
50 PERCENT EXCEEDS	301		385		335	
90 PERCENT EXCEEDS	88		162		126	

e Estimated

HUDSON RIVER BASIN

01331500 HOOSIC RIVER AT ADAMS, MA

LOCATION.--Lat 42°36'40", long 73°07'28", Berkshire County, Hydrologic Unit 02020003, on left bank at Adams, 500 ft downstream from Dry Brook, and 0.4 mi upstream from Pecks Brook.

DRAINAGE AREA.--46.7 mi^2.

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 National Geodetic Vertical Datum of 1929. 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.

AVERAGE DISCHARGE.--72 years, 89.7 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft^3/s, Sept. 21, 1938, gage height, 9.25 ft, site and datum then in use, from rating curve extended above 1,100 ft^3/s on basis of computation of peak flow over dam; minimum daily, 8.0 ft^3/s, Aug. 31, Sept. 1, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 907 ft^3/s, Mar. 29, gage height, 7.87 ft; minimum, 18 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	36	91	107	47	56	295	68	180	37	98	38
2	28	33	80	137	47	69	268	155	112	34	171	75
3	34	32	71	112	47	83	296	141	86	32	86	67
4	27	32	64	112	55	68	307	109	76	30	83	238
5	30	34	66	102	63	74	247	97	73	29	92	149
6	25	55	66	96	55	87	217	92	71	27	167	107
7	22	64	61	92	54	75	189	89	81	24	124	82
8	21	48	61	90	52	72	156	89	96	25	106	60
9	20	51	54	92	50	71	154	81	79	29	71	55
10	20	55	53	86	49	65	180	63	70	29	168	53
11	25	59	53	79	48	62	195	68	71	32	230	51
12	209	83	64	79	46	59	257	180	77	31	318	48
13	123	165	65	75	44	58	249	162	79	27	400	46
14	71	109	117	67	42	57	221	132	110	24	221	48
15	55	87	145	67	41	57	242	116	84	23	157	49
16	53	76	107	64	39	66	271	89	66	52	127	80
17	106	95	85	64	39	107	213	88	59	56	159	59
18	75	161	70	56	48	189	163	90	56	44	149	49
19	58	115	74	55	48	203	155	71	56	47	119	104
20	49	125	162	58	46	166	133	66	53	38	100	76
21	42	127	217	55	43	376	124	66	53	35	89	54
22	37	175	139	52	51	499	129	63	101	66	84	47
23	39	279	120	51	89	419	127	61	103	52	73	174
24	37	170	108	50	87	353	111	63	68	50	51	164
25	34	139	115	50	72	411	100	62	57	44	46	83
26	72	125	110	50	64	447	103	117	51	39	44	81
27	79	113	97	50	61	418	111	128	48	35	43	73
28	55	99	91	49	58	385	96	112	46	32	37	360
29	45	94	87	49	---	548	82	125	42	29	37	319
30	40	95	82	49	---	608	67	95	40	27	42	177
31	37	---	87	49	---	379	---	88	---	26	37	---
TOTAL	1595	2931	2862	2244	1485	6587	5458	3026	2244	1105	3729	3066
MEAN	51.5	97.7	92.3	72.4	53.0	212	182	97.6	74.8	35.6	120	102
MAX	209	279	217	137	89	608	307	180	180	66	400	360
MIN	20	32	53	49	39	56	67	61	40	23	37	38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

MEAN	52.8	77.9	86.2	85.8	83.4	150	214	118	72.4	48.7	42.6	45.7
MAX	217	213	190	211	263	474	523	268	203	212	170	286
(WY)	1956	1956	1974	1979	1981	1936	1940	1940	1972	1938	2000	1938
MIN	14.1	13.3	35.4	18.7	23.5	50.6	85.8	47.3	22.6	19.8	15.3	10.6
(WY)	1965	1965	1965	1981	1940	1965	1946	1985	1965	1991	1999	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1932 - 2003	
ANNUAL TOTAL	27671		36332			
ANNUAL MEAN	75.8		99.5		89.7	
HIGHEST ANNUAL MEAN					130	1938
LOWEST ANNUAL MEAN					41.2	1965
HIGHEST DAILY MEAN	320	May 14	608	Mar 30	2410	Mar 18 1936
LOWEST DAILY MEAN	12	Aug 21	20	Oct 9	8.0	Aug 31 1968
ANNUAL SEVEN-DAY MINIMUM	13	Sep 9	23	Oct 5	8.8	Sep 7 1980
MAXIMUM PEAK FLOW			907	Mar 29	5080	Sep 21 1938
MAXIMUM PEAK STAGE			7.87	Mar 29	9.25	Sep 21 1938
INSTANTANEOUS LOW FLOW			18	Oct 10		
10 PERCENT EXCEEDS	147		189		190	
50 PERCENT EXCEEDS	67		71		57	
90 PERCENT EXCEEDS	18		36		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 mi^2.

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 National Geodetic Vertical Datum of 1929, (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. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--63 years (water years 1941– 2003), 273 ft^3/s, 29.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft^3/s, Dec. 31, 1948, gage height, 14.85 ft, former site and datum, from rating curve extended above 4,300 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 5.8 ft^3/s, Aug. 30, 31, Oct. 26, 1940; minimum daily, 24 ft^3/s, Sept. 9, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,580 ft^3/s, Mar. 29, gage height, 9.57 ft (from peak-stage indicator); minimum daily, 62 ft^3/s, July 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	152	263	293	e162	e145	823	216	438	94	320	103
2	81	142	228	353	e162	e160	748	389	325	86	673	181
3	92	130	196	281	e158	e175	951	367	253	82	259	168
4	82	130	171	276	e154	179	882	282	216	77	213	684
5	118	136	184	257	e151	191	659	251	204	73	265	434
6	97	210	186	243	145	e188	555	235	203	72	587	274
7	79	247	160	232	140	e185	475	227	215	69	352	213
8	73	186	169	231	133	185	410	225	258	70	258	164
9	68	193	136	235	127	184	386	216	216	75	198	146
10	68	244	126	219	125	169	452	179	199	79	439	133
11	78	258	151	201	122	169	519	185	186	125	579	125
12	743	315	193	201	119	161	749	548	213	103	962	117
13	441	699	183	190	e117	160	801	800	211	82	882	110
14	251	424	406	176	e118	155	707	534	397	76	488	116
15	182	316	441	176	e119	154	903	396	271	71	347	125
16	180	268	309	173	e117	182	1230	317	201	156	269	196
17	447	330	241	176	e116	327	833	275	173	150	390	145
18	303	582	197	e175	e118	646	548	259	158	99	430	117
19	222	383	207	e175	e117	673	485	223	157	108	316	229
20	186	391	536	e174	e123	529	457	201	147	89	248	212
21	157	401	716	e168	e122	1490	423	193	150	86	215	142
22	138	547	423	e162	e134	1930	427	188	258	163	206	115
23	141	1080	350	e162	e178	1550	407	174	258	132	209	575
24	137	565	306	e161	e177	1130	350	176	177	124	149	499
25	127	440	269	e160	e168	1370	318	176	144	96	133	262
26	288	386	269	e158	e161	1600	326	334	128	79	147	222
27	333	345	261	e157	e156	1470	357	397	112	72	176	191
28	245	294	243	e157	e152	1260	302	334	101	68	123	1280
29	197	275	234	e158	---	2100	268	338	94	65	111	1120
30	176	269	215	e161	---	2440	230	277	111	63	122	544
31	163	---	226	e163	---	1170	---	247	---	62	108	---
TOTAL	5983	10338	8195	6204	3891	22427	16981	9159	6174	2846	10174	8942
MEAN	193	345	264	200	139	723	566	295	206	91.8	328	298
MAX	743	1080	716	353	178	2440	1230	800	438	163	962	1280
MIN	68	130	126	157	116	145	230	174	94	62	108	103
CFSM	1.53	2.73	2.10	1.59	1.10	5.74	4.49	2.34	1.63	0.73	2.60	2.37
IN.	1.77	3.05	2.42	1.83	1.15	6.62	5.01	2.70	1.82	0.84	3.00	2.64
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)												
MEAN	172	256	271	245	241	448	670	370	224	133	121	124
MAX	618	544	714	591	765	1038	1178	872	636	393	436	454
(WY)	1978	1956	1974	1949	1981	1979	1969	1943	1972	1945	2000	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	1995	1987	1965	1962	1980	1980

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	91852		111314			
ANNUAL MEAN	252		305		273	
HIGHEST ANNUAL MEAN					368	1975
LOWEST ANNUAL MEAN					135	1965
HIGHEST DAILY MEAN	1500	Jun 6	2440	Mar 30	10400	Dec 31 1948
LOWEST DAILY MEAN	35	Sep 14	62	Jul 31	24	Sep 9 1980
ANNUAL SEVEN-DAY MINIMUM	41	Sep 8	72	Jul 25	25	Sep 9 1980
MAXIMUM PEAK FLOW			4580	Mar 29	13000	Dec 31 1948
MAXIMUM PEAK STAGE			9.57	Mar 29	14.85	Dec 31 1948
INSTANTANEOUS LOW FLOW			62	Jul 31	5.8	Aug 30 1940
ANNUAL RUNOFF (CFSM)	2.00		2.42		2.16	
ANNUAL RUNOFF (INCHES)	27.12		32.86		29.40	
10 PERCENT EXCEEDS	480		584		580	
50 PERCENT EXCEEDS	208		201		168	
90 PERCENT EXCEEDS	57		103		67	

e Estimated

HUDSON RIVER BASIN

01333000 GREEN RIVER AT WILLIAMSTOWN, MA

LOCATION.--Lat 42°42'32", long 73°11'50", Berkshire County, Hydrologic Unit 02020003, on left bank 0.1 mi upstream from bridge on State Highway 2 at Williamstown and 0.8 mi upstream from mouth.

DRAINAGE AREA.--42.6 mi^2.

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Slight diurnal fluctuation at times caused by mill upstream.

AVERAGE DISCHARGE.--54 years (water years 1950–2003), 82.9 ft^3/s, 26.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,060 ft^3/s, Dec. 21, 1973, gage height, 5.68 ft in gage well, from rating curve extended above 750 ft^3/s on basis of slope-area measurment at gage height 4.94 ft; maximum gage height, 6.35 ft, Mar. 13, 1977, from floodmarks, gage height in well unknown; minimum discharge, 3.1 ft^3/s, Sept. 20, 22, 24, 25, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 31, 1948, reached a stage of about 7.5 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,050 ft^3/s, Mar. 21, gage height, 3.73 ft; minimum, 13 ft^3/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	49	136	148	e25	49	328	65	130	30	82	28
2	16	43	120	165	e25	67	e300	83	107	28	172	51
3	20	40	99	129	e26	79	e361	70	87	27	60	37
4	17	41	86	126	e34	e71	e344	62	78	25	53	156
5	22	41	92	118	e40	e76	e267	59	73	24	89	102
6	18	107	87	109	e38	e73	e218	57	71	23	171	68
7	16	78	76	97	e37	e69	e179	56	76	22	96	55
8	15	62	71	100	e34	e65	e152	54	76	25	71	47
9	14	60	58	e107	e28	e60	e146	53	66	25	69	40
10	14	63	61	e98	e29	e60	e168	48	65	24	154	37
11	16	73	77	e77	e26	e57	e200	52	62	37	232	34
12	305	106	86	e70	e27	59	214	123	64	26	383	32
13	153	218	74	e65	e25	58	221	154	61	23	391	30
14	91	153	281	e59	e24	e50	201	133	139	21	234	35
15	64	128	243	e58	e23	54	206	112	97	20	166	35
16	62	127	165	e57	e21	79	245	93	81	41	130	38
17	122	215	134	e55	e21	196	190	86	69	29	113	31
18	101	297	110	e47	e25	346	155	78	62	23	100	29
19	77	210	112	e46	e26	328	140	69	60	30	80	32
20	65	209	340	e45	e26	289	134	62	57	22	66	34
21	56	192	359	e42	e25	781	123	60	57	21	57	29
22	48	237	253	e38	e33	777	127	56	87	38	63	27
23	49	369	201	e36	e70	640	115	53	69	27	58	160
24	43	277	165	e36	e78	497	97	50	56	24	44	99
25	39	231	146	e28	e69	496	88	49	48	22	39	64
26	105	199	136	e29	e59	538	90	88	43	20	42	56
27	89	171	127	e28	e56	471	88	84	38	19	38	50
28	74	144	118	e29	60	380	82	83	34	18	32	289
29	64	134	104	e29	---	531	75	84	32	17	30	241
30	58	133	e100	e28	---	676	69	79	36	16	32	166
31	52	---	110	e26	---	438	---	77	---	15	29	---
TOTAL	1903	4407	4327	2125	1010	8410	5323	2332	2081	762	3376	2132
MEAN	61.4	147	140	68.5	36.1	271	177	75.2	69.4	24.6	109	71.1
MAX	305	369	359	165	78	781	361	154	139	41	391	289
MIN	14	40	58	26	21	49	69	48	32	15	29	27
CFSM	1.44	3.45	3.28	1.61	0.85	6.37	4.17	1.77	1.63	0.58	2.56	1.67
IN.	1.66	3.85	3.78	1.86	0.88	7.34	4.65	2.04	1.82	0.67	2.95	1.86
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2003, BY WATER YEAR (WY)												
MEAN	46.1	77.2	92.6	80.2	81.9	146	203	111	66.2	32.4	29.8	29.6
MAX	222	171	259	219	239	376	390	251	256	124	174	158
(WY)	1978	1956	1974	1979	1984	1979	1969	1984	1972	1996	2000	1960
MIN	5.33	6.71	24.8	11.0	14.6	33.6	70.5	32.4	18.2	8.30	5.61	4.09
(WY)	1965	1965	1965	1981	1980	1965	1995	1987	1965	1993	1964	1964

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1949 - 2003	
ANNUAL TOTAL	31032.4		38188			
ANNUAL MEAN	85.0		105		82.9	
HIGHEST ANNUAL MEAN					126	1975
LOWEST ANNUAL MEAN					31.7	1965
HIGHEST DAILY MEAN	383	Jun 6	781	Mar 21	2200	Dec 21 1973
LOWEST DAILY MEAN	5.2	Sep 14	14	Oct 9	3.2	Sep 20 1964
ANNUAL SEVEN-DAY MINIMUM	5.6	Sep 8	16	Oct 5	3.4	Sep 19 1964
MAXIMUM PEAK FLOW			1050	Mar 21	4060	Dec 21 1973
MAXIMUM PEAK STAGE			3.73	Mar 21	6.35	Mar 13 1977
INSTANTANEOUS LOW FLOW			13	Oct 10	3.1	Sep 20 1964
ANNUAL RUNOFF (CFSM)	2.00		2.46		1.95	
ANNUAL RUNOFF (INCHES)	27.10		33.35		26.43	
10 PERCENT EXCEEDS	195		231		186	
50 PERCENT EXCEEDS	70		66		49	
90 PERCENT EXCEEDS	10		25		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.

Measurements at partial-record stations

No measurements were made at partial-record stations during the 2003 water year.

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 May 2002 through December 2003

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
BUTTONWOOD BROOK BASIN						
01105928 Buttonwood Brook	Buzzards Bay	Lat 41°36'15", long 70°57'22", Bristol County, at bridge on Russells Mills Road, 1.5 mi northwest of South Dartmouth, MA.	2.93	1972–74, 1992	6-26-03 7-09-03 8-21-03 9-26-03	3.45 .90 .79 .25
SLOCUMS RIVER BASIN						
01105930 Paskamanset River	Slocums River	Lat 41°40'43", long 70°58'40", Bristol County, at bridge on Old Plainville Road, 4.0 mi northwest of New Bedford, MA.	8.12	1991–93	7-09-03 8-21-03 9-26-03	7.60 7.11 2.60
01105935 Destruction Brook	do.	Lat 41°34'20", long 71°00'47", Bristol County, at bridge on Slades Corner Road, 5.0 mi southwest of South Dartmouth, MA.	2.64	1972–74, 1991–93, 1995–96	7-09-03 8-21-03 9-26-03	2.04 1.94 .94
WESTPORT RIVER BASIN						
01105937 Shingle Island River	East Branch Westport River	Lat 41°40'55", long 71°01'05", Bristol County, at bridge on Old Fall River Road, 3.0 mi northwest of North Dartmouth, MA.	8.59	1957, 1972–74, 1991–93, 1995–96	7-09-03 8-21-03 9-26-03	3.39 5.64 2.04
01105947 Bread and Cheese Brook	do.	Lat 41°38'02", long 71°03'48", Bristol County, at bridge on State Highway 177, 1.0 mi north of Head of Westport, MA.	9.26	1972–74, 1992, 1994–96	7-09-03 8-21-03 9-26-03	3.67 4.02 1.79
01105950 Kirby Brook	do.	Lat 41°36'02", long 71°04'25", Bristol County, at culvert on Drift Road, 1.5 mi south of Head of Westport, MA.	3.69	1964–74[a], 1992	6-26-03 7-09-03 8-21-03 9-26-03	5.13 .90 1.56 .29
01106000 Adamsville Brook	West Branch Westport River	Lat 41°33'30", long 71°07'47", Newport County, on right bank, 0.2 mi upstream from milldam at Adamsville, RI, and 0.7 mi upstream from mouth.	8.01	1941–78[b], 1986–88[b], 1991–92	6-26-03 7-09-03 8-21-03 9-26-03	25.0 5.74 15.7 1.88
01106005 Angeline Brook	do.	Lat 41°33'05", long 71°06'20", Bristol County, at culvert on Cornell Road, 2.5 mi northwest of Westport Point, MA.	3.26	1972–74, 1992	6-26-03 7-09-03 8-21-03 9-26-03	5.10 1.00 2.77 .50

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
TAUNTON RIVER BASIN						
01109090 Rattlesnake Brook	Assonet River	Lat 41°46'36", long 71°05'23", Bristol County, at bridge on South Main Street, 1.7 mi southwest of Assonet, MA.	4.23	1957, 1966–68, 1983	6-26-03 7-09-03 8-21-03 9-26-03	8.92 2.58 5.37 1.70
COLE RIVER BASIN						
01109135 Cole River	Mount Hope Bay	Lat 41°46'30", long 71°11'57", Bristol County, at bridge on Hortonville Road, 0.1 mi southeast of Hortonville, MA.	7.80	1986–88, 1996	6-26-03 7-08-03 8-21-03 9-26-03	28.3 4.01 11.8 2.14
WARREN RIVER BASIN						
01109185 East Branch Palmer River	Palmer River	Lat 41°51'36", long 71°13'47", Bristol County, at bridge on State Highway 44, 1.7 mi northeast of Rehoboth, MA.	7.00	1992–94	6-26-03 7-08-03 8-21-03 9-26-03	11.8 2.34 6.83 1.66
01109220 Palmer River	Warren River	Lat 41°48'33", long 71°16'42", Bristol County, at bridge on Reed Street, 0.4 mi north of South Rehoboth, MA.	30.9	1986–88	6-27-03 7-08-03 8-21-03 9-26-03	62.0 14.0 45.2 11.8
BARRINGTON RIVER BASIN						
01109270 Runnins River	Barrington River	Lat 41°49'25", long 71°20'00", Bristol County, at culvert on Pleasant Street, 1.0 mi north of Seekonk, MA.	4.27	1967–83[a], 1992	6-26-03 7-08-03 8-18-03 9-26-03	10.4 2.13 5.22 1.21
TEN MILE RIVER BASIN						
01109381 Speedway Brook	Ten Mile River	Lat 41°55'37", long 71°17'08", Bristol County, at bridge on State Highway 152, 0.7 mi south of Attleboro, MA.	2.50	1992–94	6-27-03 7-08-03 8-18-03 9-26-03	3.60 1.26 2.71 1.03
BLACKSTONE RIVER BASIN						
01111142 Miscoe Brook	West River	Lat 42°11'25", long 71°39'23", Worcester County, at bridge on State Highway 140, at outlet of Silver Lake, 1.9 mi southwest of Grafton, MA.	5.67	1994–96	6-27-03 7-10-03 8-18-03 9-30-03	19.0 1.30 .95 .74
01111225 Emerson Brook	Blackstone River	Lat 42°02'40", long 71°37'21", Worcester County, at bridge on State Highway 146-A, 2.1 mi south of Uxbridge, MA.	7.26	1993–95	6-27-03 7-10-03 8-18-03 9-30-03	15.4 4.36 3.64 2.74
01111261 Clear River	Branch River	Lat 41°58'01", long 71°42'33", Providence County, at bridge on North Road, at Laurel Hill, RI.	12.7	1993–95	6-27-03 7-08-03 8-07-03 8-18-03 9-30-03	24.5 2.90 4.07 3.08 2.46
01111262 Brandy Brook	Pascoag Reservoir	Lat 41°55'16", long 71°44'07", Providence County, at bridge on State Highway 44, 3.5 mi west of Chepachet, RI.	3.04	1993–94	6-27-03 7-08-03 8-07-03 8-18-03 9-30-03	9.52 1.05 .80 2.79 1.46

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
BLACKSTONE RIVER BASIN—Continued						
01111330 Clear River	Branch River	Lat 41°57'24", long 71°38'59", Providence County, at bridge on Old Victory Highway, at Oakland, RI.	45.9	1993–94	6-27-03	115
					7-08-03	26.5
					8-07-03	23.8
					8-22-03	14.4
					9-30-03	17.1
01111470 Tarklin Brook	Slatersville Reservoir	Lat 41°58'07", long 71°36'03", Providence County, at bridge on Douglas Turnpike, at Oak Valley, RI.	9.16	1993–94, 2002	6-27-03	23.4
					7-08-03	7.25
					8-07-03	7.03
					8-22-03	5.55
					9-30-03	4.55
01112190 Muddy Brook	Mill River	Lat 42°05'35", long 71°31'11", Worcester County, at bridge on Bellingham Road, 1.0 mi southwest of South Milford, and 2.4 mi west of Bellingham, MA.	6.23	1978, 1985–86, 1994–97	6-27-03	10.2
					7-10-03	2.33
					8-21-03	1.56
					9-30-03	1.53
01113670 Burnt Swamp Brook	Diamond Hill Reservoir	Lat 42°00'50", long 71°23'25", Providence County, at culvert on Sumner Brown Road, 1.5 mi east of Grants Mills, RI.	4.62	1986, 1993–94	6-27-03	10.2
					7-10-03	2.71
					8-21-03	1.58
					9-30-03	.67
WOONASQUATUCKET RIVER BASIN						
01114400 Stillwater River	Stillwater Reservoir	Lat 41°53'06", long 71°32'01", Providence County, at bridge on State Highway 5, 0.4 mi south of Sprague ville, RI.	12.9	1993–94	6-27-03	25.1
					7-10-03	10.7
					8-07-03	7.08
					8-18-03	6.87
					9-30-03	6.87
PAWTUXET RIVER BASIN						
01115110 Huntinghouse Brook	Regulating Reservoir	Lat 41°50'48", long 71°36'44", Providence County, at Elmdale Road, 1.6 mi northwest of North Scituate, RI.	6.31	1993–2002	12-19-02	14.4
					4-28-03	23.8
					6-11-03	10.3
					7-23-03	11.1
					8-13-03	3.41
					9-03-03	4.15
01115114 Rush Brook	do.	Lat 41°50'15", long 71°36'45", Providence County, near Elmdale Road, 1.5 mi northwest of North Scituate, RI.	6.31	1993–2002	12-17-02	13.5
					4-30-03	8.25
					6-11-03	5.39
					7-23-03	21.3
					8-13-03	1.86
					9-03-03	3.06
01115120 Unnamed Tributary	Scituate Reservoir	Lat 41°49'53", long 71°36'34", Providence County, at State Highway 6, 1.2 mi west of North Scituate, RI.	.42	1994–2002	12-19-02	.42
					4-30-03	.58
					6-11-03	.37
					7-25-03	.10
					8-13-03	.11
					9-09-03	0
01115165 Unnamed Tributary	Moswansicut Pond	Lat 41°50'17", long 71°34'08", Providence County, at culvert on Hopkins Avenue, 1.0 mi northeast of North Scituate, RI.	.34	1994–95	6-27-03	1.41
					7-10-03	.71
					8-07-03	.36
					8-18-03	.57
					9-30-03	.21
01115170 Moswansicut Stream	Regulating Reservoir	Lat 41°50'27", long 71°35'06", Providence County, at State Highway 116, 0.6 mi northeast of North Scituate, RI.	3.20	1994–95, 2000–02	12-17-02	13.0
					4-28-03	14.7
					6-11-03	14.0
					7-23-03	5.90
					8-13-03	7.62
					9-03-03	3.01

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
PAWTUXET RIVER BASIN—*Continued*						
01115178 Pine Swamp Brook	Scituate Reservoir	Lat 41°49'43", long 71°35'15", Providence County, at culvert on State Highway 116, 0.25 mi south of North Scituate, RI.	0.41	1993–95	6-27-03	0.53
					7-09-03	.25
					8-07-03	.16
					8-18-03	.30
					9-30-03	.16
01115180 Brandy Brook	do.	Lat 41°49'10", long 71°35'11", Providence County, at State Highway 116, 0.9 mi south of North Scituate, RI.	1.59	1993–2002	12-19-02	3.37
					4-30-03	4.68
					6-11-03	4.03
					7-25-03	3.02
					8-13-03	2.63
					9-09-03	1.28
01115182 Halls Estate Brook	do.	Lat 41°48'27", long 71°35'09", Providence County, at culvert on State Highway 116, 1.7 mi south of North Scituate, RI.	.23	1993–95	6-27-03	.27
					7-09-03	.10
					8-07-03	.07
					8-18-03	.15
					9-30-03	.09
01115183 Quonapaug Brook	do.	Lat 41°47'51", long 71°24'53", Providence County, at State Highway 116, 2.4 mi south of North Scituate, RI.	1.96	1993–2002	12-19-02	5.69
					4-29-03	7.05
					6-11-03	3.36
					7-25-03	4.69
					8-13-03	2.06
					9-09-03	.67
01115184 Spruce Brook	do.	Lat 41°47'19", long 71°37'14", Providence County, 0.2 mi south of State Highway 14, 3.5 mi southwest of North Scituate, RI.	.30	1994–2002	12-19-02	3.85
					4-30-02	4.29
					6-12-03	2.59
					7-25-03	2.14
					8-13-03	1.60
					9-09-03	.82
01115185 Windsor Brook	Ponaganset River	Lat 41°50'10", long 71°43'23", Providence County, at Windsor Road, 1.3 mi northwest of South Foster, RI.	4.22	1993–94, 1999–2002	12-17-02	13.7
					4-30-03	9.49
					6-11-03	6.23
					7-23-03	2.72
					8-13-03	2.83
					9-08-03	1.19
01115190 Dolly Cole Brook	Barden Reservoir	Lat 41°49'20", long 71°42'03", Providence County, at Old Danielson Pike at South Foster, RI.	5.07	1993–2002	12-17-02	20.2
					4-30-03	11.6
					6-11-03	8.47
					7-23-03	6.11
					8-13-03	3.84
					9-08-03	2.54
01115200 Shippee Brook	Ponaganset River	Lat 41°49'53", long 71°45'10", Providence County, at bridge on State Highway 94, at North Foster, RI.	2.42	1994–95	6-27-03	3.31
					7-08-03	.43
					8-07-03	.36
					8-18-03	.78
					9-30-03	.79
01115265 Hemlock Brook	do.	Lat 41°47'26", long 71°41'57", Providence County, at King Road, 1.2 mi northeast of Foster Center, RI.	10.62	1996–2002	12-17-02	40.1
					4-28-03	44.4
					6-11-03	15.3
					7-23-03	13.1
					8-13-03	7.85
					9-08-03	4.89
01115270 Hemlock Brook	Barden Reservoir	Lat 41°47'29", long 71°40'58", Providence County, at bridge on Hemlock Road, 1.0 mi north of Clayville, RI.	10.73	1993–94	6-27-03	16.4
					7-09-03	2.83
					8-07-03	2.34
					8-18-03	4.39
					9-30-03	5.63

