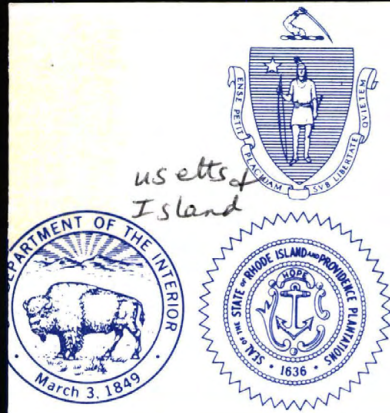
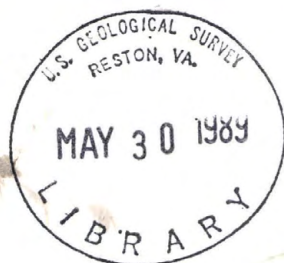




Water Resources Data Massachusetts and Rhode Island Water Year 1986



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-86-1
Prepared in cooperation with the States of Massachusetts and
Rhode Island and with other agencies

CALENDAR FOR WATER YEAR 1986

1985

OCTOBER

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

NOVEMBER

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

DECEMBER

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

1986

JANUARY

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

FEBRUARY

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

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

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

SEPTEMBER

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



Water Resources Data Massachusetts and Rhode Island Water Year 1986

by R.A. Gadoury, D.J. Kent, K.G. Ries,III, and H.L. White



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MA-RI-86-1
Prepared in cooperation with the States of Massachusetts and
Rhode Island and with other agencies

DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, *Secretary*

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, *Director*

For additional information, write to:

U.S. Geological Survey
Water Resources Division
150 Causeway Street, Suite 1309
Boston, MA 02114-1384

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: T. J. Calderini, M. A. Dufva, G. G. Girouard, L. A. Rowse, and J. P. Russell, R. S. Socolow, and N. C. Suurballe.

Catherine McCloskey and Linda J. Bischoff coordinated the word processing and publishing phases of the report.

This report was prepared in cooperation with the States of Massachusetts and Rhode Island and with other agencies under the general supervision of I. C. James, II, Chief, New England District, M. H. Frimpter, Chief, Massachusetts Office, and H. E. Johnston, Chief, Rhode Island Office.

REPORT DOCUMENTATION PAGE		1. REPORT NO. USGS/WRD/HD-88/282	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data for Massachusetts and Rhode Island, Water Year 1986			5. Report Date Published October 1988	
			6.	
7. Author(s) R.A. Gadoury, D.J. Kent, K.G. Ries III, and H.L. White			8. Performing Organization Rept. No. USGS-WDR-MA-RI-86-1	
9. Performing Organization Name and Address U.S. Geological Survey Water Resources Division 150 Causeway Street, Suite 1309 Boston, MA 02114-1384			10. Project/Task/Work Unit No.	
			11. Contract(C) or Grant(G) No. (C) (G)	
			12. Sponsoring Organization Name and Address U.S. Geological Survey Water Resources Division 150 Causeway Street, Suite 1309 Boston, MA 02114-1384	
13. Type of Report & Period Covered Annual 10-01-85 to 09-30-86			14.	
15. Supplementary Notes This report was prepared in cooperation with the States of Massachusetts and Rhode Island and with other agencies.				
16. Abstract (Limit: 200 words) Water-resources data for the 1986 water year for Massachusetts and Rhode Island consists of records of stage, discharge, and water quality of streams; contents of lakes and reservoirs; and ground-water levels. This report contains discharge records for 97 gaging stations, monthend contents for 30 lakes and reservoirs, water quality for 9 gaging stations, and water levels for 111 observation wells. Also included are data for one crest-stage partial-record station. Additional water data were collected at various sites, not part of the systematic data-collection program, and are published as miscellaneous measurements. A few pertinent stations in bordering states are also included in this report. These data represent that portion of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Massachusetts and Rhode Island.				
17. Document Analysis a. Descriptors *Massachusetts, *Rhode Island, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water levels, Water analyses. b. Identifiers/Open-Ended Terms c. COSATI Field/Group				
18. Availability Statement: No restriction on distribution. This report may be purchased from : National Technical Information Service Springfield, VA 22161		19. Security Class (This Report) UNCLASSIFIED		21. No. of Pages 255
		20. Security Class (This Page) UNCLASSIFIED		22. Price

CONTENTS

	Page
Preface	iv
List of stations, in downstream order, for which records are published	vii
List of ground-water wells, by county, for which records are published	x
Introduction	1
Cooperation	4
Summary of hydrologic conditions	4
Surface water	4
Ground water	6
Special networks and programs	6
Explanation of the records	8
Station identification numbers	8
Downstream order system	8
Latitude-longitude system	8
Records of stage and water discharge	9
Data collection and computation	9
Data presentation	10
Identifying estimated daily discharge	12
Accuracy of the records	12
Other records available	13
Records of surface-water quality	13
Classification of records	13
Arrangement of records	13
On-site measurements and sample collection	13
Water temperature	14
Sediment	14
Laboratory measurements	14
Data presentation	15
Remarks codes	15
Records of ground-water levels	16
Data collection and computation	16
Data presentation	16
Access to WATSTORE data	17
Definition of terms	17
Publications on Techniques of Water-Resources Investigations	25
Station records, surface water	29
Discharge at partial-record stations and miscellaneous sites	180
Crest-stage partial-record stations	180
Miscellaneous sites	181
Supplemental water-quality data for gaging stations	195
Station records, ground water	205
Ground-water levels in Massachusetts	205
Ground-water levels in Rhode Island	238
Index	247

ILLUSTRATIONS

	Page
Figure 1. Map showing location of gaging stations-----	2
2. Map showing location of observation wells-----	3
3. Comparison of discharge at three long-term index stations during 1986 water year with median discharge for period 1951-80 -----	5
4. Comparison of monthly water levels in selected observation wells during 1986 water year with average, maximum, and minimum levels for periods of record-----	7
5. System for numbering wells and miscellaneous sites-----	9

SURFACE-WATER AND WATER-QUALITY STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

vii

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

NORTH ATLANTIC SLOPE BASINS

MERRIMACK RIVER BASIN

Merrimack River:	Page
North Nashua River (head of Nashua River) at Fitchburg, Mass. (d) -----	29
North Nashua River near Leominster, Mass. (d) -----	30
Nashua River at Clinton, Mass. (d) -----	31
Squannacook River near West Groton, Mass. (d) -----	32
Nashua River at East Pepperell, Mass. (d) -----	33
Merrimack River above Lowell, Mass. (cm) -----	34
Assabet River (head of Concord River) at Maynard, Mass. (d) -----	36
Fort Pond Brook:	
Nashoba Brook near Acton, Mass. (d) -----	37
Sudbury River at Framingham Center, Mass. (d) -----	38
Sudbury River at Saxonville, Mass. (d) -----	39
Concord River below River Meadow Brook, at Lowell, Mass. (d) -----	40
Merrimack River below Concord River, at Lowell, Mass. (d) -----	41
Shawsheen River near Wilmington, Mass. (d) -----	42

PARKER RIVER BASIN

Parker River at Byfield, Mass. (d) -----	43
--	----

IPSWICH RIVER BASIN

Ipswich River at South Middleton, Mass. (d) -----	44
Ipswich River near Ipswich, Mass. (d) -----	45

MYSTIC RIVER BASIN

Aberjona River (head of Mystic River) at Winchester, Mass. (d) -----	46
--	----

CHARLES RIVER BASIN

Charles River at Dover, Mass. (dcm) -----	47
Mother Brook at Dedham, Mass. (d) -----	50
Charles River at Wellesley, Mass. (d) -----	51
Charles River at Waltham, Mass. (d) -----	52

NEPONSET RIVER BASIN

Neponset River at Norwood, Mass. (d) -----	53
East Branch Neponset River at Canton, Mass. (d) -----	54

WEYMOUTH FORE RIVER BASIN

Town Brook (head of Town River Bay) at Quincy, Mass. (d) -----	55
--	----

WEYMOUTH BACK RIVER BASIN

Whitmans Pond (head of Weymouth Back River):	
Old Swamp River near South Weymouth, Mass. (d) -----	56

NORTH RIVER BASIN

Indian Head River (head of North River) at Hanover, Mass. (d) -----	57
---	----

JONES RIVER BASIN

Jones River at Kingston, Mass. (d) -----	58
--	----

HERRING RIVER BASIN

Herring River at North Harwich, Mass. (d) -----	59
---	----

RED BROOK BASIN

Red Brook below Route 25 near Wareham, Mass. (d) -----	60
--	----

TAUNTON RIVER BASIN

Taunton River near Bridgewater, Mass. (d) -----	61
Wading River (head of Threemile River) at West Mansfield, Mass. (d) -----	62
Wading River near Norton, Mass. (d) -----	63
Threemile River at North Dighton, Mass. (d) -----	64
Segreganset River near Dighton, Mass. (d) -----	65

NORTH ATLANTIC SLOPE BASINS--Continued

BLACKSTONE RIVER BASIN

Kettle Brook (head of Blackstone River):	Page
Quinsigamond River at North Grafton, Mass. (d) -----	66
West River below West Hill Dam, near Uxbridge, Mass. (dl) -----	67
Blackstone River at Millville, Mass. (cm) -----	68
Clear River (head of Branch River):	
Nipmuc River near Harrisville, R. I. (d) -----	74
Branch River at Forestdale, R.I. (dcm) -----	75
Blackstone River at Woonsocket, R.I. (d) -----	80
Blackstone River at Manville, R.I. (cm) -----	81

MOSHASSUCK RIVER BASIN

Moshassuck River at Providence, R.I. (d) -----	85
--	----

WOONASQUATUCKET RIVER BASIN

Woonasquatucket River at Centerdale, R.I. (d) -----	86
---	----

PAWTUXET RIVER BASIN

Pawtuxet River:	
South Branch Pawtuxet River at Washington, R.I. (dl) -----	87
Pawtuxet River at Cranston, R.I. (dlcm) -----	88
Pawtuxet River at Pawtuxet, R.I. (cm) -----	93

POTOWOMUT RIVER BASIN

Hunt River near East Greenwich, R.I. (d) -----	97
--	----

PAWCATUCK RIVER BASIN

Chipuxet River (head of Pawcatuck River) at West Kingston, R.I. (d) -----	98
Usquepaug River near Usquepaug, R.I. (d) -----	99
Beaver River near Usquepaug, R.I. (d) -----	100
Pawcatuck River at Wood River Junction, R.I. (d) -----	101
Wood River near Arcadia, R.I. (d) -----	102
Wood River at Hope Valley, R.I. (dct) -----	103
Pawcatuck River at Westerly, R.I. (dcmts) -----	108

THAMES RIVER BASIN

Shetucket River (head of Thames River):	
Quinebaug River below East Brimfield Dam, at Fiskdale, Mass. (d) -----	117
Quinebaug River below Westville Dam, near Southbridge, Mass. (d) -----	118
Quinebaug River at Quinebaug, Conn. (dcm) -----	119
French River below Hodges Village Dam, at Hodges Village, Mass. (d) -----	122
Little River near Oxford, Mass. (d) -----	123
Reservoirs in Thames River basin (l) -----	124

CONNECTICUT RIVER BASIN

Connecticut River:	
Millers River near Winchendon, Mass. (d) -----	125
Priest Brook near Winchendon, Mass. (d) -----	126
Otter River at Otter River, Mass. (d) -----	127
Millers River at South Royalston, Mass. (d) -----	128
East Branch Tully River near Athol, Mass. (d) -----	129
Whetstone Brook at Depot Road at Wendell Depot, Mass. (d) -----	130
Millers River at Erving, Mass. (d) -----	131
Deerfield River near Rowe, Mass. (d) -----	132
Deerfield River at Charlemont, Mass. (d) -----	133
North River at Shattuckville, Mass. (d) -----	134
South River near Conway, Mass. (d) -----	135
Deerfield River near West Deerfield, Mass. (d) -----	136
Green River near Colrain, Mass. (d) -----	137

**SURFACE-WATER AND WATER-QUALITY STATIONS, IN DOWNSTREAM ORDER,
FOR WHICH RECORDS ARE PUBLISHED**

ix

CONNECTICUT RIVER BASIN--Continued

	Page
Connecticut River:--Continued	
Connecticut River at Montague City, Mass. (d)-----	138
Fort River near Amherst, Mass. (d)-----	139
Mill River at Northampton, Mass. (d)-----	140
Connecticut River below Holyoke Dam at Holyoke, Mass. (d)-----	141
Ware River (head of Chicopee River) near Barre, Mass. (d)-----	142
Burnshirt River:	
Canesto Brook:	
Natty Pond Brook Templeton Road (DS)	
near Hubbardston, Mass. (d)-----	143
Natty Pond Brook near Hubbardston, Mass. (d)-----	144
Ware River at intake works, near Barre, Mass. (d)-----	145
Ware River at Gibbs Crossing, Mass. (d)-----	146
Quabbin Reservoir (head of Swift River):	
East Branch Swift River near Hardwick, Mass. (d)-----	147
Dickey Brook near Cooleyville, Mass. (d)-----	148
Dickey Brook tributary near Cooleyville, Mass. (d)-----	150
Cadwell Creek near Pelham, Mass. (d)-----	152
Cadwell Creek near Belchertown, Mass. (d)-----	153
Swift River at West Ware, Mass. (d)-----	154
Sevenmile River (head of Quaboag River) near Spencer, Mass. (d)-----	155
Quaboag River at West Brimfield, Mass. (d)-----	156
Chicopee River at Indian Orchard, Mass. (d)-----	157
Westfield River at Knightville, Mass. (d)-----	158
Middle Branch Westfield River at Goss Heights, Mass. (d)-----	159
West Branch Westfield River at Huntington, Mass. (d)-----	160
Little River at outlet of Cobble Mountain Reservoir,	
near Westfield, Mass. (d)-----	161
Westfield River near Westfield, Mass. (d)-----	162
Connecticut River at Thompsonville, Conn. (dcmts)-----	163
West Branch Farmington River near New Boston, Mass. (d)-----	171
Reservoirs in Connecticut River basin (l)-----	172
HOUSATONIC RIVER BASIN	
East Branch Housatonic River at Coltsville, Mass. (d)-----	174
Housatonic River near Great Barrington, Mass. (d)-----	175
HUDSON RIVER BASIN	
Hudson River:	
Hoosic River at Adams, Mass. (d)-----	176
North Branch Hoosic River at North Adams, Mass. (d)-----	177
Hoosic River near Williamstown, Mass. (d)-----	178
Green River at Williamstown, Mass. (d)-----	179

MASSACHUSETTS	Page	MASSACHUSETTS--Continued	Page
BARNSTABLE COUNTY		HAMPDEN COUNTY	
Barnstable well AIW 230 -----	205	Granville well GLW 5 -----	219
Barnstable well AIW 247 -----	205	Granville well GLW 6 -----	220
Bourne well BHW 198 -----	205	Westfield well WVW 62 -----	220
Brewster well BMW 21 -----	206	Wilbraham well XJW 55 -----	220
Brewster well BMW 22 -----	206		
Chatham well CGW 138 -----	206	HAMPSHIRE COUNTY	
Mashpee well MIW 29 -----	207	Granby well GKW 68 -----	221
Sandwich well SDW 252 -----	207	Ware well WEW 43 -----	221
Sandwich well SDW 253 -----	207		
Truro well TSW 1 -----	208	MIDDLESEX COUNTY	
Truro well TSW 89 -----	208	Acton well ACW 158 -----	221
Wellfleet well WNW 17 -----	208	Billerica well BCW 363 -----	222
		Chelmsford well CHW 68 -----	222
BERKSHIRE COUNTY		Chelmsford well CHW 385 -----	222
Cheshire well CJW 2 -----	209	Concord well CTW 165 -----	223
Great Barrington well GMW 2 -----	209	Concord well CTW 167 -----	223
Otis well OTW 7 -----	209	Lexington well LTW 104 -----	223
Pittsfield well PTW 51 (recorder) -----	210	Townsend well TRW 13 -----	224
Sheffield well SJW 59 -----	210	Wakefield well WAW 38 -----	224
		Wayland well WKW 2 -----	224
BRISTOL COUNTY		Wilmington well XMW 78 (recorder) -----	225
Attleboro well ATW 83 -----	211	Winchester well XOW 14 -----	225
Freetown well F3W 23 -----	211		
New Bedford well NGW 116 -----	211	NANTUCKET COUNTY	
Norton well N4W 37 -----	212	Nantucket well NBW 228 -----	226
Seekonk well SHW 275 -----	212		
Somerset well SPW 161 -----	212	NORFOLK COUNTY	
Taunton well TAW 258 -----	213	Dedham well DDW 231 -----	226
Taunton well TAW 337 -----	213	Dover well DVW 10 -----	226
		Foxborough well FXW 3 -----	227
DUKES COUNTY		Norfolk well NNW 27 -----	227
Edgartown well ENW 52 -----	213	Weymouth well XGW 2 -----	227
		Weymouth well XGW 3 -----	228
ESSEX COUNTY		Weymouth well XGW 4 -----	228
Andover well AJW 26 -----	214		
Andover well AJW 462 -----	214	PLYMOUTH COUNTY	
Georgetown well GCW 168 -----	214	Duxbury well D4W 79 -----	228
Haverhill well HLW 23 (recorder) -----	215	Duxbury well D4W 80 -----	229
Newbury well NIW 27 (recorder) -----	216	East Bridgewater well EBW 30 -----	229
Salisbury well SBW 9 -----	217	Halifax well HBW 97 -----	229
Topsfield well TQW 1 -----	217	Hanson well HGW 76 -----	230
Wenham well WPW 76 -----	217	Lakeville well LKW 14 (recorder) -----	230
		Middleborough well MTW 82 -----	231
FRANKLIN COUNTY		Plymouth well PWW 22 -----	231
Colrain well CSW 8 -----	218	Wareham well WFW 51 -----	231
Deerfield well DFW 44 -----	218		
Montague well M5W 5 -----	218		
Sunderland well S6W 7 -----	219		
HAMPDEN COUNTY			
Chicopee well CMW 95 -----	219		

MASSACHUSETTS--Continued Page

SUFFOLK COUNTY

Boston well BGW 925 ----- 232

WORCESTER COUNTY

Hardwick well HHW 1----- 232

Hardwick well HHW 31----- 232

Northborough well NUW 38 ----- 233

Northbridge well NXW 1----- 233

Orange well ORW 63----- 233

Pelham well PDW 23----- 234

Pelham well PDW 24----- 234

Petersham well PHW 16 ----- 235

Sterling well SYW 1----- 235

Templeton well TMW 3----- 236

Webster well WLW 1----- 236

West Brookfield well WUW 2----- 236

West Brookfield well WUW 10----- 237

Winchendon well XNW 13----- 237

Worcester well XSW 274 ----- 237

RHODE ISLAND**KENT COUNTY**

Coventry well COW 41l ----- 238

West Greenwich well WGW 18l ----- 238

PROVIDENCE COUNTY

Burrillville well BUW 187 ----- 238

Cumberland well CUW 265 ----- 239

Lincoln well LIW 84 ----- 239

North Smithfield well NSW 2l----- 239

Pawtucket well PAW 136----- 240

Providence well PRW 48 ----- 240

Providence well PRW 1051----- 240

WASHINGTON COUNTY

Charlestown well CH 18----- 241

Exeter well EXW 6----- 241

Exeter well EXW 16----- 241

Exeter well EXW 475 (recorder)----- 242

North Kingstown well NKW 255----- 242

North Kingstown well NKW 450----- 243

Richmond well RIW 23l----- 243

Richmond well RIW 417 (recorder) ----- 243

Richmond well RIW 600 (recorder) ----- 244

South Kingstown well SNW 6 (recorder) 244

South Kingstown well SNW 515 ----- 245

Westerly well WEW 522 ----- 245

Water Resources Data for Massachusetts and Rhode Island, 1986

By R.A. Gadoury, D.J. Kent, K.G. Ries, III, and H.L. White

INTRODUCTION

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

This report series includes records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for water discharge at 97 gaging stations; monthend contents at 30 lakes and reservoirs; water quality at nine gaging stations; and water levels at 111 observation wells. Also included are supplemental water quality data for most of the 97 gaging stations. Locations of these sites are shown in figures 1 and 2. Additional water data were collected at various sites, not involved in the systematic data-collection program, and are published as miscellaneous discharge measurements. A few pertinent stations (not included above) in bordering States are also included in this report. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Massachusetts and Rhode Island.