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
PAWTUXET RIVER BASIN—*Continued*						
01115273 Unnamed Tributary	Westconnaug Reservoir	Lat 41°45'01", long 71°41'01", Providence County, at culvert on Old Plainfield Pike, 1.9 mi southwest of Clayville, RI.	0.71	1994–95	6-27-03	1.49
					7-09-03	.64
					8-07-03	.25
					8-21-03	.44
					9-30-03	.29
01115274 Westconnaug Brook	do.	Lat 41°45'41", long 71°41'19", Providence County, at culvert on Isthmus Road, 1.3 mi southwest of Clayville, RI.	1.37	1994–95	6-27-03	1.66
					7-09-03	.42
					8-07-03	.16
					8-21-03	.54
					9-30-03	.62
01115275 Bear Tree Brook	do.	Lat 41°46'57", long 71°40'31", Providence County, at King Road, 1.2 mi northeast of Foster Center, RI.	.64	1994–95, 2000–02	12-17-02	1.73
					4-29-03	2.19
					6-11-03	1.46
					7-23-03	4.35
					8-13-03	1.12
					9-08-03	.84
01115276 Westconnaug Brook	Scituate Reservoir	Lat 41°47'07", long 71°40'04", Providence County, at bridge on Plainfield Pike, 0.7 mi northeast of Clayville, RI.	5.02	1994–95	6-27-03	8.73
					7-09-03	7.97
					8-07-03	3.56
					8-18-03	13.3
					9-30-03	3.89
01115280 Cork Brook	do.	Lat 41°48'14", long 71°39'01", Providence County, at Rockland Scituate Road, 0.8 mi northeast of Crazy Corners, RI.	1.91	1993–2002	12-19-02	3.25
					4-29-03	4.03
					6-12-03	2.76
					7-25-03	1.87
					8-13-03	.99
					9-08-03	.61
01115297 Wilbur Hollow Brook	Barden Reservoir	Lat 41°45'53", long 71°38'10", Providence County, at Old Plainfield Pike, 2.2 mi southeast of Rockland, RI.	4.45	1992–2002	12-17-02	13.5
					4-29-03	11.8
					6-11-03	6.58
					7-23-03	12.6
					8-13-03	4.96
					9-08-03	3.19
OLD MILL CREEK BASIN						
01116635 Old Mill Creek	Narragansett Bay	Lat 41°42'43", long 71°22'33", Kent County, at bridge on Tidewater Drive, 1.1 mi north of Warwick, RI.	5.40	1986–88	6-26-03	19.2
					7-10-03	10.4
					8-07-03	12.0
					8-22-03	10.9
					9-26-03	17.6
MASKERCHUGG RIVER BASIN						
01116750 Maskerchugg River	Greenwich Bay	Lat 41°39'00", long 71°27'30", Kent County, at bridge on Boston Post Road, 0.5 mi south of East Greenwich, RI.	5.87	1986–88	6-26-03	12.0
					7-10-03	5.14
					8-07-03	4.08
					8-22-03	3.38
					9-26-03	1.61

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
HUNT RIVER BASIN						
01116950 Sandhill Brook	Hunt River	Lat 41°36'34", long 71°28'15", Washington County, at bridge on Devil's Foot Road, 0.5 mi southeast of Davisville, RI.	1.68	1961–63, 1995–97	6-26-03	5.48
					7-10-03	1.88
					8-07-03	2.41
					8-22-03	2.31
					9-26-03	.91
01116980 Sandhill Brook	do.	Lat 41°37'45", long 71°26'51", Washington County, at bridge on North Quidnesset Road, 2 mi south of East Greenwich, RI.	3.53	1961–64, 1995–97	6-26-03	10.6
					7-10-03	4.28
					8-07-03	5.35
					8-22-03	5.77
					9-26-03	2.47
ANNAQUATUCKET RIVER BASIN						
01117070[d] Annaquatucket River	Narragansett Bay	Lat 41°34'24", long 71°29'18", Kent County, at culvert on Lafayette Road, 0.5 mi southeast of Wickford Junction, RI.	2.92	1961–63, 1996–97	6-26-03	5.61
					7-10-03	4.71
					8-07-03	4.13
					8-22-03	4.09
					9-26-03	3.39
PETTAQUAMSCUTT RIVER BASIN						
01117170 Mattatuxet River	Pettaquamscutt River	Lat 41°32'16", long 71°28'09", Washington County, at culvert on State Highway 1, 0.4 mi south of Allenton, RI.	1.78	1961–64, 1995–97	6-26-03	7.54
					7-10-03	4.97
					8-07-03	4.32
					8-22-03	4.05
					9-26-03	2.90
PAWCATUCK RIVER BASIN						
01117336 Chipuxet River	Worden Pond	Lat 41°31'03", long 71°31'33", Washington County, at culvert on Yawgoo Valley Road, 2.7 mi northeast of West Kingston, RI.	6.34	1959–60, 1972, 2002	10-04-02	0.64
					11-05-02	4.06
					12-02-02	8.49
					1-16-03	12.8
					3-18-03	25.6
					5-15-03	13.1
					6-25-03	18.6
					7-16-03	7.66
					8-26-03	7.44
					9-11-03	9.02
01117354 Queen River	Usquepaug River	Lat 41°34'43", long 71°32'37", Washington County, at bridge on State Route 102, 0.3 mi west of Exeter, RI.	2.80	1993, 2000–02	10-04-02	.51
					12-02-02	5.40
					1-16-03	6.42
					5-16-03	5.52
					7-16-03	3.19
01117360 Fisherville Brook	Queen River	Lat 41°33'51", long 71°33'54", Washington County, at bridge on Liberty Church Road, 1.7 mi southwest of Exeter, RI.	8.14	1959–60, 1988–93, 2000–02	10-10-02	1.66
					12-02-02	14.8
					1-16-03	20.8
01117367 Queens Fort Brook	do.	Lat 41°32'47", long 71°33'11", Washington County, 300 ft east of intersection Dawley Road and School Land Road,1.2 mi northeast of Liberty, RI.	4.09	2000–02	12-02-02	.43
					1-16-03	1.38
					5-16-03	1.13
					7-16-03	.64
01117375 Unnamed Tributary	do.	Lat 41°32'20", long 71°34'48", Washington County, at culvert on Mail Road, 0.3 mi west of Liberty, RI.	.82	1989–91, 1999–2002	12-03-02	.82
					1-16-03	1.86
					3-19-03	2.92
					5-16-03	1.32
					7-16-03	.44

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
PAWCATUCK RIVER BASIN—*Continued*						
01117380 Locke Brook	Queen River	Lat 41°32'14", long 71°35'17", Washington County, at bridge on Mail Road, 0.8 mi west of Liberty, RI.	4.37	1959–60, 1989–91, 1993, 2000–02	10-10-02	5.77
					12-03-02	8.40
					1-16-03	11.1
01117385 Rake Factory Brook	Glen Rock Reservoir	Lat 41°31'08", long 71°35'58", Washington County, at culvert on Glen Rock Road, 1.2 mi northeast of Glen Rock, RI.	.25	1989–91, 1999–2002	12-03-02	.21
					1-16-03	.26
					3-19-03	.41
					5-16-03	.16
					7-16-03	.00
					9-11-03	.00
01117390 Glen Rock Brook	Glen Rock Reservoir	Lat 41°30'59", long 71°36'23", Washington County, at culverts on Glen Rock Road, at Glen Rock, RI.	2.83	1989–91, 1993, 2000–02	10-10-02	.50
					12-03-02	4.20
					1-16-03	5.44
01117400 Sherman Brook	Glen Rock Brook	Lat 41°31'04", long 71°36'18", Washington County, at culvert on Glen Rock Road, 0.1 mi north of Glen Rock, RI.	1.04	1966–74[c] 1989–91, 1993, 2000–02	10-04-02	.20
					12-03-02	1.77
					1-16-03	2.21
01117421 Chickasheen Brook	Usquepaug River	Lat 41°29'54", long 71°33'55", Washington County, at bridge on State Highway 2, 1.2 mi northwest of West Kingston, RI.	3.26	2002	10-04-02	.22
					11-05-02	.89
					12-03-02	3.83
					1-16-03	8.92
					3-18-03	9.91
					5-15-03	7.67
					6-25-03	8.68
					7-16-03	3.74
					8-25-03	4.15
					9-11-03	3.58
01117450 Pasquiset Brook	Pawcatuck River	Lat 41°26'38", long 71°37'39", Washington County, at bridge on State Highway 2, 0.2 mi south of Kenyon, RI.	6.32	1966–67, 1974, 1976, 2002	10-03-02	.33
					11-04-02	3.47
					12-02-02	6.55
					1-14-03	12.9
					3-18-03	15.8
					5-16-03	8.89
					6-25-03	10.7
					7-16-03	4.03
					8-25-03	2.68
					9-10-03	3.64
01117465 Beaver River	do.	Lat 41°31'32", long 71°38'23", Washington County, at bridge on Hillsdale Road, 3.2 mi east of Wyoming, RI.	5.53	1966–67, 1974, 1976, 1991, 2002	10-04-02	2.57
					12-03-02	11.8
					1-16-03	15.6
					3-18-03	24.9
					5-15-03	17.0
					6-25-03	16.5
					7-16-03	6.29
					8-25-03	6.98
					9-11-03	5.64
01117480 Taney Brook	do.	Lat 41°27'38", long 71°38'54", Washington County, at culvert on Shannock Hill Road, 0.8 mi northeast of Carolina, RI.	1.67	1966–67, 2002	10-03-02	.14
					11-04-02	.74
					12-02-02	2.23
					1-14-03	4.61
					3-18-03	7.94
					5-16-03	2.87
					6-25-03	2.45
					7-16-03	1.27
					8-25-03	.84
					9-10-03	1.08

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
PAWCATUCK RIVER BASIN—*Continued*						
01117700 Cedar Swamp Brook	Pawcatuck River	Lat 41°25'37", long 71°41'44", Washington County, at culvert on Kings Factory Road, 0.7 mi south of Wood River Junction, RI.	5.10	1966–67, 2002	10-03-02	0.52
					11-04-02	7.22
					12-02-02	8.91
					1-14-03	8.64
					3-18-03	16.2
					5-16-03	9.22
					6-25-03	8.91
					7-16-03	3.01
					8-26-03	1.99
					9-10-03	2.70
01117720 Wood River	do.	Lat 41°36'45", long 71°45'39", Washington County, at bridge on Stepstone Falls Road, 0.6 mi northeast of Escoheag, RI.	11.4	1966–67, 1991, 2002	10-04-02	2.47
					12-04-02	17.1
					1-14-03	18.4
					3-17-03	37.0
					5-15-03	14.0
					6-26-03	46.0
					7-15-03	6.91
					8-22-03	8.43
					9-10-03	10.2
01117740 Kelley Brook	Wood River	Lat 41°36'44", long 71°45'13", Washington County, at bridge on Stepstone Falls Road, 0.8 mi northeast of Escoheag, RI.	4.20	1966–67, 1991, 2002	10-04-02	1.95
					12-04-02	5.64
					1-14-03	10.4
					3-17-03	13.4
					5-15-03	15.6
					6-26-03	12.2
					7-15-03	2.77
					8-22-03	4.63
					9-10-03	4.24
01117750 Acid Factory Brook	Eisenhower Lake	Lat 41°37'59", long 71°43'22", Kent County, at culvert on Plain Meeting House Road, 4.1 mi south of Summit, RI.	1.31	1966, 2002	10-04-02	.33
					11-05-02	.63
					12-04-02	2.14
					1-14-03	2.41
					3-17-03	3.95
					5-15-03	2.33
					6-26-03	2.29
					7-15-03	1.30
					8-22-03	.66
					9-10-03	.65
01117760 Flat River	Wood River	Lat 41°35'44", long 71°43'14", Washington County, at bridge on Plain Road, 3.1 mi northwest of Arcadia, RI.	8.38	1979, 1982, 2002	10-04-02	3.53
					12-04-02	9.90
					1-15-03	20.3
					3-17-03	25.0
					5-15-03	19.7
					6-26-03	21.2
					7-15-03	12.2
					8-22-03	7.26
					9-10-03	6.28
01117780 Breakheart Brook	Flat River	Lat 41°35'16", long 71°42'36", Washington County, at bridge on Frosty Hollow Road, 2.4 mi north of Arcadia, RI.	6.68	1966–67, 1979, 1982, 1991–92, 2002	10-04-02	2.15
					12-04-02	9.14
					1-14-03	16.1
					3-17-03	23.3
					5-15-03	15.2
					6-26-03	15.5
					7-15-03	7.70
					8-22-03	4.89
					9-10-03	4.23

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
PAWCATUCK RIVER BASIN—*Continued*						
01117840 Parris Brook	Wood River	Lat 41°33'54", long 71°43'35", Washington County, at bridge on White Pine Drive, 800 ft below Woody Hill Brook, and 1.7 mi northwest of Arcadia, RI.	7.18	1966–67, 1979, 1991, 2002	10-04-02	1.21
					12-04-02	7.75
					1-14-03	13.8
					3-17-03	26.3
					5-15-03	8.32
					6-26-03	11.8
					7-15-03	4.46
					8-22-03	3.72
					9-10-03	2.28
01117860 Roaring Brook	do.	Lat 41°33'30", long 71°41'08", Washington County, at bridge on Old Nooseneck Road, 0.7 mi northeast of Arcadia, RI.	5.01	1966–67, 1991, 2002	10-03-02	1.83
					12-04-02	6.54
					1-15-03	8.54
					3-17-03	13.8
					5-15-03	18.6
					6-26-03	12.9
					7-15-03	9.04
					8-22-03	6.38
					9-11-03	2.41
01117900 Brushy Brook	Locustville Pond	Lat 41°31'43", long 71°44'13", Washington County, at culvert on Saw Mill Road, 1.8 mi northwest of Hope Valley, RI.	3.71	1966–67, 1977, 1979, 1991, 2002	10-03-02	1.08
					12-04-02	4.94
					1-15-03	7.10
					3-18-03	16.1
					5-16-03	6.60
					6-26-03	8.02
					7-16-03	2.99
					8-22-03	4.01
					9-11-03	2.11
01117950 Moscow Brook	Brushy Brook	Lat 41°31'38", long 71°44'12", Washington County, at bridge on Saw Mill Road, 1.7 mi northwest of Hope Valley, RI.	6.37	1966–67, 1977, 1979, 1991, 2002	10-03-02	1.15
					12-04-02	9.65
					1-15-03	13.0
					3-18-03	26.2
					5-16-03	7.75
					6-26-03	15.4
					7-16-03	4.16
					8-22-03	6.30
					9-11-03	2.35
01118006 Canonchet Brook	Wood River	Lat 41°28'39", long 71°43'47", Washington County, at bridge on Rockville–Alton Road, 2.2 mi southwest of Hope Valley, RI.	5.89	1977, 1979–80, 1991, 2002	10-03-02	1.51
					11-04-02	2.69
					12-03-02	9.80
					1-14-03	18.0
					3-18-03	23.9
					5-16-03	15.6
					6-25-03	18.6
					7-16-03	6.80
					8-25-03	4.96
					9-10-03	5.56

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
PAWCATUCK RIVER BASIN—*Continued*						
01118008 Wood River Tributary	Wood River	Lat 41°26'15", long 71°43'25", Washington County, at culvert on Rockville-Alton Road, 0.1 mi west of Alton, RI.	2.05	1977, 2002	10-03-02	0.70
					11-04-02	.73
					12-03-02	2.37
					1-14-03	4.38
					3-18-03	8.02
					3-18-03	8.17
					5-16-03	3.92
					6-25-03	3.91
					7-16-03	1.78
					8-25-03	1.15
					9-10-03	1.24
01118009 Wood River	Pawcatuck River	Lat 41°26'10", long 71°43'17", Washington County, 0.1 mi south of State Route 91, 0.1 mi south of Alton, RI.	85.7	1977, 1979-81, 1991, 2002	10-03-02	43.1
					11-04-02	66.8
					12-03-02	141
					1-15-03	213
					5-16-03	182
					7-16-03	102
					8-25-03	88.8
					9-10-03	84.8
01118022 Perry Healy Brook	Watchaug Pond	Lat 41°22'28", long 71°42'59", Washington County, at bridge on Klondike Road, 2.3 mi southeast of Bradford, RI.	2.36	2002	10-04-02	.48
					11-05-02	3.54
					12-02-02	3.76
					1-14-03	5.17
					3-18-03	8.30
					5-16-03	4.34
					6-25-03	4.76
					7-16-03	1.58
					8-25-03	1.07
					9-10-03	.85
01118055 Tomaquag Brook	Pawcatuck River	Lat 41°24'40", long 71°45'51", Washington County, at bridge on State Route 216, at intersection with Chase Hill Road, 0.8 mi northwest of Bradford, RI.	6.67	1991, 2002	10-04-02	1.42
					11-05-02	3.22
					12-03-02	9.99
					1-14-03	14.1
					3-18-03	30.1
					5-16-03	11.2
					6-25-03	14.3
					7-16-03	4.32
					8-25-03	3.41
					9-10-03	3.96
01118255 Green Fall River	Ashaway River	Lat 41°28'20", long 71°49'00", New London County, at bridge on Putker Road, 0.1 mi west of Laurel Glen, CT.	7.42	1963–67, 2002	10-04-02	1.27
					12-04-02	10.3
					1-15-03	13.4
					3-19-03	23.4
					5-16-03	10.6
					7-16-03	4.68
					8-25-03	2.98
					9-10-03	2.97

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DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
PAWCATUCK RIVER BASIN—*Continued*						
01118340 Wyassup Brook	Green Fall River	Lat 41°27'17", long 71°49'36", New London County, at bridge on State Route 216, 0.5 mi west of Clarks Falls, CT.	11.5	2002	10-04-02	2.25
					11-05-02	3.37
					12-03-02	19.5
					1-15-03	22.6
					3-19-03	49.8
					5-16-03	19.7
					6-25-03	34.5
					7-16-03	9.45
					8-25-03	6.07
					9-10-03	6.59
01118375 Assekonk Brook	Shunock River	Lat 41°26'19", long 71°54'39", New London County, at bridge on Jeremy Hill Road, 1.5 mi west of North Stonington, CT.	1.63	1963–65, 2002	10-04-02	.11
					11-05-02	.32
					12-04-02	1.73
					1-15-03	2.44
					3-19-03	4.83
					5-16-03	1.90
					7-16-03	.69
					8-25-03	.76
					9-10-03	.72
01118352 Glade Brook	do.	Lat 41°28'05", long 71°48'31", New London County, at culvert on Pine Woods Road, 0.4 mi southeast of Laurel Glen, CT.	1.92	1965–67, 2002	10-04-02	.22
					11-05-02	.39
					12-04-02	2.49
					1-15-03	3.30
					3-19-03	6.53
					5-16-03	3.16
					6-25-03	4.17
					7-16-03	1.09
					8-25-03	.50
					9-09-03	.95
01118355 Parmenter Brook	Ashaway River	Lat 41°26'51", long 71°47'27", Washington County, at bridge at northeast end of State Route 184, 1.1 mi southwest of Hopkington, RI.	2.54	1966–67, 2002	10-04-02	.16
					11-05-02	.48
					12-03-02	3.14
					1-15-03	3.29
					3-18-03	10.8
					5-16-03	3.00
					6-25-03	3.46
					7-16-03	.77
					8-25-03	.68
					9-09-03	.91
01118365 Lewis Pond Outlet	do.	Lat 41°25'13", long 71°49'20", New London County, at bridge on Boom Bridge Road, 1.3 mi northwest of Potter Hill, RI.	1.59	1966–67, 2002	10-04-02	.54
					11-05-02	.92
					12-04-02	1.36
					1-15-03	3.35
					3-19-03	4.77
					5-16-03	3.70
					6-25-03	4.43
					7-16-03	2.02
					8-25-03	1.27
					9-10-03	1.37

See footnotes at end of table

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites October 2002 through September 2003--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
PAWCATUCK RIVER BASIN—*Continued*						
01118373 Shunock River	Ashaway River	Lat 41°26'27", long 71°52'58", New London County, at bridge on Main Street, 0.1 mi west of North Stonington, CT.	7.79	1965, 2002	10-04-02	1.42
					11-05-02	1.82
					12-04-02	9.22
					1-15-03	16.6
					3-19-03	29.8
					5-16-03	11.6
					6-25-03	21.7
					7-16-03	7.57
					8-25-03	5.32
					9-10-03	5.83
01118380 Assekonk Brook	do.	Lat 41°26'19", long 71°53'05", New London County, at bridge on State Route 2, 0.2 mi southwest of North Stonington, CT.	4.54	1963–65, 2002	10-04-02	.27
					11-05-02	.69
					12-04-02	4.55
					1-15-03	5.53
					3-19-03	19.1
					5-16-03	4.05
					6-25-03	9.01
					7-16-03	1.95
					8-25-03	1.61
					9-10-03	1.43
THAMES RIVER BASIN						
01126224 Moosup River	Quinebaug River	Lat 41°41'27", long 71°46'14", Kent County, at the old railroad grade, 1.2 mi south of Fairbanks Corner, RI.	24.9	1993–94,	6-27-03	41.4
					7-09-03	10.4
					8-07-03	11.4
					8-18-03	16.1
					9-30-03	14.6

[a] Operated as a crest-stage partial-record station. Station 01117400 previously published as "Glen Rock Brook tributary."
[b] Operated as a continuous-record gaging station.
[c] Operated as a crest-stage partial-record station and published as "Glen Rock Brook tributary."
[d] Flow affected by ground-water pumpage of about 2.0 ft^3/s from operation of State fish hatchery.

GROUND-WATER LEVELS IN MASSACHUSETTS

BARNSTABLE COUNTY

413956070164301. Barnstable well A1W 230.

LOCATION.--Lat 41°39'56", long 70°16'43", Barnstable County, Hydrologic Unit 01090002, 50 ft west of Mary Dunn Road at Hyannis Airport and 0.3 mi north of intersection of Willow Street and State Highway 28 in Barnstable.
Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in., depth 35.8 ft, screened 32.8 to 35.8 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 43.23 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--January 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	26.33	DEC 26	24.85	FEB 25	23.36	APR 23	22.28	JUN 24	22.23	AUG 22	22.02
NOV 26	25.56	JAN 28	24.14	MAR 24	22.26	MAY 27	22.34	JUL 29	22.71	SEP 30	24.03

WATER YEAR 2003 HIGHEST 22.02 AUG 22, 2003 LOWEST 26.33 OCT 24, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 44.52 ft above National Geodetic Vertical Datum of 1929. 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, 20.52 ft below land-surface datum, Apr. 22, 1997; lowest measured, 28.64 ft below land-surface datum, Oct. 25, 1966.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	27.41	DEC 26	26.94	FEB 25	25.65	APR 23	23.21	JUN 24	22.98	AUG 22	23.62
NOV 26	27.38	JAN 28	25.75	MAR 24	24.75	MAY 27	23.10	JUL 29	23.36	SEP 30	24.25

WATER YEAR 2003 HIGHEST 22.98 JUN 24, 2003 LOWEST 27.41 OCT 24, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 55.56 ft above National Geodetic Vertical Datum of 1929. 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, 29.73 ft below land-surface datum, Mar. 24, 1998; lowest measured, 36.17 ft below land-surface datum, Oct. 25, 1966.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	35.08	DEC 27	34.26	FEB 27	33.12	APR 25	31.65	JUN 26	32.34	AUG 26	33.42
NOV 26	34.87	JAN 29	32.85	MAR 27	32.57	MAY 21	31.90	JUL 25	32.77	SEP 24	33.99

WATER YEAR 2003 HIGHEST 31.65 APR 25, 2003 LOWEST 35.08 OCT 24, 2002

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 24.8 ft, screened 21.8 to 24.8 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 36.97 ft above National Geodetic Vertical Datum of 1929. 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, 13.57 ft below land-surface datum, Oct. 22, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	13.57	DEC 19	13.20	FEB 27	12.08	APR 24	10.69	JUN 24	9.75	AUG 26	9.92
NOV 26	13.38	JAN 29	12.63	MAR 25	11.62	MAY 22	10.37	JUL 22	9.78	SEP 30	10.17

WATER YEAR 2003 HIGHEST 9.75 JUN 24, 2003 LOWEST 13.57 OCT 22, 2002

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 electric or chalked tape, digital recorder (60-minute interval) with satellite telemeter since December 2001.

DATUM.--Elevation of land-surface datum is 50.45 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.06 ft above land-surface datum, prior to December 2001, at land-surface datum.

REMARKS.--Missing periods of more than one day are not estimated. Water levels affected by daily tidal fluctuations of about 0.03 ft.

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.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.59	33.77	33.48	32.88	32.14	31.93	31.06	29.75	29.88	29.96	30.37	30.80
2	33.59	33.78	33.47	32.83	32.12	31.89	31.04	29.72	29.90	29.97	30.38	30.81
3	33.60	33.78	33.46	32.79	32.12	31.86	31.01	29.72	29.92	29.98	30.39	30.82
4	33.61	33.79	33.45	32.75	32.11	31.82	30.98	29.71	29.91	29.98	30.41	30.82
5	33.61	33.79	33.44	32.71	32.13	31.79	30.94	29.70	29.87	29.99	30.42	30.83
6	33.62	33.78	33.43	32.67	32.14	31.75	30.91	29.69	29.88	30.00	30.44	30.84
7	33.63	33.78	33.42	32.63	32.11	31.72	30.89	29.68	29.89	30.02	30.45	30.85
8	33.64	33.79	33.42	32.58	32.11	31.68	30.85	29.68	29.87	30.02	30.46	30.86
9	33.65	33.81	33.42	32.56	32.11	31.64	30.81	29.68	29.86	30.04	30.47	30.88
10	33.66	33.81	33.42	32.53	32.10	31.61	30.77	29.68	29.87	30.05	30.48	30.89
11	33.66	33.82	33.42	32.51	32.11	31.58	30.73	29.68	29.87	30.05	30.50	30.91
12	33.67	33.83	33.42	32.48	32.10	31.55	30.67	29.66	29.87	30.06	30.51	30.92
13	33.67	33.82	33.41	32.46	32.11	31.52	30.63	29.69	29.88	30.08	30.53	30.94
14	33.68	33.82	33.39	32.43	32.13	31.50	30.59	29.72	29.85	30.10	30.54	30.95
15	33.68	33.82	33.37	32.40	32.14	31.47	30.52	29.78	29.86	30.10	30.54	30.96
16	33.68	33.82	33.35	32.38	32.15	31.43	30.46	29.81	29.90	30.11	30.55	30.97
17	33.68	33.78	33.33	32.36	32.13	31.40	30.41	29.81	29.90	30.13	30.56	30.99
18	33.69	33.73	33.31	32.33	32.11	31.38	30.35	29.81	29.88	30.15	30.58	31.01
19	33.69	33.71	33.29	32.31	32.12	31.36	30.28	29.82	29.86	30.16	30.60	31.03
20	33.70	33.67	33.27	32.29	32.12	31.32	30.21	29.83	29.89	30.17	30.61	31.04
21	33.70	33.64	33.24	32.27	32.12	31.29	30.14	29.85	29.89	30.19	30.62	31.06
22	33.71	33.62	33.21	32.25	32.11	31.26	30.07	29.88	29.88	30.20	30.63	31.07
23	33.72	33.59	33.19	32.23	32.07	31.25	30.01	29.88	29.89	30.22	30.65	31.07
24	33.72	33.58	33.16	32.22	32.06	31.23	29.96	29.88	29.91	30.24	30.67	31.09
25	33.73	33.57	33.13	32.21	32.04	31.21	29.92	29.88	29.91	30.26	30.68	31.09
26	33.74	33.56	33.09	32.19	32.02	31.19	29.88	29.89	29.90	30.28	30.70	31.11
27	33.74	33.54	33.06	32.18	31.99	31.17	29.84	29.89	29.91	30.28	30.71	31.12
28	33.75	33.52	33.02	32.17	31.96	31.17	29.81	29.88	29.94	30.29	30.73	31.11
29	33.76	33.50	32.99	32.17	---	31.15	29.79	29.89	29.95	30.32	30.75	31.14
30	33.76	33.49	32.95	32.16	---	31.12	29.78	29.90	29.95	30.34	30.76	31.16
31	33.77	---	32.91	32.15	---	31.08	---	29.93	---	30.36	30.79	---
MEAN	33.68	33.71	33.29	32.42	32.10	31.46	30.44	29.79	29.89	30.13	30.56	30.97
LOW	33.77	33.83	33.48	32.88	32.15	31.93	31.06	29.93	29.95	30.36	30.79	31.16
HIGH	33.59	33.49	32.91	32.15	31.96	31.08	29.78	29.66	29.85	29.96	30.37	30.80

WTR YR 2003 INSTANTANEOUS HIGH 29.65 MAY 12 LOW 33.84 NOV 12, 13, 16

BARNSTABLE COUNTY--Continued

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 35.28 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	25.55	DEC 19	24.74	FEB 27	23.35	APR 24	21.40	JUN 24	21.78	AUG 26	22.88
NOV 21	25.39	JAN 29	23.61	MAR 25	22.60	MAY 20	21.56	JUL 22	22.33	SEP 30	23.42

WATER YEAR 2003 HIGHEST 21.40 APR 24, 2003 LOWEST 25.55 OCT 22, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 15.78 above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	9.85	DEC 27	8.24	MAR 27	7.07	MAY 21	6.70	JUL 25	7.56	SEP 24	8.59
NOV 26	9.17	FEB 27	7.44	APR 25	6.19	JUN 26	6.88	AUG 26	8.06		

WATER YEAR 2003 HIGHEST 6.19 APR 25, 2003 LOWEST 9.85 OCT 24, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 53.47 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	47.97	DEC 27	47.60	FEB 27	47.17	APR 25	46.32	JUN 26	46.46	AUG 26	47.09
NOV 26	47.79	JAN 29	47.03	MAR 27	46.83	MAY 21	46.27	JUL 25	46.81	SEP 24	47.28

WATER YEAR 2003 HIGHEST 46.27 MAY 21, 2003 LOWEST 47.97 OCT 24, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 111.20 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	54.73	DEC 27	54.15	FEB 27	52.83	APR 25	51.02	JUN 26	50.20	AUG 26	50.58
NOV 26	54.56	JAN 29	53.22	MAR 27	52.10	MAY 21	50.76	JUL 25	50.54	SEP 24	50.81

WATER YEAR 2003 HIGHEST 50.20 JUN 26, 2003 LOWEST 54.73 OCT 24, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 16.80 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	10.63	DEC 19	10.37	FEB 27	10.51	APR 25	9.84	JUN 24	9.93	AUG 26	10.65
NOV 21	10.55	JAN 29	10.26	MAR 25	10.11	MAY 22	10.17	JUL 22	10.44	SEP 30	10.50

WATER YEAR 2003 HIGHEST 9.84 APR 25, 2003 LOWEST 10.65 AUG 26, 2003

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 2.0 in., depth 21.7 ft, screened 16.7 to 21.7 ft; prior to November 1989, diameter 1.25 in., depth 27.7 ft, screened 24.7 to 27.7 ft at same location.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 16.60 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.46	DEC 19	11.89	FEB 27	11.34	APR 25	10.69	JUN 24	11.20	AUG 26	12.05
NOV 21	12.11	JAN 29	11.18	MAR 25	11.25	MAY 22	10.92	JUL 22	11.60	SEP 30	12.25

WATER YEAR 2003 HIGHEST 10.69 APR 25, 2003 LOWEST 12.46 OCT 22, 2002

GROUND-WATER LEVELS IN MASSACHUSETTS

BARNSTABLE COUNTY--Continued

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 19.10 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.38	DEC 19	11.71	FEB 28	10.22	APR 25	8.54	JUN 24	8.90	AUG 26	9.87
NOV 21	12.15	JAN 29	10.56	MAR 25	9.70	MAY 22	8.68	JUL 22	9.32	SEP 30	10.44

WATER YEAR 2003 HIGHEST 8.54 APR 25, 2003 LOWEST 12.38 OCT 22, 2002

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1285 ft above National Geodetic Vertical Datum of 1929. 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, 2.36 ft below land-surface datum, Apr. 24, 1996; 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	2.87	DEC 31	3.10	FEB 25	2.85	APR 24	3.12	JUN 24	2.19	AUG 26	2.53
NOV 26	2.70	JAN 23	3.24	MAR 25	2.30	MAY 20	3.17	JUL 30	3.65	SEP 25	2.77

WATER YEAR 2003 HIGHEST 2.19 JUN 24, 2003 LOWEST 3.65 JUL 30, 2003

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1,210 ft, above National Geodetic Vertical Datum of 1929. Measuring point: Inside rim of concrete well top, 1.0 ft above land-surface datum.