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

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Massachusetts and Rhode Island were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 1A and 1B." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1939 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

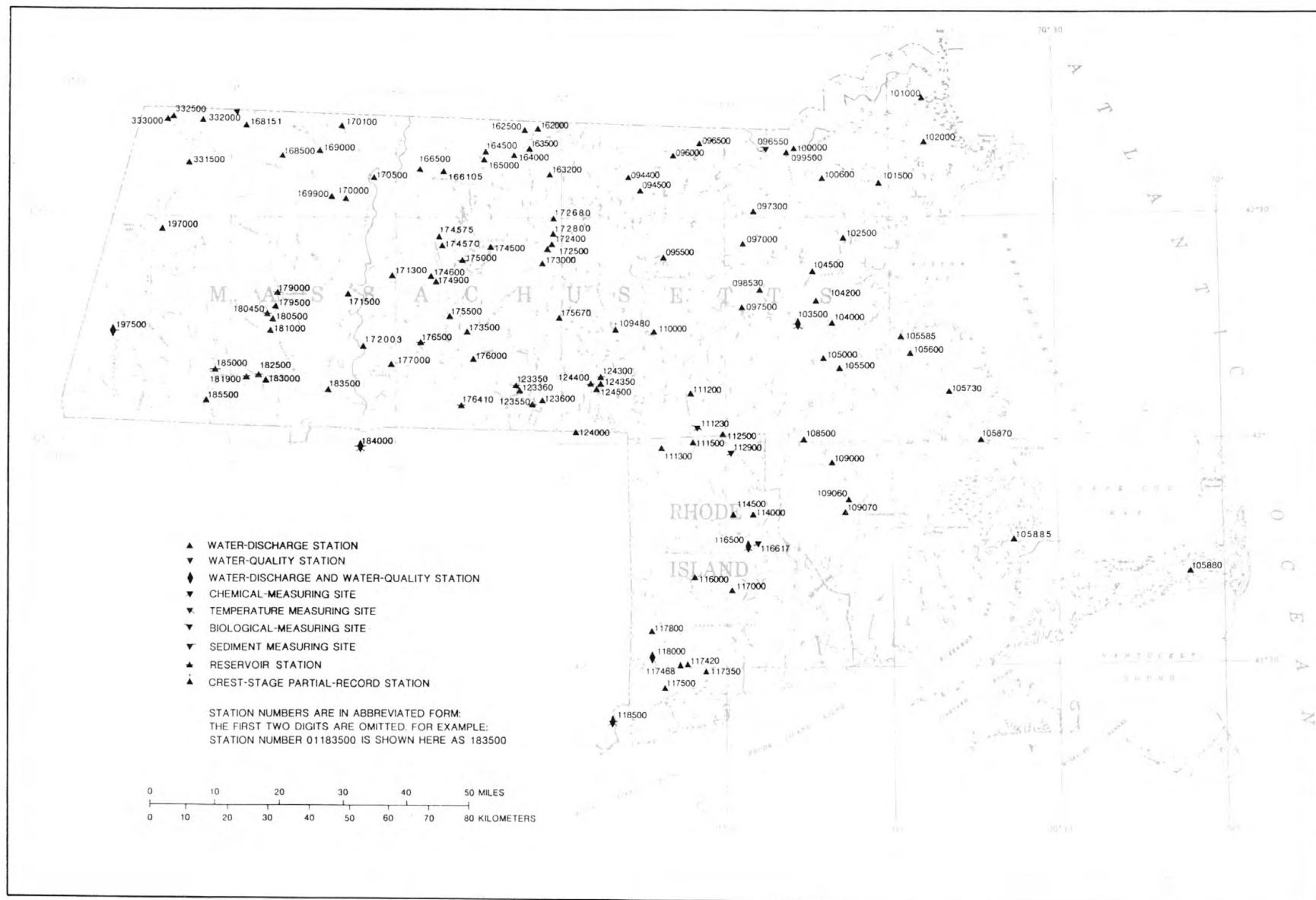


Figure 1.--Location of gaging stations

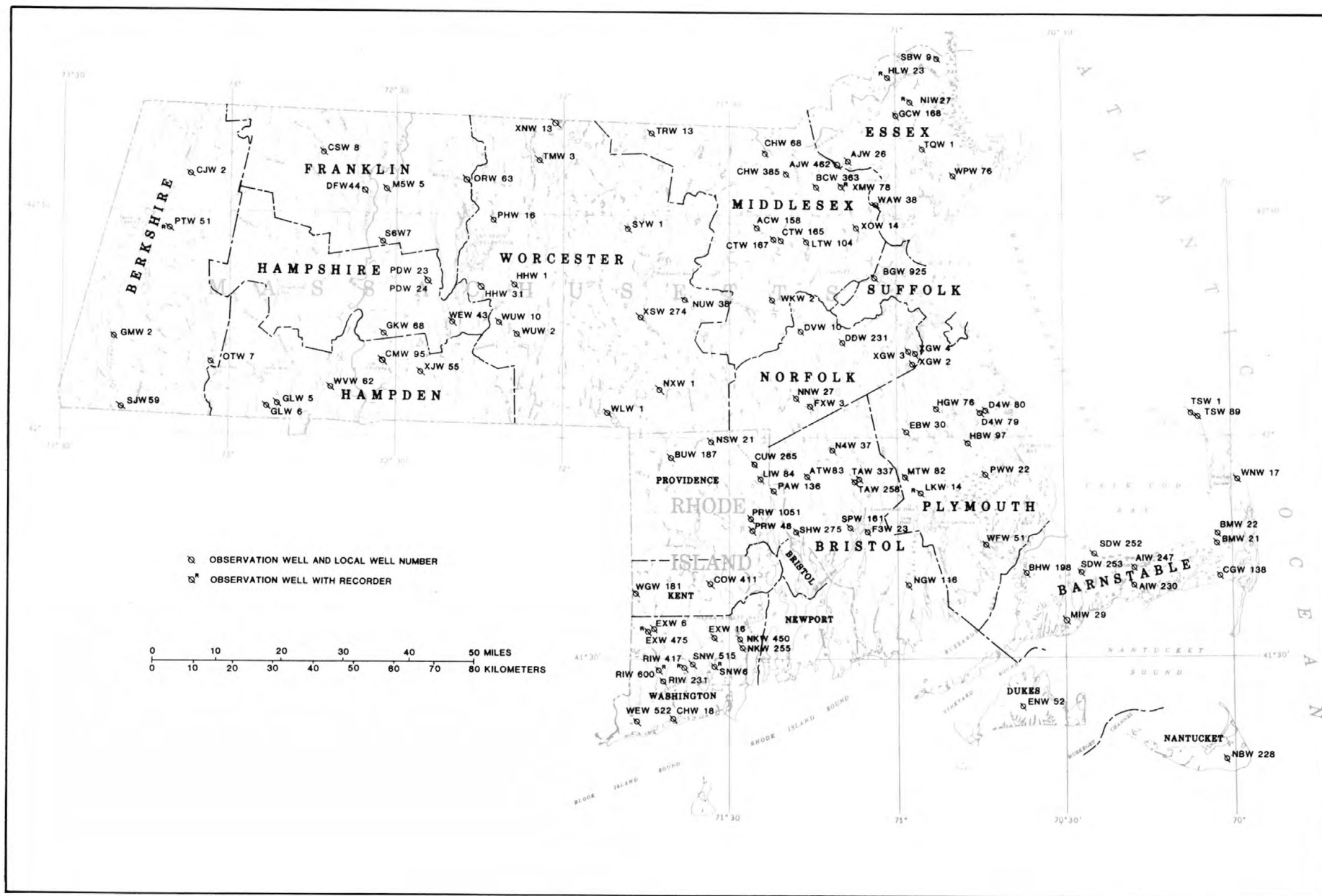


Figure 2.—Location of observation wells

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report MA-RI-86-1." 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 Office Chief at the address given on the back of the title page or by telephone (617) 565-6860.

COOPERATION

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

Massachusetts: Department of Environmental Management, James Gutensohn, Commissioner, Division of Water Resources, C. F. Kennedy, Director and Chief Engineer; Department of Environmental Quality Engineering, S. R. Sylva, Commissioner, Division of Water Pollution Control, T. C. McMahon, Director; Metropolitan District Commission, W. J. Geary, Commissioner, Watershed Management Division, F. D. Foucher, Acting Director, Parks Engineering and Construction Division, R. R. Signore, Director; Department of Fisheries, Wildlife and Environmental Law Enforcement, Walter E. Bickford, Commissioner, Division of Fisheries and Wildlife, Richard Cronin, Director.

Rhode Island: State Water Resources Board, W. M. Stetson, Chairman, P. P. Calise, Acting General Manager; Department of Environmental Management, R. L. Bendick Jr., Director, Division of Water Resources, J. W. Fester, Chief; Narragansett Bay Water Quality Commission, E. R. Jankel, Executive Director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army,

in collecting records for 14 gaging stations published in this report.

Organizations supplying data are acknowledged in the station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Runoff for the 1986 water year was in the normal range throughout Massachusetts and Rhode Island and ranged from about 22 to 31 inches in Massachusetts and about 23 to 33 inches in Rhode Island. Yearly mean discharge ranged from about 82 to 109 percent of median at the ten index stations used to evaluate conditions in the two States. Runoff for each of the first six months was in the normal or above-normal (upper quartile of record) range in both states except that in southeastern Massachusetts and central and southern Rhode Island runoff was below normal (lower quartile of record) in March. Runoff in April and May was below normal throughout both States. Runoff for April was third or fourth lowest for periods of record at several index stations. New low monthly means for the month of May were recorded at the North River at Shattuckville, Mass., and the West Branch Westfield River at Huntington, Mass., and equaled the previous low at the Hoosic River near Williamstown, Mass. In Massachusetts runoff for June, July, and August was above normal; in September runoff was above normal in the northwestern part of the State but in the normal range elsewhere. Because of the low runoff in April and May, however, cumulative runoff for the last six months of the year was below median, and was below normal in much of western and central Massachusetts. In Rhode Island runoff for the last four months was generally in the normal range, and cumulative runoff for the last six months was about 80 percent of median. Monthly mean discharges and median discharges for the reference period 1951-80 for three index gaging stations are shown in figure 3.

There were no outstanding peak flows in either of the two States in 1986. Recurrence intervals of the annual peaks at most stations were generally less than 2 years. Annual peak discharges of most streams occurred about January 28, March 15, or March 19.

Storage in Quabbin Reservoir in central Massachusetts was 78 percent full at the beginning and end of the water year and ranged from 76 percent full at the end of November to 86 per-

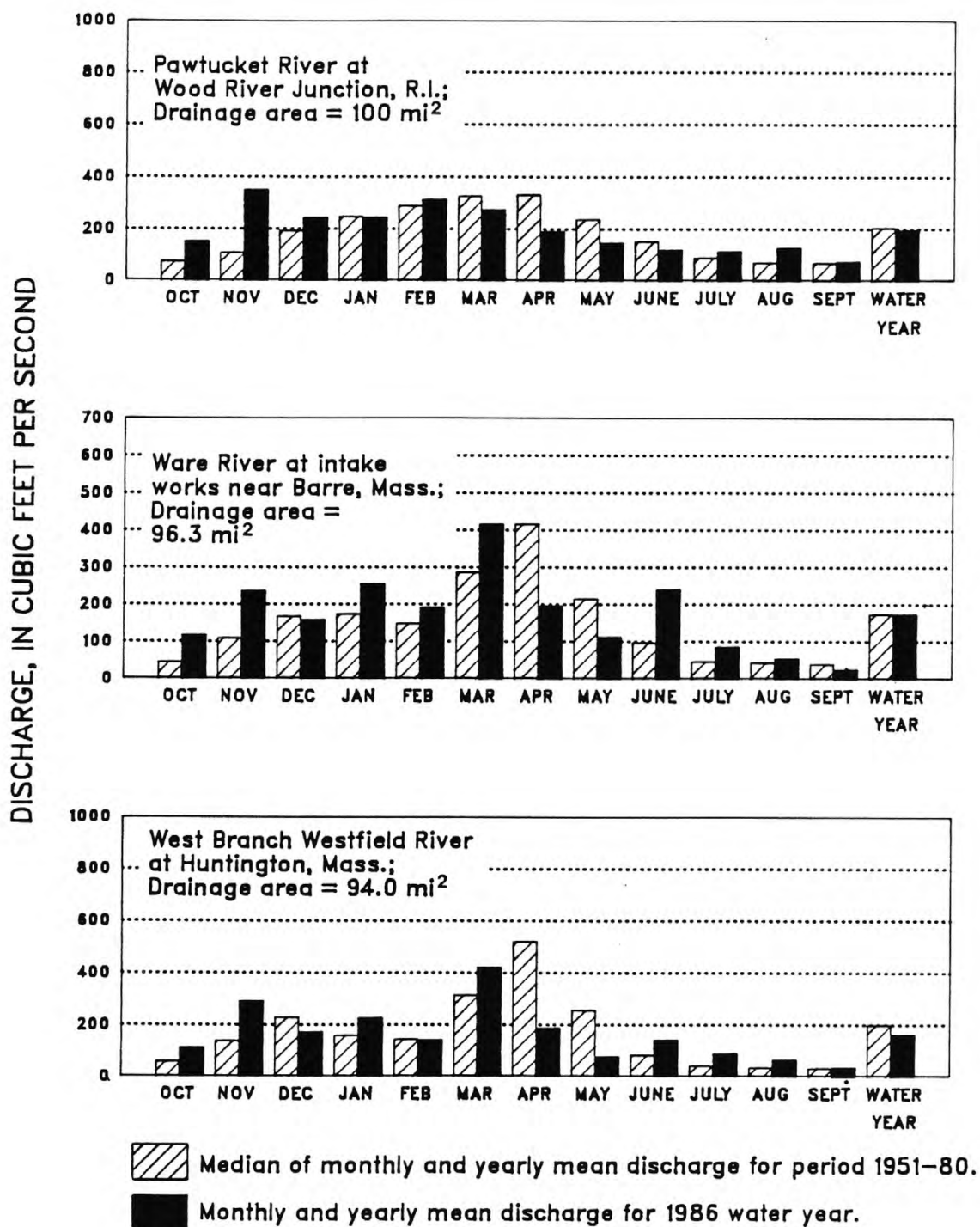


Figure 3.—Comparison of discharge at three long-term index gaging stations during 1986 water year with median discharge for period 1951–80.

cent full at the end of April. The combined storage of Borden Brook and Cobble Mountain Reservoirs in western Massachusetts was 62 percent full at the beginning of the water year, increased to 86 percent full at the end of March, and declined to 72 percent full by the end of the year. Storage in Scituate Reservoir in Rhode Island increased from 50 percent full in October to 86 percent full at the end of April and declined to 80 percent full by the end of the year.

Ground-water levels in October declined in Rhode Island while levels in Massachusetts showed mixed increases and decreases; levels in the two States varied from below normal to above normal. In November, water levels were in the above normal range for Rhode Island, central and northeastern Massachusetts, while western and southeastern Massachusetts were in the normal range. December levels remained above normal in southern Rhode Island and extreme northeastern Massachusetts, while levels in the remainder of those states were in the normal range. Levels for northern Rhode Island and most of Massachusetts remained in the normal range for the month of January except for southern Rhode Island and southeastern Massachusetts which dropped to below normal. February levels remained within the normal range for both states, except those for central Rhode Island which were above normal. In March, levels for both Rhode Island and Massachusetts were within the normal range. April levels for southern Rhode Island and southeastern Massachusetts decreased but remained in the normal range, while levels for the remainder of those states decreased to below normal levels. May levels continued to decrease and became below normal throughout the two states, with exceptions being a small area in northeastern Rhode Island and coastal northeastern Massachusetts, which were in the normal range. Eleven of 88 Massachusetts wells and one of 20 Rhode Island wells recorded new monthly lows for the month of May. In June, water levels were restored to the normal range in both states, exceptions being above normal levels for southwestern and northeastern Massachusetts, and below normal levels for the southern one-third of Rhode Island. In July, the above normal area in northeastern Massachusetts expanded southwestward slightly, while the rest of Massachusetts and Rhode Island remained in the normal range. Exceptions were southern Cape Cod, Nantucket and Martha's Vineyard islands which were below normal. August and September levels were mixed between

normal and above normal for Massachusetts and Rhode Island.

During the 1986 water year, 25 wells in Massachusetts and five wells in Rhode Island recorded new monthly high water levels for one or more successive months. During that same period, 28 wells in Massachusetts and one well in Rhode Island recorded new monthly low water levels for one or more successive months. The Northridge 1 (Mass.) well set new monthly lows in October, January, and September, and remained in the below normal range for the entire water year as a result of previous construction in the area. A new high for the month of August was set by the Northborough 38 (Mass.) well along with new high for period of record in February, when construction near the well caused water to be ponded. Monthly water levels and maximum, and minimum monthly levels for the periods of record for three observation wells in western and eastern Massachusetts and northern Rhode Island are shown in figure 4.

SPECIAL NETWORKS AND PROGRAMS

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

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

UNSHADED AREA SHOWS RANGE BETWEEN
HIGHEST AND LOWEST MONTHEND WATER LEVEL

CURRENT —○— MEDIAN - - - - -

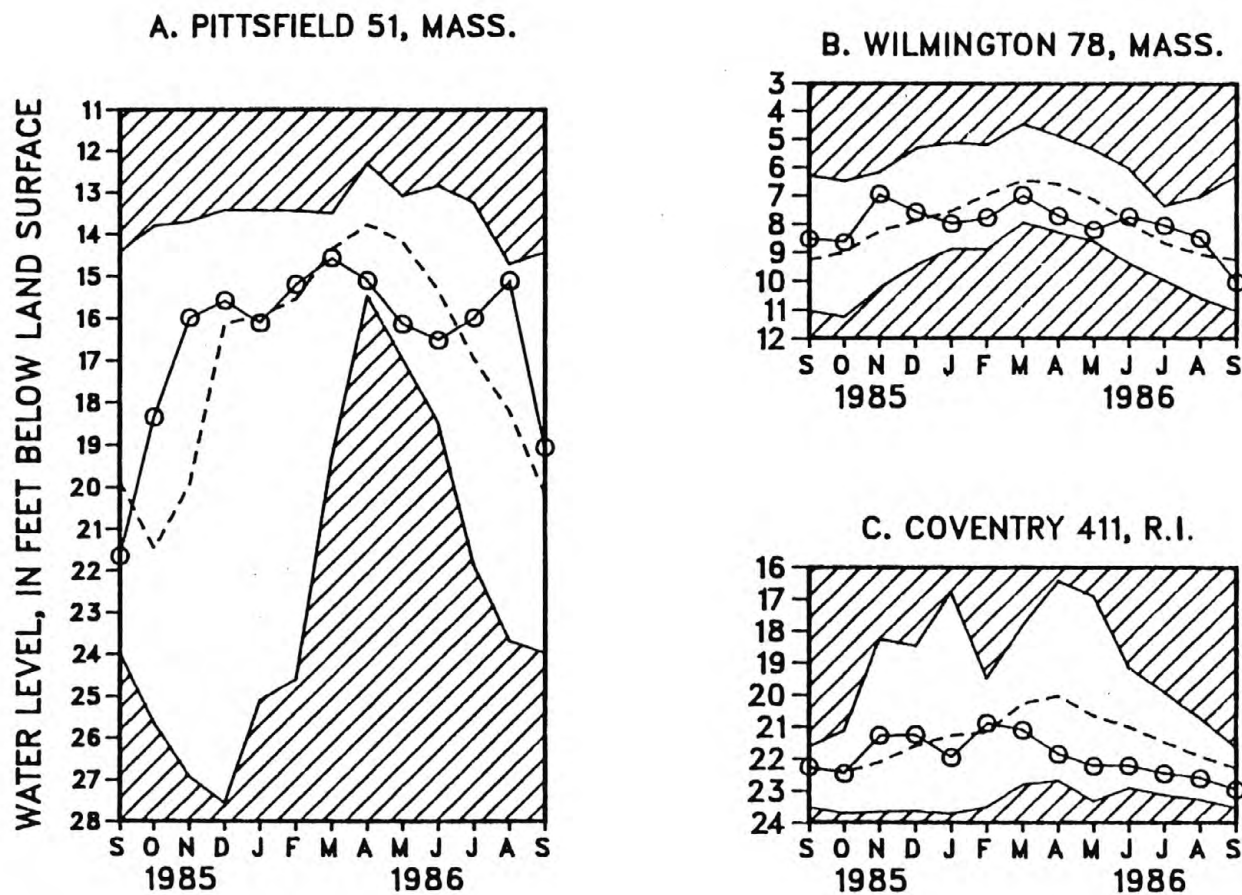


Figure 4.—Comparison of monthly water levels in selected observation wells during 1986 water year with median, maximum, and minimum levels for period of record.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1986 water year that began October 1, 1985, and ended September 30, 1986. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface water, and ground-water-level data.

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

Station Identification Numbers

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

Downstream Order System

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

the front of this report. Each indentation represents one rank. This downstream order and system of identification shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between continuous-record stations and other types of stations; therefore, the station number for a continuous-record station indicates downstream-order position in a list made up of all types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete station number (usually eight digits, but sometimes nine or more if needed) appears just to the left of the station name. The first two digits indicate the Part number (formerly used in Water-Supply Papers to designate major river systems) and the last six or more digits indicate the downstream order within the Part. For example, in the station number 01094400, "01" is the Part number for "North Atlantic Slope Basins" and "094400" is the downstream order number.

Latitude-Longitude System

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

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

Data Collection and Computation

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

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

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

Daily mean discharge is computed by applying the daily mean stage (gage height) to the stage-discharge rating table or by applying each recorded stage in the day to the rating table and computing the mean from the sum of the individ-

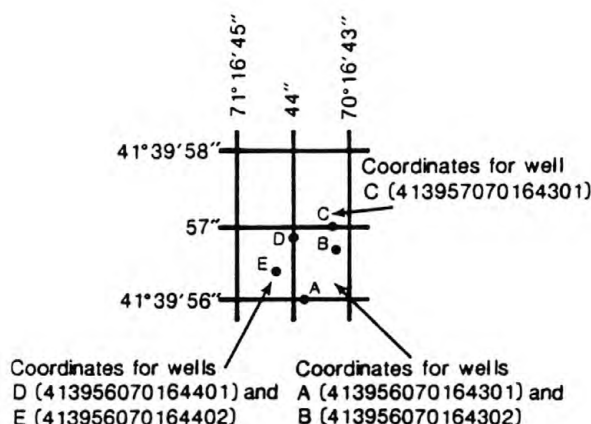


Figure 5.--System for numbering wells and miscellaneous sites.

Records of Stage and Water Discharge

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

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

ual discharges. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

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

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

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents.

This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for vari-

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

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

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

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

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

the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

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

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

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water

years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

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

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Secondary discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error. Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data

reports may wish to contact the offices whose addresses are given on the back of the title page of this report to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations, if any, are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are

called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

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

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

errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

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

Records of Surface-Water Quality

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

Classification of records

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

A careful distinction needs to be made between "continuing records", as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some

records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 1.

Arrangement of Records

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

On-site Measurements and Sample Collection

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

Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "Publication on Techniques of Water-Resources Investigations" which appears at the end of the introductory text.

Detailed information on collecting, treating, and shipping samples may be obtained from the New England District Office whose address is given on the back of the title page of 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 through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

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

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at 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.

Sediment

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

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

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

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

Laboratory Measurements

Sediment samples, samples for biochemical oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratories in Arvada, Colorado and Doraville, Georgia. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5,

Chap. C1.

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

Data Presentation

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

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

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

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

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

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

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

COOPERATION.--Records provided by a cooperating organization or obtained for the Geologi-

cal Survey by a cooperating organization are identified here.

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

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

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

Printed Output	Remark
.	
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)

- L Biological organism count less than 0.5 percent (organism may be observed rather than counted)
- D Biological organism count equal to or greater than 15 percent (dominant)
- & Biological organism estimated as dominant

Records of Ground-Water Levels

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

Data Collection and Computation

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

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported daily or for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

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

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

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

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

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base, and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Verti-

cal Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

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

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum. For most wells all taped measurements of water level are published. For wells equipped with digital recorders, tables of daily mean water levels and the means, highs, and lows for each month are published. Abbreviated tables are published for wells equipped with analog recorders; water level highs are shown for every fifth day and the end of each month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the daily or abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table.

Missing records are indicated by dashes in place of the water level.

ACCESS TO WATSTORE DATA

The National **WATER** Data **STOR**age and **RE**trieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the office whose address is given on the back of the title page.

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, VA 22092

DEFINITION OF TERMS

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

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

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

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

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

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield signifi-

cant quantities of water to wells and springs.

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

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

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

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

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35° plus or minus 1.0° on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500° for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter, and periphyton and benthic organisms in grams per square mile.

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

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

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

Bottom material: See "Bed material."

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

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

The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

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

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

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

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

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

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 ft^3 passing a given point during 1 second and is equivalent to 7.48 gal/s or 448.8 gal/min or 0.02832 m^3/s .

Cubic feet per second per square mile [$(\text{ft}^3/\text{s})/\text{mi}^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Micrograms per gram (UG/G, $\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

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

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

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

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

tion-monitoring network of the National Atmospheric Deposition Program.

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

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

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

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

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

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

Classification	Size (mm)	Method of analysis
Clay	0.00024–0.004	Sedimentation
Silt	0.004–0.062	Sedimentation
Sand	0.062–2.0	Sedimentation or sieve
Gravel	2.0–64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all parti-

cles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

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

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

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

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

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

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

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

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

Phytoplankton--continued

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

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

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

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

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

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

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

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

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

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

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

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

Sediment--Continued

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

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

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

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

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

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

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

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in mi-

crosiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

0.45-micrometer filter.

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

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

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

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

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

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

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

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

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

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

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

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section

per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

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

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

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1985, is called the "1985 water year."