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

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, 19.83 ft below land-surface datum, Aug. 24, 1995.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	7.16	DEC 30	2.89	MAR 24	0.43	MAY 19	3.29	JUL 29	6.80	SEP 24	2.45
NOV 25	1.45	JAN 21	4.21	APR 24	1.80	JUN 24	2.71	AUG 25	3.26		

WATER YEAR 2003 HIGHEST 0 .43 MAR 24, 2003 LOWEST 7.16 OCT 24, 2002

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: Private owner.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in., depth 16 ft, cased with stone to 16 ft, open end.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 732 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	11.93	DEC 30	9.50	FEB 24	11.27	APR 24	7.71	JUN 24	8.74	AUG 25	11.62
NOV 25	10.05	JAN 21	9.6	5 MAR 24	7.49	MAY 20	9.64	JUL 29	12.05	SEP 24	11.49

WATER YEAR 2003 HIGHEST 7.49 MAR 24, 2003 LOWEST 12.05 JUL 29, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1,145 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	8.76	DEC 31	8.03	FEB 25	8.13	APR 24	7.59	JUN 24	6.83	AUG 26	9.14
NOV 26	7.14	JAN 23	8.35	MAR 25	5.72	MAY 21	8.37	JUL 30	9.24	SEP 25	8.28

WATER YEAR 2003 HIGHEST 5.72 MAR 25, 2003 LOWEST 9.24 JUL 30, 2003

GROUND-WATER LEVELS IN MASSACHUSETTS

BERKSHIRE COUNTY--Continued

422745073112001. Pittsfield well PTW 51.

LOCATION.--Lat 42°27'45", long 73°11'20", Berkshire County, Hydrologic Unit 01100005, 30 ft east of Hubbard Ave. and about 100 ft north of Barton Brook in Pittsfield.
Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in., 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 groundwater electric tape by USGS personnel. Digital recorder (60-min interval) July 1986 to current year, satellite telemeter since July 2001.

DATUM.--Elevation of land-surface datum is 1,050 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing in base of aluminum shelter, 1.83 ft above land-surface datum; prior to July 1986, top of casing, 2.50 ft above land-surface datum.

REMARKS.--Missing periods of more than one day are not estimated.

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.72	23.83	18.55	16.33	16.05	15.67	13.85	14.04	14.50	15.38	18.24	15.85
2	23.79	23.87	18.43	16.30	16.02	15.64	13.83	14.03	14.53	15.49	18.01	15.87
3	23.86	23.92	18.33	16.25	16.03	15.60	13.77	14.07	14.55	15.59	17.97	15.81
4	23.92	23.98	18.26	16.14	15.95	15.59	13.70	14.09	14.57	15.70	17.82	15.70
5	23.99	24.03	18.15	16.06	15.96	15.58	13.65	14.11	14.57	15.81	17.76	15.60
6	24.06	24.04	18.06	15.96	15.94	15.61	13.71	14.11	14.61	15.93	17.65	15.56
7	24.13	23.86	17.99	15.89	15.88	15.69	13.68	14.14	14.62	16.05	17.42	15.53
8	24.20	23.67	17.94	15.86	15.89	15.71	13.65	14.18	14.60	16.16	17.25	15.59
9	24.26	23.54	17.92	15.92	15.90	15.74	13.65	14.19	14.61	16.28	17.13	15.69
10	24.33	23.43	17.86	15.99	15.88	15.79	13.66	14.21	14.65	16.40	16.92	15.75
11	24.39	23.39	17.80	16.05	15.93	15.79	13.61	14.22	14.66	16.52	16.63	15.84
12	24.38	23.34	17.71	16.11	15.94	15.78	13.57	14.17	14.68	16.65	16.17	15.92
13	24.19	23.20	17.60	16.09	16.00	15.82	13.62	14.18	14.69	16.79	15.86	16.00
14	24.07	23.01	17.43	16.12	16.06	15.85	13.63	14.22	14.67	16.93	15.66	16.09
15	24.04	22.82	17.33	16.12	16.12	15.84	13.59	14.26	14.70	17.04	15.51	16.17
16	24.06	22.64	17.25	16.11	16.19	15.83	13.63	14.29	14.75	17.11	15.38	16.21
17	24.04	22.43	17.20	16.08	16.20	15.74	13.72	14.30	14.76	17.13	15.30	16.25
18	23.97	22.20	17.10	16.11	16.24	15.59	13.74	14.32	14.78	17.24	15.21	16.34
19	23.89	21.95	16.98	16.07	16.30	15.51	13.74	14.35	14.80	17.35	15.14	16.38
20	23.86	21.71	16.84	16.05	16.34	15.42	13.75	14.37	14.86	17.46	15.09	16.31
21	23.86	21.45	16.69	16.07	16.32	15.25	13.75	14.40	14.89	17.56	15.06	16.37
22	23.89	21.14	16.58	16.05	16.25	14.98	13.77	14.44	14.88	17.47	15.03	16.45
23	23.94	20.76	16.53	16.07	16.07	14.74	13.81	14.47	14.84	17.33	15.04	16.45
24	23.99	20.39	16.51	16.17	15.99	14.62	13.85	14.49	14.87	17.47	15.10	16.30
25	24.04	20.05	16.45	16.23	15.88	14.49	13.89	14.52	14.89	17.61	15.16	16.21
26	24.06	19.73	16.46	16.23	15.79	14.36	13.90	14.53	14.92	17.70	15.24	16.15
27	23.93	19.43	16.40	16.23	15.71	14.29	13.94	14.50	14.99	17.78	15.32	16.06
28	23.80	19.18	16.35	16.17	15.68	14.24	13.95	14.48	15.09	17.87	15.45	15.94
29	23.74	18.91	16.33	16.14	---	14.15	13.98	14.49	15.18	17.98	15.53	15.68
30	23.75	18.69	16.35	16.15	---	13.96	14.03	14.52	15.28	18.09	15.63	15.56
31	23.78	---	16.32	16.10	---	13.87	---	14.54	---	18.19	15.75	---
MEAN	24.00	22.15	17.28	16.10	16.02	15.25	13.75	14.30	14.77	16.91	16.14	15.99
LOW	24.39	24.04	18.55	16.33	16.34	15.85	14.03	14.54	15.28	18.19	18.24	16.45
HIHG	23.72	18.69	16.32	15.86	15.68	13.87	13.57	14.03	14.50	15.38	15.03	15.53

WTR YEAR 2003 INSTANTANEOUS HIGH 13.56 APR 12 LOW 24.43 OCT 11

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 680 ft above National Geodetic Vertical Datum of 1929. 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, 17.16 ft below land-surface datum, Oct. 24, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	17.16	DEC 30	16.04	FEB 24	15.76	APR 24	14.25	JUN 24	13.86	AUG 25	13.56
NOV 25	16.81	JAN 21	15.72	MAR 24	14.90	MAY 20	14.27	JUL 29	13.79	SEP 24	13.47

WATER YEAR 2003 HIGHEST 13.47 SEP 24, 2003 LOWEST 17.16 OCT 24, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 145 ft above National Geodetic Vertical Datum of 1929. 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, 5.34 ft below land-surface datum, Aug. 30, 1999.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	4.53	DEC 24	3.17	FEB 25	3.35	APR 29	3.25	JUN 24	3.22	AUG 21	3.94
NOV 26	3.45	JAN 23	3.70	MAR 31	2.93	MAY 27	3.49	JUL 22	4.16	SEP 25	4.33

WATER YEAR 2003 HIGHEST 2.93 MAR 31, 2003 LOWEST 4.53 OCT 30, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 38 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	15.27	DEC 23	14.24	FEB 24	14.18	APR 29	12.20	JUN 23	12.33	AUG 28	12.65
NOV 26	14.82	JAN 22	13.74	MAR 31	13.26	MAY 27	12.66	JUL 22	12.58	SEP 25	13.19

WATER YEAR 2003 HIGHEST 12.20 APR 29, 2003 LOWEST 15.27 OCT 28, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 65 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	4.00	DEC 23	3.48	MAR 31	2.86	MAY 28	3.79	JUL 23	4.31	SEP 25	4.35
NOV 26	3.67	JAN 23	4.27	APR 30	3.48	JUN 24	3.52	AUG 21	4.10		
WATER YEAR 2003	HIGHEST 2.86	MAR 31, 2003	LOWEST 4.35	SEP 25, 2003							

415812071111101. Norton well N4W 37.

LOCATION.--Lat 41°58'12", long 71°11'11", Bristol County, Hydrologic Unit 01090004, at Wheaton College, 250 ft northeast of observatory in Norton.
Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in., depth 19.5 ft, screened 17.5 to 19.5 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 105 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	8.06	DEC 24	4.47	FEB 24	6.74	APR 29	5.21	JUN 23	5.24	AUG 21	6.18
NOV 25	5.52	JAN 22	6.04	MAR 31	4.71	MAY 27	6.63	JUL 22	7.15	SEP 25	7.61
WATER YEAR 2003	HIGHEST 4.47	DEC 24, 2002	LOWEST 8.06	OCT 28, 2002							

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 21 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	6.18	DEC 24	5.28	FEB 24	4.74	APR 29	5.23	JUN 23	5.00	AUG 21	5.39
NOV 26	5.45	JAN 22	5.70	MAR 31	4.73	MAY 27	5.17	JUL 24	5.21	SEP 25	5.94
WATER YEAR 2003	HIGHEST 4.73	MAR 31, 2003	LOWEST 6.18	OCT 28, 2002							

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 50 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	10.06	DEC 24	7.88	FEB 24	8.25	APR 29	7.42	JUN 23	8.21	AUG 21	8.50
NOV 25	8.77	JAN 22	8.26	MAR 31	7.52	MAY 27	8.00	JUL 22	8.87	SEP 25	9.39

WATER YEAR 2003 HIGHEST 7.42 APR 29, 2003 LOWEST 10.06 OCT 30, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 34 ft above National Geodetic Vertical Datum of 1929. 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, 20.95 ft below land-surface datum, Mar. 28, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	20.39	DEC 27	20.42	FEB 25	18.80	MAY 02	15.91	JUN 25	15.57	AUG 26	16.03
NOV 25	20.60	JAN 28	19.22	MAR 26	18.10	JUN 23	15.57	JUL 28	15.59	SEP 29	16.71

WATER YEAR 2003 HIGHEST 15.57 MAY 23, 2003 JUN 25, 2003 LOWEST 20.60 NOV 25, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 110 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.0 ft above land-surface datum.

REMARKS.--Water level affected by nearby construction starting about January 1993 to about January 1995.

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, 22.56 ft below land-surface datum, July 28, 1994.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	15.74	JAN 31	15.28	MAR 25	14.71	JUN 27	14.32	AUG 21	14.83	SEP 22	15.30
DEC 19	15.18	FEB 25	15.18	MAY 27	14.62	JUL 23	14.85				

WATER YEAR 2003 HIGHEST 14.32 JUN 27, 2003 LOWEST 15.74 NOV 19, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 80 ft above National Geodetic Vertical Datum of 1929. 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, 2.27 ft below land-surface datum, Mar. 27, 2001; lowest measured, 6.65 ft below land-surface datum, Sept. 22, 1965.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	5.06	DEC 19	3.76	FEB 25	3.85	APR 29	3.62	JUN 27	4.41	AUG 21	5.06
NOV 19	4.06	JAN 29	4.57	MAR 19	3.37	MAY 27	3.70	JUL 23	5.07	SEP 22	5.44

WATER YEAR 2003 HIGHEST 3.37 MAR 19, 2003 LOWEST 5.44 SEP 22, 2003

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: Private owner.

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 electric tape by observer. Continuous graphic recorder October 1960 to September 1982, digital recorder (60-minute interval) October 1984 to current year.

DATUM.--Elevation of land-surface datum is 105 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of hole in base of steel recorder shelter, 1.71 ft above land-surface datum, 1.65 ft prior to June 8, 1995.

REMARKS.--Missing periods of more than one day are not estimated.

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.83	13.80	13.02	12.16	12.42	12.43	9.29	8.63	9.59	10.86	12.38	12.98
2	13.84	13.81	13.02	12.15	12.43	12.42	9.03	8.65	9.60	10.91	12.41	13.01
3	13.85	13.83	13.03	12.14	12.45	12.35	8.87	8.71	9.65	10.96	12.44	13.04
4	13.87	13.84	13.04	12.13	12.45	12.29	8.78	8.76	9.70	11.02	12.38	13.05
5	13.88	13.86	13.05	12.14	12.46	12.24	8.71	8.80	9.71	11.07	12.37	13.04
6	13.90	13.86	13.06	12.13	12.48	12.21	8.68	8.85	9.74	11.12	12.40	13.06
7	13.92	13.84	13.07	12.13	12.49	12.20	8.66	8.89	9.78	11.18	12.44	13.07
8	13.93	13.84	13.08	12.11	12.50	12.17	8.61	8.94	9.81	11.24	12.47	13.10
9	13.95	13.84	13.11	12.11	12.51	12.15	8.58	8.99	9.84	11.29	12.49	13.12
10	13.97	13.84	13.12	12.12	12.52	12.14	8.55	9.04	9.88	11.35	12.52	13.15
11	13.98	13.85	13.14	12.12	12.53	12.11	8.51	9.09	9.91	11.39	12.54	13.17
12	13.99	13.85	13.14	12.13	12.54	12.08	8.38	9.11	9.95	11.43	12.54	13.19
13	14.01	13.84	13.12	12.13	12.56	12.06	8.22	9.14	10.0	11.48	12.53	13.22
14	14.02	13.81	13.08	12.14	12.58	12.04	8.12	9.20	10.03	11.54	12.52	13.24
15	14.03	13.78	12.88	12.15	12.61	12.03	8.06	9.27	10.08	11.59	12.52	13.26
16	14.04	13.75	12.59	12.16	12.63	12.01	8.09	9.33	10.13	11.64	12.52	13.28
17	13.93	13.72	12.46	12.16	12.65	11.99	8.21	9.38	10.17	11.68	12.53	13.29
18	13.85	13.65	12.37	12.18	12.66	11.97	8.26	9.43	10.21	11.73	12.55	13.31
19	13.81	13.54	12.32	12.19	12.68	11.92	8.29	9.48	10.25	11.77	12.58	13.33
20	13.81	13.40	12.28	12.19	12.69	11.79	8.32	9.53	10.30	11.83	12.61	13.34
21	13.81	13.30	12.25	12.19	12.70	11.66	8.35	9.58	10.35	11.87	12.64	13.36
22	13.83	13.23	12.22	12.21	12.71	11.48	8.38	9.64	10.39	11.92	12.67	13.38
23	13.85	13.18	12.20	12.25	12.65	11.25	8.42	9.69	10.43	11.97	12.69	13.40
24	13.87	13.15	12.19	12.27	12.55	11.05	8.48	9.74	10.48	12.01	12.72	13.37
25	13.89	13.11	12.16	12.29	12.51	10.85	8.54	9.79	10.53	12.06	12.76	13.35
26	13.91	13.09	12.15	12.31	12.48	10.67	8.58	9.82	10.58	12.11	12.79	13.35
27	13.86	13.07	12.15	12.32	12.46	10.50	8.53	9.70	10.63	12.15	12.82	13.37
28	13.82	13.05	12.14	12.34	12.44	10.33	8.54	9.62	10.69	12.19	12.85	13.39
29	13.81	13.04	12.14	12.36	---	10.16	8.56	9.58	10.75	12.20	12.88	13.40
30	13.80	13.03	12.16	12.39	---	9.96	8.61	9.57	10.80	12.24	12.91	13.42
31	13.80	---	12.16	12.41	---	9.65	---	9.59	---	12.34	12.95	---
MEAN	13.89	13.56	12.64	12.20	12.55	11.62	8.51	9.28	10.13	11.62	12.59	13.23
LOW	14.04	13.86	13.14	12.41	12.71	12.43	9.29	9.82	10.80	12.34	12.95	13.42
HIGH	13.80	13.03	12.14	12.11	12.42	9.65	8.06	8.63	9.59	10.86	12.37	12.98

WTR YR 2003 INSTANTANEOUS HIGH 8.05 APR 15 LOW 14.05 OCT 16

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: Private owner.

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 electric tape by observer. Continuous graphic recorder January 1967 to September 1982, digital recorder (60-minute interval) October 1984 to current year.

DATUM.--Elevation of land-surface datum is 55 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Missing periods of more than one day are not estimated.

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, 0.94 ft below land-surface datum, Oct. 21, 1996; lowest, 12.68 ft below land-surface datum, Nov. 24, 1965.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.94	10.12	7.20	4.43	5.58	5.20	1.79	2.99	4.08	5.57	8.31	8.78
2	10.94	10.10	7.27	4.26	5.61	5.15	1.83	3.05	3.90	5.67	8.33	8.83
3	10.94	10.10	7.33	4.18	5.64	4.93	1.86	3.15	3.87	5.77	8.36	8.88
4	10.96	10.10	7.39	4.01	5.60	4.81	1.89	3.28	3.87	5.87	8.29	8.91
5	10.97	10.11	7.44	3.97	5.52	4.71	1.89	3.38	3.84	5.98	8.22	8.93
6	e10.98	10.10	7.45	3.91	5.60	4.63	1.90	3.46	3.84	6.09	8.19	8.97
7	---	10.06	7.48	3.86	5.63	4.62	1.95	3.54	3.92	6.22	8.19	9.01
8	---	10.04	7.51	3.81	5.67	4.55	1.94	3.65	3.90	6.33	8.19	9.06
9	---	10.00	e7.56	3.83	5.72	4.39	1.97	3.73	3.94	6.45	8.19	9.11
10	---	9.96	---	3.90	5.76	4.20	1.95	3.82	4.00	6.56	8.19	9.16
11	---	9.94	---	3.97	5.79	4.12	1.83	3.93	4.07	6.65	8.19	9.20
12	e9.62	9.93	---	4.08	5.84	4.07	1.65	3.91	4.13	6.70	8.15	9.25
13	9.63	9.88	---	4.15	5.91	3.99	1.78	3.94	4.21	6.79	8.10	9.30
14	9.64	9.74	---	4.22	5.97	3.93	1.85	4.04	4.23	6.90	8.03	9.34
15	9.65	9.60	---	4.28	6.02	3.93	1.85	4.14	4.31	6.98	7.98	9.38
16	9.65	9.47	---	4.35	6.10	3.92	1.97	4.23	4.42	7.07	7.94	9.41
17	9.72	9.22	---	4.42	6.20	3.73	2.25	4.30	4.50	7.15	7.93	9.43
18	9.88	8.63	---	4.49	6.24	3.28	2.37	4.36	4.56	7.24	7.96	9.47
19	10.00	7.96	e4.93	4.53	6.31	2.94	2.45	4.44	4.60	7.32	8.00	9.50
20	10.08	7.52	4.92	4.55	6.38	2.83	2.52	4.50	4.70	7.41	8.05	9.51
21	10.12	7.31	4.64	4.57	6.43	2.36	2.58	4.57	4.80	7.49	8.10	9.53
22	10.13	7.22	4.42	4.69	6.43	2.14	2.56	4.66	4.88	7.57	8.15	9.56
23	10.13	7.16	4.36	4.86	6.20	2.11	2.62	4.72	4.90	7.65	8.21	9.57
24	10.14	7.15	4.35	4.93	5.77	2.14	2.74	4.78	4.98	7.72	8.29	9.57
25	10.15	7.16	4.34	5.01	5.48	2.14	2.86	4.77	5.05	7.79	8.35	9.55
26	10.16	7.16	4.30	5.10	5.35	2.15	2.90	4.82	5.11	7.87	8.41	9.55
27	10.26	7.16	4.31	5.16	5.26	2.14	2.51	4.48	5.18	7.93	8.46	9.56
28	10.36	7.16	4.31	5.17	5.21	2.32	2.60	4.22	5.28	7.99	8.53	9.56
29	10.29	7.17	4.33	5.31	---	2.30	2.71	4.11	5.38	8.07	8.60	9.58
30	10.22	7.17	4.41	5.44	---	1.78	2.88	4.09	5.47	8.16	8.65	9.61
31	10.16	---	4.43	5.53	---	1.71	---	4.13	---	8.25	8.72	---
MEAN	---	8.81	---	4.48	5.83	3.46	2.21	4.04	4.46	7.01	8.23	9.30
LOW	---	10.12	---	5.53	6.43	5.20	2.90	4.82	5.47	8.25	8.72	9.61
HIGH	---	7.15	---	3.81	5.21	1.71	1.65	2.99	3.84	5.57	7.93	8.78

WTR YR 2003 INSTANTANEOUS HIGH 1.61 APR 12 LOW 10.98 OCT 6

e Estimated

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: Private owner.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in., depth 22.5 ft, cased with stone to 22.5 ft, open end.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 130 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	15.56	DEC 19	8.95	FEB 25	9.50	APR 29	8.35	JUN 27	10.70	AUG 21	13.08
NOV 19	15.54	JAN 29	9.99	MAR 25	7.60	MAY 27	10.84	JUL 23	12.18	SEP 22	14.13

WATER YEAR 2003 HIGHEST 7.60 MAR 25, 2003 LOWEST 15.56 OCT 28, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 60 ft above National Geodetic Vertical Datum of 1929. 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, 4.65 ft below land-surface datum, Aug. 30, 1995.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	2.98	DEC 19	1.80	FEB 25	2.00	APR 29	1.92	JUN 27	2.50	AUG 21	2.93
NOV 19	2.00	JAN 29	2.50	MAR 19	1.87	MAY 27	2.10	JUL 23	2.44	SEP 22	3.41

WATER YEAR 2003 HIGHEST 1.80 DEC 19, 2002 LOWEST 3.41 SEP 22, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 460 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.97 ft above land-surface datum, 1.66 ft prior to October 1995.

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, 14.68 ft below land-surface datum, Apr. 21, 1983; lowest measured, 23.48 ft below land-surface datum, Jan. 31, 1965.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	21.26	DEC 17	20.10	MAR 24	17.15	MAY 19	17.15	JUL 29	19.50	SEP 24	19.56
NOV 25	20.72	JAN 21	18.78	APR 24	16.06	JUN 25	18.13	AUG 25	19.81		

WATER YEAR 2003 HIGHEST 16.06 APR 24, 2003 LOWEST 21.26 OCT 24, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 140 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	2.71	DEC 30	2.65	MAR 24	2.15	MAY 19	2.71	JUL 29	3.46	SEP 24	2.23
NOV 25	2.39	JAN 21	2.78	APR 23	2.47	JUN 20	2.64	AUG 25	2.98		

WATER YEAR 2003 HIGHEST 2.15 MAR 24, 2003 LOWEST 3.46 JUL 29, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1700 ft above National Geodetic Vertical Datum of 1929. 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, 2.37 ft below land-surface datum, Mar. 24, 2003; lowest measured, 6.92 ft below land-surface datum, Sept. 27, 1995.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	3.99	DEC 30	3.54	MAR 24	2.37	MAY 19	3.12	JUL 29	4.14	SEP 24	3.32
NOV 25	2.98	JAN 21	3.70	APR 24	2.77	JUN 24	3.11	AUG 25	3.36		

WATER YEAR 2003 HIGHEST 2.37 MAR 24, 2003 LOWEST 4.14 JUL 29, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 530 ft above National Geodetic Vertical Datum of 1929. 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, 4.81 ft below land-surface datum, Apr. 25, 1996; lowest measured, 8.74 ft below land-surface datum, Nov. 27, 2001.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	8.41	DEC 30	7.25	FEB 24	7.77	APR 23	5.24	JUN 23	5.78	AUG 25	6.76
NOV 25	7.45	JAN 22	7.46	MAR 25	5.67	MAY 19	5.82	JUL 29	6.81	SEP 24	7.52

WATER YEAR 2003 HIGHEST 5.24 APR 23, 2003 LOWEST 8.41 OCT 24, 2002

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.
Owner: Sunderland Water Department.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 210 ft above National Geodetic Vertical Datum of 1929. 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, 23.27 ft below land-surface datum, Apr. 25, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	21.00	DEC 30	21.49	FEB 24	20.90	APR 30	10.89	JUN 19	10.58	AUG 25	12.96
NOV 25	21.38	JAN 23	20.61	MAR 24	14.18	MAY 19	11.85	JUL 29	11.98	SEP 24	13.97

WATER YEAR 2003 HIGHEST 10.58 JUN 19, 2003 LOWEST 21.49 DEC 30, 2002

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 160 ft above National Geodetic Vertical Datum of 1929. 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, 5.41 ft below land-surface datum, Sept. 23, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.74	DEC 30	3.77	FEB 24	3.55	APR 24	2.19	JUN 19	2.62	AUG 25	3.37
NOV 25	3.75	JAN 23	3.91	MAR 24	1.87	MAY 19	2.75	JUL 29	3.45	SEP 24	2.70

WATER YEAR 2003 HIGHEST 1.87 MAR 24, 2003 LOWEST 4.74 OCT 24, 2002

GROUND-WATER LEVELS IN MASSACHUSETTS

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1140 ft above National Geodetic Vertical Datum of 1929. 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, 1.39 ft below land-surface datum, June 27, 2002; lowest measured, 4.60 ft below land-surface datum, Aug. 24, 1995.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	2.17	DEC 31	2.06	FEB 25	1.92	APR 24	2.06	JUN 24	1.64	AUG 26	2.43
NOV 26	1.68	JAN 23	2.22	MAR 25	1.50	MAY 21	2.21	JUL 30	2.84	SEP 25	1.78

WATER YEAR 2003 HIGHEST 1.50 MAR 25, 2003 LOWEST 2.84 JUL 30, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 200 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.48 ft above land-surface datum, 3.0 ft prior to October 1995.

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, 24.40 ft below land-surface datum, Nov. 25, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	24.25	DEC 30	24.09	FEB 24	23.61	APR 23	21.82	JUN 23	21.60	AUG 25	21.84
NOV 25	24.40	JAN 23	23.67	MAR 24	23.44	MAY 21	21.59	JUL 29	21.40	SEP 24	22.20

WATER YEAR 2003 HIGHEST 21.40 JUL 29, 2003 LOWEST 24.40 NOV 25, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 675 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	35.58	DEC 31	34.59	FEB 25	34.12	APR 24	32.69	JUN 24	31.91	AUG 26	31.83
NOV 26	35.33	JAN 23	34.20	MAR 25	33.82	MAY 21	32.31	JUL 30	31.77	SEP 25	32.12

WATER YEAR 2003 HIGHEST 31.77 JUL 30, 2003 LOWEST 35.58 OCT 25, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1,160 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.78 ft above land-surface datum, 2.5 ft prior to October 1995.

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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	6.18	DEC 31	4.26	FEB 25	3.96	MAY 21	5.34	JUL 30	6.65	SEP 25	4.19
NOV 26	4.38	JAN 23	5.07	APR 24	3.85	JUN 24	3.03	AUG 26	6.20		

WATER YEAR 2003 HIGHEST 3.03 JUN 24, 2003 LOWEST 6.65 JUL 30, 2003

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 cemetary, 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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1060 ft above National Geodetic Vertical Datum of 1929. 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, +0.33 ft above land-surface datum, Feb. 25, 1998; lowest measured, 4.31 ft below land-surface datum, Sept. 21, 1993

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	2.16	DEC 31	1.15	FEB 25	1.46	APR 25	0.67	JUN 25	0.66	AUG 26	1.83
NOV 26	1.22	JAN 23	1.47	MAR 25	.46	MAY 21	1.10	JUL 30	1.79	SEP 25	1.30

WATER YEAR 2003 HIGHEST 0.46 MAR 25, 2003 LOWEST 2.16 OCT 25, 2002

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 270 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.5 ft above land-surface datum, 3.0 ft prior to October 1995.

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, 6.52 ft below land-surface datum, Sept. 24, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	5.64	DEC 31	4.80	FEB 25	4.45	APR 24	2.93	JUN 24	2.09	AUG 26	3.53
NOV 26	4.91	JAN 23	4.83	MAR 25	2.77	MAY 21	3.12	JUL 30	3.33	SEP 25	3.07

WATER YEAR 2003 HIGHEST 2.09 JUN 24, 2003 LOWEST 5.64 OCT 25, 2002

HAMPDEN COUNTY--Continued

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 210 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	9.97	DEC 31	7.39	FEB 25	7.24	APR 24	5.62	JUN 23	4.91	AUG 26	7.56
NOV 26	7.94	JAN 23	7.29	MAR 25	5.68	MAY 21	6.39	JUL 30	7.02	SEP 25	6.87

WATER YEAR 2003 HIGHEST 4.91 JUN 23, 2003 LOWEST 9.97 OCT 25, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 215.69 ft above National Geodetic Vertical Datum of 1929. 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, 1.43 ft below land-surface datum, Feb. 20, 1997; 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	3.18	DEC 31	3.00	FEB 25	2.59	APR 24	2.79	JUN 23	1.84	AUG 26	3.11
NOV 26	2.93	JAN 23	3.07	MAR 25	2.17	MAY 21	3.00	JUL 30	3.14	SEP 25	2.25

WATER YEAR 2003 HIGHEST 1.84 JUN 23, 2003 LOWEST 3.18 OCT 25, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 255 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.07 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, 30.15 ft below land-surface datum, Jan. 2, 1997; lowest measured, 45.44 ft below land-surface datum, Jan. 24, 1966.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	43.32	MAR 24	38.63	MAY 21	36.32	JUL 29	37.90	AUG 25	39.45	SEP 24	41.04
NOV 25	42.78	APR 23	33.59	JUN 23	32.90						

WATER YEAR 2003 HIGHEST 32.90 JUN 23, 2003 LOWEST 43.32 OCT 24, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 988 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.59 ft above land-surface datum, 3.0 ft prior to October 1995.

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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	5.50	DEC 31	4.81	FEB 24	4.77	APR 24	3.53	JUN 24	4.55	AUG 25	5.90
NOV 25	3.70	JAN 21	4.83	MAR 24	2.41	MAY 19	4.49	JUL 29	5.83	SEP 24	4.59

WATER YEAR 2003 HIGHEST 2.41 MAR 24, 2003 LOWEST 5.90 AUG 25, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 239.17 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--April 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.25 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	10.20	DEC 30	7.70	FEB 24	7.66	APR 23	5.50	JUN 23	6.36	AUG 25	7.02
NOV 25	9.30	JAN 23	7.15	MAR 24	6.29	MAY 21	6.17	JUL 29	7.19	SEP 24	7.79

WATER YEAR 2003 HIGHEST 5.50 APR 23, 2003 LOWEST 10.20 OCT 24, 2002

GROUND-WATER LEVELS IN MASSACHUSETTS

HAMPSHIRE COUNTY--Continued

422103072241102. Pelham well PDW 23.

LOCATION.--Lat 42°21'03", long 72°24'11", Hampshire County, Hydrologic Unit 01080204, at Knight's Corner, 50 ft east of U.S. Highway 202 and 75 ft south of small pond in Pelham.

Owner: Massachusetts Department of Public Works.

AQUIFER.--Bedrock.

WELL CHARACTERISTICS.--Air-percussion observation water-table well, diameter 6.0 in., depth 740 ft, cased to 740 ft, open end.

INSTRUMENTATION.--Monthly measurement with electric tape by USGS personnel. Continuous graphic recorder October 1981 to December 1983, April 1986 to October 1991; digital recorder (60-minute interval) October 1991 to current year, satellite telemeter since September 2001.

DATUM.--Elevation of land-surface datum is 939 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of hole in base of aluminum recorder shelter, 1.53 ft above land-surface datum, 1.60 ft prior to November 1995.

REMARKS.--Water levels affected by unknown pumping, regulation, or construction; missing periods of more than one day are not estimated.

PERIOD OF RECORD.--October 1981 to October 1991; digital recorder (60-minute interval) October 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.44 ft below land-surface datum, Apr. 7, 1982; lowest, 24.04 ft below land-surface datum, May 5, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.79	20.29	18.77	15.27	15.04	15.00	13.84	14.36	14.80	14.79	16.51	15.73
2	18.77	20.30	18.79	15.12	14.98	14.90	13.79	14.37	14.79	14.81	16.49	15.70
3	18.75	20.30	18.82	15.06	15.00	14.82	13.74	14.38	14.81	14.82	16.46	15.69
4	18.82	20.22	18.84	14.92	14.99	14.89	13.66	14.43	14.81	14.86	16.42	15.67
5	18.79	20.17	18.83	14.90	15.08	14.84	13.60	14.46	14.76	14.92	16.37	15.81
6	18.86	20.04	18.77	14.87	15.19	14.80	13.58	14.47	14.74	15.06	16.35	15.90
7	18.89	19.98	18.75	14.87	15.18	14.81	13.61	14.52	14.75	15.46	16.36	15.90
8	19.02	19.98	18.70	14.78	15.14	14.79	13.62	14.56	14.73	15.67	16.41	15.91
9	19.22	19.94	18.72	14.73	15.11	14.73	13.61	14.60	14.77	15.75	16.42	15.94
10	19.43	19.89	18.72	14.75	15.08	14.77	13.60	14.64	14.83	15.81	16.37	15.96
11	19.62	19.84	18.68	14.76	15.03	14.79	13.59	14.67	14.84	15.84	16.36	16.00
12	19.70	19.85	18.50	14.78	15.02	14.77	13.50	14.64	14.80	15.82	16.31	16.11
13	19.80	19.84	18.28	14.77	15.04	14.76	13.49	14.63	14.75	15.82	16.27	16.15
14	19.91	19.82	17.92	14.83	15.11	14.75	13.52	14.67	14.69	15.83	16.24	16.13
15	20.03	19.78	17.59	14.85	15.16	14.74	13.49	14.72	14.65	15.85	16.26	16.13
16	20.04	19.77	17.38	14.85	15.21	14.71	13.51	14.78	14.71	15.85	16.23	16.09
17	20.05	19.64	17.16	14.80	15.18	14.74	13.58	14.83	14.72	15.88	16.18	16.09
18	20.16	19.50	16.98	14.79	15.07	14.72	13.62	14.86	14.67	15.92	16.13	16.12
19	20.19	19.48	16.76	14.76	15.08	14.75	13.64	14.89	14.61	15.97	16.09	16.18
20	20.18	19.42	16.51	14.75	15.09	14.74	13.64	14.90	14.57	16.02	16.06	16.16
21	20.21	19.35	16.29	14.77	15.10	14.62	13.65	14.92	14.54	16.16	16.02	16.14
22	20.24	19.23	16.13	14.76	15.07	14.54	13.64	14.98	14.49	16.19	15.93	16.13
23	20.25	19.11	16.00	14.77	14.94	14.48	13.65	15.03	14.44	16.17	15.85	16.05
24	20.27	19.09	15.90	14.85	14.95	14.49	13.72	15.04	14.52	16.16	15.81	15.96
25	20.28	19.07	15.75	14.89	14.99	14.45	13.90	15.02	14.60	16.17	15.76	15.92
26	20.25	19.08	15.60	14.89	15.06	14.38	14.02	14.99	14.64	16.19	15.71	15.88
27	20.22	19.02	15.57	14.87	15.06	14.32	14.09	14.91	14.69	16.17	15.67	15.82
28	20.23	18.97	15.49	14.89	15.02	14.30	14.16	14.90	14.73	16.17	15.67	15.71
29	20.25	18.89	15.42	14.93	---	14.18	14.20	14.87	14.75	16.28	15.69	15.63
30	20.27	18.80	15.40	15.03	---	14.04	14.29	14.86	14.76	16.41	15.69	15.61
31	20.29	---	15.34	15.06	---	13.90	---	14.86	---	16.48	15.72	---
MEAN	19.73	19.62	17.30	14.87	15.07	14.63	13.72	14.73	14.70	15.78	16.12	15.94
LOW	20.29	20.30	18.84	15.27	15.21	15.00	14.29	15.04	14.84	16.48	16.51	16.18
HIGH	18.75	18.80	15.34	14.73	14.94	13.90	13.49	14.36	14.44	14.79	15.67	15.6

WTR YR 2003 INSTANTANEOUS HIGH 13.45 APR 15 LOW 20.32 NOV 3

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: Massachusettts 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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 940 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.86 ft above land-surface datum, 3.0 ft prior to October 1995.

PERIOD OF RECORD.--August 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.80 ft below land-surface datum, Mar. 29, 1994; lowest water level measured, 8.35 ft below land-surface datum, Sept. 25, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	6.82	DEC 19	4.23	MAR 20	2.77	MAY 20	3.65	JUL 22	4.86	SEP 25	3.95
NOV 26	4.85	JAN 29	5.69	APR 25	3.01	JUN 20	3.31	AUG 26	4.48		

WATER YEAR 2003 HIGHEST 2.77 MAR 20, 2003 LOWEST 6.82 OCT 22, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 380 ft above National Geodetic Vertical Datum of 1929. 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, 5.08 ft below land-surface datum, Apr. 28, 1997; lowest measured, 11.51 ft below land-surface datum, Jan. 20, 1999.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	9.49	DEC 19	8.99	FEB 20	9.41	APR 25	8.33	JUN 20	8.13	AUG 26	8.70
NOV 26	9.07	JAN 29	9.22	MAR 20	8.97	MAY 20	8.42	JUL 22	7.98	SEP 25	8.77

WATER YEAR 2003 HIGHEST 7.98 JUL 22, 2003 LOWEST 9.49 OCT 22, 2002

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1175 ft above National Geodetic Vertical Datum of 1929. 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, 4.17 ft below land-surface datum, May 29, 1996; lowest measured, 18.60 ft below land-surface datum, Feb. 26, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	16.10	DEC 31	12.42	FEB 25	12.98	MAY 20	7.16	JUL 30	11.33	SEP 25	13.72
NOV 26	15.57	JAN 23	11.93	APR 25	5.72	JUN 24	9.14	AUG 26	12.78		

WATER YEAR 2003 HIGHEST 5.72 APR 25, 2003 LOWEST 16.10 OCT 25, 2002

GROUND-WATER LEVELS IN MASSACHUSETTS

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 electric or chalked tape; digital recorder (60-minute interval) with satellite telemeter, since July 2001.

DATUM.--Elevation of land-surface datum is 153 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelf in base of steel shelter, 3.68 ft above land-surface datum. Prior to July 2001, top of casing, 3.60 ft above land-surface datum.

REMARKS.--Missing periods of more than one day are not estimated.

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.

DEPTH BELOW LAND S. DCP, in FT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.90	21.08	20.74	19.51	18.97	18.86	17.32	16.20	16.75	16.56	17.49	17.76
2	20.91	21.09	20.72	19.46	18.96	18.83	17.28	16.19	16.76	16.56	17.51	17.78
3	20.92	21.09	20.71	19.41	18.99	18.82	17.22	16.23	16.75	16.57	17.55	17.81
4	20.93	21.09	20.69	19.37	18.98	18.79	17.17	16.27	16.73	16.58	17.57	17.83
5	20.93	21.09	20.67	19.33	19.00	18.71	17.10	16.28	16.69	16.61	17.59	17.85
6	20.94	21.09	20.66	19.29	19.02	18.66	17.06	16.30	16.69	16.65	17.60	17.88
7	20.95	21.09	20.64	19.25	18.99	18.62	17.01	16.32	16.68	16.68	17.62	17.91
8	20.96	21.09	20.63	19.20	18.99	18.59	16.95	16.35	16.66	16.71	17.62	17.93
9	20.96	21.10	20.62	19.17	18.99	18.56	16.89	16.37	16.64	16.75	17.60	17.96
10	20.98	21.10	20.61	19.15	18.98	18.52	16.84	16.39	16.63	16.79	17.56	17.99
11	20.98	21.10	20.59	19.12	18.98	18.49	16.77	16.41	16.62	16.81	17.54	18.01
12	20.99	21.10	20.58	19.10	18.97	18.46	16.71	16.42	16.62	16.84	17.52	18.04
13	21.00	21.10	20.57	19.07	18.99	18.43	16.67	16.45	16.63	16.88	17.51	18.07
14	21.01	21.09	20.55	19.06	19.00	18.39	16.62	16.48	16.61	16.91	17.49	18.09
15	21.01	21.09	20.54	19.03	19.02	18.35	16.55	16.52	16.63	16.94	17.48	18.12
16	21.02	21.08	20.51	19.02	19.04	18.32	16.50	16.55	16.67	16.97	17.46	18.14
17	21.03	21.06	20.47	19.00	19.03	18.28	16.47	16.57	16.67	17.00	17.47	18.16
18	21.03	21.05	20.42	18.98	19.03	18.24	16.43	16.59	16.67	17.03	17.49	18.19
19	21.04	21.03	20.36	18.97	19.05	18.17	16.38	16.62	16.68	17.06	17.50	18.20
20	21.04	21.00	20.29	18.96	19.06	18.08	16.34	16.64	16.71	17.10	17.50	18.22
21	21.05	20.97	20.22	18.95	19.07	17.99	16.30	16.67	16.73	17.13	17.50	18.24
22	21.05	20.94	20.15	18.93	19.06	17.91	16.26	16.70	16.74	17.16	17.51	18.25
23	21.06	20.91	20.08	18.93	19.03	17.83	16.24	16.73	16.73	17.19	17.59	18.26
24	21.06	20.89	20.01	18.93	19.02	17.75	16.23	16.75	16.70	17.23	17.58	18.28
25	21.07	20.86	19.93	18.93	18.96	17.68	16.22	16.78	16.65	17.26	17.59	18.29
26	21.07	20.84	19.87	18.93	18.93	17.61	16.21	16.81	16.61	17.29	17.61	18.31
27	21.08	20.82	19.81	e18.93	18.90	17.55	16.21	16.81	16.58	17.31	17.63	18.31
28	21.08	20.80	19.74	e18.94	18.87	17.51	16.19	16.79	16.58	17.35	17.66	18.32
29	21.08	20.78	19.68	e18.95	---	17.46	16.18	16.77	16.58	17.39	17.68	18.34
30	21.08	20.76	19.63	18.98	---	17.42	16.21	16.77	16.56	17.42	17.70	18.36
31	21.08	---	19.57	18.98	---	17.37	---	16.77	---	17.46	17.73	---
MEAN	21.01	21.01	20.33	19.09	19.00	18.20	16.62	16.53	16.66	16.97	17.56	18.10
LOW	21.08	21.10	20.74	19.51	19.07	18.86	17.32	16.81	16.76	17.46	17.73	18.36
HIGH	20.90	20.76	19.57	18.93	18.87	17.37	16.18	16.19	16.56	16.56	17.46	17.76

WTR YR 2003 INSTANTANEOUS HIGH 16.18 APR 28, 29, MAY 1, 2 LOW NOV 21.11 NOV 11

e Estimated

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 166 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	12.50	DEC 19	7.91	FEB 25	8.58	APR 29	7.46	JUN 26	8.26	AUG 20	9.09
NOV 21	10.80	JAN 31	9.02	MAR 25	6.89	MAY 27	8.41	JUL 23	9.95	SEP 22	10.82

WATER YEAR 2003 HIGHEST 6.89 MAR 25, 2003 LOWEST 12.50 OCT 28, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 199.26 ft (revised) above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	45.25	DEC 17	45.59	FEB 26	44.95	APR 28	43.46	JUN 26	42.30	AUG 20	41.94
NOV 21	45.35	JAN 31	44.97	MAR 26	44.71	MAY 28	42.71	JUL 23	42.04	SEP 23	42.12

WATER YEAR 2003 HIGHEST 41.94 AUG 20, 2003 LOWEST 45.59 DEC 17, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 135 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.3 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, 11.46 ft below land-surface datum, Sept. 26, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	10.69	DEC 17	7.24	FEB 26	7.35	APR 28	5.97	JUN 26	6.39	AUG 20	7.97
NOV 21	8.82	JAN 30	7.75	MAR 26	6.26	MAY 28	6.63	JUL 24	7.84	SEP 23	9.04

WATER YEAR 2003 HIGHEST 5.97 APR 28, 2003 LOWEST 10.69 OCT 31, 2002

422627071154002. Lexington well LTW 104.

LOCATION.--Lat 42°26'27", long 71°15'40", Middlesex County, Hydrologic Unit 01090001, at The Commonwealth of Massachusetts Department of Public Works maintenance depot, 0.2 mi west of State Highway 128 and 500 ft south of State Highway 2A in Lexington.
Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in., depth 20.7 ft, screened 18.7 to 20.7 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 180 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	1.87	DEC 17	1.32	FEB 26	1.16	APR 28	1.28	JUN 26	1.75	AUG 20	1.73
NOV 21	1.50	JAN 30	2.62	MAR 26	1.31	MAY 28	1.34	JUL 24	1.55	SEP 23	2.34

WATER YEAR 2003 HIGHEST 1.16 FEB 26, 2003 LOWEST 2.62 JAN 30, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 313 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	14.80	DEC 18	14.42	FEB 21	13.66	APR 24	11.49	JUN 19	11.07	AUG 21	12.28
NOV 22	14.64	JAN 28	13.71	MAR 19	13.42	MAY 19	11.13	JUL 21	11.80	SEP 22	12.91

WATER YEAR 2003 HIGHEST 11.07 JUN 19, 2003 LOWEST 14.80 OCT 25, 2002

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 electric or chalked tape; digital recorder (60-minute interval) with satellite telemeter since July 2001.

DATUM.--Elevation of land-surface datum is 80 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood floor in base of steel shelter, 3.54 ft above land-surface datum; prior to July 2001, top of casing, 3.45 ft above land-surface datum.

REMARKS.--Missing periods of more than one day are not estimated.

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, 2.92 ft below land-surface datum, Oct. 29, 1996; lowest measured, 9.99 ft below land-surface datum, Sept. 22, 1965.

DEPTH BELOW LAND S. DCP & LOGGER, in FT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.12	7.35	6.36	5.85	6.79	6.18	5.11	5.77	5.71	6.54	7.11	7.20
2	8.15	7.39	6.42	5.27	6.75	5.98	5.26	5.83	5.37	6.59	6.96	7.21
3	8.19	7.43	6.47	5.40	6.68	5.59	5.32	5.91	5.62	6.64	6.91	7.22
4	8.22	7.46	6.52	5.06	6.57	5.77	5.37	5.99	5.77	6.68	6.62	7.19
5	8.24	7.49	6.55	5.16	6.45	5.81	5.35	6.04	5.80	6.74	6.39	7.15
6	8.28	7.31	6.58	5.31	6.49	5.75	5.29	6.08	5.90	6.80	6.45	7.21
7	8.30	7.13	6.61	5.43	6.50	5.91	5.32	6.12	5.94	6.85	6.52	7.25
8	8.34	7.14	6.64	5.50	6.57	5.93	5.41	6.17	5.82	6.89	6.35	7.30
9	8.37	7.17	6.70	5.59	6.60	5.78	5.42	6.19	5.91	6.93	6.34	7.35
10	8.41	7.20	6.72	5.64	6.62	5.77	5.46	6.23	6.02	6.97	6.40	7.38
11	8.44	7.23	6.75	5.70	6.67	5.90	5.40	6.27	6.09	6.97	6.45	7.42
12	8.44	7.24	6.30	5.78	6.69	5.93	4.85	6.26	6.15	6.83	6.40	7.46
13	8.40	6.78	6.17	5.84	6.75	5.95	5.01	6.30	6.21	6.88	6.24	7.50
14	8.35	6.62	5.66	5.92	6.79	6.01	5.19	6.35	6.23	6.95	6.24	7.53
15	8.34	6.67	5.04	5.99	6.84	6.06	5.29	6.41	6.29	6.99	6.32	7.56
16	8.26	6.74	5.27	6.06	6.89	6.05	5.40	6.45	6.36	7.02	6.39	7.53
17	7.85	6.07	5.48	6.10	6.91	5.88	5.54	6.48	6.40	7.06	6.47	7.51
18	7.81	5.72	5.62	6.18	6.93	5.70	5.61	6.51	6.42	7.10	6.51	7.56
19	7.81	5.92	5.70	6.22	6.96	5.76	5.66	6.55	6.43	7.01	6.55	7.56
20	7.83	6.03	5.57	6.27	6.97	5.80	5.72	6.58	6.49	7.02	6.61	7.48
21	7.87	6.11	5.09	6.34	6.93	5.48	5.76	6.61	6.53	7.08	6.66	7.52
22	7.90	5.97	5.31	6.38	6.72	5.44	5.74	6.65	6.38	7.04	6.71	7.56
23	7.91	5.97	5.49	6.44	5.77	5.56	5.69	6.67	5.94	6.84	6.75	7.48
24	7.90	6.10	5.63	6.50	5.60	5.66	5.78	6.67	6.06	6.81	6.81	7.11
25	7.92	6.19	5.64	6.55	5.79	5.72	5.86	6.62	6.16	6.84	6.86	7.12
26	7.74	6.24	5.61	6.59	5.92	5.77	5.77	6.50	6.24	6.90	6.91	7.17
27	7.21	6.26	5.68	6.63	6.01	5.79	5.24	5.88	6.31	6.94	6.95	7.21
28	7.22	6.27	5.73	6.67	6.10	5.86	5.40	5.95	6.37	7.00	7.02	7.23
29	7.26	6.30	5.81	6.71	---	5.87	5.55	5.91	6.44	7.07	7.07	7.26
30	7.29	6.31	5.89	6.76	---	5.09	5.69	6.02	6.48	7.12	7.11	7.32
31	7.32	---	5.92	6.79	---	e4.93	---	6.12	---	7.17	7.16	---
MEAN	7.99	6.66	5.97	6.02	6.54	5.76	5.45	6.26	6.13	6.91	6.65	7.35
LOW	8.44	7.49	6.75	6.79	6.97	6.18	5.86	6.67	6.53	7.17	7.16	7.56
HIGH	7.21	5.72	5.04	5.06	5.60	4.93	4.85	5.77	5.37	6.54	6.24	7.11

WTR YR 2003 INSTANTANEOUS HIGH 4.81 APR 12 LOW 8.45 OCT 11, 12

e Estimated

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 157.75 ft above National Geodetic Vertical Datum of 1929. 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, 18.10 below land-surface datum, Sept. 26. 1995.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	17.04	DEC 17	15.94	FEB 26	15.77	APR 28	14.65	JUN 26	15.00	AUG 20	16.08
NOV 21	16.52	JAN 30	15.84	MAR 26	15.19	MAY 28	15.24	JUL 23	15.81		16.76

WATER YEAR 2003 HIGHEST 14.65 APR 28, 2003 LOWEST 17.04 OCT 31, 2002

423257071243702. Westford well WWW 160.

LOCATION.--Lat 42°32'57", long 71°24'37", Middlesex County, Hydrologic Unit 01070005, 0.1 mi east of State Highway 225 and 150 ft south of Griffin Rd., at Parkerville Soccer Fields in Westford.
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 20.5 to 25.5 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 210 ft above National Geodetic Vertical Datum of 1929 (from topographic map). Measuring point: Top of casing, 2.04 ft above land-surface datum.

PERIOD OF RECORD.--September 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.95 ft below land-surface datum, Mar. 25, 2003; lowest measured, 12.98 below land-surface datum, Aug. 27, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 19	12.48	NOV 02	12.40	JAN 15	11.91	APR 05	10.58	MAY 29	10.69	AUG 27	12.98
OCT 12	12.56	DEC 04	12.55	FEB 18	11.53	MAY 14	10.66	JUN 30	11.06		

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	11.91	NOV 31	10.63	FEB 27	10.76	APR 26	10.51	JUN 30	10.74	AUG 28	11.40
NOV 25	10.92	JAN 28	11.04	MAR 25	9.95	MAY 22	10.91	JUL 28	11.54	SEP 30	11.29

HIGHEST 9.95 MAR 25, 2003 LOWEST 12.98 AUG 27, 2002

MIDDLESEX COUNTY--Continued

423401071093801. Wilmington well XMW 78.

LOCATION.--Lat 42°34'01", long 71°09'38", Middlesex County, Hydrologic Unit 01090001, at building formerly known as 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 electric tape by observer. Continuous graphic recorder March 1958 to September 1982, digital recorder (60-minute interval) October 1984 to current year; satellite telemeter since February 2001.

DATUM.--Elevation of land-surface datum is 95 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of hole in base of steel recorder shelter, 0.27 ft above land-surface datum, 0.42 ft prior to May 1991.

REMARKS.--Missing periods of more than one day are not estimated.

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, 4.12 ft below land-surface datum, Mar. 30, 2001; lowest, 11.27 ft below land-surface datum, Oct. 30, 1957.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.87	9.37	8.16	7.07	7.78	7.67	6.14	6.51	7.17	7.63	8.72	8.88
2	9.86	9.35	8.17	7.06	7.80	7.55	6.09	6.53	7.07	7.67	8.73	8.90
3	9.86	9.34	8.18	6.99	7.84	7.44	6.07	6.58	7.06	7.71	8.75	8.92
4	9.86	9.33	8.20	6.94	7.85	7.47	6.07	6.62	7.03	7.75	8.73	8.94
5	9.86	9.32	8.21	6.94	7.87	7.44	6.05	6.67	7.00	7.80	8.63	8.96
6	9.86	9.31	8.22	6.92	7.89	7.42	6.06	6.70	6.99	7.84	8.63	8.98
7	9.87	9.30	8.24	6.91	7.89	7.41	6.05	6.74	7.01	7.89	8.64	9.00
8	9.88	9.28	8.26	6.90	7.91	7.39	6.02	6.79	6.99	7.94	8.61	9.03
9	9.90	9.27	8.31	6.92	7.93	7.34	6.01	6.83	6.98	7.99	8.57	9.05
10	9.91	9.26	8.33	6.97	7.94	7.31	6.02	6.88	7.01	8.03	8.56	9.08
11	9.93	9.25	8.35	7.01	7.96	7.31	6.02	6.92	7.04	8.07	8.56	9.10
12	9.94	9.24	8.28	7.06	7.97	7.29	5.92	6.96	7.08	8.10	8.57	9.13
13	9.94	9.22	8.24	7.08	8.00	7.28	5.89	6.99	7.14	8.14	8.55	9.15
14	9.94	9.18	8.02	7.12	8.02	7.28	5.87	7.04	7.17	8.18	8.51	9.17
15	9.93	9.14	7.77	7.15	8.05	7.27	5.86	7.09	7.23	8.22	8.50	9.20
16	9.91	9.11	7.66	7.19	8.08	7.27	5.89	7.13	7.29	8.25	8.49	9.22
17	9.79	8.98	7.54	7.21	8.09	7.24	6.01	7.17	7.33	8.29	8.50	9.24
18	9.77	8.85	7.45	7.27	8.11	7.18	6.08	7.21	7.36	8.33	8.50	9.26
19	9.74	8.73	7.38	7.29	8.13	7.14	6.13	7.26	7.39	8.36	8.47	9.27
20	9.72	8.61	7.24	7.31	8.15	7.08	6.18	7.30	7.43	8.38	8.49	9.29
21	9.71	8.52	7.10	7.35	8.17	7.00	6.22	7.34	7.47	8.42	8.51	9.30
22	9.69	8.43	7.08	7.39	8.16	6.89	6.26	7.39	7.49	8.45	8.53	9.32
23	9.68	8.37	7.03	7.42	7.87	6.79	6.31	7.43	7.39	8.49	8.57	9.28
24	9.66	8.33	6.99	7.47	7.79	6.71	6.35	7.47	7.39	8.52	8.62	9.23
25	9.65	8.29	6.95	7.51	7.77	6.64	6.41	7.50	7.40	8.54	8.66	9.27
26	9.61	8.26	6.96	7.56	7.75	6.59	6.45	7.49	7.44	8.57	8.70	9.30
27	9.50	8.23	6.98	7.60	7.72	6.57	6.39	7.27	7.48	8.60	8.73	9.32
28	9.49	8.20	6.96	7.63	7.69	6.55	6.39	7.29	7.54	8.63	8.77	9.32
29	9.46	8.18	6.98	7.68	---	6.52	6.41	7.29	7.57	8.67	8.79	9.33
30	9.43	8.16	7.03	7.72	---	6.39	6.48	7.29	7.60	8.71	8.82	9.35
31	9.40	---	7.04	7.75	---	6.22	---	7.32	---	8.74	8.85	---
MEAN	9.76	8.88	7.66	7.24	7.93	7.09	6.14	7.06	7.25	8.22	8.62	9.16
LOW	9.94	9.37	8.35	7.75	8.17	7.67	6.48	7.50	7.60	8.74	8.85	9.35
HIGH	9.40	8.16	6.95	6.90	7.69	6.22	5.86	6.51	6.98	7.63	8.47	8.8

WTR YR 2003 INSTANTANEOUS HIGH 5.85 APR 15 LOW 9.94 OCT 12-14

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 116.29 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of angle iron, at land-surface datum.