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

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be

found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Forty-eight manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. Material is grouped under major subject headings called books and further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. Reports listed below are sold by the Books and Open-File Reports Section, U.S. Geological Survey, Box 25425, Federal Center, Denver, CO 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Check or money order is payable to the U.S. Geological Survey. Prices, effective December 1987, are subject to change. When ordering, please give the series (U.S. Geological Survey Techniques of Water-Resources Investigations), title, book number, and chapter number.

- 1-D1 Water temperature-influential factors, field measurement, and data presentation, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: Book 1, Chap. D1. 1975. 65 p. \$2.50.
- 1-D2 Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W. W. Wood: Book 1, Chap. D2. 1976. 24 p. \$2.50.
- 2-D1 Application of surface geophysics to ground-water investigations, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: Book 2, Chap. D1. 1974. 116 p. \$5.00.
- 2-E1 Application of borehole geophysics to water-resources investigations, by W. S. Keys and L. M. MacCary: Book 2, Chap. E1. 1971. 126 p. \$4.75.
- 3-A1 General field and office procedures for indirect discharge measurements, by M. A. Benson and Tate Dalrymple: Book 3, Chap. A1. 1967. 30 p. \$2.00.
- 3-A2 Measurement of peak discharge by the slope-area method, by Tate Dalrymple and M. A. Benson: Book 3, Chap. A2. 1967. 12 p. \$1.75.

- 3-A3 Measurement of peak discharge at culverts by indirect methods, by G. L. Bodhaine: Book 3, Chap. A3. 1968. 60 p. \$5.00.
- 3-A4 Measurement of peak discharge at width contractions by indirect methods, by H. F. Matthai: Book 3, Chap. A4. 1967. 44 p. \$2.25.
- 3-A5 Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: Book 3, Chap. A5. 1967. 29 p. \$2.25.
- 3-A6 General procedure for gaging streams, by R. W. Carter and Jacob Davidian: Book 3, Chap. A6. 1968. 13 p. \$1.75.
- 3-A7 Stage measurements at gaging stations, by T. J. Buchanan and W. P. Somers: Book 3, Chap. A7. 1968. 28 p. \$4.50.
- 3-A8 Discharge measurements at gaging stations, by T. J. Buchanan and W. P. Somers: Book 3, Chap. A8. 1969. 65 p. \$3.25.
- 3-A9 Measurement of time-of-travel and dispersion in streams by dye tracing, by E. F. Hubbard, F.A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: Book 3, Chap. A9. 1982. 44 p. \$5.00.
- 3-A10 Discharge ratings at gaging stations, by E. J. Kennedy: Book 3, Chap. A10. 1985. 59 p. \$3.00.
- 3-A11 Measurement of discharge by moving-boat method, by G. F. Smoot and C. E. Novak: Book 3, Chap. A11. 1969. 22 p. \$2.00.
- 3-A12 Fluorometric procedures for dye tracing, by J. F. Wilson, Jr., E. B. Cobb, and F. A. Kilpatrick: Book 3, Chap. A12. Rev. 1986. 34 p. \$2.25.
- 3-A13 Computation of continuous records of streamflow, by E. J. Kennedy: Book 3, Chap. A13. 1983. \$4.50.
- 3-A14 The use of flumes in measuring discharge, by F. A. Kilpatrick and V. R. Schneider: Book 3, Chap. A14. 1983. 46 p. \$4.50.
- 3-A15 Computation of water-surface profiles in open channels, by Jacob Davidian: Book 3, Chap. A15. 1984. 48 p. \$2.50.
- 3-A16 Measurements of discharge using tracers, by F. A. Kilpatrick and E. D. Cobb: Book 3, Chap. A16. 1986. 52 p. \$2.50.
- 3-A17 Acoustic velocity meter systems, by Antonius Laenen: Book 3, Chap. A17. 1985. 38 p. \$1.75.
- 3-B1 Aquifer-test design, observation, and data analysis, by R.W. Stallman: Book 3, Chap. B1. 1971. 26 p. \$3.50.
- 3-B2 Introduction to ground-water hydraulics, a programmed text for self-instruction, by G. D. Bennett: Book 3, Chap. B2. 1976. 172 p. \$7.00.
- 3-B3 Type curves for selected problems of flow to wells in confined aquifers, by J. E. Reed: Book 3, Chap. B3. 1980. 106 p. \$6.00.
- 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: 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: Book 3, Chap. B6. 1987. 28 p.
- 3-C1 Fluvial sediment concepts, by H. P. Guy: Book 3, Chap. C1. 1970. 55 p. \$3.75.
- 3-C2 Field methods for measurement of fluvial sediment, by H. P. Guy and V. W. Norman: Book 3, Chap. C2. 1970. 59 p. \$5.50.
- 3-C3 Computation of fluvial-sediment discharge, by George Porterfield: Book 3, Chap. C3. 1972. 66 p. \$3.25.
- 4-A1 Some statistical tools in hydrology, by H. C. Riggs: Book 4, Chap. A1. 1968. 39 p. \$2.50.
- 4-A2 Frequency curves, by H. C. Riggs: Book 4, Chap. A2. 1968. 15 p. \$2.00.
- 4-B1 Low-flow investigations, by H. C. Riggs: Book 4, Chap. B1. 1972. 18 p. \$3.50.
- 4-B2 Storage analyses for water supply, by H. C. Riggs and C. H. Hardison: Book 4, Chap. B2. 1973. 20 p. \$3.25.
- 4-B3 Regional analyses of streamflow characteristics, by H. C. Riggs: Book 4, Chap. B3. 1973. 15 p. \$3.50.
- 4-D1 Computation of rate and volume of stream depletion by wells, by C. T. Jenkins: Book 4, Chap. D1. 1970. 17 p. \$1.75.
- 5-A1 Methods for determination of inorganic substances in water and fluvial sediments, by M. W. Skougstad, M. J. Fishman, L. C. Friedman, D. E. Erdmann, and S. S. Duncan, editors: Book 5, Chap. A1. 1979. 626 p. \$11.00.
- 5-A2 Determination of minor elements in water by emission spectroscopy, by P. R. Barnett and E. C. Mallory, Jr.: Book 5, Chap. A2. 1971. 31 p. \$2.75.
- 5-A3 Methods for analysis of organic substances in water, by D. F. Goerlitz and Eugene Brown: Book 5, Chap. A3. 1972. 40 p. \$2.50.
- 5-A4 Methods for collection and analysis of aquatic biological and microbiological samples, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: Book 5, Chap. A4. 1977. 332 p. \$10.00.
- 5-A5 Methods for determination of radioactive substances in water and fluvial sediments, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: Book 5, Chap. A5. 1977. 95 p. \$6.50.
- 5-A6 Quality assurance practices for the chemical and biological analyses of water and fluvial sediments, by L. C. Friedman and D. E. Erdmann: Book 5, Chap. A6. 1982. 181 p. \$6.50.
- 5-C1 Laboratory theory and methods for sediment analysis, by H. P. Guy: Book 5, Chap. C1. 1969. 58 p. \$3.25.
- 7-C1 Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P. C. Trescott, G. F. Pinder, and S. P. Larson: Book 7, Chap. C1. 1976. 116 p. \$4.75.
- 7-C2 Computer model of two-dimensional solute transport and dispersion in ground water by L. F. Konikow and J. D. Bredehoeft: Book 7, Chap. C2. 1978. 90 p. \$3.25.
- 7-C3 A model for simulation of flow in singular and interconnected channels by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: Book 7, Chap. C3. 1981. 110 p. \$7.50.
- 8-A1 Methods of measuring water levels in deep wells, by M. S. Garber and F. C. Koopman: Book 8, Chap. A1. 1968. 23 p. \$2.00.
- 8-A2 Installation and service manual for U.S. Geological Survey manometers, by J. D. Craig: Book 8, Chap. A2. 1983. 57 p. \$6.00.
- 8-B2 Calibration and maintenance of vertical-axis type current meters, by G. F. Smoot and C. E. Novak: Book 8, Chap. B2. 1968. 15 p. \$1.75.

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

**Printed
Output**

Remark

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

01094400 NORTH NASHUA RIVER AT FITCHBURG, MASS.

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

DRAINAGE AREA.--63.4 mi².

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

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

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

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by mills and reservoirs upstream. Flow affected by diversions for municipal use. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--14 years, 124 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,740 ft³/s Apr. 5, 1984, gage height, 7.02 ft; minimum, 6.7 ft³/s Oct. 19, 1980, Sept. 10 and Oct. 1, 1984, but may have been slightly lower about Sept. 8, 1980; minimum daily, 9.0 ft³/s Sept. 8, 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	0830	*1,990	*5.92	Mar. 20	0115	1,000	4.55
Mar. 15	0115	1,450	5.20				

Minimum discharge, 26 ft³/s July 25, 26, Sept. 16; minimum daily, 28 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	40	126	58	163	81	184	104	70	34	95	50
2	56	39	253	57	168	80	170	95	76	129	82	46
3	62	39	247	117	157	77	156	84	66	142	78	44
4	138	40	173	141	133	79	147	80	56	105	66	43
5	185	292	140	114	140	84	143	79	58	81	50	44
6	212	418	128	104	129	82	134	78	326	68	45	60
7	142	308	119	90	109	80	168	78	537	62	53	49
8	105	205	109	e86	113	69	167	81	381	52	e130	44
9	88	153	105	e86	104	70	162	82	243	43	e250	40
10	76	130	100	86	102	69	147	77	156	38	e180	37
11	67	142	96	79	102	138	139	71	124	34	e130	35
12	61	167	112	72	94	149	115	68	162	41	e85	39
13	61	196	114	69	90	152	116	67	207	111	e64	34
14	63	175	128	e60	87	375	110	63	162	252	e58	29
15	67	200	103	e58	86	1200	104	61	119	129	e53	28
16	70	162	96	e58	81	798	99	58	96	89	e52	51
17	61	246	91	58	83	549	95	66	119	69	e100	42
18	56	259	83	65	95	435	90	62	92	59	e290	35
19	58	229	74	96	111	644	86	57	75	51	e240	31
20	60	197	74	216	99	818	83	52	170	50	e170	31
21	53	167	75	222	153	449	91	58	150	48	128	41
22	48	150	71	161	229	311	108	78	108	42	104	39
23	46	162	73	143	163	258	118	111	86	38	87	48
24	44	152	74	111	129	233	121	142	73	37	89	62
25	54	137	73	95	114	208	148	128	64	33	69	52
26	47	130	67	486	98	203	153	94	55	34	60	44
27	45	143	e66	1610	92	246	196	81	51	56	86	47
28	44	153	e66	770	86	313	158	87	50	50	82	46
29	39	148	60	384	---	266	130	64	45	106	69	43
30	40	130	59	270	---	231	113	53	38	137	58	42
31	41	---	e58	207	---	203	---	49	---	121	52	---
TOTAL	2252	5109	3213	6229	3310	8950	3951	2408	4015	2341	3155	1276
MEAN	72.6	170	104	201	118	289	132	77.7	134	75.5	102	42.5
MAX	212	418	253	1610	229	1200	196	142	537	252	290	62
MIN	39	39	58	57	81	69	83	49	38	33	45	28

CAL YR 1985 TOTAL 28413 MEAN 77.8 MAX 496 MIN 13
WTR YR 1986 TOTAL 46209 MEAN 127 MAX 1610 MIN 28

e Estimated

MERRIMACK RIVER BASIN

01094500 NORTH NASHUA RIVER NEAR LEOMINSTER, MASS.

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

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

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

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

GAGE.--Water-stage recorder. Datum of gage is 270.04 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flow by mills upstream. Flow includes diversion to basin for municipal supplies: for Fitchburg, from Mare Meadow Reservoir since 1955; for Leominster, from Wachusett Reservoir since 1966 and from the Southeast Well Field since 1958. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--51 years, 195 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s Mar. 18, 1936, gage height, 20.53 ft, from floodmarks, by computation of peak flow over dam; minimum, 11 ft³/s Aug. 29, 1948; minimum daily, 22 ft³/s Sept. 27, 1936, Sept. 2, 1957. Maximum discharge since at least 1850, that of Mar. 18, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 5	1530	1,170	3.99	Mar. 20	0030	1,610	4.55
Jan. 27	1145	*3,590	*6.73	July 14	0015	1,170	3.99
Mar. 15	0400	3,060	6.20				

Minimum discharge, 41 ft³/s July 26; minimum daily, 50 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e110	71	214	106	271	140	277	156	117	64	139	69
2	e100	70	438	104	281	137	256	141	121	287	124	76
3	e110	72	424	260	256	136	232	124	110	283	118	68
4	e240	74	291	264	219	142	214	115	93	202	99	70
5	e320	544	242	e185	230	155	205	113	94	153	79	67
6	e370	787	221	e170	207	153	194	113	589	124	71	86
7	e260	517	206	e160	178	147	259	115	970	110	82	70
8	e190	326	194	e155	182	120	256	117	722	93	242	65
9	e150	246	188	e150	167	122	244	116	442	79	496	59
10	e130	208	179	e150	164	124	224	107	274	68	284	56
11	e115	245	175	e140	163	282	209	99	219	60	188	55
12	e105	291	217	e130	151	290	178	96	292	70	133	60
13	e105	323	206	e120	141	311	170	94	399	192	107	58
14	e110	282	238	e110	136	661	161	86	302	514	92	51
15	e115	329	191	e100	137	2390	149	83	223	209	83	50
16	117	257	176	e90	127	1510	143	81	175	139	80	96
17	103	451	167	92	131	1080	138	96	235	109	244	73
18	95	441	153	111	164	849	128	86	172	92	556	61
19	98	379	134	178	199	1030	121	80	141	81	360	56
20	97	325	134	389	176	1430	116	73	296	78	243	58
21	90	278	135	374	319	917	122	109	285	76	178	79
22	86	255	127	274	451	650	153	152	200	67	146	72
23	84	275	132	248	305	490	164	182	156	61	121	83
24	81	250	131	190	232	406	168	246	133	58	126	105
25	91	225	133	159	199	349	216	224	117	54	100	86
26	84	217	118	863	171	322	233	162	101	51	85	74
27	79	255	116	2850	162	391	318	131	91	115	123	76
28	78	259	116	1370	149	519	260	146	86	90	120	71
29	74	248	107	657	---	427	206	109	79	188	98	69
30	73	220	106	461	---	358	173	91	71	225	84	68
31	72	---	104	347	---	313	---	79	---	173	73	---
TOTAL	3932	8720	5713	10957	5668	16351	5887	3722	7305	4165	5074	2087
MEAN	127	291	184	353	202	527	196	120	243	134	164	69.6
MAX	370	787	438	2850	451	2390	318	246	970	514	556	105
MIN	72	70	104	90	127	120	116	73	71	51	71	50

CAL YR 1985 TOTAL 48181 MEAN 132 MAX 811 MIN 29
WTR YR 1986 TOTAL 79581 MEAN 218 MAX 2850 MIN 50

e Estimated

01095500 NASHUA RIVER AT CLINTON, MASS.

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

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

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

Water-quality records: Water year 1957.

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

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

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

AVERAGE DISCHARGE.--90 years, 190 ft³/s, 23.96 in/yr, adjusted to present drainage area.

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	Mean	Per square mile	Runoff, in inches	Rainfall, in inches
October.....	127	1.18	1.36	3.16
November.....	313	2.91	3.25	6.02
December.....	174	1.62	1.86	1.76

Calendar year 1985.....	133	1.24	16.81	43.72

January.....	313	2.91	3.35	4.50
February.....	254	2.36	2.45	3.41
March.....	458	4.25	4.91	4.10
April.....	192	1.78	1.99	2.06
May.....	103	.96	1.10	2.23
June.....	246	2.28	2.54	7.02
July.....	78.7	.73	.84	5.26
August.....	62.8	.58	.67	3.40
September.....	1.38	.01	.01	1.38

Water year 1986.....	193	1.79	24.35	44.30

MERRIMACK RIVER BASIN

01096000 SQUANNACOOK RIVER NEAR WEST GROTON, MASS.

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

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

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

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

GAGE.--Water-stage recorder. Datum of gage is 244.27 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional regulation at low flow by mill upstream; regulation greater prior to 1961. Entire flow from 2.16 mi² upstream from outlet of Ashby Reservoir diverted for municipal supply of Fitchburg except for occasional periods of spill. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--37 years, 111 ft³/s, 23.66 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,010 ft³/s Oct. 16, 1955, gage height, 8.04 ft; minimum daily, 2.0 ft³/s Sept. 7, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	2200	*2,060	*6.63	Mar. 20	--	unknown	unknown
Mar. 15	--	unknown	unknown	July 30	1630	1,070	5.51

Minimum daily discharge, 19 ft³/s Oct. 31 to Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	19	90	46	e175	94	173	97	39	32	225	38
2	26	19	113	46	164	90	158	88	46	48	154	34
3	23	19	191	58	163	86	145	78	59	121	119	34
4	32	19	157	112	e145	85	136	72	49	122	96	33
5	53	45	121	112	142	88	129	70	42	88	80	34
6	87	240	105	101	138	94	123	70	117	69	69	38
7	78	229	96	e83	e120	94	138	70	359	58	37	40
8	55	145	90	e69	116	e76	160	70	389	49	68	38
9	42	110	87	64	e110	78	153	72	242	41	171	33
10	35	94	81	64	108	75	140	69	155	35	163	29
11	29	85	77	62	105	84	127	66	112	30	116	27
12	28	89	82	60	e98	155	117	62	117	30	88	26
13	24	113	91	60	e92	158	109	58	227	47	58	27
14	23	117	99	e55	92	211	103	55	226	88	42	24
15	27	126	96	e50	89	e900	97	51	155	88	45	24
16	30	128	82	45	e83	e1000	79	48	112	62	41	29
17	32	133	78	44	84	e600	86	48	99	47	46	38
18	30	177	e70	47	84	e480	86	47	88	39	216	35
19	28	173	e60	59	96	e650	80	44	72	35	252	30
20	28	148	57	112	100	e700	76	40	106	32	183	27
21	26	126	60	206	115	e470	75	37	186	30	131	31
22	25	109	57	191	211	326	82	61	134	28	102	36
23	24	106	57	155	222	264	91	78	95	25	88	45
24	24	108	59	e125	e165	236	104	83	78	24	86	83
25	24	103	60	e99	136	213	111	95	65	23	68	76
26	23	93	e54	146	e110	201	126	79	56	22	40	54
27	22	90	51	1140	e105	220	149	60	49	35	42	43
28	21	99	52	1200	e100	281	157	50	44	42	71	36
29	20	103	47	e460	---	260	135	43	42	55	65	33
30	20	96	46	e290	---	219	110	37	37	654	56	30
31	19	---	44	e215	---	195	---	34	---	432	45	---
TOTAL	990	3261	2510	5576	3468	8683	3555	1932	3597	2531	3063	1105
MEAN	31.9	109	81.0	180	124	280	118	62.3	120	81.6	98.8	36.8
MAX	87	240	191	1200	222	1000	173	97	389	654	252	83
MIN	19	19	44	44	83	75	75	34	37	22	37	24
CFSM	.50	1.71	1.27	2.82	1.94	4.40	1.86	.98	1.88	1.28	1.55	.58
IN.	.58	1.90	1.47	3.26	2.03	5.07	2.08	1.13	2.10	1.48	1.79	.65

CAL YR 1985	TOTAL	20922	MEAN	57.3	MAX	607	MIN	9.9	CFSM	.90	IN.	12.22
WTR YR 1986	TOTAL	40271	MEAN	110	MAX	1200	MIN	19	CFSM	1.73	IN.	23.52

e Estimated

MERRIMACK RIVER BASIN

33

01096500 NASHUA RIVER AT EAST PEPPERELL, MASS.

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

DRAINAGE AREA.--Total above gage, 435 mi², net above gage, 316 mi², flow diverted from 119 mi², for use of Boston metropolitan district and city of Worcester.

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

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

GAGE.--Water-stage recorder. Datum of gage is 169.04 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--51 years, 571 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,900 ft³/s Mar. 20, 1936, gage height, 19.1 ft, from floodmarks, from rating curve extended above 12,000 ft³/s on basis of velocity-area studies; minimum daily, 1.1 ft³/s Aug. 13, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,520 ft³/s Mar. 17, gage height, 8.17 ft; minimum daily, 57 ft³/s July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	386	142	667	300	e1250	584	986	488	210	179	869	271
2	269	227	758	278	e1050	446	905	515	347	86	539	142
3	251	218	1010	331	e980	513	852	550	589	119	644	88
4	405	182	949	463	e850	595	817	423	561	493	568	152
5	443	223	778	596	e800	585	564	383	256	698	485	253
6	809	1190	674	543	e770	583	518	339	91	455	346	132
7	990	1720	619	484	e690	436	805	395	1180	316	259	71
8	713	1470	576	427	e630	351	864	357	1870	309	73	133
9	599	1050	561	401	e610	355	786	209	1580	332	327	248
10	373	837	562	417	e580	558	722	148	1110	271	776	259
11	291	727	526	413	e560	594	717	148	801	260	612	214
12	303	804	535	392	e550	594	598	452	737	143	446	223
13	305	784	591	383	e480	749	560	479	911	194	347	216
14	305	863	612	376	e470	1020	628	342	1090	547	272	123
15	291	870	608	366	e460	2920	633	315	909	717	241	86
16	277	863	538	324	e420	4320	603	300	717	646	227	89
17	452	911	503	307	e430	4180	546	315	673	392	234	219
18	442	1140	475	306	e450	3160	380	215	670	301	579	276
19	299	1080	416	307	e570	2480	415	210	443	279	1040	264
20	205	952	385	434	e580	2660	415	286	343	115	867	136
21	e265	829	386	874	e610	2880	411	268	662	57	648	82
22	e190	754	385	915	e900	2200	407	247	734	416	486	81
23	322	772	377	784	e1150	1660	411	251	680	370	398	233
24	339	758	376	652	e1000	1370	419	340	558	127	362	333
25	294	711	380	546	e880	1200	391	491	304	96	427	159
26	259	661	378	686	e820	1100	569	479	554	101	378	233
27	201	666	369	2240	e770	1070	760	397	369	109	324	316
28	180	736	367	4030	636	1210	800	352	233	305	320	162
29	257	762	363	e3750	---	1320	794	337	400	193	318	89
30	208	713	360	e2500	---	1190	760	310	337	744	312	202
31	119	---	355	e1500	---	1080	---	268	---	1370	293	---
TOTAL	11042	23615	16439	26325	19946	43963	19036	10609	19919	10740	14017	5485
MEAN	356	787	530	849	712	1418	635	342	664	346	452	183
MAX	990	1720	1010	4030	1250	4320	986	550	1870	1370	1040	333
MIN	119	142	355	278	420	351	380	148	91	57	73	71

CAL YR 1985 TOTAL 132012 MEAN 362 MAX 1790 MIN 56
WTR YR 1986 TOTAL 221136 MEAN 606 MAX 4320 MIN 57

e Estimated

MERRIMACK RIVER BASIN

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

LOCATION.--Lat 42°38'20", long 71°22'17", Middlesex County, Hydrologic Unit 01070002, on downstream side of Tyngsboro bridge on State Highway 113, 6.2 mi upstream from Pawtucket Dam, and 2 mi downstream from Massachusetts-New Hampshire State line.

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January to September 1973.

WATER TEMPERATURE: January to September 1973.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 22...	1300	4090	218	6.49	--	11.0	1.5	761	--	--	1200	55
DEC 18...	1030	6590	97	6.78	0.5	0.5	1.3	758	14.9	104	5500	1300
FEB 20...	1100	39800	160	6.78	2.0	0.5	2.0	766	--	--	3400	2000
APR 29...	1100	10800	75	6.71	11.0	14.5	1.0	761	10.6	104	1700	82
JUN 11...	1100	5980	93	6.53	20.5	19.0	2.0	756	8.1	88	1700	650
AUG 20...	1300	4700	98	6.50	26.5	22.5	0.90	772	7.6	87	1800	350

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED PERCENT AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE IT-FLD (MG/L AS CO3)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3
OCT 22...	16	6	4.9	0.83	8.8	53	1	1.1	0	11	10
DEC 18...	16	7	4.9	0.90	11	58	1	1.0	0	10	9
FEB 20...	17	8	5.1	1.0	22	72	2	1.2	0	10	9
APR 29...	13	6	3.9	0.80	8.5	57	1	0.90	0	8.0	7
JUN 11...	17	7	5.3	1.0	12	58	1	1.0	0	12	10
AUG 20...	17	7	5.4	0.90	11	56	1	1.2	0	12	11

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 22...	9.3	13	<0.10	6.1	57	50	0.250	0.190	0.70	0.090	0.070
DEC 18...	11	18	<1.0	6.9	46	60	0.230	0.240	0.70	0.060	0.040
FEB 20...	11	34	0.10	6.1	82	85	--	--	--	--	--
APR 29...	9.1	10	0.20	5.1	52	47	0.670	0.200	0.90	0.290	0.290
JUN 11...	11	15	0.10	5.1	65	58	0.230	0.220	0.70	0.100	0.060
AUG 20...	10	15	0.10	4.7	64	56	0.260	0.140	0.50	0.070	0.050

MERRIMACK RIVER BASIN

35

01096550 MERRIMACK RIVER ABOVE LOWELL, MASS. -Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 22...	0.090	--	--	--	--	--	--	--	--	--	--
DEC 18...	0.040	60	<1	14	<0.5	<1	<1	<3	1	140	26
FEB 20...	--	--	--	--	--	--	--	--	--	--	--
APR 29...	0.220	130	<1	14	<0.5	<1	<1	<3	5	230	1
JUN 11...	0.040	--	--	--	--	--	--	--	--	--	--
AUG 20...	0.040	40	1	16	<0.5	<1	<1	<3	4	190	<5

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 22...	--	--	--	--	--	--	--	--	--	9	77
DEC 18...	<4	50	<0.1	<10	1	<1	<1	<6	14	4	79
FEB 20...	--	--	--	--	--	--	--	--	--	6	68
APR 29...	<4	29	<0.1	<10	2	<1	<1	<6	20	4	93
JUN 11...	--	--	--	--	--	--	--	--	--	5	80
AUG 20...	6	30	<0.1	<10	2	<1	<1	<6	25	10	54

01097000 ASSABET RIVER AT MAYNARD, MASS.

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

DRAINAGE AREA.--116 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 142.12 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--45 years, 186 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft³/s Aug. 20, 1955, gage height, 8.94 ft; maximum gage height, 8.96 ft Aug. 20, 1955 (backwater from debris); minimum daily discharge, 0.20 ft³/s Feb. 7, 1965. Maximum discharge since at least 1886, that of Aug. 20, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft³/s Mar. 16, gage height, 5.46 ft; minimum daily, 25 ft³/s Sept. 12, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	69	264	95	359	205	281	167	70	70	99	48
2	115	62	284	97	317	197	253	153	72	146	98	48
3	96	65	310	117	292	190	234	139	80	236	142	40
4	94	67	326	182	270	193	226	128	80	270	165	45
5	123	168	303	e180	262	211	214	122	75	264	157	46
6	176	432	273	e155	249	235	207	119	217	210	130	49
7	209	562	248	e140	e225	243	214	116	527	152	107	49
8	205	548	235	e130	e210	210	226	117	797	134	101	54
9	170	433	224	e120	e200	192	255	121	754	107	96	32
10	139	341	227	110	e190	173	240	118	618	76	111	37
11	116	294	213	e105	e180	192	204	110	504	109	121	44
12	97	282	238	e100	e170	259	209	104	468	64	115	25
13	92	293	232	100	e165	320	199	114	451	91	78	34
14	90	300	271	e98	e160	425	200	97	466	177	71	33
15	98	300	263	e96	e155	1060	188	92	444	198	67	31
16	103	283	244	e92	e150	1330	160	82	356	184	53	44
17	98	324	219	e87	e150	1170	142	89	304	137	71	40
18	93	364	200	92	e160	936	133	101	251	98	102	25
19	91	405	e180	119	e180	771	139	104	208	97	112	42
20	93	385	e160	222	e210	722	135	87	191	91	123	26
21	93	339	150	306	e250	621	136	71	211	82	127	43
22	89	311	e140	322	362	515	144	105	207	77	110	48
23	84	300	134	268	426	446	151	121	188	73	84	36
24	72	293	128	212	386	400	175	138	170	69	81	46
25	90	286	134	173	333	367	188	152	126	65	79	36
26	82	260	e130	215	286	338	199	167	127	56	64	39
27	78	258	119	606	246	330	214	141	117	65	63	35
28	74	267	113	954	226	355	215	115	106	69	60	33
29	71	277	e100	755	---	372	201	97	96	79	58	31
30	70	274	95	602	---	351	179	82	76	93	50	27
31	74	---	91	454	---	306	---	73	---	96	51	---
TOTAL	3327	8842	6248	7304	6769	13635	5861	3542	8357	3735	2946	1166
MEAN	107	295	202	236	242	440	195	114	279	120	95.0	38.9
MAX	209	562	326	954	426	1330	281	167	797	270	165	54
MIN	70	62	91	87	150	173	133	71	70	56	50	25

CAL YR 1985 TOTAL 50244 MEAN 138 MAX 562 MIN 25
WTR YR 1986 TOTAL 71732 MEAN 197 MAX 1330 MIN 25

e Estimated

MERRIMACK RIVER BASIN

37

01097300 NASHOBA BROOK NEAR ACTON, MASS.

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

DRAINAGE AREA.--12.8 mi².

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

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

GAGE.--Water-stage recorder. Elevation of gage is 155 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Occasional regulation since 1967 by pond upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--23 years, 21.1 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 679 ft³/s Jan. 26, 1979, gage height, 5.57 ft; maximum gage height, 5.73 ft, Jan. 26, 1979 (ice jam); minimum discharge, 0.02 ft³/s Sept. 6, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 270 ft³/s Mar. 15, gage height, 4.70 ft; minimum, 1.8 ft³/s Sept. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	6.7	29	10	e30	e20	30	16	5.2	5.7	17	3.6
2	7.6	6.5	35	10	28	e19	26	15	6.8	9.3	13	3.4
3	7.2	6.9	50	14	e26	e18	24	13	8.7	42	24	3.0
4	9.3	6.9	44	25	e25	19	22	12	7.5	39	29	2.9
5	20	24	34	27	24	23	20	12	6.5	27	16	2.9
6	45	100	28	21	24	28	20	12	18	18	9.2	2.9
7	50	111	26	19	e22	27	22	12	62	14	7.1	2.9
8	32	73	25	16	21	e23	25	12	69	11	8.2	2.9
9	19	51	24	14	20	e17	28	14	49	8.6	14	2.8
10	14	38	22	13	19	15	28	13	28	7.1	11	2.7
11	12	32	21	13	18	17	25	12	17	6.2	8.9	2.6
12	9.9	38	23	13	18	34	22	11	22	5.5	6.7	2.2
13	8.9	46	27	13	17	38	19	11	45	7.5	5.5	2.0
14	9.2	47	29	13	16	57	18	10	51	31	4.9	1.9
15	10	45	e31	e9.5	16	213	16	9.8	34	48	4.3	1.8
16	13	43	26	e7.6	15	187	15	9.4	21	27	4.0	1.8
17	11	45	22	e7.0	14	99	15	9.5	15	14	3.8	3.4
18	9.5	60	20	e7.4	16	76	14	10	13	9.9	5.4	3.7
19	8.9	56	e17	12	21	67	13	8.8	11	8.5	14	3.2
20	10	46	14	35	23	70	12	7.6	14	8.1	16	2.9
21	11	38	13	57	28	61	12	6.4	31	7.7	10	3.0
22	9.4	33	13	43	43	49	12	7.9	24	6.6	7.7	3.8
23	8.9	33	13	34	60	44	14	9.1	15	5.7	6.3	4.1
24	8.4	35	13	27	e51	41	18	8.7	12	4.9	5.7	4.6
25	8.1	31	14	19	39	38	21	11	10	4.3	5.6	5.3
26	8.0	27	e15	27	e33	35	23	10	8.8	3.9	4.7	4.6
27	7.6	27	13	126	e26	36	27	8.1	7.7	3.9	4.3	3.6
28	7.6	32	12	144	e22	45	28	7.2	7.4	5.3	5.0	3.4
29	7.6	34	11	87	---	45	22	6.4	7.1	6.6	5.3	3.4
30	7.3	31	10	54	---	38	18	5.8	6.2	19	4.5	3.4
31	6.8	---	9.9	e38	---	33	---	5.3	---	25	4.0	---
TOTAL	406.0	1203.0	683.9	955.5	715	1532	609	316.0	632.9	440.3	285.1	94.7
MEAN	13.1	40.1	22.1	30.8	25.5	49.4	20.3	10.2	21.1	14.2	9.20	3.16
MAX	50	111	50	144	60	213	30	16	69	48	29	5.3
MIN	6.8	6.5	9.9	7.0	14	15	12	5.3	5.2	3.9	3.8	1.8

CAL YR 1985 TOTAL 4996.2 MEAN 13.7 MAX 111 MIN .77
WTR YR 1986 TOTAL 7873.4 MEAN 21.6 MAX 213 MIN 1.8

e Estimated

MERRIMACK RIVER BASIN

01097500 SUDBURY RIVER AT FRAMINGHAM CENTER, MASS.

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

DRAINAGE AREA.--75.2 mi², since January 1881.

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

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

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

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

AVERAGE DISCHARGE.--111 years, 117 ft³/s, 21.13 in/yr, adjusted to present drainage area.

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Month	Mean	Per square mile	Runoff in inches	Rainfall in inches
October.....	40.8	0.54	0.63	2.54
November.....	245	3.26	3.64	7.38
December.....	148	1.97	2.27	1.47

Calendar year 1985.....	94.5	1.26	17.06	38.97

January.....	198	2.63	3.04	4.42
February.....	178	2.37	2.47	3.38
March.....	303	4.03	4.65	3.70
April.....	143	1.90	2.13	1.44
May.....	60.9	.81	.93	1.27
June.....	250	3.32	3.71	8.66
July.....	100	1.33	1.54	4.57
August.....	56.1	.75	.86	3.02
September.....	4.36	.06	.06	1.09

Water year 1986.....	144	1.91	25.92	42.94

MERRIMACK RIVER BASIN

39

01098530 SUDBURY RIVER AT SAXONVILLE, MASS.

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

DRAINAGE AREA.--106 mi².

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

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

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

AVERAGE DISCHARGE.--6 years (water years 1981-86), 185 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft³/s June 7, 1982, gage height, 13.30 ft; minimum daily, 9.5 ft³/s Aug. 25, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 869 ft³/s about Mar. 16, gage height, 9.80 ft, from peak-stage indicator; maximum gage height, 9.97 ft June 7; minimum daily discharge, 11 ft³/s Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	56	266	134	262	233	e280	135	58	132	68	86
2	87	55	302	135	253	227	e250	131	75	181	68	83
3	89	55	304	186	244	221	e240	126	67	242	77	83
4	93	55	280	212	230	219	e240	126	59	219	73	86
5	119	211	259	187	228	227	e240	122	69	194	72	74
6	140	382	245	178	222	235	e240	96	464	177	72	67
7	117	322	226	166	214	236	e240	90	781	159	82	65
8	107	271	215	158	210	213	e230	89	846	129	117	62
9	99	228	208	146	205	209	e230	86	777	122	94	62
10	90	194	199	142	200	203	e230	75	662	117	83	40
11	83	193	195	137	197	218	e235	65	566	90	83	20
12	73	205	236	130	197	236	230	58	542	64	86	11
13	68	217	241	122	193	271	217	53	552	106	83	17
14	68	197	275	113	179	e365	209	55	496	120	80	18
15	67	229	252	106	153	e750	205	56	457	105	78	18
16	67	218	238	97	151	e850	199	55	393	92	76	33
17	63	295	226	80	158	e820	195	61	309	80	76	27
18	58	295	214	74	194	e760	188	62	275	77	80	21
19	62	287	198	86	202	e680	176	58	255	87	97	20
20	65	273	190	130	188	e600	165	56	287	78	100	20
21	60	264	183	112	235	e520	165	56	273	89	99	24
22	63	285	176	134	285	e480	163	74	251	99	99	27
23	68	307	172	128	330	e450	164	64	237	85	97	25
24	69	285	170	114	322	e420	168	64	233	63	103	e26
25	73	269	170	103	317	e380	189	69	248	69	93	e30
26	72	258	165	148	292	e350	179	63	211	65	90	e27
27	68	263	157	496	267	e330	193	60	192	72	91	e25
28	65	271	154	507	248	e340	184	59	169	64	91	e23
29	61	285	149	407	---	e350	172	56	151	78	92	e22
30	59	273	146	376	---	e330	141	56	144	89	88	e20
31	56	---	142	342	---	e310	---	56	---	73	87	---
TOTAL	2425	6998	6553	5586	6376	12033	6157	2332	10099	3417	2675	1162
MEAN	78.2	233	211	180	228	388	205	75.2	337	110	86.3	38.7
MAX	140	382	304	507	330	850	280	135	846	242	117	86
MIN	56	55	142	74	151	203	141	53	58	63	68	11

CAL YR 1985 TOTAL 44425 MEAN 122 MAX 500 MIN 37
WTR YR 1986 TOTAL 65813 MEAN 180 MAX 850 MIN 11

e Estimated

MERRIMACK RIVER BASIN

01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK AT LOWELL, MASS.

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

DRAINAGE AREA.--Total above gage, 400 mi²; net above gage, 307 mi² - diversion as needed from 92.6 mi² for use of Boston metropolitan district.

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

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

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

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

REMARKS.--Records excellent. Low flow regulated by mills upstream. Daily discharge includes undiverted water from 92.6 mi² in basins of Sudbury River and Lake Cochituate. Prior to December 1961, diversion upstream for use of city of Lowell. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--50 years, 635 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,410 ft³/s Jan. 28, 1979, gage height, 9.60 ft; minimum daily, 4.0 ft³/s Sept. 29, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,560 ft³/s Mar. 19, gage height, 7.45 ft; minimum daily, 97 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	564	233	945	453	1390	910	1190	684	267	465	309	204
2	526	238	1010	451	1290	864	1110	644	231	539	312	196
3	504	235	1020	495	1200	828	1040	595	235	634	346	195
4	493	238	1010	549	1140	804	998	559	242	669	358	182
5	569	415	1020	584	1070	797	944	531	251	699	365	185
6	662	865	983	e570	1010	809	905	507	453	705	362	186
7	663	992	927	e530	e930	815	891	478	786	683	347	177
8	669	1100	901	e540	901	776	888	451	997	625	395	169
9	659	1130	870	559	e830	755	888	423	1210	568	382	165
10	631	1130	839	534	805	725	887	410	1380	503	362	154
11	568	1090	814	510	765	734	880	383	1460	449	349	148
12	514	1080	815	485	e720	776	857	354	1510	415	330	140
13	472	1080	818	474	e680	843	828	343	1570	417	305	115
14	436	1070	850	e460	662	1060	794	326	1550	511	273	100
15	427	1070	853	e410	648	1820	764	326	1500	513	254	97
16	407	1040	840	373	608	2020	736	285	1450	510	238	118
17	378	1110	820	351	590	2330	697	271	1370	491	227	128
18	361	1120	783	339	596	2510	656	271	1260	452	259	120
19	351	1110	e690	364	645	2540	626	277	1150	396	326	110
20	343	1100	683	544	686	2460	612	270	1120	367	344	106
21	337	1090	657	665	775	2320	597	254	1050	330	343	113
22	331	1070	626	724	932	2180	589	277	968	292	336	122
23	320	1060	602	750	993	2040	594	285	910	270	321	170
24	310	1040	585	715	1050	1880	597	311	853	250	309	165
25	304	1000	582	658	1070	1760	629	331	783	231	286	137
26	300	979	e520	714	1050	1660	662	341	720	213	272	129
27	296	971	550	1130	1000	1540	720	348	677	213	271	129
28	276	965	529	1280	959	1470	730	325	631	213	252	122
29	265	964	500	1340	---	1410	725	310	567	226	240	117
30	254	959	478	1470	---	1340	707	284	511	276	229	112
31	230	---	460	1470	---	1260	---	240	---	296	214	---
TOTAL	13420	27544	23580	20491	24995	44036	23741	11694	27662	13421	9516	4311
MEAN	433	918	761	661	893	1421	791	377	922	433	307	144
MAX	669	1130	1020	1470	1390	2540	1190	684	1570	705	395	204
MIN	230	233	460	339	590	725	589	240	231	213	214	97

CAL YR 1985 TOTAL 172038 MEAN 471 MAX 1130 MIN 119
WTR YR 1986 TOTAL 244411 MEAN 670 MAX 2540 MIN 97

e Estimated

MERRIMACK RIVER BASIN

41

01100000 MERRIMACK RIVER BELOW CONCORD RIVER, AT LOWELL, MASS.

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

DRAINAGE AREA.--Total above gage, 4,635 mi²; net above gage, 4,425 mi² - diversions as needed from 210 mi² for use of Boston metropolitan district and city of Worcester.

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

GAGE.--Water-stage recorder. Datum of gage is 5.18 ft above 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.--No estimated daily discharges. Records excellent except those for period of doubtful gage-height record, Apr. 25 to May 22, and those below 1,500 ft³/s, which are fair. Daily discharge includes water released from 210 mi² in basins of Sudbury and Nashua Rivers and Lake Cochituate. Flow regulated by powerplants, by Franklin Falls Reservoir since 1942, and by Squam, Newfound, Winnepesaukee, Winnisquam, and other lakes and reservoirs upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years, 7,577 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 173,000 ft³/s Mar. 20, 1936, gage height, 68.4 ft, from floodmarks; minimum daily, 199 ft³/s Sept. 23, 1923.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 42,600 ft³/s Jan. 29, gage height, 51.11 ft; minimum daily, 1,370 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6060	3940	8540	4520	27300	7380	29500	8940	5230	3190	11200	3420
2	4440	2450	7840	4460	21400	7360	29600	8160	5290	3590	9120	3900
3	4310	2220	10100	5000	17600	6760	27500	5770	6460	4490	8760	2810
4	4180	2100	12000	5180	15800	7910	25300	6270	5550	6200	10200	3490
5	4600	4230	12100	4930	14700	6940	20800	5820	4770	6050	9090	4020
6	6060	7900	10900	5030	12900	6990	17600	5660	5350	5500	7250	3470
7	7300	12200	9490	6150	10600	6810	16100	5340	6800	6090	6510	3840
8	7530	16900	7930	5910	10800	6170	16600	6150	8510	5030	5360	3060
9	6470	15400	8480	4830	10200	5120	16300	6270	8720	4970	7080	3820
10	5380	12500	7690	4570	9610	4930	16100	5840	8650	3230	8870	3250
11	4420	10700	7600	4290	9400	6370	15100	5080	6130	3560	8950	1570
12	4140	9630	7520	4850	8710	7370	14200	4980	7770	3370	7800	2570
13	3970	10000	7230	4650	8020	7580	12700	5540	10500	3080	7620	2510
14	3980	9680	7110	4950	8400	10200	12200	4160	12400	5330	6410	1960
15	3950	10600	6780	4930	8710	18800	11400	3870	12700	5650	6060	1370
16	4830	11500	7110	4110	7870	27400	9640	4690	11500	6060	4930	2440
17	6460	14000	6650	3850	7770	27500	10100	3760	10100	5020	4170	2450
18	7180	14400	6580	4630	7630	26100	9830	3730	8310	3890	7420	2170
19	5470	14400	4180	4020	9640	25700	8890	4250	9060	3700	7030	2550
20	5100	14100	4140	4810	8390	31300	8490	2700	8240	3360	6210	2420
21	5290	13400	4920	7460	6730	35000	8080	4030	10300	3350	6810	2080
22	5740	12700	6020	7710	8950	32400	8580	3790	10700	3780	5450	3360
23	6060	11900	4170	10600	10500	27800	8420	6100	10000	3040	4730	2820
24	4770	10700	4750	9380	10800	24500	9500	6630	8900	2490	4940	3840
25	4200	10600	4560	8420	9880	22600	9090	7540	6580	2230	4460	3050
26	4020	9680	5940	7360	8980	20400	8940	10700	6020	1600	5280	4460
27	2540	9430	4440	19200	8360	19600	9320	9330	5310	2500	5240	4130
28	4610	9400	4860	38800	8400	22400	11200	7980	4510	3260	4980	3730
29	4030	8040	4530	40700	---	26400	11300	4920	4520	3810	3740	4400
30	3670	8880	4300	36700	---	26800	9860	7180	4570	7390	4100	3430
31	3550	---	4360	32500	---	27600	---	5910	---	10600	3780	---
TOTAL	154310	303580	212820	314500	308050	540190	422240	181090	233450	135410	203550	92390
MEAN	4978	10120	6865	10150	11000	17430	14070	5842	7782	4368	6566	3080
MAX	7530	16900	12100	40700	27300	35000	29600	10700	12700	10600	11200	4460
MIN	2540	2100	4140	3850	6730	4930	8080	2700	4510	1600	3740	1370
CAL YR 1985	TOTAL	2027600	MEAN	5555	MAX	23500	MIN	298				
WTR YR 1986	TOTAL	3101580	MEAN	8497	MAX	40700	MIN	1370				

MERRIMACK RIVER BASIN

01100600 SHAWSHOEN RIVER NEAR WILMINGTON, MASS.

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

DRAINAGE AREA.--36.5 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 80.44 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those for periods of shifting control, Oct. 11 to Jan. 14 and July 17 to Sept. 30, which are fair. Diversion upstream at times each year since 1973 for municipal supply of Burlington; see table below for figures of diversion. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--22 years (water years 1965-86), 61.0 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,660 ft³/s Jan. 26, 1979, gage height: 9.85 ft, mean of recorded surge; 10.00 ft, maximum recorded surge; and about 10.4 ft in river, based on outside gage readings at slightly lower stages. Minimum discharge, 0.70 ft³/s Aug. 19, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 7	0215	373	5.62	Mar. 15	1815	*732	*7.27
Jan. 28	0700	404	5.67	June 8	0630	301	5.04
Feb. 23	0700	307	5.08				

Minimum discharge, 2.0 ft³/s Sept. 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	9.2	65	26	88	55	77	48	12	7.6	34	15
2	14	9.3	70	27	56	51	67	43	14	22	25	13
3	13	11	91	33	55	49	62	38	21	86	29	12
4	20	11	93	73	52	46	57	34	15	134	30	12
5	34	31	73	92	47	50	53	32	10	103	26	12
6	66	216	56	81	46	55	51	32	40	67	20	12
7	125	348	43	59	49	57	54	32	185	46	19	12
8	106	237	37	32	41	53	59	32	290	31	28	12
9	71	148	37	24	39	44	64	32	211	22	39	11
10	46	93	42	23	31	34	70	30	118	17	48	10
11	27	68	40	24	27	40	68	28	70	12	36	9.7
12	19	64	43	23	35	63	60	27	57	11	25	9.5
13	15	83	53	25	39	77	53	27	87	18	17	9.8
14	16	101	68	26	39	123	48	26	140	42	19	10
15	17	97	97	23	34	580	45	24	114	80	15	8.4
16	23	103	100	15	35	618	42	23	73	69	9.4	8.2
17	19	122	72	14	32	358	41	26	49	43	5.1	11
18	15	154	60	18	39	222	38	29	33	26	9.0	8.5
19	13	152	61	31	59	167	37	25	24	18	43	4.8
20	19	116	42	91	73	156	36	21	33	15	79	3.1
21	19	87	33	163	88	146	35	20	58	12	69	6.4
22	15	70	31	150	209	121	37	35	66	18	48	10
23	12	64	30	99	276	101	42	47	53	18	35	11
24	11	66	31	66	197	88	54	39	35	17	28	17
25	9.5	67	33	50	118	81	58	40	24	16	25	26
26	11	61	40	48	108	76	65	38	19	15	21	22
27	9.5	55	31	191	84	74	79	28	16	16	20	19
28	13	57	28	378	68	90	87	24	14	17	20	18
29	16	64	25	282	---	114	82	19	12	19	21	17
30	16	66	25	168	---	108	63	9.8	9.7	25	18	16
31	14	---	24	123	---	90	---	7.9	---	31	16	---
TOTAL	848.0	2830.5	1574	2478	2064	3987	1684	916.7	1902.7	1073.6	876.5	366.4
MEAN	27.4	94.3	50.8	79.9	73.7	129	56.1	29.6	63.4	34.6	28.3	12.2
MAX	125	348	100	378	276	618	87	48	290	134	79	26
MIN	9.5	9.2	24	14	27	34	35	7.9	9.7	7.6	5.1	3.1
(+)	8.16	2.44	2.23	5.07	1.69	2.73	0	0	13.0	6.48	4.30	2.16

CAL YR 1985 TOTAL 14293.8 MEAN 39.2 MAX 348 MIN 3.5
WTR YR 1986 TOTAL 20601.4 MEAN 56.4 MAX 618 MIN 3.1

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

PARKER RIVER BASIN

43

01101000 PARKER RIVER AT BYFIELD, MASS.

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

DRAINAGE AREA.--21.3 mi².