PERIOD OF RECORD.--July 1940 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.03 ft 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	8.40	DEC 19	6.77	FEB 25	10.20	APR 29	7.87	JUL 23	11.67	SEP 22	12.22
NOV 19	5.77	JAN 31	10.78	MAR 25	7.93	JUN 27	8.55	AUG 21	9.60		

WATER YEAR 2003 HIGHEST 5.77 NOV 19, 2002 LOWEST 12.22 SEP 22, 2003

GROUND-WATER LEVELS IN MASSACHUSETTS

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 39 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.34 ft above land-surface datum, 0.7 ft prior to November 1994.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.51 ft below land-surface datum, July 28, 1997; lowest measured, 27.90 ft below land-surface datum, Feb. 23, 1981.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	26.04	DEC 19	26.56	FEB 26	26.23	MAY 29	22.01	JUL 29	22.49	AUG 27	22.91
NOV 26	26.48	JAN 28	26.59	MAR 27	24.33	JUN 24	22.29				

WATER YEAR 2003 HIGHEST 22.01 MAY 29, 2003 LOWEST 26.59 JAN 28, 2003 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 65 ft above National Geodetic Vertical Datum of 1929. 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, 15.95 ft below land-surface datum, Oct. 28, 1997.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	12.65	DEC 17	5.11	MAR 25	4.70	MAY 28	5.40	JUL 23	8.45	SEP 24	11.19
NOV 27	8.51	JAN 30	7.17	APR 28	3.97	JUN 26	4.90	AUG 28	9.55		

WATER YEAR 2003 HIGHEST 3.97 APR 28, 2003 LOWEST 12.65 OCT 31, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 160 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	34.78	DEC 17	34.22	MAR 26	32.16	MAY 28	31.81	JUL 23	32.43	SEP 24	33.69
NOV 21	34.75	JAN 30	32.45	APR 28	30.82	JUN 26	31.75	AUG 28	33.19		

WATER YEAR 2003 HIGHEST 30.82 APR 28, 2003 LOWEST 34.78 OCT 31, 2002

GROUND-WATER LEVELS IN MASSACHUSETTS

NORFOLK COUNTY--Continued

420432071151201. Foxborough well FXW 3.

LOCATION.--Lat 42°04'32", long 71°15'12", Norfolk County, Hydrologic Unit 01090004, at Foxborough State Hospital, near railroad tracks, 100 ft east of driveway, and 250 ft north of Chestnut Street in Foxborough.
Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in., depth 32 ft, screened 30 to 32 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 290 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	20.17	DEC 24	18.28	FEB 24	18.64	APR 29	18.07	JUN 23	17.95	AUG 28	19.17
NOV 25	19.02	JAN 22	18.39	MAR 31	17.98	MAY 27	18.42	JUL 23	18.66	SEP 25	19.75

WATER YEAR 2003 HIGHEST 17.95 JUN 23, 2003 LOWEST 20.17 OCT 28, 2002

420717071221301 KINGSBURY POND NEAR NORFOLK, MA

LOCATION.--Lat 42°07'17", long 71°22'13", Norfolk County, Hydrologic Unit 01090001, on southeast corner of pond, 150 ft northwest of Miller Street, 2.3 mi west of Norfolk.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Standpipe, 3-in. diameter, with sealed bottom; connected through siphon effect with pond by 0.75-in. diameter polyethylene tubing.

INSTRUMENTATION.--Water-stage recorder.

DATUM.--Elevation of gage is measuring point at base of instrument shelter floor, 137.68 ft above National Geodetic Vertical Datum (NGVD) of 1929.

PERIOD OF RECORD.--November 2000 to current year.

REMARKS.--Missing periods of more than one day are not estimated.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 133.53 ft, June 26, 2003; minimum, 126.33 ft., Nov. 5, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 133.53 ft, June 26; minimum, 126.33 ft., Nov. 5.

ELEVATION, IN FEET ABOVE NGVD OF 1929, OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126.63	126.40	126.64	127.16	128.53	129.25	130.62	132.55	133.08	133.51	132.91	131.92
2	126.61	126.38	126.62	127.23	128.55	129.30	130.68	132.59	133.12	133.50	132.97	131.95
3	126.62	126.36	126.62	127.26	128.49	129.38	130.74	132.61	133.10	133.48	133.02	131.92
4	126.60	126.35	126.61	127.28	128.34	129.40	130.82	132.63	133.09	133.47	132.99	131.89
5	126.59	126.34	126.61	127.39	128.38	129.42	130.89	132.65	133.11	133.45	132.97	131.86
6	126.56	126.38	126.61	127.42	128.40	129.47	130.96	132.67	133.11	133.43	132.94	131.81
7	126.54	126.39	126.61	127.43	128.45	129.52	131.02	132.70	133.13	133.40	132.90	131.76
8	126.51	126.38	126.61	127.44	128.50	129.53	131.10	132.73	133.18	133.37	133.00	131.72
9	126.48	126.36	126.63	127.46	128.55	129.56	131.17	132.75	133.16	133.35	132.98	131.68
10	126.46	126.36	126.64	127.49	128.59	129.58	131.23	132.77	133.16	133.34	132.94	131.63
11	126.45	126.37	126.63	127.51	128.64	129.59	131.32	132.78	133.15	133.32	132.90	131.59
12	126.47	126.38	126.67	127.53	128.69	129.62	131.47	132.79	133.15	133.30	132.86	131.54
13	126.48	126.48	126.71	127.58	128.73	129.65	131.54	132.81	133.19	133.27	132.83	131.50
14	126.46	126.48	126.79	127.64	128.78	129.69	131.60	132.81	133.21	133.25	132.79	131.46
15	126.43	126.47	126.85	127.71	128.82	129.72	131.66	132.82	133.21	133.22	132.75	131.41
16	126.45	126.47	126.85	127.77	128.87	129.74	131.72	132.81	133.20	133.18	132.69	131.40
17	126.49	126.61	126.87	127.82	128.90	129.76	131.77	132.81	133.20	133.15	132.65	131.36
18	126.47	126.66	126.87	127.88	128.92	129.79	131.84	132.80	133.20	133.13	132.60	131.32
19	126.45	126.65	126.87	127.93	128.95	129.82	131.89	132.80	133.20	133.13	132.56	131.29
20	126.43	126.64	126.91	127.97	128.98	129.86	131.94	132.80	133.19	133.09	132.52	131.26
21	126.41	126.63	127.00	128.03	129.00	129.93	131.99	132.79	133.19	133.05	132.48	131.21
22	126.39	126.66	127.00	128.08	129.02	129.97	132.07	132.79	133.35	133.02	132.43	131.17
23	126.39	126.67	126.99	128.12	129.05	130.01	132.15	132.81	133.51	133.09	132.39	131.12
24	126.37	126.66	127.00	128.17	129.10	130.05	132.20	132.80	133.52	133.10	132.33	131.10
25	126.36	126.64	127.00	128.23	129.16	130.09	132.24	132.80	133.52	133.09	132.28	131.05
26	126.41	126.64	127.10	128.28	129.19	130.13	132.31	132.86	133.53	133.06	132.23	131.00
27	126.47	126.66	127.11	128.33	129.21	130.19	132.41	132.98	133.53	133.02	132.18	130.95
28	126.46	126.66	127.11	128.38	129.23	130.23	132.45	132.99	133.51	132.98	132.13	130.91
29	126.44	126.65	127.12	128.42	---	130.29	132.48	133.00	133.51	132.95	132.07	130.87
30	126.43	126.65	127.13	128.47	---	130.47	132.51	133.00	133.51	132.92	132.02	130.82
31	126.41	---	127.15	128.50	---	130.57	---	133.00	---	132.89	131.97	---
MEAN	126.47	126.51	126.84	127.80	128.79	129.79	131.63	132.79	133.26	133.21	132.62	131.42
MAX	126.63	126.67	127.15	128.50	129.23	130.57	132.51	133.00	133.53	133.51	133.02	131.95
MIN	126.36	126.34	126.61	127.16	128.34	129.25	130.62	132.55	133.08	132.89	131.97	130.82

WTR YR 2003 INSTANTANEOUS MAXIMUM 133.53 JUNE 26, MINIMUM 126.33 NOV 5

NORFOLK COUNTY--Continued

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 2 in. (previously reported as 1.25 in.), depth 18.4 ft, screened 16.4 to 18.4 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape; digital recorder (60-minute interval) with satellite telemeter since August 2001.

DATUM.--Elevation of land-surface datum is 160 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood floor in base of steel shelter, 3.57 ft above land-surface datum; prior to August 2001, top of casing, 1.7 ft above land-surface datum.

REMARKS.--Missing periods of more than one day are not estimated.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.94 ft below land-surface datum, Mar. 28, 2001, and Apr. 20, 1987; lowest measured, 7.99 ft below land-surface datum, July 30, 1997.

DEPTH BELOW LAND S. DCP & LOGGER, in FT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.84	6.65	5.96	5.59	6.15	5.94	5.03	5.65	5.56	5.85	6.31	6.78
2	6.88	6.68	5.99	5.40	6.09	5.78	5.15	5.68	5.56	5.90	6.20	6.25
3	6.91	6.71	6.01	5.44	6.14	5.60	5.23	5.72	5.65	5.93	6.28	6.46
4	6.94	6.73	6.05	5.23	6.12	5.67	5.22	5.74	5.72	5.97	6.30	6.33
5	6.96	6.75	6.07	5.29	6.11	5.68	5.27	5.76	5.65	6.02	6.31	6.43
6	7.00	6.40	6.06	5.35	6.16	5.72	5.34	5.79	5.76	6.07	6.39	6.54
7	7.03	6.51	6.11	5.40	6.15	5.77	5.40	5.81	5.69	6.12	6.42	6.60
8	7.05	6.58	6.14	5.45	6.17	5.79	5.40	5.83	5.63	6.17	5.49	6.66
9	7.08	6.62	6.19	5.50	6.18	5.76	5.42	5.83	5.71	6.19	5.60	6.71
10	7.10	6.64	6.21	5.55	6.18	5.76	5.47	5.87	5.76	6.22	5.74	6.74
11	7.09	6.59	6.21	5.60	6.20	5.79	5.35	5.89	5.81	6.20	5.83	6.78
12	6.98	6.48	5.72	5.64	6.21	5.81	4.98	5.88	5.85	6.23	5.91	6.81
13	6.93	5.91	5.83	5.67	6.23	5.78	5.04	5.91	5.64	6.30	5.97	6.83
14	6.93	6.03	5.33	5.70	6.26	5.81	5.17	5.96	5.68	6.35	6.03	6.85
15	7.00	6.12	5.21	5.73	6.28	5.84	5.27	5.99	5.79	6.39	6.09	6.87
16	6.74	6.11	5.27	5.76	6.31	5.83	5.35	6.02	5.85	6.35	6.10	6.63
17	6.67	5.44	5.41	5.78	6.32	5.75	5.44	6.04	5.89	6.38	6.08	6.70
18	6.78	5.38	5.50	5.81	6.32	5.67	5.50	6.06	5.85	6.41	6.14	6.78
19	6.82	5.54	5.55	5.82	6.33	5.64	5.55	6.09	5.90	6.43	6.19	6.54
20	6.85	5.64	5.31	5.84	6.34	5.65	5.59	6.11	5.96	6.49	6.25	6.53
21	6.89	5.72	5.05	5.88	6.35	5.38	5.62	6.13	5.97	6.54	6.31	6.61
22	6.91	5.52	5.17	5.90	6.23	5.31	5.53	6.16	5.45	6.52	6.35	6.67
23	6.85	5.64	5.28	5.93	5.77	5.33	5.57	6.02	5.10	6.10	6.41	6.62
24	6.88	5.73	5.37	5.96	5.70	5.39	5.63	6.12	5.28	5.99	6.47	6.57
25	6.92	5.78	5.36	5.99	5.76	5.44	5.66	6.10	5.43	6.14	6.51	6.64
26	6.50	5.82	5.37	6.01	5.81	5.47	5.55	5.87	5.54	6.24	6.56	6.69
27	6.41	5.77	5.43	6.04	5.86	5.47	5.47	5.59	5.62	6.31	6.60	6.72
28	6.52	5.84	5.47	6.06	5.90	5.54	5.54	5.66	5.69	6.37	6.65	6.74
29	6.57	5.88	5.52	6.09	---	5.55	5.58	5.69	5.75	6.44	6.68	6.75
30	6.60	5.91	5.58	6.12	---	4.97	5.64	5.77	5.80	6.49	6.72	6.79
31	6.63	---	5.60	6.14	---	4.89	---	5.80	---	6.53	6.75	---
MEAN	6.85	6.10	5.66	5.73	6.13	5.61	5.40	5.89	5.68	6.25	6.25	6.65
LOW	7.10	6.75	6.21	6.14	6.35	5.94	5.66	6.16	5.97	6.54	6.75	6.87
HIGH	6.41	5.38	5.05	5.23	5.70	4.89	4.98	5.59	5.10	5.85	5.49	6.25

WTR YR 2003 INSTANTANEOUS HIGH 4.81 MAR 30 LOW 7.12 OCT 11

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 180 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	19.67	DEC 30	7.56	FEB 24	9.72	APR 24	6.53	JUN 23	7.98	AUG 28	12.89
NOV 25	14.13	JAN 22	8.27	MAR 25	7.09	MAY 27	8.47	AUG 06	12.37	SEP 26	15.72

WATER YEAR 2003 HIGHEST 6.53 APR 24, 2003 LOWEST 19.67 OCT 28, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 90 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	6.12	DEC 24	4.25	FEB 24	4.09	APR 24	4.16	JUN 23	4.33	AUG 28	5.50
NOV 25	4.43	JAN 22	4.88	MAR 25	4.15	MAY 27	4.15	AUG 06	4.91	SEP 26	5.93

WATER YEAR 2003 HIGHEST 4.09 FEB 24, 2003 LOWEST 6.12 OCT 28, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 90 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	6.63	DEC 24	5.51	FEB 24	5.68	APR 24	5.58	JUN 23	5.81	AUG 28	7.50
NOV 25	5.76	JAN 22	6.46	MAR 25	5.70	MAY 27	5.58	AUG 06	6.91	SEP 26	7.93

WATER YEAR 2003 HIGHEST 5.51 DEC 24, 2002 LOWEST 7.93 SEP 26, 2003

GROUND-WATER LEVELS IN MASSACHUSETTS

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 electric or chalked tape, digital recorder (60-minute interval) with satellite telemeter since August 2001.

DATUM.--Elevation of land-surface datum is 55 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood floor in base of steel shelter, 3.18 ft above land-surface datum; prior to August 2001, top of casing, 1.5 ft above land-surface datum.

REMARKS.--Missing periods of more than one day are not estimated.

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.

DEPTH BELOW LAND S. DCP & LOGGER, in FT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.97	8.30	7.65	7.27	7.81	7.54	6.89	7.06	7.52	7.73	8.44	8.31
2	8.99	8.30	7.72	7.21	7.76	7.55	6.91	7.11	7.44	7.79	8.39	8.31
3	9.01	8.31	7.75	7.13	7.70	7.36	6.96	7.17	7.37	7.85	8.33	8.23
4	9.04	8.32	7.80	6.95	7.68	7.28	7.01	7.22	7.35	7.89	8.29	8.19
5	9.05	8.34	7.82	6.75	7.67	7.28	7.03	7.27	7.36	7.93	8.28	8.14
6	9.08	8.34	7.83	6.73	7.69	7.27	7.06	7.32	7.36	7.97	8.29	8.13
7	9.11	8.28	7.86	6.78	7.71	7.30	7.13	7.36	7.39	8.02	8.31	8.15
8	9.13	8.29	7.88	6.85	7.72	7.33	7.17	7.40	7.41	8.07	8.13	8.19
9	9.15	8.31	7.92	6.92	7.76	7.34	7.19	7.44	7.43	8.12	7.47	8.24
10	9.17	8.35	7.94	7.00	7.79	7.30	7.17	7.48	7.45	8.15	7.27	8.29
11	9.19	8.37	7.96	7.04	7.81	7.31	7.15	7.51	7.49	8.18	7.29	8.32
12	9.18	8.39	7.82	7.06	7.85	7.34	6.75	7.55	7.53	8.17	7.37	8.35
13	9.14	8.30	7.55	7.08	7.87	7.36	6.35	7.58	7.57	8.16	7.46	8.38
14	9.07	8.13	7.40	7.11	7.89	7.38	6.36	7.60	7.59	8.18	7.52	8.41
15	9.04	8.10	7.20	7.15	7.92	7.42	6.46	7.63	7.60	8.20	7.59	8.44
16	9.02	8.11	7.14	7.18	7.96	7.45	6.58	7.65	7.62	8.22	7.66	8.44
17	8.85	7.90	7.12	7.20	7.97	7.42	6.75	7.68	7.65	8.24	7.60	8.40
18	8.75	7.53	7.14	7.24	7.93	7.37	6.87	7.70	7.68	8.26	7.49	8.41
19	8.71	7.46	7.18	7.27	7.95	7.35	6.96	7.72	7.70	8.29	7.51	8.43
20	8.72	7.47	7.21	7.29	7.97	7.36	7.03	7.75	7.73	8.31	7.59	8.44
21	8.74	7.51	7.11	7.32	7.99	7.31	7.10	7.78	7.77	8.33	7.67	8.48
22	8.76	7.51	7.08	7.34	7.98	7.22	7.14	7.80	7.79	8.37	7.75	8.52
23	8.70	7.48	7.13	7.36	7.74	7.21	7.04	7.82	7.60	8.37	7.82	8.54
24	8.59	7.55	7.20	7.38	7.49	7.25	7.04	7.83	7.42	8.32	7.89	8.56
25	8.54	7.62	7.25	7.40	7.42	7.29	7.07	7.81	7.38	8.20	7.95	8.59
26	8.51	7.66	7.13	7.44	7.43	7.33	7.11	7.78	7.41	8.16	8.01	8.61
27	8.35	7.66	7.07	7.52	7.45	7.37	7.07	7.70	7.47	8.18	8.06	8.63
28	8.28	7.59	7.07	7.62	7.48	7.43	6.99	7.56	7.54	8.23	8.11	8.63
29	8.28	7.59	7.11	7.68	---	7.46	6.98	7.49	7.62	8.32	8.17	8.64
30	8.29	7.61	7.18	7.75	---	7.38	7.01	7.48	7.68	8.37	8.22	8.65
31	8.30	---	7.24	7.80	---	7.01	---	7.50	---	8.41	8.27	---
MEAN	8.83	7.96	7.43	7.22	7.76	7.34	6.94	7.54	7.53	8.16	7.88	8.40
LOW	9.19	8.39	7.96	7.80	7.99	7.55	7.19	7.83	7.79	8.41	8.44	8.65
HIGH	8.28	7.46	7.07	6.73	7.42	7.01	6.35	7.06	7.35	7.73	7.27	8.13

WTR YR 2003 INSTANTANEOUS HIGH 6.31 APR 13 LOW 9.19 OCT 11, 12

GROUND-WATER LEVELS IN MASSACHUSETTS

PLYMOUTH COUNTY

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 65 ft above National Geodetic Vertical Datum of 1929. 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, 18.98 ft below land-surface datum, Feb. 26, 1998; lowest measured, 24.02 ft below land-surface datum, Sept. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	21.39	DEC 30	20.63	FEB 24	21.02	APR 30	20.51	JUN 23	20.80	AUG 27	21.48
NOV 26	21.17	JAN 22	20.36	MAR 25	20.79	MAY 27	20.96	JUL 25	21.50	SEP 24	21.95

WATER YEAR 2003 HIGHEST 20.36 JAN 22, 2003 LOWEST 21.95 SEP 24, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 85 ft above National Geodetic Vertical Datum of 1929. 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, 2.18 ft below land-surface datum, Feb. 26, 1998; lowest measured, 17.83 ft below land-surface datum, Dec. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	15.93	DEC 30	5.67	FEB 24	7.33	APR 30	3.70	JUN 23	3.63	AUG 27	7.42
NOV 25	12.93	JAN 22	5.98	MAR 25	4.31	MAY 27	5.03	JUL 23	7.50	SEP 24	9.95

WATER YEAR 2003 HIGHEST 3.63 JUN 23, 2003 LOWEST 15.93 OCT 28, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 71 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	4.84	DEC 30	4.18	FEB 24	4.23	APR 30	4.09	JUN 23	4.13	AUG 27	4.72
NOV 25	4.37	JAN 22	4.57	MAR 25	4.21	MAY 27	4.24	JUL 25	4.68	SEP 24	4.99

WATER YEAR 2003 HIGHEST 4.09 APR 30, 2003 LOWEST 4.99 SEP 24, 2003

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 measurement with electric tape by observer. Digital recorder (60-min interval) July 1986 to current year. Satellite telemeter at well since September 2001.

DATUM.--Elevation of land-surface datum is 105 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of hole in base of aluminum recorder shelter, 1.5 ft above land-surface datum.

REMARKS.--Missing periods of more than one day are not estimated.

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, 8.56 ft below land-surface datum, May 13, 1998; lowest measured, 23.59 ft below land-surface datum, Oct. 26, 1966.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.28	21.46	19.97	17.84	16.35	16.62	14.67	---	12.27	11.58	13.00	13.19
2	21.28	21.45	19.91	17.74	16.36	16.52	14.51	---	12.17	11.67	13.02	13.25
3	21.29	21.44	19.86	17.64	16.45	16.47	14.33	---	11.96	11.77	13.04	13.30
4	21.29	21.44	19.81	17.54	16.45	16.38	14.17	---	11.77	11.84	13.06	13.35
5	21.29	21.44	19.75	17.44	16.54	16.25	14.02	---	11.61	11.92	13.08	13.41
6	21.30	21.43	19.71	17.32	16.61	16.18	13.92	---	11.53	12.02	13.12	13.47
7	21.30	21.44	19.66	17.20	16.59	16.11	13.82	---	11.47	12.12	13.15	13.51
8	21.32	21.44	19.63	17.08	16.64	16.03	13.71	11.50	11.42	12.20	13.08	13.58
9	21.33	21.45	19.59	16.97	16.67	15.95	13.61	11.56	11.37	12.29	12.69	13.62
10	21.34	21.45	19.56	16.88	16.67	15.90	13.53	11.62	11.37	12.36	12.34	13.66
11	21.35	21.45	19.53	16.80	16.72	15.83	13.44	11.68	11.36	12.41	12.11	13.72
12	21.36	21.45	19.50	16.71	16.73	15.76	13.27	11.71	11.38	12.46	11.95	13.77
13	21.36	21.44	19.47	16.63	16.78	15.71	13.04	11.79	11.41	12.52	11.84	13.82
14	21.37	21.42	19.42	16.56	16.82	15.65	12.74	11.88	11.40	12.57	11.76	13.87
15	21.38	21.37	19.38	16.50	16.86	15.60	12.49	11.98	11.46	12.59	11.74	13.93
16	21.39	21.31	19.33	16.44	16.90	15.55	12.33	12.04	11.54	12.62	11.74	13.99
17	21.41	21.21	19.28	16.38	16.90	15.49	12.25	12.09	11.57	12.66	11.81	14.05
18	21.41	21.11	19.21	16.35	16.92	15.45	12.16	12.13	11.57	12.71	11.89	14.09
19	21.42	20.99	19.13	16.31	16.95	15.43	12.09	12.18	11.61	12.75	11.97	14.13
20	21.43	20.88	19.04	16.27	16.98	15.37	12.03	12.22	11.70	12.81	12.05	14.18
21	21.44	20.78	18.97	16.26	17.00	15.30	11.98	12.27	11.77	12.87	12.19	14.24
22	21.45	20.67	18.88	16.24	17.01	15.26	11.95	12.34	11.78	12.91	12.32	14.28
23	21.46	20.58	18.79	16.22	16.99	15.22	11.91	12.39	11.66	12.96	12.42	14.32
24	21.46	20.50	18.70	16.24	17.02	15.18	11.87	12.42	11.47	12.99	12.53	14.38
25	21.47	20.41	18.58	16.24	16.95	15.13	11.84	12.46	11.33	13.00	12.62	14.43
26	21.48	20.33	18.49	16.23	16.86	15.07	11.77	12.50	11.27	12.96	12.70	14.48
27	21.48	20.24	18.39	16.25	16.76	15.04	11.70	12.52	11.26	12.88	12.78	14.53
28	21.49	20.17	18.27	16.28	16.67	15.01	11.60	12.45	11.35	12.88	12.89	14.56
29	21.49	20.09	18.16	16.29	---	14.96	11.48	12.38	11.43	12.93	12.98	14.62
30	21.48	20.03	18.06	16.35	---	14.90	---	12.34	11.49	12.98	13.05	14.68
31	21.47	---	17.94	16.36	---	14.79	---	12.34	---	13.00	13.13	---
MEAN	21.39	21.03	19.16	16.70	16.76	15.62	---	---	11.56	12.52	12.52	13.95
LOW	21.49	21.46	19.97	17.84	17.02	16.62	---	---	12.27	13.00	13.15	14.68
HIGH	21.28	20.03	17.94	16.22	16.35	14.79	---	---	11.26	11.58	11.74	13.19

WTR YR 2003 INSTANTANEOUS HIGH 11.24 JUNE 27 LOW 21.49 OCT 27-30

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 Interstate 495 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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 45 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	16.06	DEC 23	5.64	FEB 25	8.13	APR 30	3.28	JUN 24	5.45	AUG 21	4.85
NOV 26	9.98	JAN 22	4.86	MAR 20	4.61	MAY 27	5.89	JUL 21	7.60	SEP 24	10.52

WATER YEAR 2003 HIGHEST 3.28 APR 30, 2003 LOWEST 16.06 OCT 30, 2002

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.--Augered observation water-table well, diameter 2.0 in., depth 40 ft, screened 30 to 40 ft; prior to August 1990, driven observation water-table well, diameter 1.25 in., depth 42 ft, screened 40 to 42 ft at same location.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 145 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	27.08	DEC 30	25.80	FEB 24	24.53	APR 30	22.29	JUN 23	22.26	AUG 27	22.20
NOV 26	26.77	JAN 22	24.54	MAR 25	23.95	MAY 27	22.38	JUL 24	22.30	SEP 24	22.95

WATER YEAR 2003 HIGHEST 22.20 AUG 27, 2003 LOWEST 27.08 OCT 28, 2002

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 5 mi 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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 129 ft above National Geodetic Vertical Datum of 1929. 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, 24.28 ft below land-surface datum, July 28, 1998; lowest measured, 33.23 ft below land-surface datum, Nov. 24, 1993.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	32.79	DEC 30	32.32	FEB 24	31.51	APR 30	29.53	JUN 23	29.15	AUG 27	29.17
NOV 26	32.95	JAN 22	31.45	MAR 25	31.04	MAY 27	29.38	JUL 24	29.00	SEP 24	29.47

WATER YEAR 2003 HIGHEST 29.00 JUL 24, 2003 LOWEST 32.95 NOV 26, 2002

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 in Wareham.
Owner: Private owner.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in., depth 12.5 ft, cased with tile to 12.5 ft, open end. Prior to September 1980, well depth was 12.5 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 21 ft above National Geodetic Vertical Datum of 1929. 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, 3.28 ft below land-surface datum, May 28, 2003; lowest measured, dry, several months in water years 1980–84.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	10.80	DEC 23	8.75	FEB 25	7.44	APR 30	5.85	JUN 24	6.33	AUG 27	8.48
NOV 26	9.68	JAN 23	7.95	MAR 31	6.57	MAY 28	3.28	JUL 24	7.62	SEP 24	9.14

WATER YEAR 2003 HIGHEST 3.28 MAY 28, 2003 LOWEST 10.80 OCT 30, 2002

GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY

422058072085501. Hardwick well HHW 1.

LOCATION.--Lat 42°20'58", long 72°08'55", Worcester County, Hydrologic Unit 01080204, 30 ft southeast of State Highway 32 and 0.6 mi southwest of Hardwick Road in Hardwick.
Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in., depth 33.2 ft, screened 31.2 to 33.2 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 580 ft above National Geodetic Vertical Datum of 1929. 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, 9.17 ft below land-surface datum, Apr. 24, 2000; lowest measured, 17.77 ft below land-surface datum, Nov. 22, 1965.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	15.63	DEC 22	11.37	FEB 23	14.90	APR 25	11.39	JUN 22	11.91	AUG 24	14.50
NOV 29	14.89	JAN 25	13.78	MAR 22	9.91	MAY 24	12.67	JUL 26	14.13	SEP 27	15.00

WATER YEAR 2003 HIGHEST 9.91 MAR 22, 2003 LOWEST 15.63 OCT 27, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 490 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft above land-surface datum.

REMARKS.--Ground-water level, since about April 2003, affected by nearby Muddy Brook, which is affected by backwater from beaver activity.

PERIOD OF RECORD.--November 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.48 ft below land-surface datum, (see REMARKS) Apr. 25, 2003; lowest measured, 12.34 ft below land-surface datum, Nov. 21, 1997.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	10.35	DEC 19	10.21	FEB 20	10.44	APR 25	9.48	JUL 22	9.64	SEP 25	9.73
NOV 26	10.16	JAN 29	10.29	MAR 20	9.94	MAY 20	9.63	AUG 26	9.87		

WATER YEAR 2003 HIGHEST 9.48 APR 25, 2003 LOWEST 10.44 FEB 20, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 370 ft above National Geodetic Vertical Datum of 1929. 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, 3.02 ft below land-surface datum, June 27, 1998; lowest measured, 5.14 ft below land-surface datum, Oct. 22, 1986.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	4.56	DEC 22	3.56	FEB 23	4.09	APR 25	3.52	JUN 22	3.46	AUG 24	3.81
NOV 29	4.05	JAN 25	3.95	MAR 22	3.58	MAY 24	3.83	JUL 26	3.60	SEP 27	3.07

WATER YEAR 2003 HIGHEST 3.07 SEP 27, 2003 LOWEST 4.56 OCT 27, 2002

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 790 ft above National Geodetic Vertical Datum of 1929. 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, 16.93 ft below land-surface datum, Dec. 19, 2001.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	16.54	DEC 30	13.13	FEB 24	14.07	APR 23	9.05	JUN 23	12.71	AUG 25	14.97
NOV 25	15.42	JAN 22	13.18	MAR 25	5.80	MAY 19	12.56	JUL 29	14.42	SEP 24	15.37

WATER YEAR 2003 HIGHEST 5.80 MAR 25, 2003 LOWEST 16.54 OCT 24, 2002

421851071312601. Southborough well SSW 12.

LOCATION.--Lat 42°18'51", long 71°31'26", Worcester County, Hydrologic Unit 01070005, 50 ft north of Overlook Drive circle, approximately 0.75 mi 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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 450 ft above National Geodetic Vertical Datum of 1929. 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, 16.90 ft below land-surface datum, Dec. 20, 2001.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	11.84	DEC 17	1.80	FEB 26	2.06	APR 28	2.34	JUN 26	2.83	AUG 20	6.89
NOV 21	3.33	JAN 30	4.83	MAR 26	1.60	MAY 28	2.00	JUL 23	8.29	SEP 23	9.44

WATER YEAR 2003 HIGHEST 1.60 MAR 26, 2003 LOWEST 11.84 OCT 31, 2002

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: Private owner.

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 710 ft above National Geodetic Vertical Datum of 1929. 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, 0.71 ft below land-surface datum, Feb. 23, 2003; dry, Nov. 28, 1964.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	9.45	DEC 22	1.32	FEB 23	0.71	APR 25	2.67	JUN 22	2.84	AUG 24	6.33
NOV 29	2.88	JAN 25	3.11	MAR 22	.74	MAY 24	2.66	JUL 26	6.52	SEP 27	7.99

WATER YEAR 2003 HIGHEST 0.71 FEB 23, 2003 LOWEST 9.45 OCT 27, 2002

422520071483001. Sterling well SYW 177.

LOCATION.--Lat 42°25'20", long 71°48'30", Worcester County, Hydrologic Unit 01070004, 20 ft east of State Route 140 and 200 ft northwest of Fox Run Road in Sterling, MA.
Owner: Metropolitan District Commission.

AQUIFER.--Glacial sand and gravel of pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in., depth 24.4 ft, screened 14.4 to 24.4 ft.

INSTRUMENTATION.--Monthly or more frequent measurements with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 505 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.2 ft above land-surface datum.

PERIOD OF RECORD.--June 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.40 ft below land-surface datum, Jan. 29, 1996; lowest measured, 16.17 ft below land-surface datum, Sept. 29, 2000.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	15.47	DEC 27	13.58	MAR 22	13.35	MAY 24	14.33	JUL 26	14.55	SEP 27	14.96
NOV 26	14.04	JAN 25	14.49	APR 25	13.88	JUN 22	13.93	AUG 24	14.39		

WATER YEAR 2003 HIGHEST 13.35 MAR 22, 2003 LOWEST 15.47 OCT 28, 2002

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 13.8 ft, screened 11.8 to 13.8 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 900 ft above National Geodetic Vertical Datum of 1929. 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, 1.99 ft below land-surface datum, Jan. 25, 1996; lowest measured, 5.10 ft below land-surface datum, Sept. 29, 1964.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	3.84	DEC 22	2.89	FEB 23	3.58	APR 25	3.36	JUN 22	3.68	AUG 24	3.70
NOV 29	3.53	JAN 25	3.60	MAR 22	2.56	MAY 24	3.67	JUL 26	4.12	SEP 27	3.56

WATER YEAR 2003 HIGHEST 2.56 MAR 22, 2003 LOWEST 4.12 JUL 26, 2003

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 500 ft above National Geodetic Vertical Datum of 1929. 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, 17.91 ft below land-surface datum, Nov. 23, 2001.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	15.14	DEC 22	13.77	FEB 23	14.65	APR 25	12.58	JUN 22	12.76	AUG 24	13.97
NOV 29	14.30	JAN 25	13.64	MAR 22	13.37	MAY 24	13.79	JUL 26	13.69	SEP 27	14.58

WATER YEAR 2003 HIGHEST 12.58 APR 25, 2003 LOWEST 15.14 OCT 27, 2002

GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY--Continued

422341071464901. West Boylston well WSW 26.

LOCATION.--Lat 42°23'41", long 71°46'49", Worcester County, Hydrologic Unit 01070004, 50 ft west of Prescott Street and about 0.2 mi south of Pleasant Street in West Boylston, MA.
Owner: Metropolitan District Commission.

AQUIFER.--Glacial sand and gravel of pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in., depth 16.8 ft, screened 6.8 to 16.8 ft.

INSTRUMENTATION.--Monthly or more frequent measurements with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 485 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--June 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.30 ft below land-surface datum, Jan. 29, 1996; lowest measured, 11.48 ft below land-surface datum, Oct. 27, 1997.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	9.76	DEC 27	3.32	MAR 22	2.40	MAY 24	3.07	JUL 26	6.90	SEP 27	7.18
NOV 26	6.30	FEB 25	4.74	APR 25	3.80	JUN 22	5.64	AUG 24	7.23		

WATER YEAR 2003 HIGHEST 2.40 MAR 22, 2003 LOWEST 9.76 OCT 28, 2002

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 electric or chalked tape.

DATUM.--Elevation of land-surface datum is 630 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	20.89	DEC 22	20.38	FEB 23	19.68	APR 25	18.20	JUN 22	18.00	AUG 24	18.35
NOV 29	20.56	JAN 25	19.70	MAR 22	19.30	MAY 24	17.94	JUL 26	17.92	SEP 27	18.84

WATER YEAR 2003 HIGHEST 17.92 JUL 26, 2003 LOWEST 20.89 OCT 27, 2002

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: Private owner.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in., depth 13.5 ft, cased with stone to 13.5 ft, open end.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape.

DATUM.--Elevation of land-surface datum is 1,209.36 ft above National Geodetic Vertical Datum of 1929. 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, 13.50 ft below land-surface datum, Nov. 19, 1993.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	12.22	DEC 22	4.47	FEB 23	5.85	APR 25	3.32	JUN 22	4.60	AUG 24	7.30
NOV 29	8.47	JAN 25	5.45	MAR 22	3.01	MAY 24	3.81	JUL 26	8.32	SEP 27	9.67

WATER YEAR 2003 HIGHEST 3.01 MAR 22, 2003 LOWEST 12.22 OCT 27, 2002

GROUND-WATER LEVELS IN RHODE ISLAND

KENT COUNTY

414223071453701. Coventry well COW 342.

LOCATION.--Lat 41°42'23", long 71°45'37", Kent County, Hydrologic Unit 01090004, town of Coventry, Plainfield Pike (Rt. 14) 1/4 mi from intersection with Rt. 117.
Owner: Private owner.

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 above National Geodetic Vertical Datum of 1929. Measuring point: Top of well casing, 0.29 ft above land-surface datum; 2.18 ft above land-surface datum prior to Aug. 24, 2000.

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, 11.91 ft below land-surface datum, Aug. 24, 1999.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	10.36	JAN 22	8.01	APR 21	6.69	JUN 20	8.19	AUG 05	9.94	SEP 08	9.81
NOV 26	8.49	FEB 20	9.39	MAY 21	8.69	JUL 07	8.94	27	9.89	22	10.06
DEC 23	7.04	MAR 20	7.12	JUN 04	8.35	23	9.15				

WATER YEAR 2003 HIGHEST 6.69 APR 21, 2003 LOWEST 10.36 OCT 21, 2002

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: Private owner.

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 above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	22.45	JAN 23	20.34	APR 24	20.03	JUN 23	20.53	AUG 01	21.15	SEP 08	21.63
NOV 26	21.20	FEB 21	21.62	MAY 21	20.37	JUL 07	20.21	05	21.30	22	21.91
DEC 24	20.57	MAR 21	21.09	JUN 04	20.75	23	20.89	27	21.36		

WATER YEAR 2003 HIGHEST 20.03 APR 24, 2003 LOWEST 22.45 OCT 21, 2002

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: Audobon 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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 345 ft above National Geodetic Vertical Datum of 1929. 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, 1.91 ft below land-surface datum, Nov. 20, 1995; lowest measured, 5.61 ft below land-surface datum, Aug. 26, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	3.22	JAN 23	2.64	APR 28	2.49	JUN 25	2.63	AUG 05	3.41	SEP 08	3.21
NOV 22	2.46	FEB 24	2.37	JUN 04	2.70	JUL 07	3.41	27	3.68	22	3.27
DEC 23	2.38	MAR 24	2.39	09	2.62	23	2.75				

WATER YEAR 2003 HIGHEST 2.37 FEB 24, 2003 LOWEST 3.68 AUG 27, 2003

GROUND-WATER LEVELS IN RHODE ISLAND

KENT COUNTY--Continued

414106071223901. Warwick well WCW 59.

LOCATION.--Lat 41°41'06", long 71°22'39", Kent County, Hydrologic Unit 01090004, town of Warwick, Warwick Neck, Our Lady of Providence Seminary. Former Senitor Aldrich mansion. Next to Rocky Point Amusement Park.
Owner: Our Lady of Providence 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 above National Geodetic Vertical Datum of 1929. Measuring point: hole in cement cap, 3.26 ft above land-surface datum; prior to June 18, 2003, 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	19.12	JAN 22	4.91	APR 21	4.64	JUN 16	4.56	JUN 24	4.16	AUG 27	5.83
NOV 22	14.47	FEB 20	5.29	MAY 21	5.19	JUN 18	4.92	JUL 22	5.85	SEP 22	6.93
DEC 23	4.42	MAR 20	4.29								

WATER YEAR 2003 HIGHEST 4.16 JUN 24, 2003 LOWEST 19.12 OCT 21, 2002

413907071465001. West Greenwich well WGW 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: Private owner.

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 above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	16.13	JAN 22	14.99	APR 21	14.27	JUN 04	15.45	JUL 23	15.81	SEP 08	15.77
NOV 26	14.38	FEB 20	15.87	MAY 02	14.76	20	14.90	AUG 05	15.90	22	15.87
DEC 23	13.50	MAR 20	14.63	21	15.53	JUL 07	15.17	27	15.85		

WATER YEAR 2003 HIGHEST 13.50 DEC 23, 2002 LOWEST 16.13 OCT 21, 2002

413645071332901. West Greenwich well WGW 206.

LOCATION.--Lat 41°36'45", long 71°33'29", Kent County, Hydrologic Unit 01090004, town of West Greenwich, Hopkins Hill Road.
Owner: Private owner.

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 above National Geodetic Vertical Datum of 1929. Measuring point: arrow on board over well, 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, Oct. 25, 1993, Sept. 27, 1995, Oct. 23, 1997.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	5.47	JAN 23	4.23	APR 24	3.70	JUN 23	3.30	AUG 01	4.55	SEP 08	4.44
NOV 26	4.04	FEB 21	4.44	MAY 21	4.13	JUL 07	4.30	05	4.50	22	4.81
DEC 24	3.77	MAR 21	3.44	JUN 04	3.79	23	4.24	27	4.39		

WATER YEAR 2003 HIGHEST 3.30 JUN 23, 2003 LOWEST 5.47 OCT 21, 2002

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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 100 ft above National Geodetic Vertical Datum of 1929. 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, 3.23 ft below land-surface datum, Jan. 22, 1996; lowest measured, dry, Aug. 25, Sept. 29, Oct. 26, Dec. 2, 1993.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	16.03	JAN 27	11.68	APR 28	5.65	JUN 27	9.32	JUL 24	15.32	AUG 26	13.84
NOV 26	7.77	FEB 24	12.39	JUN 09	9.39	30	10.01	29	15.63	SEP 26	16.36
DEC 23	6.16	MAR 24	9.22								

WATER YEAR 2003 HIGHEST 5.65 APR 28, 2003 LOWEST 16.36 SEP 26, 2003

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.
Owner: State of Rhode Island.

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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 245 ft above National Geodetic Vertical Datum of 1929. 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, 24.42 ft below land-surface datum, Mar. 21, 2000; lowest measured, dry, Sept. 29, Oct. 26, 1993.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	44.41	JAN 28	33.91	APR 28	27.63	JUN 27	31.54	JUL 28	39.89	AUG 28	38.21
NOV 25	29.23	FEB 26	35.84	JUN 10	31.84	30	32.42	29	40.13	SEP 25	41.76
DEC 27	25.46	MAR 25	31.51								

WATER YEAR 2003 HIGHEST 25.46 DEC 27, 2002 LOWEST 44.41 OCT 29, 2002

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: Private owner.

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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 160 ft above National Geodetic Vertical Datum of 1929. Measuring point: Spray painted arrow on cross beam, 2.12 ft above land-surface datum; prior to July 18, 2001, 1.90 ft above land-surface datum.

PERIOD OF RECORD.--December 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.43 ft below land-surface datum, Mar. 27, 2002; lowest measured, 13.61 ft below land-surface datum, June. 26, 2000.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	8.39	JAN 27	3.30	APR 28	0.81	JUN 27	1.71	JUL 28	3.72	AUG 28	3.63
NOV 26	1.89	FEB 24	.83	JUN 10	1.21	30	2.26	29	4.27	SEP 26	5.69
DEC 23	1.03	MAR 24	1.00								

WATER YEAR 2003 HIGHEST .81 APR 28, 2003 LOWEST 8.39 OCT 31, 2002

GROUND-WATER LEVELS IN RHODE ISLAND

PROVIDENCE COUNTY

415710071402201. Burrillville well BUW 187.

LOCATION.--Lat 41°57'10", long 71°40'22", Providence County, Hydrologic Unit 01090003, town of Burrillville, 25 ft east of road and 75 ft southwest of a house 0.6 mi north of intersection of Harrisville and Lapham Farm Roads, and 0.9 mi south of Harrisville.
Owner: Brothers of the Sacred Heart.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in., depth 19.8 ft, lined with stone to 19.8 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 462 ft above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	17.58	JAN 22	15.16	MAR 20	14.96	MAY 21	14.71	JUL 02	14.47	AUG 27	15.65
NOV 26	16.50	FEB 20	15.47	APR 21	14.08	JUN 24	14.47	22	15.21	SEP 22	17.06
DEC 23	15.63										

WATER YEAR 2003 HIGHEST 14.08 APR 21, 2003 LOWEST 17.58 OCT 21, 2002

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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 575 ft above National Geodetic Vertical Datum of 1929. 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, 4.70 ft below land-surface datum, June 11, 2003; lowest measured, dry, Sept. 26, 1995.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	12.97	JAN 28	6.83	MAR 25	5.16	JUN 11	4.70	JUL 01	6.34	AUG 28	9.15
NOV 27	9.42	FEB 26	6.60	APR 28	6.05	30	6.24	28	7.46	SEP 26	9.89
DEC 23	5.65										

WATER YEAR 2003 HIGHEST 4.70 JUN 11, 2003 LOWEST 12.97 OCT 29, 2002

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 mi 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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 530 ft above National Geodetic Vertical Datum of 1929. 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, 3.32 ft below land-surface datum, Mar. 28, 1994; lowest measured, 7.65 ft below land-surface datum, Aug. 25, 1999.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	6.80	JAN 28	5.30	MAR 25	4.41	JUN 11	6.04	JUL 01	5.07	AUG 27	6.15
NOV 27	5.39	FEB 24	4.75	APR 28	4.90	30	5.01	29	5.36	SEP 25	5.76
DEC 24	4.39										

WATER YEAR 2003 HIGHEST 4.39 DEC 24, 2002 LOWEST 6.80 OCT 29, 2002

GROUND-WATER LEVELS IN RHODE ISLAND

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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 705 ft above National Geodetic Vertical Datum of 1929. 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, 7.00 ft below land-surface datum, Mar. 28, 1994; lowest measured, dry, several times in water years 1993, 1998, 1999.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	DRY	JAN 28	14.11	MAR 25	13.11	JUN 11	11.15	JUL 01	11.48	AUG 28	DRY
NOV 27	DRY	FEB 26	16.58	APR 28	10.44	30	11.22	28	16.85	SEP 26	19.60
DEC 23	14.60										

WATER YEAR 2003 HIGHEST 10.44 APR 28, 2003 LOWEST MEASURED 19.60 SEP 26, 2003

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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 615 ft above National Geodetic Vertical Datum of 1929. 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, 2.65 ft below land-surface datum, Mar. 28, 1994; lowest measured, dry, several times in water year 1998.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	DRY	DEC 23	5.30	FEB 26	7.65	APR 28	7.07	JUN 30	7.33	AUG 28	9.55
NOV 27	DRY	JAN 28	6.84	MAR 25	6.52	JUN 11	7.10	JUL 01	7.46	SEP 26	10.50

WATER YEAR 2003 HIGHEST 5.30 DEC 23, 2002 LOWEST MEASURED 10.50 SEP 26, 2003

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 mi 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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 395 ft above National Geodetic Vertical Datum of 1929. Measuring point: Notch in PVC casing, 1.55 ft above land-surface datum; prior to May 5, 2003, 1.8 ft above land-surface datum.

PERIOD OF RECORD.--September 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.57 ft below land-surface datum, Mar. 24, 1998; lowest measured, dry, Oct. 26, Nov. 29, 1994.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	20.04	JAN 23	9.75	MAR 24	8.92	MAY 05	7.88	JUN 25	12.20	AUG 25	17.72
NOV 22	18.66	FEB 24	13.43	MAY 01	7.12	JUN 09	11.94	JUL 25	15.67	SEP 25	18.64
DEC 23	12.14										

WATER YEAR 2003 HIGHEST 7.12 MAY 01, 2003 LOWEST 20.04 OCT 29, 2002

PROVIDENCE COUNTY--Continued

415626071254601. Cumberland well CUW 265.

LOCATION.--Lat 41°56'26", long 71°25'46", Providence County, Hydrologic Unit 01090003, town of Cumberland, at 27 Scott Street, 900 ft northeast of intersection of Scott Street and Mendon Road in Ashton.
Owner: Private owner.

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 above National Geodetic Vertical Datum of 1929. Measuring point: hole in cement cap, 0.34 ft above land-surface datum; prior to July 10, 2003, 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	12.81	JAN 22	11.12	APR 21	10.05	JUN 24	9.87	JUL 10	10.45	AUG 27	11.10
NOV 26	10.29	FEB 20	11.21	MAY 21	10.46	JUL 02	10.57	22	10.70	SEP 22	11.01
DEC 23	9.33	MAR 20	10.10								

WATER YEAR 2003 HIGHEST 9.33 DEC 23, 2002 LOWEST 12.81 OCT 21, 2002

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: Private owner.

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 above National Geodetic Vertical Datum of 1929. Measuring point: hole in cement cap, 0.57 ft above land-surface datum; prior to July 15, 1998, spray painted arrow at 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	9.00	JAN 22	4.80	MAR 20	2.62	MAY 21	5.49	JUN 24	2.97	AUG 27	6.33
NOV 26	3.63	FEB 20	5.57	APR 21	3.97	JUN 17	3.94	JUL 22	7.28	SEP 22	5.71
DEC 23	2.77										

WATER YEAR 2003 HIGHEST 2.62 MAR 20, 2003 LOWEST 9.00 OCT 21, 2002

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 mi 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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 345 ft above National Geodetic Vertical Datum of 1929. 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, 2.36 ft below land-surface datum, Mar. 28, 1994; lowest measured, dry, several times in water years 1993, 1994, and 1998.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	DRY	JAN 23	5.32	MAR 24	4.00	JUN 09	5.43	JUL 25	7.33	AUG 25	9.28
NOV 22	12.13	FEB 24	5.74	APR 28	4.09	25	5.39	AUG 05	8.95	SEP 26	10.82
DEC 23	5.72										

WATER YEAR 2003 HIGHEST 4.00 MAR 24, 2003 LOWEST MEASURED 12.13 NOV 22, 2002

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 above National Geodetic Vertical Datum of 1929. 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, 7.36 ft below land-surface datum, Aug. 24, 1999.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	6.04	JAN 22	5.45	MAR 20	3.40	MAY 21	5.10	JUL 03	4.14	AUG 27	4.90
NOV 26	5.16	FEB 20	5.62	APR 21	4.12	JUN 24	1.19	22	4.62	SEP 22	5.10
DEC 23	3.40										

WATER YEAR 2003 HIGHEST 1.19 JUN 24, 2003 LOWEST 6.04 OCT 21, 2002

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: Private owner.

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 National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	10.27	JAN 22	7.30	MAR 20	5.46	MAY 21	7.59	JUL 02	6.68	AUG 27	8.65
NOV 26	7.74	FEB 20	8.02	APR 21	6.37	JUN 24	5.22	22	8.22	SEP 22	8.85
DEC 23	5.83										

WATER YEAR 2003 HIGHEST 5.22 JUN 24, 2003 LOWEST 10.27 OCT 21, 2002

GROUND-WATER LEVELS IN RHODE ISLAND

PROVIDENCE COUNTY--Continued

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 National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	5.08	JAN 22	4.27	MAR 20	4.24	MAY 21	4.17	JUL 22	4.17	AUG 27	4.30
NOV 22	4.58	FEB 20	4.57	APR 21	3.91	JUN 24	3.71	31	4.14	SEP 22	4.35
DEC 23	4.16										

WATER YEAR 2003 HIGHEST 3.71 JUN 24, 2003 LOWEST 5.08 OCT 21, 2002

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 above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	20.97	JAN 23	16.33	APR 24	14.44	JUN 23	14.50	JUL 28	16.62	SEP 08	18.01
NOV 25	20.00	FEB 20	18.11	MAY 21	15.13	JUL 07	15.27	AUG 05	17.09	22	18.38
DEC 23	18.43	MAR 21	16.12	JUN 04	15.69	23	16.33	27	17.67		

WATER YEAR 2003 HIGHEST 14.44 APR 24, 2003 LOWEST 20.97 OCT 21, 2002

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 mi 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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 125 ft above National Geodetic Vertical Datum of 1929. 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, 1.84 ft below land-surface datum, Mar. 28, 2002; lowest measured, dry, Aug. 26, 1999.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	2.93	JAN 24	3.85	APR 29	3.08	JUN 26	3.78	JUL 28	4.02	SEP 08	3.94
NOV 26	3.24	FEB 25	2.99	JUN 04	3.44	JUL 07	3.87	AUG 05	3.98	22	4.06
DEC 23	3.21	MAR 26	3.28	10	3.46	23	3.86	27	4.02		

WATER YEAR 2003 HIGHEST 2.93 OCT 29, 2002 LOWEST 4.06 SEP 22, 2003

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 mi 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 electric or chalked tape by Rhode Island Department of Environmental Management.

DATUM.--Elevation of land-surface datum is 90 ft above National Geodetic Vertical Datum of 1929. 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, 2.35 ft below land-surface datum, Mar. 24, 1999; lowest measured, 12.56 ft below land-surface datum, July 30, 2002.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	5.66	JAN 24	7.50	APR 29	4.18	JUN 26	7.35	JUL 28	10.50	SEP 08	10.51
NOV 26	4.43	FEB 25	6.93	JUN 04	6.79	JUL 07	8.96	AUG 05	10.84	22	10.92
DEC 23	4.85	MAR 26	4.96	10	5.74	23	10.27	27	10.43		

WATER YEAR 2003 HIGHEST 4.18 APR 29, 2003 LOWEST 10.92 SEP 22, 2003

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

413423071431901. Exeter well EXW 6.

LOCATION.--Lat 41°34'23", long 71°43'19", Washington County, Hydrologic Unit 01090005, town of Exeter, in Arcadia State Forest, 150 ft west of Wood River, 250 ft south of Ten Rod Road, and 2.0 mi west of Millville.
Owner: State Dept. of Natural Resources.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in., depth 10 ft, cased with concrete to 10 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 132.80 ft above National Geodetic Vertical Datum of 1929. Measuring point: hole in cement cap, 0.40 ft above land-surface datum; prior to July 10, 1998, 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	6.87	JAN 22	5.44	APR 21	4.68	JUN 06	4.72	JUL 23	5.61	SEP 08	6.11
NOV 26	5.99	FEB 20	5.88	MAY 21	5.35	24	4.71	AUG 05	5.95	22	6.32
DEC 23	4.78	MAR 20	4.85	JUN 04	5.13	JUL 07	5.60	27	6.18		

WATER YEAR 2003 HIGHEST 4.68 APR 21, 2003 LOWEST 6.87 OCT 21, 2002

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 above National Geodetic Vertical Datum of 1929. 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, 3.85 ft below land-surface datum, Mar. 25, 1994; lowest measured, dry, several times during water years 1994 and 1998.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	17.31	JAN 22	6.45	APR 21	5.48	JUN 06	6.25	JUL 23	10.98	SEP 08	14.21
NOV 26	12.43	FEB 20	8.24	MAY 21	7.45	24	6.03	AUG 05	12.46	22	14.76
DEC 23	5.61	MAR 20	5.13	JUN 04	7.03	JUL 07	8.27	27	13.55		

WATER YEAR 2003 HIGHEST 5.13 MAR 20, 2003 LOWEST 17.31 OCT 21, 2002

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: Private owner.

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 above National Geodetic Vertical Datum of 1929. Measuring point: hole in cement cap, 0.45 ft above land-surface datum; prior to June 18, 2003, 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, 13.61 ft below land-surface datum, July 22, 1999.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	12.10	JAN 23	11.77	APR 24	11.11	JUN 17	11.46	JUL 07	12.15	AUG 27	12.40
NOV 26	11.63	FEB 21	12.02	MAY 21	12.05	18	11.46	23	11.95	SEP 08	12.15
DEC 24	11.02	MAR 21	11.01	JUN 04	11.64	23	11.32	AUG 05	12.15	22	12.46

WATER YEAR 2003 HIGHEST 11.01 MAR 21, 2003 LOWEST 12.46 SEP 22, 2003

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

413135071314201. Exeter well EXW 278.

LOCATION.--Lat 41°31'35", long 71°31'42", Washington County, Hydrologic Unit 01090005, town of Exeter, Liberty Road 1.04 mi from Rt. 2. Owner: Private owner.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 23.9 ft, cased with stone to 23.9 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 230.90 ft above National Geodetic Vertical Datum of 1929. Measuring point: hole in cement cap, 1.77 ft above land-surface datum; prior to July 9, 1998, spray painted arrow at 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, several times in water years 1993, 1994, and 1998.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	22.40	JAN 23	9.55	APR 24	5.71	JUN 20	7.41	AUG 05	12.91	SEP 08	11.54
NOV 26	18.05	FEB 21	12.13	MAY 21	9.21	JUL 07	9.95	27	10.56	22	12.93
DEC 24	12.59	MAR 21	7.45	JUN 04	8.16	23	11.83				

WATER YEAR 2003 HIGHEST 5.71 APR 24, 2003 LOWEST 22.40 OCT 21, 2002

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-min punch) June 1988 to current year.

DATUM.--Land-surface datum is 142.92 ft above National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 3.38 ft above land-surface datum.

PERIOD OF RECORD.--March 1981 to current year.

REMARKS.--Missing periods of more than one day are not estimated.