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

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

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

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

AVERAGE DISCHARGE.--41 years, 37.0 ft³/s, 23.59 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 489 ft³/s Mar. 19, 1968, gage height, 5.61 ft; maximum gage height, 5.70 ft, Oct. 29, 1975 (backwater from coffer dam); minimum daily discharge, 0.09 ft³/s Sept. 25-30, Oct. 3-6, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 224 ft³/s Mar. 16, gage height, 3.92 ft; minimum daily, 1.3 ft³/s Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.4	51	16	e62	52	70	59	20	26	15	3.5
2	11	8.6	59	15	56	46	65	55	28	35	15	3.3
3	9.9	9.0	62	18	e51	42	60	50	30	43	16	3.0
4	12	9.0	64	22	e45	39	56	45	31	54	16	2.8
5	17	24	62	22	41	38	51	42	34	60	15	2.6
6	29	48	60	21	38	38	47	39	60	59	13	3.0
7	33	69	57	19	e34	39	48	38	94	55	12	5.9
8	39	78	54	18	32	e37	48	37	121	50	12	5.0
9	40	76	51	17	30	35	49	35	127	44	11	4.1
10	38	71	47	16	28	34	51	34	120	39	9.8	3.4
11	35	67	45	16	27	36	51	32	114	34	9.0	2.8
12	30	65	45	16	25	39	49	30	111	30	8.1	2.2
13	26	65	44	16	24	44	47	29	111	29	7.3	1.8
14	23	64	50	15	23	64	45	27	108	29	6.5	1.4
15	22	67	e50	13	22	162	42	25	103	28	5.9	1.4
16	20	66	49	12	21	220	40	23	94	26	5.4	1.4
17	18	77	47	11	20	213	37	23	85	25	4.8	1.3
18	16	81	44	11	22	196	35	22	75	23	4.5	1.4
19	15	85	e38	17	24	183	33	21	65	21	4.4	1.5
20	16	84	34	40	26	172	31	19	67	19	4.2	1.5
21	16	79	31	61	32	153	30	18	69	18	4.1	1.7
22	15	74	28	63	40	135	28	17	71	16	3.9	1.8
23	14	71	26	57	46	119	34	17	69	14	3.6	3.7
24	14	66	24	e46	50	105	41	18	63	13	4.1	6.7
25	13	62	24	39	56	93	49	19	56	11	3.8	8.0
26	12	58	22	43	e59	84	57	19	49	10	3.5	7.8
27	10	56	20	78	e60	81	65	18	44	10	4.1	7.3
28	10	54	19	105	58	82	67	17	39	11	4.1	6.5
29	9.2	53	18	e99	---	82	67	16	35	11	4.0	5.5
30	8.6	52	16	88	---	80	63	15	30	12	3.7	4.9
31	8.6	---	16	e75	---	76	---	14	---	14	3.5	---
TOTAL	592.3	1747.0	1257	1105	1052	2819	1456	873	2123	869	237.3	107.2
MEAN	19.1	58.2	40.5	35.6	37.6	90.9	48.5	28.2	70.8	28.0	7.65	3.57
MAX	40	85	64	105	62	220	70	59	127	60	16	8.0
MIN	8.6	8.4	16	11	20	34	28	14	20	10	3.5	1.3
CFSM	.90	2.73	1.90	1.67	1.76	4.27	2.28	1.32	3.32	1.32	.36	.17
IN.	1.03	3.05	2.20	1.93	1.84	4.92	2.54	1.52	3.71	1.52	.41	.19

CAL YR 1985 TOTAL 8600.70 MEAN 23.6 MAX 85 MIN .60 CFSM 1.11 IN. 15.02
WTR YR 1986 TOTAL 14237.8 MEAN 39.0 MAX 220 MIN 1.3 CFSM 1.83 IN. 24.87

e Estimated

IPSWICH RIVER BASIN

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MASS.

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

DRAINAGE AREA.--44.5 mi².

PERIOD OF RECORD.--Discharge: June 1938 to current year.

Water-quality records: Water years 1957, 1959.

REVISED RECORDS.--WSP 1301: 1942(M). WSP 1621: 1938-58 (monthly runoff). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 44.97 ft above National Geodetic Vertical Datum of 1929 (Massachusetts Geodetic Survey benchmark.)

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

AVERAGE DISCHARGE.--48 years, 62.5 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 839 ft³/s Jan. 26, 1979, gage height, 7.12 ft; minimum, 0.1 ft³/s Sept. 24, Oct. 1, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 487 ft³/s Mar. 15, gage height, 5.39 ft, minimum, 0.81 ft³/s Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	5.7	73	32	108	85	102	78	33	25	17	12
2	11	5.7	94	31	93	81	97	74	37	45	17	11
3	18	6.3	107	39	81	77	92	69	31	75	23	11
4	17	6.2	92	54	82	76	87	64	20	80	22	11
5	13	40	81	51	84	77	82	60	20	79	19	10
6	55	132	76	48	79	78	78	51	60	78	18	10
7	49	147	71	44	73	78	78	36	101	74	18	9.4
8	38	150	67	40	72	71	79	30	112	66	26	8.6
9	33	146	64	37	68	70	81	26	108	54	27	7.9
10	30	126	59	36	62	66	81	22	100	44	31	7.7
11	26	119	56	36	62	70	80	20	95	37	28	7.3
12	20	122	60	35	60	78	78	18	98	33	24	6.6
13	16	127	64	35	57	84	76	17	125	42	21	6.5
14	14	118	83	33	54	125	73	15	119	65	20	6.0
15	14	126	87	27	46	442	70	14	101	e64	18	5.5
16	15	117	85	22	31	453	68	13	90	e60	16	9.0
17	11	149	77	19	26	405	65	21	81	e55	15	11
18	6.5	160	69	20	30	359	62	12	71	e48	19	8.9
19	5.5	145	66	31	49	308	58	11	59	e40	29	8.0
20	8.8	133	64	75	62	274	54	17	62	e33	25	7.7
21	7.1	121	56	84	74	222	52	12	73	e28	22	8.4
22	4.8	110	50	79	99	180	53	19	66	e24	21	8.9
23	4.2	107	47	83	100	157	56	13	59	e20	20	12
24	16	97	46	71	98	132	64	20	53	e22	20	17
25	17	85	46	65	106	124	70	26	46	e18	18	15
26	12	76	43	68	105	113	76	14	37	e17	17	13
27	13	74	40	194	104	112	84	19	29	e16	17	12
28	10	76	37	250	93	127	87	21	23	e17	17	11
29	8.3	76	35	210	---	123	85	11	17	e18	15	11
30	6.3	74	32	176	---	115	82	14	20	e19	14	9.7
31	8.0	---	30	136	---	108	---	8.9	---	19	13	---
TOTAL	510.9	2976.9	1957	2161	2058	4870	2250	845.9	1946	1315	627	293.1
MEAN	16.5	99.2	63.1	69.7	73.5	157	75.0	27.3	64.9	42.4	20.2	9.77
MAX	55	160	107	250	108	453	102	78	125	80	31	17
MIN	3.4	5.7	30	19	26	66	52	8.9	17	16	13	5.5

CAL YR 1985 TOTAL 14067.8 MEAN 38.5 MAX 160 MIN 2.4
WTR YR 1986 TOTAL 21810.8 MEAN 59.8 MAX 453 MIN 3.4

e Estimated

IPSWICH RIVER BASIN

45

01102000 IPSWICH RIVER NEAR IPSWICH, MASS.

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

DRAINAGE AREA.--125 mi².

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 20.63 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diversions upstream for municipal supply of Reading, Lynn, Peabody, Danvers, Salem, and Beverly. Some regulation by reservoirs upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--56 years, 174 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,680 ft³/s Mar. 20, 21, 1968, gage height, 8.41 ft; minimum, 0.34 ft³/s Sept. 20, 1978. Maximum discharge since 1886, that of Mar. 20, 21, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft³/s Mar. 17, gage height, 5.50 ft, minimum, 8.3 ft³/s May 17; minimum daily, 15 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	34	187	111	419	246	331	240	51	107	69	34
2	57	35	200	109	348	238	308	224	58	115	71	31
3	47	34	208	117	319	229	287	210	68	139	81	29
4	47	33	217	124	286	224	269	196	73	164	86	28
5	57	66	223	136	247	223	253	184	80	195	81	27
6	79	134	221	137	231	220	242	174	125	217	73	26
7	95	182	220	138	223	216	239	166	177	222	65	25
8	104	254	219	135	202	205	236	165	249	210	61	24
9	110	312	212	125	196	196	238	157	315	190	62	23
10	113	333	201	119	181	187	242	144	346	170	66	21
11	110	333	190	116	172	188	242	123	354	151	68	20
12	103	329	188	111	164	190	240	100	349	136	68	19
13	95	331	186	111	156	192	233	81	357	128	67	18
14	84	328	200	105	148	238	224	68	358	128	63	16
15	76	332	206	95	143	591	213	78	356	128	57	15
16	68	330	207	84	138	992	202	82	346	130	52	20
17	64	360	213	74	131	1090	190	67	324	130	48	23
18	59	379	202	72	127	1020	180	73	293	128	47	23
19	57	393	175	84	131	907	169	75	260	123	50	23
20	57	399	167	154	138	825	160	70	252	116	52	24
21	55	386	163	206	154	737	151	65	254	107	55	27
22	51	357	162	239	188	637	143	67	250	98	57	27
23	49	325	160	261	247	545	145	72	244	87	56	30
24	46	291	157	226	320	464	152	76	235	74	55	39
25	43	256	155	199	343	410	167	79	220	61	50	46
26	43	230	143	215	304	371	188	82	207	51	46	46
27	43	215	137	291	267	350	219	81	186	46	45	45
28	40	204	133	355	255	362	240	74	149	46	44	41
29	38	194	125	414	---	360	251	66	138	46	43	36
30	35	189	118	467	---	356	250	60	122	54	41	32
31	34	---	112	475	---	347	---	52	---	64	38	---
TOTAL	2019	7578	5607	5605	6178	13356	6604	3451	6796	3761	1817	838
MEAN	65.1	253	181	181	221	431	220	111	227	121	58.6	27.9
MAX	113	399	223	475	419	1090	331	240	358	222	86	46
MIN	34	33	112	72	127	187	143	52	51	46	38	15
CAL YR 1985	TOTAL	37666	MEAN	103	MAX	399	MIN	9.6				
WTR YR 1986	TOTAL	63610	MEAN	174	MAX	1090	MIN	15				

MYSTIC RIVER BASIN

01102500 ABERJONA RIVER AT WINCHESTER, MASS.

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.--24.1 mi², excludes 0.6 mi² drained by Winchester North Reservoir.

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

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

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

REMARKS.--No estimated daily discharges. Records excellent above 10 ft³/s and good below. 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. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years, 28.5 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,330 ft³/s Jan. 25, 1979, gage height, 15.46 ft, from rating curve extended above 400 ft³/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 ft³/s Oct. 10, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1886, that of Jan. 25, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 530 ft³/s Mar. 15, gage height, 13.17 ft, minimum, 1.0 ft³/s Aug. 19, minimum daily, 2.5 ft³/s Oct. 2, Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	5.7	40	15	32	27	37	22	12	8.8	9.3	4.3
2	2.5	6.0	60	15	36	26	24	21	25	77	8.2	4.3
3	10	6.0	56	37	36	25	22	18	18	83	12	4.3
4	18	5.8	43	43	30	25	20	16	11	48	10	4.2
5	51	128	38	36	32	26	19	16	12	34	7.0	4.4
6	94	225	36	24	30	27	20	15	150	26	6.4	5.0
7	53	121	34	19	24	26	27	17	154	21	8.9	4.1
8	30	67	33	15	23	21	29	15	98	18	32	3.4
9	22	46	31	14	22	21	33	15	56	14	19	3.4
10	18	37	29	15	21	21	30	13	37	13	12	3.4
11	16	45	29	14	21	34	27	12	38	11	8.9	3.4
12	13	60	41	14	20	37	26	14	62	14	6.9	3.4
13	13	63	42	16	19	49	24	12	88	38	6.2	3.8
14	14	53	68	13	18	132	22	11	59	81	5.6	3.2
15	17	72	52	11	17	388	21	10	41	41	5.3	2.5
16	16	55	39	9.3	16	216	19	9.9	32	26	5.2	13
17	13	99	33	9.3	21	120	15	14	27	19	6.9	8.2
18	11	79	30	11	50	87	14	12	22	16	43	5.4
19	13	58	26	22	66	77	13	11	19	13	17	4.3
20	15	49	24	67	52	66	13	10	49	12	13	3.9
21	11	42	23	53	96	59	15	10	55	12	8.8	7.1
22	9.8	42	22	34	143	51	19	21	31	9.8	8.0	5.9
23	8.8	50	22	26	85	46	30	17	25	8.8	6.6	15
24	8.3	42	21	21	54	43	30	15	22	8.0	11	13
25	9.4	36	21	19	44	39	35	19	20	7.1	6.7	6.8
26	8.0	34	20	42	35	37	36	14	17	6.7	5.4	5.2
27	7.0	43	19	190	31	46	45	12	13	16	10	4.4
28	6.8	44	18	131	29	59	35	11	13	9.8	9.1	3.7
29	6.4	45	17	69	---	48	27	9.6	12	10	6.2	3.5
30	6.3	42	16	49	---	41	24	8.5	10	16	5.3	3.3
31	5.9	---	15	39	---	39	---	7.0	---	11	4.5	---
TOTAL	532.8	1700.5	998	1092.6	1103	1959	751	428.0	1228	729.0	324.4	159.8
MEAN	17.2	56.7	32.2	35.2	39.4	63.2	25.0	13.8	40.9	23.5	10.5	5.33
MAX	94	225	68	190	143	388	45	22	154	83	43	15
MIN	2.5	5.7	15	9.3	16	21	13	7.0	10	6.7	4.5	2.5

CAL YR 1985 TOTAL 8529.2 MEAN 23.4 MAX 225 MIN 2.5
WTR YR 1986 TOTAL 11006.0 MEAN 30.2 MAX 388 MIN 2.5

CHARLES RIVER BASIN

47

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

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

DRAINAGE AREA.--183 mi².

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--No estimated daily discharges. Records good. Flow affected by diversions to and from basin for municipal supplies.

AVERAGE DISCHARGE.--49 years, 302 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,220 ft³/s Aug. 23, 1955, gage height, 9.24 ft and Mar. 22, 1968, gage height, 8.72 ft; minimum, 0.5 ft³/s Oct. 24, 1952 (caused by unusual regulation); minimum daily, 0.9 ft³/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 ft³/s, by computation of flow over dam at site 0.2 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,170 ft³/s June 12, gage height, 4.31 ft; minimum, 48 ft³/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	75	406	136	693	431	428	240	104	144	160	78
2	93	75	447	136	637	386	397	216	125	187	155	73
3	97	77	450	159	588	347	363	193	142	251	154	71
4	94	79	454	198	525	324	332	177	146	274	145	73
5	114	178	451	225	486	316	302	162	143	268	135	72
6	145	377	434	226	441	323	282	150	485	261	124	70
7	157	462	413	204	387	324	273	147	854	242	123	69
8	163	519	392	193	348	303	270	147	962	211	162	69
9	159	560	363	176	316	281	273	143	1050	180	214	66
10	139	576	336	152	295	260	278	139	1120	150	237	63
11	117	571	314	138	270	268	271	131	1120	130	246	61
12	103	567	330	134	247	293	261	123	1140	119	240	59
13	96	553	331	133	235	343	250	119	1130	143	223	56
14	89	518	360	122	222	438	235	114	1000	172	196	53
15	92	520	357	114	217	833	222	109	885	176	164	52
16	87	496	348	105	205	905	213	104	831	168	137	58
17	83	545	330	97	208	1060	202	107	782	153	121	54
18	80	530	312	96	257	1140	193	104	680	136	128	52
19	84	527	294	112	347	1130	187	102	587	120	137	51
20	84	528	238	199	405	1060	181	97	543	111	148	51
21	84	515	222	275	474	956	177	93	498	102	157	54
22	82	495	194	319	570	862	175	116	438	93	156	55
23	81	486	186	325	609	787	175	132	385	88	145	57
24	78	455	182	290	641	713	178	151	337	81	138	57
25	79	439	186	240	644	645	196	161	294	75	122	57
26	74	427	171	254	584	590	219	162	257	70	113	58
27	72	405	178	512	544	548	244	157	229	79	107	56
28	67	394	168	603	485	524	256	141	205	77	100	54
29	69	397	151	684	---	498	261	125	184	111	95	50
30	76	398	143	746	---	478	261	110	161	141	90	49
31	76	---	136	740	---	454	---	97	---	156	85	---
TOTAL	3006	12744	9277	8043	11880	17820	7555	4269	16817	4669	4657	1798
MEAN	97.0	425	299	259	424	575	252	138	561	151	150	59.9
MAX	163	576	454	746	693	1140	428	240	1140	274	246	78
MIN	67	75	136	96	205	260	175	93	104	70	85	49
CAL YR 1985	TOTAL	64149	MEAN	176	MAX	576	MIN	36				
WTR YR 1986	TOTAL	102535	MEAN	281	MAX	1140	MIN	49				

CHARLES RIVER BASIN

01103500 CHARLES RIVER AT DOVER, MASS.--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to September 1981.

WATER TEMPERATURES: November 1974 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)
OCT											
09...	0921	161	235	--	15.0	--	--	--	--	--	--
23...	1100	80	217	7.10	11.0	1.7	761	9.9	90	54	530
DEC											
20...	1140	231	205	--	2.0	--	--	--	--	--	--
FEB											
11...	1630	263	255	--	0.0	--	--	--	--	--	--
19...	1030	324	322	6.90	2.0	3.0	761	16.6	120	450	240
MAR											
17...	1420	1080	134	--	5.0	--	--	--	--	--	--
APR											
30...	1000	267	207	7.02	15.5	2.5	763	9.5	95	150	0
MAY											
12...	0851	122	205	--	14.0	--	--	--	--	--	--
JUN											
25...	1437	292	178	--	21.0	--	--	--	--	--	--
AUG											
11...	1428	248	195	--	25.0	--	--	--	--	--	--
19...	1030	139	184	7.00	24.0	2.5	763	--	--	60	1600

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE IT-FLD (MG/L AS CO3)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
23...	45	20	13	3.1	23	51	2	3.0	0	30	26
DEC											
20...	--	--	--	--	--	--	--	--	--	--	--
FEB											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	38	19	11	2.6	40	68	3	2.0	0	22	--
MAR											
17...	--	--	--	--	--	--	--	--	--	--	--
APR											
30...	36	16	10	2.7	23	56	2	2.1	0	25	21
MAY											
12...	--	--	--	--	--	--	--	--	--	--	--
JUN											
25...	--	--	--	--	--	--	--	--	--	--	--
AUG											
11...	--	--	--	--	--	--	--	--	--	--	--
19...	35	12	10	2.5	20	53	2	2.1	0	28	24

49

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

CHARLES RIVER BASIN

01104000 MOTHER BROOK AT DEDHAM, MASS.

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

AVERAGE DISCHARGE.--55 years, 78.2 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft³/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, 360 ft³/s June 7, gage height, 83.67 ft; minimum, 0.64 ft³/s Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	3.1	131	15	196	109	128	37	14	14	30	9.6
2	.77	9.0	145	13	181	90	117	31	24	44	45	6.2
3	1.4	11	152	21	160	72	101	22	45	65	38	6.8
4	1.6	9.1	136	33	133	88	84	15	39	79	30	14
5	1.7	49	128	35	118	88	71	13	39	65	26	13
6	1.8	126	120	41	97	84	59	23	211	53	30	13
7	1.5	129	109	59	76	91	66	22	351	40	26	11
8	3.3	119	95	53	62	84	86	20	351	31	35	8.4
9	16	122	82	47	52	67	87	19	341	35	41	7.8
10	18	125	70	37	57	58	85	21	343	25	39	11
11	16	129	61	29	87	59	78	18	357	16	48	9.2
12	9.0	131	67	25	80	63	72	17	336	18	67	7.9
13	5.9	123	63	23	73	76	63	21	331	24	52	10
14	3.9	100	78	20	66	117	55	26	300	26	36	8.9
15	2.8	122	67	18	62	275	45	22	246	21	27	5.7
16	2.9	160	60	15	55	279	50	18	e210	17	30	7.2
17	8.2	187	55	12	58	289	46	18	e180	25	22	3.6
18	7.3	181	67	10	86	322	37	15	e150	19	30	1.8
19	6.8	167	94	12	118	333	30	11	e120	12	28	1.3
20	6.8	174	90	33	128	328	24	13	e99	6.9	30	4.0
21	5.7	172	83	54	160	293	19	12	e81	8.7	29	6.6
22	4.8	160	67	64	209	255	22	17	e68	15	29	5.7
23	9.2	157	59	75	200	219	35	23	e57	12	31	3.6
24	8.5	138	54	91	202	197	34	26	73	8.3	29	6.3
25	9.0	134	53	73	203	164	44	27	109	9.5	20	8.0
26	10	157	46	75	181	141	45	22	88	7.3	18	6.1
27	7.7	155	45	187	156	127	52	28	66	8.3	23	4.9
28	7.0	148	41	210	133	132	52	44	51	6.3	20	3.9
29	5.3	145	34	214	---	157	48	36	38	29	16	4.1
30	3.8	134	24	227	---	150	46	27	26	37	18	4.1
31	3.1	---	16	214	---	143	---	18	---	24	14	---
TOTAL	191.17	3676.2	2392	2035	3389	4950	1781	682	4744	801.3	957	213.7
MEAN	6.17	123	77.2	65.6	121	160	59.4	22.0	158	25.8	30.9	7.12
MAX	18	187	152	227	209	333	128	44	357	79	67	14
MIN	.77	3.1	16	10	52	58	19	11	14	6.3	14	1.3

CAL YR 1985 TOTAL 12797.85 MEAN 35.1 MAX 187 MIN .18
WTR YR 1986 TOTAL 25812.31 MEAN 70.7 MAX 357 MIN .77

e Estimated

CHARLES RIVER BASIN

51

01104200 CHARLES RIVER AT WELLESLEY, MASS.

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

DRAINAGE AREA.--211 mi².