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, Sept. 17, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.65	16.75	15.85	14.69	14.23	14.49	13.28	12.77	13.49	13.58	14.35	14.87
2	16.66	16.75	15.84	14.65	14.23	14.46	13.18	12.76	13.52	13.61	14.37	14.89
3	16.68	16.76	15.83	14.61	14.27	14.37	13.11	12.79	13.54	13.63	14.39	14.88
4	16.69	16.77	15.81	14.54	14.27	14.34	13.05	12.83	13.56	13.65	14.41	14.89
5	16.71	16.78	15.81	14.47	14.31	14.29	13.00	12.85	13.54	13.67	14.44	14.90
6	16.71	16.78	15.79	14.41	14.34	14.26	12.98	12.87	13.54	13.70	14.46	14.93
7	16.71	16.78	15.79	14.35	14.34	14.24	12.97	12.89	13.55	13.73	14.48	14.94
8	16.72	16.77	15.78	14.28	14.36	14.21	12.94	12.92	13.54	13.75	14.43	14.97
9	16.73	16.77	15.78	14.23	14.37	14.19	12.91	12.95	13.55	13.78	14.37	14.99
10	16.74	16.78	15.77	14.20	14.39	14.17	12.89	12.97	13.57	13.81	14.37	15.01
11	16.75	16.78	15.77	14.17	14.42	14.16	12.85	12.98	13.58	13.83	14.37	15.04
12	16.75	16.77	15.74	14.14	14.44	14.15	12.80	13.00	13.59	13.84	14.40	15.06
13	16.76	16.72	15.72	14.11	14.46	14.14	12.80	13.04	13.60	13.87	14.43	15.08
14	16.76	16.66	15.67	14.09	14.48	14.13	12.79	13.09	13.56	13.90	14.46	15.10
15	16.77	16.62	15.63	14.07	14.51	14.13	12.76	13.13	13.53	13.92	14.48	15.12
16	16.77	16.58	15.58	14.06	14.54	14.12	12.74	13.17	13.53	13.94	14.50	15.13
17	16.76	16.52	15.54	14.04	14.55	14.10	12.77	13.20	13.52	13.96	14.52	15.14
18	16.74	16.43	15.50	14.04	14.56	14.07	12.77	13.22	13.49	14.00	14.54	15.15
19	16.74	16.34	15.45	14.03	14.59	14.07	12.77	13.26	13.45	14.03	14.55	15.17
20	16.74	16.27	15.40	14.03	14.61	14.05	12.77	13.29	13.45	14.06	14.57	15.19
21	16.75	16.21	15.31	14.04	14.63	13.98	12.77	13.32	13.45	14.09	14.59	15.21
22	16.76	16.14	15.23	14.04	14.64	13.89	12.77	13.36	13.45	14.12	14.61	15.23
23	16.77	16.09	15.16	14.05	14.56	13.82	12.75	13.38	13.43	14.14	14.63	15.24
24	16.78	16.04	15.09	14.08	14.52	13.77	12.77	13.41	13.43	14.15	14.66	15.27
25	16.79	16.01	15.02	14.10	14.51	13.71	12.80	13.43	13.44	14.16	14.68	15.29
26	16.79	15.97	14.97	14.11	14.51	13.66	12.81	13.45	13.44	14.18	14.70	15.30
27	16.77	15.94	14.91	14.13	14.49	13.63	12.77	13.42	13.46	14.19	14.73	15.31
28	16.75	15.92	14.86	14.16	14.48	13.60	12.75	13.41	13.50	14.23	14.76	15.33
29	16.75	15.89	14.81	14.18	---	13.57	12.73	13.42	13.54	14.26	14.79	15.35
30	16.74	15.87	14.78	14.21	---	13.49	12.76	13.45	13.56	14.30	14.81	15.37
31	16.75	---	14.73	14.22	---	13.38	---	13.48	---	14.32	14.85	---
MEAN	16.74	16.45	15.45	14.21	14.45	14.02	12.86	13.15	13.51	13.95	14.54	15.11
LOW	16.79	16.78	15.85	14.69	14.64	14.49	13.28	13.48	13.60	14.32	14.85	15.37
HIGH	16.65	15.87	14.73	14.03	14.23	13.38	12.73	12.76	13.43	13.58	14.35	14.87

WTR YR 2003 INSTANTANEOUS HIGH 12.73 APR. 16, 29 LOW 16.79 OCT. 24, 25, 26, 27

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

413252071323601. Exeter well EXW 554.

LOCATION.--Lat 41°32'52", long 71°32'36", Washington County, hydrologic Unit 01090005, town of Exeter, about 1,500 ft south of fire station at Exeter State (Dr. Joseph H. Ladd) School. One half mile west of Rt. 2 on Dawley Rd. and approximately 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 obsevation 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.--Digital recorder (15-minute interval), October 2002 to present; prior to October 2002, monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 156.92 ft above National Geodetic Vertical Datum of 1929. 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, 7.03 ft below land-surface datum, Mar. 28, 2001; lowest measured, 12.20 ft below land-surface datum, Nov. 29, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	10.91	9.87	9.16	9.53	9.52	9.01	8.87	9.52	9.24	9.77	9.54
2	---	10.92	9.89	9.08	9.54	9.39	9.02	8.91	9.52	9.26	9.75	9.43
3	---	10.92	9.90	9.03	9.57	9.11	9.03	8.95	9.55	9.26	9.78	9.44
4	---	10.93	9.91	8.85	9.57	9.11	9.04	8.99	9.55	9.26	9.80	9.43
5	---	10.93	9.91	8.79	9.60	9.12	9.04	9.02	9.39	9.29	9.82	9.46
6	---	10.91	9.93	8.78	9.64	9.10	9.07	9.05	9.35	9.32	9.84	9.51
7	---	10.89	9.95	8.77	9.65	9.15	9.08	9.07	9.34	9.35	9.85	9.54
8	---	10.88	9.97	8.76	9.68	9.19	9.08	9.10	9.32	9.38	9.52	9.57
9	---	10.88	9.99	8.76	9.70	9.14	9.07	9.12	9.33	9.41	9.43	9.59
10	---	10.88	10.01	8.79	9.71	9.07	9.04	9.15	9.33	9.44	9.46	9.60
11	---	10.87	10.02	8.84	9.74	9.11	8.99	9.18	9.36	9.40	9.48	9.62
12	---	10.87	9.91	8.89	9.76	9.15	8.85	9.19	9.39	9.42	9.50	9.67
13	---	10.80	9.90	8.91	9.79	9.19	8.81	9.22	9.38	9.47	9.52	9.72
14	---	10.72	9.77	8.96	9.81	9.25	8.84	9.25	9.31	9.50	9.53	9.74
15	---	10.69	9.70	9.00	9.82	9.28	8.84	9.29	9.27	9.52	9.56	9.77
16	---	10.67	9.70	9.03	9.83	9.29	8.86	9.32	9.29	9.54	9.59	9.78
17	---	10.50	9.70	9.06	9.87	9.29	8.88	9.35	9.32	9.57	9.59	9.81
18	---	10.36	9.69	9.10	9.88	9.29	8.88	9.37	9.30	9.59	9.51	9.83
19	---	10.28	9.66	9.13	9.90	9.30	8.89	9.40	9.28	9.62	9.34	9.84
20	---	10.22	9.58	9.17	9.92	9.32	8.90	9.42	9.29	9.65	9.34	9.87
21	---	10.17	9.42	9.20	9.93	9.23	8.94	9.45	9.31	9.68	9.34	9.90
22	---	10.08	9.39	9.24	9.87	9.17	8.92	9.46	9.21	9.70	9.35	9.93
23	---	10.01	9.39	9.27	9.54	9.18	8.85	9.47	9.09	9.64	9.37	9.95
24	---	9.98	9.39	9.31	9.40	9.23	8.86	9.50	9.04	9.65	9.38	9.98
25	---	9.93	9.33	9.33	9.37	9.28	8.91	9.52	9.07	9.67	9.38	10.00
26	---	9.87	9.21	9.35	9.38	9.31	8.89	9.48	9.11	9.69	9.40	10.03
27	---	9.86	9.17	9.38	9.42	9.35	8.73	9.41	9.14	9.71	9.42	10.05
28	---	9.85	9.15	9.40	9.47	9.37	8.73	9.44	9.18	9.75	9.46	10.07
29	---	9.86	9.16	9.44	---	9.38	8.76	9.47	9.20	9.77	9.48	10.08
30	---	9.85	9.18	9.47	---	9.20	8.83	9.51	9.22	9.79	9.51	10.11
31	10.91	---	9.16	9.51	---	9.01	---	9.55	---	9.80	9.53	---
MEAN	---	10.48	9.64	9.09	9.67	9.23	8.92	9.27	9.30	9.53	9.54	9.76
LOW	---	10.93	10.02	9.51	9.93	9.52	9.08	9.55	9.55	9.80	9.85	10.11
HIGH	---	9.85	9.15	8.76	9.37	9.01	8.73	8.87	9.04	9.24	9.34	9.43

WTR YR 2003 INSTANTANEOUS HIGH 8.72 APRIL 27 AND 28 LOW 10.94 NOV. 5

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: Private.

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 above National Geodetic Vertical Datum of 1929. Measuring point: top of casing at 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, 9.55 ft below land-surface datum, Mar. 28, 2001; lowest measured, dry, Oct. 29, 1957.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	21.18	JAN 22	15.46	APR 21	11.46	JUN 20	11.00	AUG 05	16.57	SEP 08	16.99
NOV 26	18.48	FEB 20	17.40	MAY 21	13.70	JUL 07	14.53	27	16.52	22	17.46
DEC 23	16.78	MAR 20	14.32	JUN 04	13.14	23	15.87				

WATER YEAR 2003 HIGHEST 11.00 JUN 20, 2003 LOWEST 21.18 OCT 21, 2002

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

410947071344803. New Shoreham well NHW 258.

LOCATION.--Lat 41°09'47", long 71°34'48", Washington County, Hydrologic Unit 01090005, town of New Shoreham, Lakeside Drive near Indian Cemetary.
Owner: State of Rhode Island, D.O.T.

AQUIFER.--Till of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.0 in, depth 19.0 ft, cased to 14.0 ft, screened from 14.0 ft to 19.0 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape by observer.

DATUM.--Elevation of land-surface datum is 120 ft above National Geodetic Vertical Datum of 1929. 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, 9.95 ft below land-surface datum, Apr. 21, 2003; lowest measured, 13.83 ft below land-surface datum, Nov. 21, 1993.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	13.00	JAN 30	10.80	MAR 28	10.54	MAY 25	10.85	JUL 24	11.15	AUG 24	11.80
NOV 24	12.55	FEB 27	10.90	APR 21	9.95	JUN 22	10.03	AUG 20	11.77	SEP 22	12.18
DEC 22	11.00										

WATER YEAR 2003 HIGHEST 9.95 APR 21, 2003 LOWEST 13.00 OCT 24, 2002

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: Private owner.

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 above National Geodetic Vertical Datum of 1929. 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 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	10.13	JAN 23	7.77	APR 24	5.99	JUN 16	6.52	JUL 23	7.43	SEP 08	7.39
NOV 25	7.84	FEB 20	8.79	MAY 21	7.35	23	4.09	AUG 05	7.85	22	7.91
DEC 23	7.36	MAR 21	7.09	JUN 04	6.97	JUL 07	6.80	27	7.44		

WATER YEAR 2003 HIGHEST 4.09 JUN 23, 2003 LOWEST 10.13 OCT 21, 2002

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

412932071374302. Richmond well RIW 417.

LOCATION.--Lat 41°29'32", long 71°37'43", Washington County, Hydrologic Unit 01090005, town of Richmond, about 50 ft south of State Highway 138, about 75 ft west of Beaver River, and 3.3 mi north of Kenyon.
Owner: State Department of Transportation.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 40 ft, cased to 37 ft, screened 37 to 40 ft.

INSTRUMENTATION.--Continuous graphic recorder December 1975 to May 1988, digital recorder (60 minute) June 1988 to current year.

DATUM.--Land-surface datum is 115.56 ft above National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 0.60 ft above land-surface datum.

REMARKS.--Water level affected by stage of nearby Beaver River. Missing periods of more than one day are not estimated.

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.69	7.34	6.79	6.08	6.37	---	5.53	5.58	6.09	6.20	6.74	6.94
2	7.72	7.38	6.80	5.95	6.38	---	5.55	5.61	6.06	6.23	6.74	6.76
3	7.74	7.40	6.81	5.93	6.39	---	5.58	5.65	6.11	6.23	6.75	6.74
4	7.77	7.41	6.82	5.78	6.39	---	5.61	5.69	6.13	6.18	6.78	6.72
5	7.78	7.43	6.84	5.75	6.39	---	5.63	5.72	5.93	6.23	6.79	6.73
6	7.80	7.38	6.85	5.75	6.41	---	5.66	5.75	5.92	6.28	6.80	6.78
7	7.81	7.36	6.85	5.75	6.42	---	5.69	5.75	5.93	6.32	6.82	6.81
8	7.83	7.37	6.86	5.76	6.44	---	5.70	5.77	5.90	6.35	6.38	6.85
9	7.85	7.38	6.88	5.78	6.46	---	5.68	5.81	5.92	6.38	6.31	6.86
10	7.86	7.39	6.88	5.80	6.47	---	5.63	5.85	5.94	6.40	6.42	6.88
11	7.87	7.39	6.89	5.83	6.49	---	5.60	5.88	5.96	6.36	6.49	6.91
12	7.81	7.38	6.75	5.87	6.51	---	5.51	5.90	5.99	6.35	6.54	6.93
13	7.74	7.23	6.72	5.90	6.53	---	5.52	5.92	5.93	6.41	6.57	6.95
14	7.74	7.16	6.55	5.93	6.54	---	5.57	5.96	5.86	6.43	6.56	6.96
15	7.75	7.15	6.43	5.96	6.57	---	5.59	5.99	5.86	6.44	6.59	6.97
16	7.67	7.14	6.43	6.00	6.60	---	5.61	6.01	5.92	6.46	6.63	6.96
17	7.54	6.95	6.44	6.01	6.61	---	5.65	6.03	5.94	6.49	6.62	6.97
18	7.52	6.79	6.45	6.05	6.58	---	5.69	6.06	5.90	6.52	6.56	6.99
19	7.53	6.77	6.46	6.08	6.62	---	5.72	6.11	5.86	6.54	6.59	7.00
20	7.54	6.78	6.38	6.10	6.64	---	5.76	6.14	5.91	6.56	6.65	7.01
21	7.58	6.79	6.18	6.13	6.66	---	5.79	6.17	5.94	6.58	6.68	7.03
22	7.60	6.74	6.17	6.17	---	5.80	5.73	6.19	5.94	6.60	6.70	7.05
23	7.62	6.72	6.18	6.18	---	5.82	5.60	6.19	5.93	6.54	6.71	7.06
24	7.63	6.73	6.19	6.22	---	5.84	5.65	6.20	5.95	6.53	6.75	7.07
25	7.65	6.75	6.17	6.24	---	5.87	5.72	6.21	5.98	6.53	6.78	7.09
26	7.49	6.78	6.05	6.26	---	5.88	5.67	6.12	6.03	6.57	6.81	7.11
27	7.28	6.79	6.05	6.28	---	5.91	5.46	5.92	6.08	6.61	6.83	7.12
28	7.28	6.79	6.05	6.30	---	5.94	5.50	5.95	6.12	6.64	6.85	7.14
29	7.28	6.79	6.07	6.32	---	5.96	5.53	5.99	6.14	6.67	6.87	7.14
30	7.29	6.79	6.09	6.35	---	5.66	5.56	6.05	6.17	6.70	6.89	7.15
31	7.31	---	6.10	6.37	---	5.51	---	6.11	---	6.73	6.92	---
MEAN	7.63	7.08	6.49	6.03	---	---	5.62	5.94	5.98	6.45	6.68	6.96
LOW	7.87	7.43	6.89	6.37	---	---	5.79	6.21	6.17	6.73	6.92	7.15
HIGH	7.28	6.72	6.05	5.75	---	---	5.46	5.58	5.86	6.18	6.31	6.72

WTR YR 2003 INSTANTANEOUS HIGH 5.45 APR. 27 LOW 7.87 OCT. 10, 11.

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 National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 2.63 ft above land-surface datum.

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

REMARKS.--Missing periods of more than one day are not estimated.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.42 ft below land-surface datum, June 11, 1982; lowest, 36.04 ft below land-surface datum, Sept. 26, 27, 2002.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.00	35.98	35.12	34.21	33.83	33.83	33.33	32.95	33.29	33.37	33.47	33.60
2	36.01	35.98	35.09	34.19	33.82	33.81	33.28	32.94	33.31	33.39	33.47	33.61
3	36.02	35.98	35.07	34.16	33.85	33.78	33.24	32.95	33.33	33.41	33.47	33.62
4	36.04	35.98	35.05	34.12	33.84	33.73	33.21	32.97	33.33	33.42	33.47	33.61
5	36.04	35.98	35.04	34.08	33.86	33.69	33.18	32.98	33.32	33.43	33.47	33.62
6	36.05	35.97	35.02	34.03	33.89	33.66	33.17	32.98	33.30	33.44	33.48	33.63
7	36.06	35.96	35.01	33.98	33.87	33.65	33.16	32.99	33.29	33.44	33.48	33.64
8	36.08	35.95	35.00	33.93	33.89	33.63	33.14	33.00	33.27	33.45	33.44	33.65
9	36.09	35.95	34.99	33.89	33.89	33.62	33.13	33.01	33.26	33.46	33.36	33.67
10	36.10	35.95	34.98	33.87	33.89	33.61	33.11	33.02	33.27	33.47	33.31	33.68
11	36.11	35.94	34.96	33.85	33.91	33.61	33.08	33.04	33.27	33.47	33.27	33.70
12	36.12	35.93	34.95	33.84	33.91	33.60	33.06	33.04	33.29	33.46	33.24	33.72
13	36.13	35.92	34.92	33.81	33.92	33.60	33.05	33.06	33.30	33.47	33.23	33.73
14	36.13	35.88	34.89	33.80	33.94	33.60	33.03	33.08	33.27	33.48	33.23	33.74
15	36.14	35.84	34.86	33.79	33.96	33.60	33.01	33.11	33.27	33.46	33.23	33.76
16	36.14	35.81	34.83	33.78	33.98	33.60	33.01	33.13	33.30	33.46	33.23	33.77
17	36.12	35.77	34.80	33.77	33.98	33.59	33.03	33.15	33.30	33.46	33.27	33.80
18	36.10	35.71	34.75	33.77	33.98	33.59	33.03	33.17	33.29	33.47	33.30	33.81
19	36.09	35.64	34.71	33.76	33.99	33.59	33.03	33.18	33.27	33.47	33.26	33.82
20	36.08	35.57	34.67	33.75	34.00	33.58	33.03	33.20	33.27	33.48	33.23	33.83
21	36.09	35.51	34.63	e33.76	34.02	e33.55	33.03	---	33.28	33.48	33.23	33.84
22	36.09	35.45	34.58	---	34.01	33.53	33.03	---	33.28	33.49	33.26	33.86
23	36.11	35.41	34.53	---	33.95	33.51	33.02	---	33.28	33.49	33.30	33.87
24	36.12	35.36	34.49	---	33.91	33.50	33.01	---	33.29	33.49	33.35	33.88
25	36.13	35.31	34.44	e33.74	33.87	33.47	33.02	---	33.29	33.48	33.38	33.90
26	36.13	35.27	34.41	---	33.85	33.45	33.02	---	33.30	33.46	33.41	33.91
27	36.07	35.23	34.37	---	33.83	33.43	33.00	---	33.32	33.44	33.45	33.91
28	36.04	35.21	34.33	---	33.82	33.43	32.99	---	33.33	33.44	33.49	33.91
29	36.01	35.18	34.29	---	---	33.42	32.97	33.25	33.35	33.46	33.51	33.93
30	36.00	35.15	34.26	---	---	33.40	32.96	33.26	33.36	33.47	33.54	33.94
31	35.99	---	34.23	---	---	33.36	---	33.29	---	33.47	33.57	---
MEAN	36.08	35.69	34.75	---	33.91	33.58	33.08	---	33.30	33.46	33.37	33.77
LOW	36.14	35.98	35.12	---	34.02	33.83	33.33	---	33.36	33.49	33.57	33.94
HIGH	35.99	35.15	34.23	---	33.82	33.36	32.96	---	33.26	33.37	33.23	33.60

WTR YR 2003 INSTANTANEOUS HIGH 32.94 MAY 2, 3 LOW 36.14 OCT 14, 15, 16, 25, 26

e Estimated

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

412718071415201. Richmond well RIW 785.

LOCATION.--Lat 41°27'18", long 71°41'52", Washington County, Hydrologic Unit 01090005, town of Richmond, about 50 ft. west of Narragansett Trail, and 1.2 mi 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.--Digital recorder (15-minute interval), October 2002 to present; prior to October 2002, monthly measurement with chalked tape by U.S. Geological Survey personel.

DATUM.--Elevation of land-surface datum is 85 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of outer protective casing, 1.81 ft above land-surface datum; prior to Aug. 24, 2000, top of casing, 0.65 ft above land-surface datum.

REMARKS.--Replacement well for RIW 231 which was destroyed. Missing periods of more than one day are not estimated

PERIOD OF RECORD.--October 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.50 ft below land-surface datum, June 30, 1998 lowest measured, 26.92 ft below land-surface datum, Mar. 20, 2002.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	26.68	26.10	25.38	24.48	24.52	24.02	23.18	22.77	22.71	23.04	23.17
2	---	26.66	26.08	25.36	24.48	24.45	24.00	23.14	22.82	22.71	23.05	23.18
3	---	26.64	26.05	25.32	24.51	24.55	23.97	23.11	22.85	22.71	23.07	23.19
4	---	26.62	26.01	25.30	24.49	24.45	23.94	23.08	22.86	22.70	23.09	23.20
5	---	26.61	25.98	25.27	24.53	24.37	23.92	23.04	22.85	22.70	23.12	23.23
6	---	26.59	25.97	25.23	24.55	24.37	23.90	23.00	22.86	22.71	23.16	23.24
7	---	26.58	25.95	25.20	24.52	24.30	23.88	22.97	22.85	22.73	23.20	23.25
8	---	26.56	25.94	25.15	24.54	24.23	23.86	22.94	22.83	22.74	23.21	23.26
9	---	26.56	25.94	25.11	24.55	24.20	23.84	22.92	22.82	22.76	23.22	23.27
10	---	26.55	25.93	25.07	24.54	24.24	23.82	22.89	22.83	22.78	23.14	23.28
11	---	26.54	25.92	25.02	24.57	24.21	23.80	22.86	22.82	22.76	23.09	23.30
12	---	26.53	25.91	24.98	24.58	24.15	23.78	22.84	22.82	22.79	23.08	23.35
13	---	26.53	25.90	24.92	24.61	24.12	23.78	22.82	22.82	22.81	23.08	23.40
14	---	26.52	25.88	24.88	24.64	24.09	23.76	22.81	22.80	22.83	23.08	23.42
15	---	26.51	25.87	24.83	24.66	24.06	23.73	22.82	22.79	22.83	23.08	23.44
16	---	26.50	25.85	24.78	24.66	24.05	23.70	22.81	22.82	22.84	23.07	23.46
17	---	26.49	25.84	24.74	24.64	24.05	23.68	22.79	22.81	22.85	23.10	23.49
18	---	26.49	25.82	24.71	24.67	24.06	23.65	22.77	22.78	22.87	23.13	23.50
19	---	26.46	25.79	24.67	24.69	24.08	23.63	22.76	22.76	22.88	23.14	23.52
20	---	26.43	25.76	24.65	24.71	24.05	23.59	22.75	22.75	22.89	23.11	23.54
21	---	26.40	25.74	24.63	24.72	24.04	23.54	22.75	22.74	22.89	23.07	23.57
22	---	26.37	25.73	24.61	24.72	24.05	23.50	22.77	22.73	22.89	23.06	23.59
23	---	26.33	25.70	24.59	24.74	24.06	23.46	22.77	22.73	22.91	23.06	23.59
24	---	26.28	25.67	24.58	24.79	24.07	23.42	22.77	22.73	22.93	23.08	23.62
25	---	26.27	25.63	24.55	24.73	24.06	23.39	22.79	22.72	22.95	23.08	23.64
26	---	26.27	25.61	24.53	24.63	24.05	23.35	22.80	22.71	22.95	23.09	23.66
27	---	26.24	25.56	24.52	24.56	24.07	23.32	22.82	22.71	22.96	23.10	23.69
28	---	26.19	25.53	24.51	24.54	24.06	23.29	22.79	22.72	22.98	23.14	23.71
29	---	26.16	25.49	24.50	---	24.04	23.25	22.77	22.73	23.00	23.14	23.74
30	---	26.13	25.46	24.50	---	24.03	23.22	22.77	22.72	23.02	23.15	23.77
31	26.71	---	25.42	24.48	---	24.03	---	22.78	---	23.03	23.17	---
MEAN	---	26.46	25.81	24.86	24.61	24.17	23.67	22.87	22.79	22.84	23.11	23.44
LOW	---	26.68	26.10	25.38	24.79	24.55	24.02	23.18	22.86	23.03	23.22	23.77
HIGH	---	26.13	25.42	24.48	24.48	24.03	23.22	22.75	22.71	22.70	23.04	23.17

WTR YR 2003 INSTANTANEOUS HIGH 22.69 JULY 4 LOW 26.75 OCT. 30

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, in parking lot for Thomas Ryan Center 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 National Geodetic Vertical Datum of 1929. Measuring point: Top of hole in base of recorder shelter, 3.07 ft above land-surface datum; prior to Mar. 19, 2002, 0.04 ft above land-surface datum.

PERIOD OF RECORD.--November to December 1947, February 1955 to current year.

REMARKS.--Missing periods of more than one day are not estimated. Original well landscape significantly altered during construction of parking lot during 2002 water year. Land-surface datum changes unknown.

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.75	12.74	11.73	10.74	10.94	11.43	10.75	10.06	10.89	10.99	11.85	11.65
2	13.77	12.76	11.73	10.71	10.97	11.40	10.71	10.05	10.92	11.02	11.87	11.67
3	13.79	12.78	11.73	10.63	11.03	11.35	10.69	10.09	10.93	11.05	11.88	11.62
4	13.82	12.78	11.73	10.51	11.06	11.29	10.67	10.13	10.94	11.05	11.91	11.60
5	13.83	12.80	11.72	10.42	e11.09	11.23	10.65	10.15	10.78	11.06	11.93	11.60
6	13.85	12.78	11.72	10.35	---	11.18	10.67	10.15	10.68	11.09	11.96	11.61
7	13.87	12.79	11.74	10.30	---	11.15	10.68	10.18	10.66	11.12	11.99	11.63
8	13.88	12.78	11.75	10.24	---	11.13	10.65	10.21	10.64	11.15	11.91	11.67
9	13.90	12.77	11.80	10.22	---	11.08	10.63	10.25	10.63	11.19	11.75	11.71
10	13.92	12.77	11.79	10.22	---	11.04	10.59	10.28	10.65	11.23	11.70	11.73
11	13.94	12.77	11.81	10.22	---	11.01	10.54	10.31	10.66	11.25	11.68	11.77
12	13.95	12.76	11.78	10.23	---	10.98	10.44	10.33	10.69	11.27	11.68	11.80
13	13.95	12.73	11.73	10.22	---	10.98	10.39	10.35	10.71	11.30	11.70	11.83
14	13.93	12.66	11.64	10.23	---	11.02	10.37	10.40	10.68	11.33	11.72	11.86
15	13.92	12.60	11.55	10.26	---	11.03	10.34	10.45	10.68	11.35	11.72	11.89
16	13.91	12.58	11.49	10.30	---	11.03	10.32	10.50	10.73	11.38	11.73	11.92
17	13.83	12.50	11.48	10.30	---	11.03	10.35	10.53	10.75	11.42	11.73	11.95
18	13.76	12.36	11.46	10.37	---	11.06	10.34	10.57	10.75	11.45	11.60	11.98
19	13.72	12.27	11.42	10.39	---	11.11	10.33	10.61	10.74	11.49	11.46	12.01
20	13.72	12.21	11.37	10.41	---	11.10	10.32	10.66	10.75	11.52	11.41	12.03
21	13.72	12.15	11.29	10.47	---	11.05	10.31	10.70	10.76	11.56	11.38	12.06
22	13.73	12.05	11.23	10.51	11.75	11.00	10.30	10.75	10.78	11.59	11.35	12.09
23	13.74	11.99	11.19	10.54	11.64	10.99	10.26	10.79	10.77	11.62	11.36	12.11
24	13.75	11.95	11.18	10.60	11.56	10.99	10.25	10.82	10.77	11.65	11.38	12.14
25	13.75	11.91	11.10	10.65	11.47	11.00	10.25	10.86	10.79	11.67	11.40	12.16
26	13.55	11.86	11.02	10.69	11.43	10.99	10.24	10.88	10.81	11.68	11.43	12.20
27	12.92	11.83	10.94	10.74	11.41	11.04	10.11	10.76	10.84	11.69	11.46	12.22
28	12.82	11.80	10.87	10.78	11.40	11.07	10.07	10.73	10.89	11.71	11.51	12.25
29	12.77	11.77	10.83	10.83	---	11.05	10.05	10.77	10.93	11.75	11.55	12.28
30	12.74	11.74	10.82	10.89	---	10.97	10.08	10.82	10.96	11.79	11.58	12.31
31	12.74	---	10.78	10.92	---	10.80	---	10.87	---	11.82	11.62	---
MEAN	13.65	12.41	11.43	10.48	---	11.08	10.41	10.48	10.77	11.39	11.65	11.91
LOW	13.95	12.80	11.81	10.92	---	11.43	10.75	10.88	10.96	11.82	11.99	12.31
HIGH	12.74	11.74	10.78	10.22	---	10.80	10.05	10.05	10.63	10.99	11.35	11.60

WTR YR 2003 INSTANTANEOUS HIGH 10.04 APR. 29, MAY 2 LOW 13.95 OCT. 12, 13.

e Estimated

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

412918071321001. South Kingstown well SNW 1198.

LOCATION.--Lat 41°29'35", long 71°35'35", Washington County, Hydrologic Unit 01090005, town of South Kingstown, at Laurel Lane Golf Course, 2.7 mi west of West Kingstown.
Owner: Private owner.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water table well, diameter 2 in, depth 20.6 ft, cased 18.6 to 20.6 ft.

INSTRUMENTATION.--Monthly measurement with electric or chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 115 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of well casing, 1.95 ft above land-surface datum.

REMARKS.--Well is located about 1,000 ft from SNW 515 (discontinued after June 2000) and may be used as a surrogate for SNW 515.

RECORD OF PERIOD.--December 1988 to July 1991, May 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.36 ft below land-surface datum, Mar. 28, 2001; lowest, 11.24 ft below land-surface datum, Oct. 22, 1997.

WATER LEVELS, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	10.87	JAN 23	7.23	APR 15	6.29	MAY 21	7.26	JUL 07	7.81	AUG 27	8.77
NOV 26	8.92	FEB 21	8.50	24	6.52	JUN 04	7.45	23	8.43	SEP 08	8.88
DEC 23	8.05	MAR 21	7.11	MAY 05	6.58	23	7.10	AUG 05	8.85	22	9.35

WATER YEAR 2003 HIGHEST 6.29 APR 15, 2003 LOWEST 10.87 OCT 21, 2002

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: Private owner.

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.--Digital recorder (15-minute interval), November 2002 to present; prior to November 2002, monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 45 ft above National Geodetic Vertical Datum of 1929. Measuring point: hole in rock cap, 0.72 ft above land surface datum; prior to July 25, 2003, southwest corner of stone casing, 0.91 ft above land-surface datum.

PERIOD OF RECORD.--January 1969 to current year.

REMARKS.--Missing periods of more than one day are not estimated.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.23 ft below land-surface datum, Apr. 23, 1983; lowest measured, 14.99 ft below land-surface datum, Aug. 25, 1999.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	11.70	11.23	12.00	11.96	11.10	10.97	11.74	11.93	12.76	13.06
2	---	---	11.75	11.11	12.02	11.87	11.09	10.99	11.72	11.98	12.78	13.02
3	---	---	11.79	11.05	12.06	11.79	11.11	11.06	11.77	12.02	12.79	12.91
4	---	---	11.84	10.84	12.06	11.73	11.14	11.14	11.78	11.95	12.82	12.85
5	---	---	11.88	10.70	12.07	11.70	11.15	11.21	11.61	11.95	12.84	12.78
6	---	---	11.90	10.67	12.10	11.66	11.21	11.26	11.50	12.01	12.86	12.76
7	---	---	11.94	10.68	12.10	11.73	11.27	11.30	11.49	12.07	12.89	12.77
8	---	---	11.96	10.69	12.13	11.75	11.28	11.34	11.44	12.11	12.62	12.81
9	---	---	12.00	10.73	12.16	11.69	11.21	11.37	11.42	12.15	12.30	12.86
10	---	---	12.01	10.80	12.17	11.61	11.11	11.41	11.46	12.19	12.24	12.90
11	---	---	12.03	10.88	12.20	11.65	11.09	11.46	11.51	12.22	12.24	12.94
12	---	---	11.89	10.96	12.22	11.68	10.94	11.49	11.54	12.23	12.29	12.98
13	---	---	11.80	11.01	12.25	11.71	10.85	11.53	11.48	12.26	12.33	13.01
14	---	---	11.65	11.08	12.28	11.76	10.87	11.58	11.37	12.30	12.37	13.04
15	---	---	11.45	11.14	12.31	11.78	10.88	11.65	11.38	12.33	12.41	13.06
16	---	---	11.40	11.20	12.34	11.79	10.93	11.70	11.45	12.36	12.45	13.05
17	---	---	11.40	11.25	12.36	11.78	11.04	11.75	11.50	12.40	12.49	13.02
18	---	---	11.42	11.32	12.39	11.78	11.11	11.80	11.49	12.43	12.52	13.04
19	---	---	11.43	11.37	12.42	11.81	11.16	11.85	11.36	12.46	12.54	13.06
20	---	---	11.39	11.42	12.45	11.81	11.21	11.90	11.36	12.49	12.58	13.08
21	---	---	11.24	11.49	12.46	11.72	11.25	11.94	11.42	12.53	12.62	13.10
22	---	---	11.20	11.54	12.43	11.60	11.26	11.98	11.45	12.56	12.65	13.12
23	---	---	11.22	11.60	12.12	11.58	11.12	12.00	11.46	12.58	12.70	13.13
24	---	---	11.26	11.67	12.01	11.62	11.15	11.99	11.51	12.58	12.75	13.16
25	---	---	11.22	11.73	11.96	11.66	11.24	12.01	11.57	12.55	12.79	13.17
26	---	---	11.14	11.78	11.91	11.68	11.22	11.98	11.63	12.58	12.83	13.20
27	---	11.65	11.12	11.83	11.90	11.73	10.87	11.69	11.69	12.60	12.87	13.22
28	---	11.68	11.13	11.87	11.92	11.77	10.81	11.60	11.76	12.63	12.92	13.24
29	---	11.68	11.18	11.91	---	11.79	10.84	11.61	11.83	12.67	12.96	13.26
30	---	11.66	11.25	11.96	---	11.56	10.92	11.67	11.88	12.70	12.99	13.28
31	---	---	11.25	11.99	---	11.20	---	11.74	---	12.73	13.03	---
MEAN	---	---	11.54	11.27	12.17	11.71	11.08	11.58	11.55	12.34	12.65	13.03
LOW	---	---	12.03	11.99	12.46	11.96	11.28	12.01	11.88	12.73	13.03	13.28
HIGH	---	---	11.12	10.67	11.90	11.20	10.81	10.97	11.36	11.93	12.24	12.7

WTR YR 2003 INSTANTANEOUS HIGH 10.67 JAN. 6, 7, AND 8 LOW 13.29 SEPT. 30

GROUND-WATER QUALITY AT MISCELLANEOUS SITES

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
(NATIONAL WATER QUALITY ASSESSMENT PROGRAM)

Remarks: Monitor, USGS monitoring well; PS, public-supply (gravel-packed) well; 112SRFD, surficial aquifer; LSD, land-surface datum; gal/min, gallons per minute; NTU, nephelometric turbidity units; mm Hg, millimeters mercury; mg/L, milligrams per liter; uS/cm, microsiemens per centimeter; deg C, degrees celcius; ug/L, micrograms per liter; "E", estimated concentrations; "<", less than; "M", presence verified, not quantified. Organic pesticide compounds, analyzed by NWQL Schedule 2001, and volatile organic compounds (VOCs), analyzed by NWQL Schedule 2020, are listed with laboratory reporting levels in the section "EXPLANATION OF RECORDS". Only pesticides and VOCs identified by the analyses (either as estimated values or values measured at or above the laboratory reporting level) for one or more samples are listed in the water-quality tables. Water-quality data presented in this table were collected by the New England Coastal Basins National Water-Quality Assessment Program (NAWQA) as part of a National Ground Water Network to determine long-term trends in ground-water quality. Location of wells are shown in figure X. Accurate latitude and longitudal data are available for the wells, but are omitted from this table. Anyone interested in obtaining this locational data should contact the USGS Information Officer, NH/VT District, at dc_nh@usgs.gov.

LOCAL IDENT-IFIER	WELL TYPE	GEO-LOGIC UNIT	DATE	TIME	DEPTH OF WELL, FEET BELOW LSD (72008)	DEPTH TO WATER LEVEL, FEET BELOW LSD (72019)	ALTI-TUDE OF LAND SURFACE FEET (72000)	FLOW RATE, INSTAN-TANEOUS GAL/MIN (00059)	TUR-BIDITY, WATER, UNFLTRD FIELD, NTU (61028)	BARO-METRIC PRES-SURE, MM HG (00025)	DIS-SOLVED OXYGEN, MG/L (00300)	DIS-SOLVED OXYGEN, PERCENT OF SAT-URATION (00301)
ESSEX COUNTY, MASSACHUSETTS												
BJW 295	monitor	112SRFD	7-01-03	1000	20	0.54	69	0.5	0.2	763	3.5	31
L6W 91	PS	112SRFD	7-15-03	1000	63	18.03	79.5	5	.4	764	.4	4
MIDDLESEX COUNTY, MASSACHUSETTS												
LWW 171	monitor	112SRFD	7-07-03	1000	19	7.19	300	1	.4	757	4.1	37
NMW 9	monitor	112SRFD	7-02-03	1000	24	12.83	98.4	.5	3.8	760	7.8	69
PLYMOUTH COUNTY, MASSACHUSETTS												
CDW 150	monitor	112SRFD	7-10-03	1000	30	13.05	130	--	3.1	760	--	--
KGW 59	PS	112SRFD	7-16-03	1000	72	25.79	35	5	.1	763	8.0	72
PEW 351	monitor	112SRFD	7-09-03	1000	23	8.5	130	.7	.4	756	10.6	95
WASHINGTON COUNTY, RHODE ISLAND												
SNW 1151	PS	112SRFD	7-17-03	1000	95	E28	113	1	.1	759	3.5	32

LOCAL IDENT-IFIER	DATE	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUC-TANCE, WAT UNF US/CM 25 DEGC (00095)	TEMPER-ATURE, AIR, DEG C (00020)	TEMPER-ATURE, WATER, DEG C (00010)	HARD-NESS, WATER, UNFLTRD MG/L AS CACO3 (00900)	CALCIUM WATER, FLTRD, MG/L (00915)	MAGNES-IUM, WATER, FLTRD, MG/L (00925)	POTAS-SIUM, WATER, FLTRD, MG/L (00935)	SODIUM, WATER, FLTRD, MG/L (00930)	ALKA-LINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)
ESSEX COUNTY, MASSACHUSETTS											
BJW 295	7-01-03	6.4	621	24.0	10.2	190	61.1	9.09	1.65	36.2	58
L6W 91	7-15-03	6.9	258	25.0	11.2	110	11.3	18.8	2.08	8.64	83
MIDDLESEX COUNTY, MASSACHUSETTS											
LWW 171	7-07-03	5.2	478	32.0	11.1	54	16.9	2.76	2.24	61.9	11
NMW 9	7-02-03	5.0	124	30.0	9.9	27	8.51	1.39	.88	14.7	9
PLYMOUTH COUNTY, MASSACHUSETTS											
CDW 150	7-10-03	5.5	100	25.0	--	17	3.12	2.28	.81	10.1	5
KGW 59	7-16-03	5.3	197	25.0	10.8	35	8.09	3.64	1.48	21.9	15
PEW 351	7-09-03	5.1	95	25.0	10.7	20	3.92	2.58	.97	9.18	6
WASHINGTON COUNTY, RHODE ISLAND											
SNW 1151	7-17-03	5.6	176	25.0	--	46	13.0	3.38	2.38	14.3	23

GROUND-WATER QUALITY AT MISCELLANEOUS SITES--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

LOCAL IDENT-IFIER	DATE	BICAR-BONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)	BROMIDE WATER, FLTRD, MG/L (71870)	CHLOR-IDE, WATER, FLTRD, MG/L (00940)	FLUOR-IDE, WATER, FLTRD, MG/L (00950)	SILICA, WATER, FLTRD, MG/L (00955)	SULFATE WATER, FLTRD, MG/L (00945)	SULFIDE WATER, FLTRD, FIELD, MG/L (99118)	RESIDUE WATER, FLTRD, SUM OF CONSTI-TUENTS MG/L (70301)	AMMONIA + ORG-N, WATER, FLTRD, MG/L AS N (00623)	AMMONIA WATER, FLTRD, MG/L AS N (00608)
ESSEX COUNTY, MASSACHUSETTS											
BJW 295	7-01-03	70	0.06	128	<0.2	12.8	16.9	--	326	<0.10	<0.04
L6W 91	7-15-03	100	.04	18.1	<.2	17.3	16.2	<0.001	145	E.06	E.02
MIDDLESEX COUNTY, MASSACHUSETTS											
LWW 171	7-07-03	14	.07	127	<.2	15.1	9.2	--	244	<.10	<.04
NMW 9	7-02-03	11	E.01	26.7	<.2	9.21	9.0	--	80	<.10	<.04
PLYMOUTH COUNTY, MASSACHUSETTS											
CDW 150	7-10-03	6	.03	20.1	<.2	8.62	6.6	--	55	<.10	<.04
KGW 59	7-16-03	18	.04	38.8	<.2	15.7	10.5	--	114	<.10	<.04
PEW 351	7-09-03	7	.03	10.5	<.2	11.7	10.0	--	62	<.10	<.04
WASHINGTON COUNTY, RHODE ISLAND											
SNW 1151	7-17-03	28	.05	24.8	.5	17.5	12.7	--	111	<.10	<.04

LOCAL IDENT-IFIER	DATE	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOS-PHATE, WATER, FLTRD, MG/L AS P (00671)	ALUM-INUM, WATER, FLTRD, UG/L (01106)	ANTI-MONY, WATER, FLTRD, UG/L (01095)	ARSENIC WATER, FLTRD, UG/L (01000)	BARIUM, WATER, FLTRD, UG/L (01005)	BERYLL-IUM, WATER, FLTRD, UG/L (01010)	BORON, WATER, FLTRD, UG/L (01020)	CADMIUM WATER, FLTRD, UG/L (01025)
ESSEX COUNTY, MASSACHUSETTS											
BJW 295	7-01-03	5.70	<0.008	<0.02	<2	<0.30	<0.3	34	<0.06	9	0.04
L6W 91	7-15-03	.69	<.008	E.01	<2	<.30	.9	9	<.06	10	<.04
MIDDLESEX COUNTY, MASSACHUSETTS											
LWW 171	7-07-03	.40	<.008	<.02	63	<.30	<.3	55	.10	E6	.15
NMW 9	7-02-03	.83	<.008	E.01	36	<.30	<.3	20	E.04	E7	E.02
PLYMOUTH COUNTY, MASSACHUSETTS											
CDW 150	7-10-03	.12	<.008	<.02	2	<.30	<.3	18	E.03	8	.07
KGW 59	7-16-03	.95	<.008	.03	2	<.30	<.3	7	<.06	12	.08
PEW 351	7-09-03	2.25	<.008	E.01	8	<.30	<.3	13	<.06	18	.04
WASHINGTON COUNTY, RHODE ISLAND											
SNW 1151	7-17-03	1.95	<.008	<.02	18	<.30	<.3	14	.15	17	<.04

GROUND-WATER QUALITY AT MISCELLANEOUS SITES--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

LOCAL IDENT-IFIER	DATE	CHROM-IUM, WATER, FLTRD, UG/L (01030)	COBALT WATER, FLTRD, UG/L (01035)	COPPER, WATER, FLTRD, UG/L (01040)	IRON-(II), WATER, UNFLTRD UG/L (99032)	IRON, WATER, FLTRD, UG/L (01046)	LEAD, WATER, FLTRD, UG/L (01049)	LITHIUM WATER, FLTRD, UG/L (01130)	MANGAN-ESE, WATER, FLTRD, UG/L (01056)	MOLYB-DENUM, WATER, FLTRD, UG/L (01060)	NICKEL, WATER, FLTRD, UG/L (01065)
ESSEX COUNTY, MASSACHUSETTS											
BJW 295	7-01-03	<0.8	0.15	0.3	--	<8	<0.08	2.6	0.3	<0.3	3.27
L6W 91	7-15-03	<.8	.12	.3	30	22	<.08	7.0	45.6	.5	.39
MIDDLESEX COUNTY, MASSACHUSETTS											
LWW 171	7-07-03	.9	.07	E.2	--	E6	<.08	E.5	376	<.3	.99
NMW 9	7-02-03	<.8	.07	.5	--	E4	<.08	E.4	14.3	<.3	1.05
PLYMOUTH COUNTY, MASSACHUSETTS											
CDW 150	7-10-03	E.5	.08	<.2	--	E8	<.08	E.3	7.8	<.3	1.17
KGW 59	7-16-03	<.8	.14	6.1	--	25	.20	1.3	11.2	<.3	1.53
PEW 351	7-09-03	<.8	.06	E.2	--	<8	<.08	E.4	5.3	<.3	.56
WASHINGTON COUNTY, RHODE ISLAND											
SNW 1151	7-17-03	<.8	.05	15.5	--	44	1.14	8.5	276	E.3	.65

LOCAL IDENT-IFIER	DATE	SELEN-IUM, WATER, FLTRD, UG/L (01145)	SILVER, WATER, FLTRD, UG/L (01075)	STRONT-IUM, WATER, FLTRD, UG/L (01080)	THALL-IUM, WATER, FLTRD, UG/L (01057)	VANAD-IUM, WATER, FLTRD, UG/L (01085)	ZINC, WATER, FLTRD, UG/L (01090)	CIAT, WATER, FLTRD, UG/L (04040)	ATRA-ZINE, WATER, FLTRD, UG/L (39632)	METOLA-CHLOR, WATER, FLTRD, UG/L (39415)	TEBU-THIURON WATER FLTRD 0.7U GF UG/L (82670)
ESSEX COUNTY, MASSACHUSETTS											
BJW 295	7-01-03	<0.5	<0.20	143	<0.04	<0.1	1	<0.006	<0.007	<0.013	<0.02
L6W 91	7-15-03	<.5	<.20	40.3	<.04	.7	<1	<.006	<.007	<.013	<.02
MIDDLESEX COUNTY, MASSACHUSETTS											
LWW 171	7-07-03	<.5	<.20	169	E.03	.6	M	<.006	<.007	<.013	<.02
NMW 9	7-02-03	<.5	<.20	74.2	.05	1.0	1	<.006	<.007	<.013	<.02
PLYMOUTH COUNTY, MASSACHUSETTS											
CDW 150	7-10-03	<.5	<.20	37.9	<.04	<.1	2	<.006	<.007	<.013	<.02
KGW 59	7-16-03	<.5	<.20	55.6	<.04	.3	4	<.006	<.007	<.013	<.02
PEW 351	7-09-03	<.5	<.20	42.3	<.04	.2	1	<.006	<.007	<.013	<.02
WASHINGTON COUNTY, RHODE ISLAND											
SNW 1151	7-17-03	<.5	<.20	62.8	<.04	.2	9	E.005	.074	E.003	.03

GROUND-WATER QUALITY AT MISCELLANEOUS SITES--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

LOCAL IDENT-IFIER	DATE	1,1,1-TRI-CHLORO-ETHANE, WATER, UNFLTRD UG/L (34506)	1,1-DI-CHLORO-ETHANE, WATER UNFLTRD UG/L (34496)	DI-CHLORO-DI-FLUORO-METHANE WAT UNF UG/L (34668)	METHYL TERT-PENTYL ETHER, WATER, UNFLTRD UG/L (50005)	METHYL T-BUTYL ETHER, WATER, UNFLTRD UG/L (78032)	TETRA-CHLORO-ETHENE, WATER, UNFLTRD UG/L (34475)	TRI-CHLORO-METHANE WATER UNFLTRD UG/L (32106)	RN-222, WATER, UNFLTRD PCI/L (82303)	URANIUM NATURAL WATER, FLTRD, UG/L (22703)
ESSEX COUNTY, MASSACHUSETTS										
BJW 295	7-01-03	<0.03	<0.04	<0.18	<0.08	E0.1	<0.03	E0.03	--	0.74
L6W 91	7-15-03	E.02	E.02	<.18	<.08	E.1	<.03	E.09	1,530	.98
MIDDLESEX COUNTY, MASSACHUSETTS										
LWW 171	7-07-03	<.03	<.04	<.18	<.08	<.2	<.03	<.02	--	.09
NMW 9	7-02-03	<.03	<.04	<.18	<.08	.2	<.03	.17	--	<.02
PLYMOUTH COUNTY, MASSACHUSETTS										
CDW 150	7-10-03	<.03	<.04	<.18	<.08	<.2	<.03	.18	--	<.02
KGW 59	7-16-03	<.03	<.04	<.18	<.08	.2	<.03	.32	1,240	<.02
PEW 351	7-09-03	<.03	<.04	<.18	10.1	5.1	<.03	E.03	--	<.02
WASHINGTON COUNTY, RHODE ISLAND										
SNW 1151	7-17-03	<.03	<.04	E.03	<.08	E.1	E.02	E.01	2,470	.72

< Less than
E Estimated value

GROUND-WATER QUALITY AT MISCELLANEOUS SITES--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
(NATIONAL WATER QUALITY ASSESSMENT PROGRAM)

Organic pesticide compounds, analyzed by NWQL Schedule 2001, and volatile organic compounds (VOCs), analyzed by NWQL Schedule 2020, are listed with laboratory reporting levels in the section "EXPLANATION OF RECORDS." Only pesticides and VOCs identified by the analyses (either as estimated values or values measured at or above the laboratory reporting level) for one or more samples are listed in the water-quality tables. Water-quality data presented in this table were collected by the Connecticut, Housatonic, and Thames River Basins National Water-Quality Assessment Program (NAWQA)

LOCAL IDENT-IFIER	DATE	DIS-SOLVED OXYGEN, MG/L (00300)	DIS-SOLVED OXYGEN, PERCENT OF SAT-URATION (00301)	PH, WATER, UNFLTRD FIELD, STD UNITS (00400)	SPECIF. CONDUC-TANCE, WAT UNF US/CM 25 DEGC (00095)	TEMPER-ATURE, AIR, DEG C (00020)	TEMPER-ATURE, WATER, DEG C (00010)	CALCIUM WATER, FLTRD, MG/L (00915)	MAGNES-IUM, WATER, FLTRD, MG/L (00925)	POTAS-SIUM, WATER, FLTRD, MG/L (00935)	SODIUM, WATER, FLTRD, MG/L (00930)
HAMPDEN COUNTY, MASSACHUSETTS											
AFW 30	7-24-03	2.1	83	5.7	238	28.0	16.0	18.3	6.96	6.78	7.63
HUW 117	7-28-03	7.9	101	5.7	80	28.0	10.5	3.45	.888	.66	11.5
AFW 32	7-29-03	2.7	30	6.8	297	26.0	20.0	33.6	19.4	1.44	2.55
AFW 31	8-05-03	.4	52	6.2	352	27.0	16.0	44.1	14.9	3.06	8.06
CMW 97	8-06-03	1.9	71	6.0	236	26.0	13.0	14.4	3.37	1.39	23.4
WVW 174	8-07-03	2.0	91	8.0	253	26.0	19.0	34.7	5.08	3.00	6.52
XCW 144	8-12-03	8.9	93	6.4	138	26.0	26.0	15.0	3.37	2.72	4.83

LOCAL IDENT-IFIER	DATE	ALKA-LINITY, WAT FLT INC TIT FIELD, MG/L AS CACO3 (39086)	BICAR-BONATE, WAT FLT INCRM. TITR., FIELD, MG/L (00453)	BROMIDE WATER, FLTRD, MG/L (71870)	CHLOR-IDE, WATER, FLTRD, MG/L (00940)	FLUOR-IDE, WATER, FLTRD, MG/L (00950)	SILICA, WATER, FLTRD, MG/L (00955)	SULFATE WATER, FLTRD, MG/L (00945)	SULFIDE WATER, FLTRD, FIELD, MG/L (99118)	RESIDUE ON EVAP. AT 180DEGC WAT FLT MG/L (70300)	AMMONIA + ORG-N, WATER, FLTRD, MG/L AS N (00623)
HAMPDEN COUNTY, MASSACHUSETTS											
AFW 30	7-24-03	10	12	0.04	26.4	<0.2	10.7	13.6	0.012	184	E0.12
HUW 117	7-28-03	118	144	E.01	13.3	<.2	9.14	8.0	.118	56	<.10
AFW 32	7-29-03	146	178	.12	4.21	<.2	22.1	12.8	.030	207	.33
AFW 31	8-05-03	158	193	.03	2.34	<.2	9.15	31.8	.000	220	E.09
CMW 97	8-06-03	28	34	.02	28.5	<.2	18.1	13.7	.000	168	E.07
WVW 174	8-07-03	46	56	.03	14.8	<.2	11.4	25.2	.250	180	.29
XCW 144	8-12-03	15	19	<.02	5.20	<.2	8.98	16.5	.190	120	E.07

LOCAL IDENT-IFIER	DATE	AMMONIA WATER, FLTRD, MG/L AS N (00608)	NITRITE + NITRATE WATER FLTRD, MG/L AS N (00631)	NITRITE WATER, FLTRD, MG/L AS N (00613)	ORTHO-PHOS-PHATE, WATER, FLTRD, MG/L AS P (00671)	ORGANIC CARBON, WATER, FLTRD, MG/L (00681)	ALUM-INUM, WATER, FLTRD, UG/L (01106)	ANTI-MONY, WATER, FLTRD, UG/L (01095)	ARSENIC WATER, FLTRD, UG/L (01000)	BARIUM, WATER, FLTRD, UG/L (01005)	BERYLL-IUM, WATER, FLTRD, UG/L (01010)
HAMPDEN COUNTY, MASSACHUSETTS											
AFW 30	7-24-03	<0.04	E10.9	<0.008	<0.09	E0.6	6	<0.30	<0.3	65	<0.06
HUW 117	7-28-03	<.04	.79	<.008	.02	.4	E1	<.30	<.3	31	<.06
AFW 32	7-29-03	.08	<.06	<.008	.05	6.2	6	<.30	1.9	183	<.06
AFW 31	8-05-03	<.04	.16	<.008	.02	2.0	2	<.30	<.3	17	<.06
CMW 97	8-06-03	<.04	.13	<.008	.02	.7	4	<.30	<.3	77	<.06
WVW 174	8-07-03	<.04	6.87	<.008	E.01	.4	7	<.30	.7	129	<.06
XCW 144	8-12-03	<.04	7.37	<.008	<.18	.8	13	<.30	<.3	24	<.06

GROUND-WATER QUALITY AT MISCELLANEOUS SITES--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

LOCAL IDENT-IFIER	DATE	BORON, WATER, FLTRD, UG/L (01020)	CADMIUM WATER, FLTRD, UG/L (01025)	CHROM-IUM, WATER, FLTRD, UG/L (01030)	COBALT WATER, FLTRD, UG/L (01035)	COPPER, WATER, FLTRD, UG/L (01040)	IRON, WATER, FLTRD, UG/L (01046)	LEAD, WATER, FLTRD, UG/L (01049)	LITHIUM WATER, FLTRD, UG/L (01130)	MANGAN-ESE, WATER, FLTRD, UG/L (01056)	MOLYB-DENUM, WATER, FLTRD, UG/L (01060)
HAMPDEN COUNTY, MASSACHUSETTS											
AFW 30	7-24-03	26	E0.03	E0.4	0.087	0.4	E5	0.13	E0.4	3.4	<0.3
HUW 117	7-28-03	16	<.04	<.8	.036	<.2	E5	<.08	<.5	.6	<.3
AFW 32	7-29-03	E4	<.04	E.5	.544	E.2	4,700	<.08	9.9	731	E.3
AFW 31	8-05-03	282	<.04	1.0	.412	.6	E8	<.08	E.4	11.0	<.3
CMW 97	8-06-03	63	<.04	E.4	.161	.3	11	.14	<.5	1.6	E.2
WVW 174	8-07-03	16	<.04	E.4	.265	.3	57	<.08	4.7	3.7	.5
XCW 144	8-12-03	7	E.03	<.8	.172	.4	<8	<.08	<.5	18.8	E.3

LOCAL IDENT-IFIER	DATE	NICKEL, WATER, FLTRD, UG/L (01065)	SELEN-IUM, WATER, FLTRD, UG/L (01145)	SILVER, WATER, FLTRD, UG/L (01075)	STRONT-IUM, WATER, FLTRD, UG/L (01080)	THALL-IUM, WATER, FLTRD, UG/L (01057)	VANAD-IUM, WATER, FLTRD, UG/L (01085)	ZINC, WATER, FLTRD, UG/L (01090)	1,1,1-TRI-CHLORO-ETHANE, WATER, UNFLTRD UG/L (34506)	1,1-DI-CHLORO-ETHANE, WATER UNFLTRD UG/L (34496)	CARBON DI-SULFIDE WATER UNFLTRD UG/L (77041)
HAMPDEN COUNTY, MASSACHUSETTS											
AFW 30	7-24-03	1.20	<0.5	<0.2	97.8	<0.04	<0.1	E0.6	<0.03	<0.04	<0.07
HUW 117	7-28-03	.42	<.5	<.2	24.1	<.04	<.1	<1	<.03	<.04	<.07
AFW 32	7-29-03	1.43	<.5	<.2	98.5	<.04	1.1	<1	<.03	<.04	E.03
AFW 31	8-05-03	1.69	<.5	<.2	102	.05	2.8	1	.11	<.04	<.07
CMW 97	8-06-03	.67	<.5	<.2	111	<.04	.3	<1	<.03	<.04	<.07
WVW 174	8-07-03	3.42	<.5	<.2	55.4	<.04	3.0	E.6	.25	.12	<.07
XCW 144	8-12-03	3.17	.7	<.2	88.5	<.04	.3	4	<.03	<.04	<.07

LOCAL IDENT-IFIER	DATE	CIS-1,2-DI-CHLORO-ETHENE, WATER, UNFLTRD UG/L (77093)	DI-CHLORO-METHANE WATER UNFLTRD UG/L (34423)	METHYL TERT-PENTYL ETHER, WATER, UNFLTRD UG/L (50005)	METHYL T-BUTYL ETHER, WATER, UNFLTRD UG/L (78032)	TETRA-CHLORO-ETHENE, WATER, UNFLTRD UG/L (34475)	TOLUENE WATER UNFLTRD UG/L (34010)	TRI-CHLORO-ETHENE, WATER, UNFLTRD UG/L (39180)	TRI-CHLORO-METHANE WATER UNFLTRD UG/L (32106)	URANIUM NATURAL WATER, FLTRD, UG/L (22703)
HAMPDEN COUNTY, MASSACHUSETTS										
AFW 30	7-24-03	<0.04	<0.2	<0.08	<0.2	<0.03	<0.05	<0.04	0.14	E0.01
HUW 117	7-28-03	<.04	<.2	<.08	<.2	<.03	<.05	.10	E.01	<.02
AFW 32	7-29-03	<.04	<.2	<.08	<.2	<.03	E.01	<.04	<.02	.67
AFW 31	8-05-03	.29	<.2	<.08	<.2	130	<.05	1.09	E.01	E.02
CMW 97	8-06-03	<.04	<.2	.15	2.6	E.03	<.05	<.04	.19	E.01
WVW 174	8-07-03	<.04	2.1	<.08	E.04	E.10	<.05	E.07	.42	1.32
XCW 144	8-12-03	<.04	<.2	<.08	<.2	E.05	E.01	<.04	.19	<.02

< Less than
E Estimated value

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