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

GAGE.--Water-stage recorder and masonry dam. Datum of gage is 67.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow affected by diversion to Mother Brook (station 01104000), and by diversions to and from basin for municipal supplies. Occasional regulation at dam 0.2 mi upstream and by other ponds upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--27 years, 277 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,410 ft³/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 discharge, 1.0 ft³/s Aug. 24, 31, Sept. 8, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 937 ft³/s June 13, gage height, 4.50 ft; minimum, 8.4 ft³/s Sept. 19; minimum daily, 27 ft³/s Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	59	329	149	587	397	362	246	92	109	123	74
2	109	59	360	150	565	366	339	219	87	177	116	72
3	116	72	366	175	547	283	321	202	104	235	134	48
4	121	80	369	214	497	278	302	190	114	275	136	49
5	127	180	369	231	460	280	288	138	131	271	96	52
6	156	353	367	196	421	288	271	132	482	271	90	54
7	168	407	356	188	375	271	213	138	772	264	103	59
8	117	433	348	179	348	273	211	140	808	199	158	61
9	128	459	331	176	326	267	221	123	789	175	195	48
10	141	474	316	166	244	258	225	121	752	164	214	45
11	126	491	307	150	225	251	230	123	776	124	176	53
12	116	515	325	144	218	279	226	115	842	119	180	45
13	113	523	325	141	208	318	222	103	920	165	193	42
14	112	487	341	133	201	415	217	93	878	198	190	46
15	113	387	344	129	200	741	176	96	797	191	128	51
16	72	361	335	121	189	764	178	94	741	148	109	66
17	70	435	323	115	201	787	182	96	695	140	110	73
18	89	440	227	112	260	844	173	101	566	145	153	59
19	103	401	176	120	329	874	175	80	516	138	119	37
20	111	391	188	193	333	847	178	77	518	130	115	27
21	115	396	189	253	394	800	179	82	494	85	132	45
22	74	397	171	286	493	748	146	87	450	81	117	53
23	70	401	166	256	490	694	149	103	407	85	121	69
24	81	384	161	248	497	625	154	124	282	67	125	36
25	71	330	166	231	514	588	177	152	227	63	118	55
26	70	309	158	257	489	545	198	156	222	68	85	48
27	74	317	160	488	461	512	226	121	209	86	82	46
28	66	319	164	522	432	416	243	99	195	63	90	52
29	68	322	152	533	---	388	247	100	178	124	70	42
30	75	322	147	587	---	390	251	94	162	177	67	39
31	79	---	147	609	---	371	---	89	---	157	72	---
TOTAL	3154	10504	8183	7452	10504	15158	6680	3834	14206	4694	3917	1546
MEAN	102	350	264	240	375	489	223	124	474	151	126	51.5
MAX	168	523	369	609	587	874	362	246	920	275	214	74
MIN	66	59	147	112	189	251	146	77	87	63	67	27

CAL YR 1985 TOTAL 60391 MEAN 165 MAX 547 MIN 13
WTR YR 1986 TOTAL 89832 MEAN 246 MAX 920 MIN 27

01104500 CHARLES RIVER AT WALTHAM, MASS.

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

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

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 20.02 ft above 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.--No estimated daily discharges. Records good. Flow affected by diversion to Mother Brook (station 01104000, diversions to and from basin for municipal supplies, and at times by water released from Stony Brook Reservoir. Prior to 1960, some regulation by mills upstream. Low flow completely regulated by Boston Edison Co. powerplant prior to 1954. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--55 years (water years 1932-86), 302 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,150 ft³/s Feb. 3, 1976, gage height, 6.54 ft, caused by release of water stored behind ice jam upstream; minimum, 0.1 ft³/s Oct. 1, 12, 1943; minimum daily, 0.2 ft³/s Oct. 4, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1886, that of Feb. 3, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,110 ft³/s Mar. 15, gage height, 3.32 ft; minimum, 36 ft³/s Sept. 20; minimum daily, 40 ft³/s Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	90	333	164	552	408	374	251	107	159	171	89
2	111	69	370	163	545	379	351	229	124	211	140	88
3	130	82	364	199	530	334	332	209	118	261	168	80
4	140	91	362	239	484	290	321	198	127	276	161	62
5	171	222	367	245	463	304	301	176	150	288	139	69
6	182	382	362	228	428	307	295	142	579	282	113	68
7	176	413	353	182	382	297	278	150	816	272	127	69
8	161	421	345	182	360	280	245	149	938	237	167	71
9	124	432	335	182	339	281	258	145	898	188	210	70
10	150	453	322	173	295	275	260	134	821	180	223	53
11	147	480	317	159	241	275	261	136	775	161	215	57
12	135	506	342	151	238	295	253	131	860	142	185	60
13	129	531	337	150	229	353	245	127	973	199	201	48
14	124	491	355	141	223	510	237	109	938	225	201	48
15	133	442	349	136	219	1080	218	105	842	211	174	52
16	117	360	337	130	208	1000	194	107	773	193	132	68
17	78	454	328	124	223	913	199	115	706	159	133	71
18	90	448	280	123	295	898	192	115	618	165	181	67
19	106	418	197	137	355	919	190	109	500	159	175	61
20	113	389	204	211	351	889	192	91	533	151	137	40
21	110	392	208	242	426	830	195	101	501	125	153	47
22	103	394	193	274	530	774	181	125	455	94	154	58
23	80	402	184	271	503	714	164	119	412	103	138	64
24	92	385	179	241	516	647	172	139	346	97	153	51
25	95	358	181	234	526	596	157	161	248	81	138	50
26	82	316	173	266	505	549	196	164	241	88	124	54
27	87	330	176	515	468	520	284	155	229	108	101	51
28	82	330	177	529	443	484	222	121	215	103	107	55
29	81	335	170	513	---	404	249	118	200	123	103	56
30	88	330	162	542	---	405	254	113	183	193	85	47
31	93	---	164	573	---	385	---	107	---	183	88	---
TOTAL	3614	10746	8526	7619	10877	16595	7270	4351	15226	5417	4697	1824
MEAN	117	358	275	246	388	535	242	140	508	175	152	60.8
MAX	182	531	370	573	552	1080	374	251	973	288	223	89
MIN	78	69	162	123	208	275	157	91	107	81	85	40

CAL YR 1985 TOTAL 66768 MEAN 183 MAX 671 MIN 24
WTR YR 1986 TOTAL 96762 MEAN 265 MAX 1080 MIN 40

NEPONSET RIVER BASIN

53

01105000 NEPONSET RIVER AT NORWOOD, MASS.

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

DRAINAGE AREA.--34.7 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 44.04 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by mills and reservoirs upstream. Flow affected by several diversions upstream for municipal and industrial use. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years, 54.3 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft³/s Aug. 19, 1955, gage height, 14.65 ft, from floodmarks; minimum daily, 1.4 ft³/s Oct. 20, 1963. Maximum discharge since 1886, that of Aug. 19, 1955. Flood of July 24, 1938, reached a stage of 11.05 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 400 ft³/s Jan. 27; minimum daily, 4.0 ft³/s Oct. 4, Oct. 30 to Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	4.0	e65	25	e90	55	57	38	37	19	27	13
2	9.5	5.3	e72	24	e100	53	54	34	35	56	27	13
3	6.1	6.8	e69	e55	e95	53	50	30	29	82	43	11
4	4.0	8.6	e60	e80	e90	52	47	26	22	78	30	14
5	9.0	69	e54	e60	e95	52	44	25	20	62	25	15
6	12	105	e52	e47	e88	52	42	20	129	48	20	15
7	9.7	83	e49	e40	e80	52	41	19	110	37	e52	13
8	6.9	48	e46	e35	e72	47	41	21	192	30	e70	11
9	6.0	33	e45	e31	e64	46	41	20	211	27	e45	7.4
10	5.5	26	e42	e28	e60	43	41	20	151	22	e38	7.3
11	5.3	36	e48	e26	e56	50	40	20	121	18	e35	8.1
12	4.3	60	e53	e25	e53	56	38	19	110	20	e45	7.4
13	5.0	52	e52	e24	e50	75	37	18	90	33	e17	7.6
14	6.0	57	e57	e23	e47	145	35	17	127	38	29	6.3
15	8.0	e52	e51	e21	e45	281	32	16	122	34	25	6.5
16	8.3	e50	e44	e18	e45	237	31	15	101	27	19	7.4
17	7.7	e70	e40	e18	e70	178	30	18	80	20	21	9.3
18	5.7	e74	e39	e20	e100	155	26	17	70	18	54	8.3
19	7.6	e62	e36	e50	129	139	23	16	59	18	37	7.6
20	9.3	e63	32	e90	102	133	23	13	60	18	34	6.3
21	9.7	e65	30	e75	131	114	25	13	59	17	25	8.4
22	6.6	e65	30	e60	173	93	27	22	53	13	22	8.6
23	5.4	e82	30	e50	144	90	29	30	47	13	26	8.3
24	5.1	e74	32	e44	111	80	e33	31	42	13	30	8.2
25	5.5	e65	35	e40	95	73	e39	31	40	13	20	8.5
26	4.6	e61	33	e200	83	72	44	28	34	13	18	8.1
27	5.0	e65	31	e350	73	71	51	22	27	13	17	6.7
28	5.4	e73	29	e200	66	75	51	19	29	17	18	5.8
29	4.1	e80	28	e150	---	66	49	15	27	35	17	5.8
30	4.0	e71	26	e120	---	67	45	13	24	36	16	5.2
31	4.0	---	25	e100	---	62	---	11	---	32	14	---
TOTAL	209.3	1665.7	1335	2129	2407	2817	1166	657	2258	920	916	268.1
MEAN	6.75	55.5	43.1	68.7	86.0	90.9	38.9	21.2	75.3	29.7	29.5	8.94
MAX	14	105	72	350	173	281	57	38	211	82	70	15
MIN	4.0	4.0	25	18	45	43	23	11	20	13	14	5.2

CAL YR 1985 TOTAL 10725.0 MEAN 29.4 MAX 146 MIN 4.0
WTR YR 1986 TOTAL 16748.1 MEAN 45.9 MAX 350 MIN 4.0

e Estimated

NEPONSET RIVER BASIN

01105500 EAST BRANCH NEPONSET RIVER AT CANTON, MASS.

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

DRAINAGE AREA.--27.2 mi².

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

REVISED RECORDS.--WSP 1901: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 80.18 ft above National Geodetic Vertical Datum of 1929 (Massachusetts Department of Public Works benchmark).

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

AVERAGE DISCHARGE.--34 years, 51.1 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,790 ft³/s Aug. 19, 1955, gage height, 8.18 ft, from rating curve extended above 690 ft³/s; minimum daily, 0.60 ft³/s July 7, Sept. 1, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 301 ft³/s June 6, gage height, 3.68 ft; minimum daily, 6.2 ft³/s Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	7.7	56	18	73	52	35	39	27	18	21	12
2	7.8	8.7	67	17	78	50	35	35	24	51	18	11
3	7.7	9.6	61	31	80	48	33	31	22	75	22	11
4	8.9	10	52	52	68	47	31	28	23	70	22	13
5	22	43	48	41	69	47	30	27	22	46	16	13
6	46	136	46	36	67	46	29	27	124	34	14	12
7	24	62	44	26	58	44	33	27	231	27	50	11
8	13	41	41	21	54	39	35	29	160	24	164	10
9	14	31	39	20	50	36	34	27	109	15	81	11
10	8.3	27	37	20	48	37	33	25	88	16	37	9.3
11	7.5	30	36	21	44	42	28	23	71	14	35	8.1
12	7.2	45	47	20	39	45	27	14	82	16	30	9.3
13	8.9	58	46	20	37	51	26	19	124	28	24	6.7
14	10	45	51	20	34	76	23	18	109	34	22	6.2
15	14	51	43	17	31	162	22	17	88	27	20	e7.0
16	16	43	37	14	34	126	23	16	77	21	19	e9.3
17	12	69	35	14	38	100	24	16	72	17	21	e12
18	10	65	33	17	74	87	22	17	62	16	51	e11
19	12	52	30	22	97	85	22	15	53	15	42	12
20	19	56	27	55	68	83	20	14	50	13	42	14
21	15	58	27	46	74	69	20	14	44	13	32	15
22	12	58	26	34	113	62	25	20	39	12	32	15
23	11	81	26	31	85	58	26	27	37	14	29	14
24	9.5	69	26	28	71	48	30	27	36	15	27	14
25	9.1	58	24	26	67	36	40	28	33	14	23	13
26	8.6	53	21	54	63	35	46	23	27	12	20	12
27	8.4	58	18	187	58	37	50	20	24	13	18	e11
28	8.2	64	18	144	55	46	55	18	22	15	18	e10
29	7.6	75	17	100	---	42	47	18	21	29	17	e10
30	7.2	64	17	88	---	40	42	16	19	33	14	e9.6
31	7.3	---	16	79	---	37	---	16	---	25	13	---
TOTAL	380.3	1528.0	1112	1319	1727	1813	946	691	1920	772	994	332.5
MEAN	12.3	50.9	35.9	42.5	61.7	58.5	31.5	22.3	64.0	24.9	32.1	11.1
MAX	46	136	67	187	113	162	55	39	231	75	164	15
MIN	7.2	7.7	16	14	31	35	20	14	19	12	13	6.2

CAL YR 1985 TOTAL 9284.4 MEAN 25.4 MAX 136 MIN 3.3
WTR YR 1986 TOTAL 13534.8 MEAN 37.1 MAX 231 MIN 6.2

e Estimated

01105585 TOWN BROOK AT QUINCY, MASS.

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.--4.22 mi².

PERIOD OF RECORD.--September 1972 to September 1986 (discontinued). Prior to October 1974 published as Town River at Quincy.

REVISED RECORDS.--WDR MA-RI-81-1: 1975-80 (P). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Diurnal fluctuation caused by plant upstream. Flow regulated by Old Quincy Reservoir 2.2 mi upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--14 years, 8.83 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 381 ft³/s May 13, 1975, gage height, 7.40 ft, from rating curve extended above 210 ft³/s on basis of U.S. Army Corps of Engineers computation of the backwater effect from culvert downstream; minimum daily, 0.62 ft³/s Sept. 25, 27, 29, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 367 ft³/s Aug. 7, gage height, 7.26 ft; minimum daily, 1.7 ft³/s Oct. 18, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	2.0	6.0	2.8	7.9	10	3.9	6.4	5.1	9.2	7.9	2.5
2	4.4	2.5	7.0	2.5	14	9.8	3.8	5.8	7.8	34	8.0	2.5
3	5.1	2.6	9.2	13	11	9.8	3.8	5.7	2.6	21	13	2.5
4	3.8	2.3	7.4	3.7	11	9.9	3.6	5.6	2.4	10	7.7	2.6
5	14	29	6.8	7.9	14	9.9	3.6	5.5	7.2	10	7.5	2.6
6	3.9	19	6.7	3.2	11	9.7	3.6	5.8	71	9.1	5.2	2.9
7	3.3	5.4	6.7	2.7	11	10	3.8	5.5	32	8.7	50	2.5
8	2.6	8.5	6.5	2.4	11	9.8	4.3	5.5	17	8.1	14	2.6
9	2.1	7.9	6.8	2.4	10	9.4	6.6	5.9	13	5.4	9.8	2.6
10	2.2	7.8	7.0	2.4	10	9.7	7.1	5.3	11	2.6	7.6	3.0
11	2.2	11	5.3	2.4	10	9.5	6.4	5.3	12	2.4	9.5	2.8
12	2.1	17	8.1	2.6	10	4.3	6.4	5.6	23	4.3	6.7	3.2
13	2.8	17	5.7	3.1	9.4	10	6.6	5.0	20	13	6.7	2.4
14	2.2	9.8	4.9	3.2	9.5	25	6.7	4.8	7.6	5.0	6.4	2.2
15	3.0	17	3.3	2.7	9.8	28	6.7	4.9	6.2	2.6	6.2	2.3
16	1.9	9.8	3.2	2.7	9.5	9.9	6.7	4.9	6.2	2.5	6.2	7.2
17	1.9	20	3.2	2.9	18	7.7	7.3	5.7	7.2	2.4	6.2	2.1
18	1.7	12	3.1	3.1	28	6.7	7.2	4.8	7.0	2.4	39	2.0
19	4.2	10	3.6	14	17	7.6	7.0	4.4	6.7	2.2	21	1.9
20	1.8	9.7	7.5	8.4	13	6.0	7.0	4.0	10	2.3	13	2.0
21	2.1	9.7	7.7	3.7	28	4.9	8.0	2.8	6.6	2.2	4.4	2.8
22	1.8	8.9	7.7	3.3	17	4.5	7.0	9.1	6.8	2.0	4.3	2.1
23	1.7	15	8.4	3.2	13	4.5	12	3.0	7.6	2.0	3.3	3.0
24	1.8	9.9	8.9	2.7	12	4.4	8.4	5.7	10	1.9	4.9	2.5
25	2.2	9.1	8.3	2.7	11	4.2	9.7	4.3	9.1	2.4	3.0	2.3
26	2.1	8.8	7.5	28	11	4.2	7.7	3.0	9.2	3.0	3.0	2.3
27	2.1	12	7.4	48	10	7.8	8.3	2.3	9.3	6.7	6.6	2.2
28	2.2	7.9	7.4	17	10	4.9	6.4	2.3	9.4	2.1	3.8	2.2
29	2.1	15	7.4	12	---	4.1	6.2	2.2	9.3	10	2.6	2.3
30	2.1	8.8	7.4	10	---	4.0	6.0	2.1	9.2	5.4	2.5	2.5
31	2.1	---	6.0	8.9	---	3.9	---	2.0	---	5.0	2.5	---
TOTAL	91.6	325.4	202.1	227.6	357.1	264.1	191.8	145.2	361.5	199.9	292.5	78.6
MEAN	2.95	10.8	6.52	7.34	12.8	8.52	6.39	4.68	12.0	6.45	9.44	2.62
MAX	14	29	9.2	48	28	28	12	9.1	71	34	50	7.2
MIN	1.7	2.0	3.1	2.4	7.9	3.9	3.6	2.0	2.4	1.9	2.5	1.9

CAL YR 1985 TOTAL 2002.4 MEAN 5.49 MAX 33 MIN .69
WTR YR 1986 TOTAL 2737.4 MEAN 7.50 MAX 71 MIN 1.7

WEYMOUTH BACK RIVER BASIN

01105600 OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MASS.

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

DRAINAGE AREA.--4.29 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 70 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--20 years, 9.19 ft³/s, 27.73 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 590 ft³/s May 31, 1984, gage height, 5.02 ft; maximum gage height, 5.35 ft Feb. 15, 1971 (ice jam); minimum discharge, 0.11 ft³/s Sept. 5, 6, 9, 10, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 90 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	1400	*89	*3.95				

Minimum discharge, 0.55 ft³/s Oct. 2-4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	1.5	8.6	2.5	7.4	5.1	4.8	5.0	9.8	1.7	3.3	1.3
2	.61	1.7	10	2.5	11	5.1	4.7	4.6	4.9	25	2.7	1.2
3	.55	2.7	8.6	8.9	13	5.0	4.5	4.3	3.7	31	24	1.2
4	.69	2.8	6.1	13	9.3	4.7	4.3	4.1	2.6	19	14	1.3
5	4.4	17	5.4	13	10	4.6	4.3	3.8	2.2	6.9	3.8	1.4
6	9.4	24	5.2	10	9.4	4.6	4.3	3.9	35	4.8	2.8	1.4
7	4.4	13	4.9	e6.1	7.5	4.9	4.3	3.9	77	4.0	9.3	1.3
8	2.4	6.3	4.5	e4.1	6.7	e4.6	4.4	4.2	46	3.5	22	1.2
9	1.8	4.5	4.3	3.9	6.9	4.9	4.6	4.3	24	2.8	6.6	1.1
10	1.5	3.9	4.1	3.6	6.5	4.6	4.6	3.9	9.7	2.5	3.6	.92
11	1.2	5.9	4.1	3.2	6.3	7.0	4.2	3.9	6.3	2.0	4.0	.83
12	1.0	13	7.9	3.2	6.3	7.9	4.1	3.8	16	2.9	3.1	.83
13	.98	16	7.1	3.3	6.3	12	3.9	3.9	44	5.9	2.5	.83
14	1.1	9.7	9.9	e3.3	6.1	29	3.7	3.5	32	6.9	2.2	.83
15	4.8	13	6.5	e2.9	5.8	69	3.4	3.5	13	4.1	1.9	.80
16	4.0	8.8	5.0	e2.5	5.7	40	3.3	3.1	7.2	3.1	1.7	4.5
17	2.6	18	4.8	e2.6	7.9	21	3.3	3.1	5.8	2.3	1.6	2.0
18	2.0	15	4.4	e2.8	23	14	3.2	3.1	4.7	2.1	16	1.4
19	2.8	8.5	4.0	8.3	35	14	3.1	2.8	4.0	1.9	15	1.1
20	3.9	6.2	3.3	31	25	13	3.1	2.5	5.2	1.9	5.7	1.1
21	2.8	5.4	3.3	20	30	8.9	3.4	2.2	5.3	1.8	3.5	1.1
22	2.4	6.0	3.3	9.5	47	7.4	4.5	9.3	4.0	1.3	3.8	1.1
23	2.0	9.8	3.3	7.2	28	7.2	7.5	8.7	3.5	.95	3.0	1.3
24	1.9	6.9	3.3	5.5	16	6.8	6.0	5.8	3.5	.92	2.6	1.6
25	1.9	5.4	3.6	4.7	12	6.1	13	8.5	3.3	.80	2.3	1.4
26	1.8	5.0	3.9	18	8.6	5.7	8.9	4.7	2.9	.72	1.9	1.1
27	1.7	8.2	3.5	77	7.1	5.9	7.5	3.5	2.6	2.4	1.9	1.0
28	1.7	12	3.3	46	5.6	7.2	8.0	3.0	2.5	3.4	2.7	.83
29	1.6	18	3.1	21	---	6.2	6.4	2.5	2.3	5.1	2.7	.64
30	1.5	13	2.6	12	---	5.7	5.4	2.1	1.9	8.3	2.0	.62
31	1.5	---	2.5	9.3	---	5.2	---	1.8	---	4.7	1.6	---
TOTAL	71.63	281.2	154.4	360.9	369.4	347.3	150.7	127.3	384.9	164.69	173.8	37.23
MEAN	2.31	9.37	4.98	11.6	13.2	11.2	5.02	4.11	12.8	5.31	5.61	1.24
MAX	9.4	24	10	77	47	69	13	9.3	77	31	24	4.5
MIN	.55	1.5	2.5	2.5	5.6	4.6	3.1	1.8	1.9	.72	1.6	.62
CFSM	.51	2.08	1.11	2.59	2.93	2.49	1.12	.91	2.85	1.18	1.25	.28
IN.	.59	2.32	1.28	2.98	3.05	2.87	1.25	1.05	3.18	1.36	1.44	.31

CAL YR 1985 TOTAL 1579.31 MEAN 4.33 MAX 26 MIN .30 CFSM .96 IN. 13.06
WTR YR 1986 TOTAL 2623.42 MEAN 7.19 MAX 77 MIN .55 CFSM 1.60 IN. 21.69

e Estimated

NORTH RIVER BASIN

57

01105730 INDIAN HEAD RIVER AT HANOVER, MASS.

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

DRAINAGE AREA.--30.3 mi².

PERIOD OF RECORD.--Discharge: July 1966 to current year.
Water-quality records: Water years 1970-71.

GAGE.--Water-stage recorder. Datum of gage is 3.16 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by mills and by Wampatuck, Indian Head, Maquan, and other ponds upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--20 years, 61.6 ft³/s 27.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft³/s Mar. 18, 1968, gage height, 7.13 ft; minimum, 0.14 ft³/s Sept. 26, 27, 1980; minimum daily, 0.18 ft³/s Sept. 27, 29, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 310 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	unknown	*388	*4.36	No other peak greater than base discharge.			

a From crest-stage gage.

Minimum discharge, 5.5 ft³/s Sept. 14; minimum daily, 6.0 ft³/s Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	11	80	24	e80	62	47	42	27	12	47	18
2	8.5	12	85	24	e120	60	45	37	31	61	33	12
3	7.6	17	82	60	e100	58	42	30	29	155	93	9.0
4	8.0	20	63	e135	e90	56	40	29	23	152	104	10
5	12	66	56	e110	e120	56	39	29	19	86	54	13
6	36	141	53	e90	e105	54	37	29	56	55	e36	14
7	31	96	49	e65	e92	50	41	28	237	43	e31	12
8	19	60	47	e40	e80	39	44	28	227	33	e80	11
9	14	44	44	e35	e70	37	46	28	156	26	e100	9.8
10	13	37	42	e30	e62	38	44	27	93	21	e60	9.2
11	11	39	41	e28	61	53	43	26	65	18	e100	9.3
12	9.7	64	55	e27	58	62	39	25	72	16	e60	8.8
13	10	98	61	e28	54	70	37	26	139	34	e40	6.8
14	11	78	77	e27	51	122	35	24	146	47	e30	6.0
15	18	88	65	e23	51	237	33	23	97	37	e25	6.3
16	26	77	51	e20	47	214	32	23	66	25	e22	12
17	20	110	46	e21	50	154	32	23	62	20	e20	19
18	16	114	40	e23	112	122	31	23	48	18	e70	13
19	17	81	34	e70	195	113	28	21	38	20	e96	11
20	26	66	29	e170	151	114	27	19	38	17	e64	11
21	22	56	28	e130	148	95	28	18	40	15	39	11
22	18	52	28	e80	232	84	37	43	33	13	37	10
23	16	74	28	e58	189	76	48	85	29	12	34	10
24	15	67	29	e49	139	72	48	54	28	14	29	11
25	16	54	32	e44	117	66	63	62	27	12	23	11
26	14	49	30	e88	96	61	63	47	22	8.6	19	10
27	13	63	27	e350	79	58	56	36	20	25	18	9.4
28	12	85	26	e280	69	67	64	30	17	55	21	8.7
29	11	124	24	e160	---	60	54	25	16	38	22	8.0
30	11	106	22	e130	---	54	46	22	14	95	18	7.7
31	11	---	21	e100	---	51	---	20	---	76	16	---
TOTAL	482.4	2049	1395	2519	2818	2515	1269	982	1915	1259.6	1441	318.0
MEAN	15.6	68.3	45.0	81.3	101	81.1	42.3	31.7	63.8	40.6	46.5	10.6
MAX	36	141	85	350	232	237	64	85	237	155	104	19
MIN	7.6	11	21	20	47	37	27	18	14	8.6	16	6.0
CFSM	.52	2.26	1.49	2.69	3.33	2.69	1.40	1.05	2.11	1.35	1.54	.35
IN.	.59	2.52	1.72	3.10	3.47	3.10	1.56	1.21	2.36	1.55	1.78	.39

CAL YR 1985 TOTAL 12164.7 MEAN 33.3 MAX 169 MIN 2.3 CFSM 1.10 IN. 14.98
WTR YR 1986 TOTAL 18963.0 MEAN 52.0 MAX 350 MIN 6.0 CFSM 1.72 IN. 23.36

e Estimated

JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MASS.

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

DRAINAGE AREA.--15.7 mi², excludes 4.09 mi² above outlet of Silver Lake, from which flow is diverted for municipal supply of Brockton, Whitman, and Hanson.

PERIOD OF RECORD.--Discharge: August 1966 to current year.
Water-quality records: Water years 1970-71.

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

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

REMARKS.--Records poor. Flow regulated by pond upstream. Flow affected at times during 1968-76, 1978-79, 1982-84 by wastage from Silver Lake. Surface flow may be affected by ground water that enters from or moves into adjacent basins. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--20 years, 31.6 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 575 ft³/s Mar. 19, 1968, gage height, 4.60 ft; maximum gage height, 5.88 ft Feb. 7, 1978, from peak-stage indicator (backwater from tide); minimum daily discharge, 0.59 ft³/s Aug. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 144 ft³/s Jan. 27, gage height, 3.57 ft; maximum gage height, 3.72 ft Dec. 12, backwater from tide; minimum daily discharge, 4.1 ft³/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	16	35	12	38	25	18	24	13	11	12	17
2	4.9	15	33	11	40	25	17	23	12	15	12	17
3	5.6	13	29	19	40	25	16	20	11	20	18	18
4	6.6	12	26	29	41	42	17	18	11	21	22	18
5	7.9	26	23	35	42	29	14	17	10	19	19	18
6	7.1	58	21	33	40	24	13	17	14	16	15	18
7	6.7	60	20	32	33	17	12	17	41	15	14	19
8	6.8	45	18	24	34	16	14	16	63	14	32	18
9	6.4	36	17	19	34	12	15	16	55	13	42	18
10	5.9	28	16	18	30	15	15	15	48	13	22	17
11	5.4	23	e16	20	39	25	16	15	33	12	15	17
12	5.6	24	e18	16	36	30	16	15	26	12	11	16
13	5.5	25	e21	16	29	47	17	15	40	16	8.6	15
14	6.5	27	23	14	24	54	19	12	44	20	7.9	13
15	e7.6	27	22	11	24	94	17	11	37	19	7.4	12
16	9.2	26	17	9.5	23	98	15	11	27	18	6.5	11
17	8.1	32	16	9.4	25	78	15	11	23	17	6.1	12
18	7.4	36	15	12	35	57	14	9.8	19	13	11	12
19	7.8	36	9.8	21	67	53	13	8.6	16	12	32	11
20	9.2	36	9.5	64	63	46	13	8.0	15	12	39	11
21	10	34	10	79	67	34	14	7.4	21	12	27	10
22	11	32	10	57	83	30	21	19	16	13	25	9.1
23	14	34	10	45	73	29	30	35	e12	13	25	9.1
24	16	36	10	27	58	27	36	32	e11	13	20	9.3
25	15	26	11	19	47	27	e39	e34	11	12	17	10
26	12	22	9.6	34	28	26	40	e27	9.7	12	15	10
27	11	25	8.8	115	26	22	e36	21	10	13	14	10
28	12	32	10	123	26	22	35	18	12	12	15	9.5
29	14	40	10	85	---	21	31	14	12	12	15	9.2
30	14	40	11	62	---	20	27	12	11	14	16	8.4
31	16	---	11	46	---	19	---	10	---	15	16	---
TOTAL	279.3	922	516.7	1116.9	1145	1089	615	528.8	683.7	449	557.5	402.6
MEAN	9.01	30.7	16.7	36.0	40.9	35.1	20.5	17.1	22.8	14.5	18.0	13.4
MAX	16	60	35	123	83	98	40	35	63	21	42	19
MIN	4.1	12	8.8	9.4	23	12	12	7.4	9.7	11	6.1	8.4
CAL YR 1985	TOTAL	6324.8	MEAN	17.3	MAX	68	MIN	3.6				
WTR YR 1986	TOTAL	8305.5	MEAN	22.8	MAX	123	MIN	4.1				

e Estimated

HERRING RIVER BASIN

59

01105880 HERRING RIVER AT NORTH HARWICH, MASS.

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

DRAINAGE AREA.--About 9.4 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor. Flow regulated by many ponds (some with no outlets) upstream. Surface flow may be affected by ground water that enters from or moves into adjacent basins. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--20 years, 9.92 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75 ft³/s Feb. 12, 1983, gage height, 3.71 ft, from rating curve extended above 34 ft³/s; maximum gage height, 4.88 ft June 6, 1967; minimum discharge, 0.32 ft³/s Sept. 13-15, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23 ft³/s July. 27, gage height, 3.32 ft; minimum, 0.85 ft³/s Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	3.7	6.1	1.9	5.8	7.5	12	10	e3.1	e14	13	5.3
2	6.7	4.0	5.9	1.8	6.6	7.7	10	10	e4.1	16	12	4.9
3	6.2	3.9	5.5	1.9	6.8	7.8	10	10	e4.0	16	13	4.8
4	5.5	3.9	5.1	2.0	6.8	7.9	9.5	10	e4.0	14	13	4.7
5	8.3	5.8	5.0	2.6	7.9	7.9	9.7	10	e4.0	14	12	4.4
6	9.3	6.9	4.8	4.5	7.3	7.3	9.2	10	e4.0	13	11	4.7
7	8.7	7.3	4.8	8.2	8.9	6.2	9.4	10	e4.6	14	11	4.9
8	8.3	5.9	4.8	7.3	9.2	7.0	9.7	10	e6.0	13	10	4.3
9	8.1	4.7	4.7	7.0	8.6	7.5	10	10	e8.0	12	10	4.1
10	8.0	4.2	4.4	6.7	7.7	7.7	9.9	9.5	e10	11	9.5	4.0
11	7.9	4.1	4.6	5.5	5.4	8.7	9.9	9.0	e12	10	9.5	3.8
12	7.8	4.3	5.0	7.0	7.9	9.3	9.6	9.0	e10	11	8.7	3.9
13	7.7	4.8	5.0	6.7	6.3	12	9.5	8.6	e9.0	12	7.8	3.8
14	7.7	4.4	5.4	6.4	6.3	13	9.9	8.1	e9.6	13	5.6	3.3
15	10	4.3	5.0	6.1	6.3	16	10	7.3	e11	12	3.6	2.7
16	9.8	4.0	4.4	5.8	6.3	15	11	6.6	e11	12	4.5	4.7
17	8.2	6.3	4.4	5.4	6.3	16	11	6.5	e10	10	4.7	4.2
18	7.1	5.7	4.4	4.9	6.8	16	11	6.3	e8.0	9.6	6.4	3.7
19	7.1	5.3	4.2	5.7	8.6	14	9.7	6.4	e6.8	11	9.0	3.7
20	7.8	5.1	1.9	7.1	8.0	13	9.2	7.1	e5.5	13	7.9	3.7
21	7.3	5.2	1.8	6.4	8.3	12	9.2	6.8	e4.4	13	7.1	3.3
22	7.0	5.3	1.8	6.3	9.2	12	9.5	6.5	e3.7	12	8.2	3.0
23	6.7	6.2	1.9	6.0	8.8	11	12	5.7	e3.2	11	7.2	3.0
24	7.6	5.5	1.9	5.5	8.8	11	12	6.8	e3.0	9.9	9.1	6.2
25	7.4	4.8	1.9	5.5	8.8	11	13	8.1	e3.2	9.0	10	8.2
26	6.1	4.9	1.9	5.9	8.5	11	12	12	e3.3	8.2	8.6	6.7
27	4.4	5.3	1.8	8.8	7.2	12	12	15	e3.6	15	7.7	5.8
28	3.0	6.0	1.8	9.2	7.4	12	12	14	e4.4	15	7.9	3.9
29	2.2	6.7	1.8	10	---	11	11	12	e5.0	13	7.1	1.3
30	1.7	6.3	1.8	8.4	---	11	11	11	e6.8	14	6.0	.85
31	1.9	---	1.8	6.4	---	11	---	7.8	---	15	5.7	---
TOTAL	212.5	154.8	115.6	182.9	210.8	332.5	313.9	280.1	185.3	385.7	266.8	125.85
MEAN	6.85	5.16	3.73	5.90	7.53	10.7	10.5	9.04	6.18	12.4	8.61	4.19
MAX	10	7.3	6.1	10	9.2	16	13	15	12	16	13	8.2
MIN	1.7	3.7	1.8	1.8	5.4	6.2	9.2	5.7	3.0	8.2	3.6	.85

CAL YR 1985 TOTAL 2490.97 MEAN 6.82 MAX 20 MIN 1.7
WTR YR 1986 TOTAL 2766.73 MEAN 7.58 MAX 16 MIN .85

e Estimated

RED BROOK BASIN

01105885 RED BROOK BELOW ROUTE 25 NEAR WAREHAM, MASS.

LOCATION.--Lat 41°46'32", long 70°37'51", Plymouth County, Hydrologic Unit 01090002, on right bank at downstream end of sedimentation basin on downstream side of State Highway 25 (under construction), 1.3 mi upstream from mouth, 2.5 mi northeast of East Wareham, and 5 mi east of Wareham.

DRAINAGE AREA.--9.14 mi².

PERIOD OF RECORD.--September 1981 to February 1986 (discontinued).

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

REMARKS.--No estimated daily discharges. Records poor. Flow regulated by many ponds upstream, some with no outlets. Surface flow may be affected by ground water that enters from or moves into adjacent basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58 ft³s Jan. 14, 1982, gage height, 4.03 ft; minimum, 1.1 ft³s Sept. 29, 20, 1981.

EXTREMES FOR CURRENT YEAR.--October 1985 to February 1986: Maximum discharge, 43 ft³s Oct. 27, gage height, 3.54 ft; minimum, 1.8 ft³s Dec. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	3.6	3.6	2.3	3.6	---	---	---	---	---	---	---
2	12	3.6	3.7	2.3	3.9	---	---	---	---	---	---	---
3	13	3.6	3.4	3.6	3.8	---	---	---	---	---	---	---
4	6.4	3.5	3.2	2.8	3.8	---	---	---	---	---	---	---
5	5.0	4.7	3.2	3.0	3.9	---	---	---	---	---	---	---
6	4.8	4.5	3.2	2.7	3.9	---	---	---	---	---	---	---
7	4.6	4.2	3.2	2.6	---	---	---	---	---	---	---	---
8	4.6	3.7	3.2	2.6	---	---	---	---	---	---	---	---
9	4.5	3.5	3.0	2.6	---	---	---	---	---	---	---	---
10	4.3	3.4	2.7	2.6	---	---	---	---	---	---	---	---
11	4.1	3.3	2.7	2.6	---	---	---	---	---	---	---	---
12	4.1	3.6	2.5	2.6	---	---	---	---	---	---	---	---
13	4.0	3.8	2.4	2.7	---	---	---	---	---	---	---	---
14	4.0	3.5	2.1	2.7	---	---	---	---	---	---	---	---
15	4.5	3.6	1.9	2.7	---	---	---	---	---	---	---	---
16	4.2	3.5	1.9	2.7	---	---	---	---	---	---	---	---
17	4.0	6.4	1.9	2.7	---	---	---	---	---	---	---	---
18	3.8	4.3	2.0	2.8	---	---	---	---	---	---	---	---
19	4.3	3.7	2.0	3.5	---	---	---	---	---	---	---	---
20	4.5	3.5	2.1	3.6	---	---	---	---	---	---	---	---
21	4.0	3.4	2.2	3.2	---	---	---	---	---	---	---	---
22	5.0	3.7	2.2	3.0	---	---	---	---	---	---	---	---
23	4.1	4.0	2.3	3.0	---	---	---	---	---	---	---	---
24	3.9	3.6	2.7	3.1	---	---	---	---	---	---	---	---
25	3.7	3.6	2.3	3.0	---	---	---	---	---	---	---	---
26	3.9	3.6	2.2	5.2	---	---	---	---	---	---	---	---
27	24	4.0	2.2	15	---	---	---	---	---	---	---	---
28	18	4.0	2.3	16	---	---	---	---	---	---	---	---
29	4.7	4.5	2.3	3.7	---	---	---	---	---	---	---	---
30	4.2	3.8	2.3	3.8	---	---	---	---	---	---	---	---
31	3.9	---	2.3	3.7	---	---	---	---	---	---	---	---
TOTAL	184.5	115.7	79.2	118.4	---	---	---	---	---	---	---	---
MEAN	5.95	3.86	2.55	3.82	---	---	---	---	---	---	---	---
MAX	24	6.4	3.7	16	---	---	---	---	---	---	---	---
MIN	3.7	3.3	1.9	2.3	---	---	---	---	---	---	---	---

CAL YR 1985 TOTAL 1556.2 MEAN 4.26 MAX 33 MIN 1.8

TAUNTON RIVER BASIN

61

01108000 TAUNTON RIVER NEAR BRIDGEWATER, MASS.

LOCATION.--Lat 41°56'05", long 70°17'18", Plymouth County, Hydrologic Unit 01090004, on right bank 0.1 mi upstream from bridge on Titicut Road, 1 mi upstream from Sawmill Brook, 3.5 mi northwest of Middleboro, and 4 mi southeast of Bridgewater.

DRAINAGE AREA.--258 mi², revised.

PERIOD OF RECORD.--Discharge: October 1929 to April 1976, April 1985 to current 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 records: Water years 1953, 1967-74.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1934. WSP 1051: 1933. WSP 1201: 1931. WSP 1301: 1930(M), 1933(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 9.61 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, inverted nonrecording gage at site 40 ft downstream with zero of gage at 10.02 ft. Oct. 1, 1931, to June 8, 1934, nonrecording gage, and June 9, 1934, to Oct. 12, 1939, water-stage recorder, at site 40 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow affected by diversions to and from basin upstream of station for municipal supplies. Flow regulated by reservoirs and, prior to about 1975, by powerplants upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years (water years 1930-75, 1986), 462 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,980 ft³/s Mar. 20, 1968, gage height, 14.48 ft; minimum, 8 ft³/s Sept. 10, 1944; minimum daily, 9 ft³/s Sept. 9-12, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,300 ft³/s Jan. 28; minimum, 78 ft³/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e100	82	621	e190	e1150	605	446	397	171	118	269	160
2	e98	81	605	e210	e1100	559	427	359	178	162	241	146
3	e95	84	614	e275	e1150	529	412	323	171	436	345	140
4	e100	92	553	e350	e1100	510	390	286	160	432	488	135
5	e150	169	493	e410	e1050	507	361	263	147	393	372	130
6	e240	576	455	e435	e1050	507	341	255	159	345	294	126
7	e210	689	429	e370	e860	498	347	243	595	307	267	119
8	e180	599	397	e330	e760	457	367	240	872	268	753	110
9	e150	493	373	e320	e710	420	413	236	873	223	918	106
10	e140	425	348	e280	e650	404	413	224	738	191	712	103
11	e130	370	325	e260	e610	431	402	210	614	164	588	95
12	e120	367	342	e250	e570	507	373	201	547	149	542	94
13	e113	461	378	e245	e550	531	346	199	672	201	461	93
14	e112	484	437	e230	544	692	325	188	753	236	406	88
15	e110	510	437	e180	527	1120	304	173	645	244	349	84
16	e105	518	385	e190	506	1370	286	161	545	220	297	103
17	e105	584	350	e175	492	1280	272	153	493	194	264	144
18	e115	694	e320	e185	600	1110	255	148	e420	173	328	119
19	e130	637	e290	e210	932	987	239	141	e360	195	552	105
20	e130	586	e265	e320	980	956	225	135	e310	162	564	97
21	e135	538	e270	e410	943	865	220	128	e270	145	507	94
22	e130	486	e235	e430	1210	762	274	166	e250	133	531	93
23	e120	530	e240	e390	1290	686	308	341	226	120	e484	92
24	e115	532	e240	e350	1160	630	355	361	207	109	e420	103
25	e110	477	e240	e375	1000	582	420	422	192	103	e355	105
26	e110	433	e235	e700	861	552	471	379	177	96	e287	100
27	e105	463	e225	e1300	753	531	448	306	162	99	257	93
28	e98	534	e225	e2200	669	534	474	252	152	183	230	86
29	e95	662	e215	e2150	---	522	461	216	140	179	217	83
30	87	674	e195	e1650	---	499	432	188	129	301	197	81
31	85	---	e190	e1300	---	472	---	167	---	316	178	---
TOTAL	3823	13830	10927	16670	23777	20615	10807	7461	11328	6597	12673	3227
MEAN	123	461	352	538	849	665	360	241	378	213	409	108
MAX	240	694	621	2200	1290	1370	474	422	873	436	918	160
MIN	85	81	190	175	492	404	220	128	129	96	178	81

CAL YR 1985 TOTAL 58157 MEAN 226 MAX 745 MIN 51
WTR YR 1986 TOTAL 141735 MEAN 388 MAX 2200 MIN 81

e Estimated

TAUNTON RIVER BASIN

01108500 WADING RIVER AT WEST MANSFIELD, MASS.

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

DRAINAGE AREA.--19.5 mi².

PERIOD OF RECORD.--Discharge: October 1953 to September 1986 (discontinued).
Water-quality records: Water years 1967-68.

REVISED RECORDS.--WSP 1621: 1953-58 (monthly runoff). WDR MA-NH-RI-VT-71-1: 1970. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 120.85 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--33 years, 32.5 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 541 ft³/s Mar. 19, 1968, gage height, 6.60 ft; no flow Oct. 22-24, 1957, Sept. 12, 1981 (caused by temporary storage upstream).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 98 ft³/s Mar. 16, gage height, 4.75 ft; minimum not determined; minimum daily, 0.61 ft³/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.61	2.0	e31	14	e52	36	36	23	5.4	7.4	10	13
2	e.65	e1.7	e29	14	e50	e33	35	21	5.6	14	8.3	11
3	e1.0	e1.7	e27	17	e52	e31	33	19	5.7	24	9.5	10
4	e1.7	e1.9	e25	23	.46	e30	30	16	4.6	26	10	10
5	e3.0	e7.4	e24	24	46	e29	29	16	3.2	23	8.4	9.9
6	e5.0	16	e21	24	46	e28	29	15	11	21	6.4	10
7	e6.0	13	e20	23	41	e27	29	15	45	19	8.9	9.1
8	e4.6	8.4	e19	20	e35	e26	30	15	e71	17	24	8.0
9	e3.7	6.7	e18	20	e33	e25	30	13	69	14	31	6.7
10	e3.3	11	e17	18	e31	e23	29	12	55	11	34	6.6
11	e3.1	15	e16	14	e29	e23	28	11	48	9.4	38	5.2
12	e2.5	18	e17	15	e28	e24	27	10	44	10	35	4.6
13	e2.2	19	e18	15	e27	35	26	9.6	51	14	30	4.1
14	e2.2	20	e21	14	e25	48	25	8.1	51	16	27	3.2
15	e2.4	21	e22	13	e23	88	23	6.7	43	15	24	2.6
16	e3.0	20	e21	13	e22	95	22	5.9	36	12	18	3.8
17	e3.4	26	e20	13	e26	90	21	5.5	34	9.1	19	5.6
18	e3.1	30	e18	12	34	83	21	6.6	32	8.1	57	5.1
19	e2.8	e26	15	12	45	77	19	6.5	28	8.2	65	3.0
20	e3.2	e24	14	23	45	69	18	4.7	25	8.1	47	3.3
21	e3.4	e21	13	25	47	57	18	3.9	23	7.4	36	3.5
22	e3.1	e18	13	24	61	53	19	7.2	22	5.8	34	3.6
23	e2.9	e19	14	24	60	53	19	11	20	4.2	30	3.8
24	e2.8	e18	16	20	56	49	19	12	18	3.0	26	3.2
25	e2.7	e17	16	17	53	41	21	13	16	2.3	24	2.9
26	2.6	e16	17	25	48	37	23	13	13	1.7	20	2.6
27	2.5	e18	14	64	44	40	25	12	12	3.1	18	2.2
28	2.4	e23	14	78	39	45	26	11	11	6.2	18	1.6
29	2.2	e27	13	71	---	43	25	8.9	10	9.7	18	1.4
30	2.7	e32	12	e62	---	41	23	6.4	9.5	13	17	1.3
31	2.7	---	12	e54	---	39	---	4.8	---	12	15	---
TOTAL	87.46	497.8	567	805	1144	1418	758	342.8	822.0	354.7	766.5	160.9
MEAN	2.82	16.6	18.3	26.0	40.9	45.7	25.3	11.1	27.4	11.4	24.7	5.36
MAX	6.0	32	31	78	61	95	36	23	71	26	65	13
MIN	.61	1.7	12	12	22	23	18	3.9	3.2	1.7	6.4	1.3

CAL YR 1985 TOTAL 4287.80 MEAN 11.7 MAX 40 MIN .18
WTR YR 1986 TOTAL 7724.13 MEAN 21.2 MAX 95 MIN .61

e Estimated

01109000 WADING RIVER NEAR NORTON, MASS.

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

DRAINAGE AREA.--43.3 mi².

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

REVISED RECORDS.--WSP 871: 1938. WSP 1301: 1929-33(M). WSP 1621: 1925-58 (monthly runoff). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 55.14 ft above 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 discharges, which are poor. Flow regulated to some extent by Lake Mirimichi and other lakes and reservoirs upstream. Diversion upstream for municipal supply of Attleboro and small diversions to and from basin for other municipal supplies. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--61 years, 73.2 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,460 ft³/s Mar. 19, 1968, gage height, 11.47 ft; minimum, 0.3 ft³/s Sept. 10, 1926.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 28	0300	384	8.46	Aug. 8	unknown	*429	*a8.72
Mar. 15	2300	312	8.17				

a From peak-stage indicator.

Minimum discharge, 7.0 ft³/s Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	9.4	110	28	136	83	62	44	24	18	e43	29
2	7.8	9.5	107	29	132	75	58	41	24	39	e40	25
3	7.4	10	102	38	144	71	54	38	24	76	e49	23
4	7.6	11	89	64	130	68	51	34	23	70	e49	24
5	12	32	78	73	126	64	47	31	21	59	e42	23
6	25	122	73	68	126	62	45	31	27	52	e35	23
7	30	163	69	59	106	62	49	30	97	45	e31	22
8	23	120	65	e47	98	56	54	30	163	38	e240	20
9	19	80	61	39	83	50	58	29	149	34	e300	19
10	17	61	57	36	78	46	54	27	120	29	e200	17
11	15	54	55	35	76	49	52	25	97	26	e150	16
12	12	64	62	34	70	56	49	23	91	26	e135	16
13	11	91	68	36	65	62	47	22	133	35	e110	15
14	11	88	77	34	61	94	44	22	146	49	e94	14
15	12	91	73	e30	59	237	42	20	115	47	e76	13
16	15	88	63	e25	54	279	40	19	92	38	e66	14
17	18	118	60	22	54	207	37	19	77	31	e61	16
18	15	150	53	23	71	177	35	19	69	26	e61	16
19	14	131	43	29	122	163	33	18	61	23	e110	14
20	17	106	39	61	129	161	31	18	56	22	e125	14
21	18	90	36	83	134	135	30	17	51	22	e100	13
22	16	81	e35	69	192	111	33	22	44	e21	90	14
23	14	91	34	64	187	100	35	37	40	e21	83	15
24	13	89	35	54	159	95	34	60	38	e20	66	16
25	13	76	38	47	141	87	40	48	34	e19	56	15
26	13	70	36	71	124	76	47	43	30	e18	46	13
27	12	84	33	277	114	69	49	41	26	e17	40	12
28	11	106	32	342	95	74	53	37	24	e22	39	11
29	11	133	30	216	---	77	52	32	22	e35	39	10
30	10	127	28	184	---	71	48	28	19	e50	36	9.5
31	9.8	---	26	155	---	66	---	25	---	e49	32	---
TOTAL	437.4	2545.9	1767	2372	3066	3083	1363	930	1937	1077	2644	501.5
MEAN	14.1	84.9	57.0	76.5	109	99.5	45.4	30.0	64.6	34.7	85.3	16.7
MAX	30	163	110	342	192	279	62	60	163	76	300	29
MIN	7.4	9.4	26	22	54	46	30	17	19	17	31	9.5

CAL YR 1985 TOTAL 13472.0 MEAN 36.9 MAX 163 MIN 4.1
WTR YR 1986 TOTAL 21723.8 MEAN 59.5 MAX 342 MIN 7.4

e Estimated

TAUNTON RIVER BASIN

01109060 THREEMILE RIVER AT NORTH DIGHTON, MASS.

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

DRAINAGE AREA.--84.3 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 11.38 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Mirimichi and other lakes and reservoirs upstream. Diversions to and from basin upstream for municipal supplies may be compensating. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--20 years, 170 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,490 ft³/s Mar. 19, 1968, gage height, 8.30 ft; minimum, 5.1 ft³/s Sept. 8, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 28	2315	*634	*4.81	Aug. 9	0445	*634	*4.81

Minimum discharge, 22 ft³/s Oct. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	23	230	69	291	195	156	118	71	44	87	65
2	22	23	217	69	282	177	150	110	67	80	74	59
3	23	23	206	91	273	164	142	102	62	134	99	56
4	24	24	193	130	263	157	132	94	59	149	100	56
5	40	62	174	148	257	151	127	88	56	142	86	55
6	72	168	158	158	250	147	121	83	62	123	69	53
7	58	210	148	141	236	143	120	81	163	107	60	52
8	52	230	141	119	213	137	133	80	222	94	263	47
9	43	202	135	121	193	126	147	79	275	81	603	46
10	38	160	127	105	178	119	148	77	277	70	419	43
11	35	136	122	95	167	118	141	71	245	59	304	42
12	31	127	125	90	159	123	133	68	218	61	266	41
13	29	141	132	90	147	139	126	66	251	76	242	41
14	29	158	152	86	139	182	121	64	288	96	195	39
15	29	174	154	63	137	307	115	62	296	98	157	36
16	28	169	147	71	130	486	110	60	247	90	130	47
17	28	209	135	61	124	506	106	59	203	75	114	45
18	30	227	126	62	148	423	101	59	169	64	115	42
19	32	247	104	74	208	375	96	55	147	57	167	40
20	36	231	96	132	241	354	92	52	133	51	238	40
21	36	200	100	151	276	327	90	51	120	48	236	40
22	35	177	85	156	347	286	92	65	105	46	211	39
23	32	180	88	146	389	246	95	109	95	44	189	39
24	31	171	87	131	365	223	100	153	87	41	170	40
25	30	167	87	116	318	208	109	153	81	38	142	41
26	29	156	85	167	277	195	117	125	72	36	117	40
27	28	159	81	379	242	183	120	104	65	35	98	38
28	27	181	82	574	215	180	129	94	60	41	87	35
29	25	218	75	563	---	175	131	84	54	68	83	34
30	24	236	72	439	---	174	125	76	49	100	79	33
31	24	---	68	350	---	166	---	68	---	103	70	---
TOTAL	1023	4789	3932	5147	6465	6892	3625	2610	4299	2351	5270	1324
MEAN	33.0	160	127	166	231	222	121	84.2	143	75.8	170	44.1
MAX	72	247	230	574	389	506	156	153	296	149	603	65
MIN	22	23	68	61	124	118	90	51	49	35	60	33

CAL YR 1985	TOTAL	29796	MEAN	81.6	MAX	280	MIN	16
WTR YR 1986	TOTAL	47727	MEAN	131	MAX	603	MIN	22

TAUNTON RIVER BASIN

65

01109070 SEGREGANSET RIVER NEAR DIGHTON, MASS.

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

DRAINAGE AREA.--10.6 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 30 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good except those below 2 ft³/s, which are poor. Occasional regulation by ponds upstream. Diversion upstream for Dighton Water District. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--20 years, 22.5 ft³/s, 28.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 867 ft³/s Mar. 18, 1968, gage height, 7.51 ft; no flow at times in water years 1966, 1969, 1974, 1980, 1981, and 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 170 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	0900	*305	*4.85	No other peak greater than base discharge.			

Minimum discharge, 0.23 ft³/s Sept. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.9	39	10	28	19	15	12	6.9	.81	12	1.1
2	2.1	2.9	35	10	30	18	14	11	7.1	5.4	7.0	.95
3	1.9	2.9	37	22	41	18	13	8.8	5.6	31	18	.83
4	1.8	2.9	30	48	39	17	12	7.4	4.2	27	28	.77
5	4.8	24	25	45	35	17	11	7.0	3.4	14	16	.73
6	26	111	23	44	37	17	10	7.1	4.4	8.3	7.3	.66
7	25	107	21	32	32	17	12	7.1	37	5.8	4.4	.59
8	16	58	19	20	26	13	16	7.5	70	3.9	5.3	.53
9	10	36	18	13	21	12	22	6.7	51	2.4	12	.37
10	7.7	26	17	12	21	12	20	6.1	30	1.6	9.0	.32
11	5.8	21	16	12	19	15	17	5.1	17	1.2	6.9	.26
12	4.6	21	21	12	18	17	15	4.7	18	1.2	8.1	.29
13	4.3	27	24	13	17	22	13	4.7	43	8.7	5.6	.29
14	4.3	29	31	12	16	41	12	4.1	51	18	3.8	.24
15	4.3	30	30	8.8	15	122	10	3.9	34	18	2.4	.23
16	4.3	29	24	6.2	15	108	9.5	3.3	20	9.9	2.0	.49
17	4.1	57	19	5.7	15	61	9.2	3.3	14	5.3	1.7	1.0
18	3.6	70	17	7.2	21	42	8.6	3.6	9.9	3.5	1.8	1.2
19	4.0	47	14	12	47	35	7.5	3.0	6.7	2.3	7.2	1.2
20	6.3	34	11	42	48	35	7.1	2.6	5.5	1.9	8.5	1.0
21	6.5	28	10	49	56	32	7.2	2.4	6.4	1.7	5.9	.88
22	5.7	25	10	34	109	26	11	8.6	5.5	1.7	11	.88
23	4.6	32	10	26	81	23	12	23	4.3	1.4	13	1.1
24	4.4	33	12	19	51	21	15	50	3.6	1.0	8.0	1.2
25	4.4	27	14	15	39	19	20	46	2.7	.77	5.6	1.2
26	4.8	24	14	44	30	18	21	29	1.8	.51	3.4	1.2
27	4.5	30	11	235	26	17	18	18	1.5	.42	2.2	1.2
28	3.9	43	10	187	22	21	18	13	1.4	.51	1.9	.98
29	3.4	62	9.4	84	---	21	16	8.8	1.2	2.2	1.9	.75
30	3.0	54	8.2	47	---	19	14	5.9	1.1	20	1.7	.66
31	2.9	---	7.7	36	---	17	---	4.4	---	20	1.4	---
TOTAL	191.2	1096.6	587.3	1162.9	955	892	406.1	328.1	468.2	220.42	223.0	23.10
MEAN	6.17	36.6	18.9	37.5	34.1	28.8	13.5	10.6	15.6	7.11	7.19	.77
MAX	26	111	39	235	109	122	22	50	70	31	28	1.2
MIN	1.8	2.9	7.7	5.7	15	12	7.1	2.4	1.1	.42	1.4	.23
CFSM	.58	3.45	1.79	3.54	3.22	2.71	1.28	.99	1.47	.67	.68	.07
IN.	.67	3.85	2.06	4.08	3.35	3.13	1.43	1.15	1.64	.77	.78	.08

CAL YR 1985 TOTAL 5053.58 MEAN 13.8 MAX 111 MIN .46 CFSM 1.31 IN. 17.74
WTR YR 1986 TOTAL 6553.86 MEAN 18.0 MAX 235 MIN .23 CFSM 1.69 IN. 23.00

BLACKSTONE RIVER BASIN

01110000 QUINSIGAMOND RIVER AT NORTH GRAFTON, MASS.

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 Bummatt Brook.

DRAINAGE AREA.--25.6 mi².

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

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

GAGE.--Water-stage recorder. Elevation of gage is 335 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 7, 1939, staff gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good above 10 ft³/s, fair below. Some regulation by Lake Quinsigamond 2.3 mi upstream and by ponds upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years, 41.2 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 820 ft³/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, 231 ft³/s June 7, gage height, 2.86 ft; minimum daily, 4.3 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	11	48	25	70	43	54	31	26	23	18	9.7
2	23	11	54	24	70	41	52	31	26	41	18	9.0
3	25	11	58	31	65	39	49	28	24	58	28	8.7
4	26	11	50	42	58	40	46	25	21	53	29	8.9
5	32	32	47	42	57	42	44	23	21	46	25	8.6
6	49	64	46	40	54	42	42	22	107	40	22	9.4
7	45	72	44	36	49	48	44	22	224	37	22	9.2
8	39	66	42	33	45	33	43	22	207	33	31	8.4
9	34	55	40	30	42	37	45	21	178	29	29	7.4
10	31	49	38	29	40	37	44	20	138	26	26	6.6
11	29	48	38	28	39	44	41	19	111	22	23	6.0
12	25	52	45	26	38	48	40	19	101	21	20	6.1
13	23	56	46	26	36	56	38	17	113	27	17	6.4
14	23	53	51	25	34	84	36	16	103	35	16	5.2
15	23	59	45	23	33	203	34	16	89	35	14	4.3
16	23	53	43	21	32	193	32	15	76	31	13	6.6
17	21	68	41	20	33	162	31	17	70	28	13	5.7
18	19	70	39	20	41	137	30	17	59	25	16	4.6
19	19	66	34	25	49	118	28	17	51	23	21	4.5
20	20	61	33	39	47	112	26	15	52	21	20	4.6
21	18	58	32	43	55	96	26	16	52	20	19	6.0
22	17	53	31	41	78	83	28	25	47	18	19	5.9
23	16	56	31	40	74	75	28	25	44	16	17	6.2
24	15	53	30	36	67	72	29	29	42	15	18	6.7
25	17	50	31	33	61	64	33	32	40	13	17	6.6
26	16	47	31	58	56	60	35	29	35	12	14	6.0
27	14	49	29	149	50	61	37	27	32	19	13	5.8
28	14	51	28	153	46	68	37	25	30	18	14	5.3
29	13	53	27	123	---	65	34	22	29	16	13	5.3
30	11	50	26	101	---	61	33	20	26	19	11	5.7
31	11	---	25	84	---	58	---	18	---	19	10	---
TOTAL	716	1488	1203	1446	1419	2322	1119	681	2174	839	586	199.4
MEAN	23.1	49.6	38.8	46.6	50.7	74.9	37.3	22.0	72.5	27.1	18.9	6.65
MAX	49	72	58	153	78	203	54	32	224	58	31	9.7
MIN	11	11	25	20	32	33	26	15	21	12	10	4.3

CAL YR 1985 TOTAL 9900.4 MEAN 27.1 MAX 136 MIN .96
WTR YR 1986 TOTAL 14192.4 MEAN 38.9 MAX 224 MIN 4.3

BLACKSTONE RIVER BASIN

67

01111200 WEST RIVER BELOW WEST HILL DAM, NEAR UXBRIDGE, MASS.

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

DRAINAGE AREA.--27.9 mi².

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

REVISED RECORDS.--WDR MA-RI-83-1: 1982(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 234.35 ft above National Geodetic Vertical datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--Records fair. Flow regulated by West Hill Reservoir, usable capacity, 542,000,000 ft³. See table below for figures of monthend contents. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--24 years, 48.4 ft³/s, 23.56 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 607 ft³/s June 6, 1984, gage height, about 4.27 ft (mean of surge); no flow for part of Aug. 17, 1967, caused by unusual regulation; minimum daily discharge, 1.1 ft³/s Sept. 12, 1963, Aug. 12, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 475 ft³/s June 11, gage height, 3.84 ft (mean of surge); minimum, 2.7 ft³/s Aug. 1; minimum daily, 4.3 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	30	16	73	28	86	70	84	42	21	21	26	8.6		
2	20	14	73	29	73	64	78	39	25	27	24	7.7		
3	19	14	79	33	66	58	71	36	26	52	23	7.2		
4	25	14	86	51	58	53	66	31	25	58	23	7.1		
5	28	28	86	58	52	53	62	29	23	47	23	7.5		
6	33	64	81	55	53	54	57	29	17	40	19	7.7		
7	36	120	73	45	50	57	56	29	7.6	34	18	7.5		
8	35	150	67	35	48	55	56	29	9.0	29	24	5.8		
9	34	139	54	29	44	52	57	29	173	24	32	5.9		
10	31	124	66	28	42	48	54	29	412	20	33	5.6		
11	27	102	46	28	41	45	52	27	462	18	29	5.4		
12	24	89	61	26	37	55	50	25	351	17	21	5.6		
13	22	88	54	27	35	64	47	24	289	20	18	5.6		
14	23	93	56	26	34	75	43	23	326	28	14	4.8		
15	26	87	53	22	34	35	41	22	331	29	12	4.3		
16	26	73	49	19	32	8.4	38	21	315	26	12	4.8		
17	23	77	44	18	32	136	36	20	283	22	11	5.2		
18	22	115	e41	18	40	323	36	20	195	20	11	5.5		
19	21	138	e40	23	51	342	35	20	126	19	21	5.6		
20	24	136	e39	47	57	364	33	17	106	19	23	5.4		
21	25	126	e38	62	59	363	32	17	75	18	18	5.5		
22	22	110	e37	65	68	293	32	23	60	18	16	6.3		
23	20	79	e36	62	78	229	32	27	49	15	14	6.7		
24	19	70	e36	50	81	169	32	29	53	15	12	6.7		
25	19	88	e35	37	81	116	35	32	45	14	12	5.8		
26	20	87	e35	41	80	95	41	36	40	15	12	5.3		
27	18	74	35	57	80	83	44	36	31	19	10	5.5		
28	17	70	33	154	76	82	47	32	27	24	9.9	5.6		
29	16	72	32	254	---	91	47	29	25	24	10	4.6		
30	15	73	29	261	---	93	45	25	24	27	10	4.5		
31	16	---	28	158	---	92	---	20	---	28	9.3	---		
TOTAL	736	2530	1595	1846	1568	3717.4	1439	847	3951.6	787	550.2	179.3		
MEAN	23.7	84.3	51.5	59.5	56.0	120	48.0	27.3	132	25.4	17.7	5.98		
MAX	36	150	86	261	86	364	84	42	462	58	33	8.6		
MIN	15	14	28	18	32	8.4	32	17	7.6	14	9.3	4.3		
(+)	2.2	14.6	3.7	16.6	21.0	13.3	9.4	6.5	6.2	5.5	1.1	.8		
MEAN++	22.9	89.1	47.4	64.4	57.8	117	46.5	26.2	132	25.1	16.1	5.86		
CFSM++	.82	3.19	1.70	2.31	2.07	4.19	1.67	.94	4.73	.90	.58	.21		
IN.++	.95	3.57	1.96	2.66	2.16	4.84	1.86	1.08	5.26	1.04	.67	.23		
CAL YR 1985	TOTAL	12560.7	MEAN	34.4	MAX	150	MIN	4.5	MEAN++	34.4	CFSM++	1.23	IN.++	16.74
WTR YR 1986	TOTAL	19746.5	MEAN	54.1	MAX	462	MIN	4.3	MEAN++	54.0	CFSM++	1.94	IN.++	26.27

e Estimated

+ Monthend contents, in millions of cubic feet, in West Hill Reservoir; records provided by U.S. Army Corps of Engineers.

++ Adjusted for change in contents in West Hill Reservoir.

BLACKSTONE RIVER BASIN

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

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

DRAINAGE AREA.--277 mi².

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1969 to December 1980.

pH: July to December 1980.

WATER TEMPERATURES: July 1969 to December 1980.

DISSOLVED OXYGEN: July 1969 to December 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)
OCT 09...	1055	352	250	6.10	19.0	14.0	--	--	767	8.1	78	--
NOV 13...	1100	653	188	5.90	16.0	9.0	--	--	757	10.4	91	--
DEC 04...	0930	808	255	5.60	1.5	2.0	--	1.7	765	13.0	94	16
JAN 08...	0940	192	310	5.60	-7.0	1.0	--	--	768	14.0	98	--
FEB 05...	1145	635	300	6.30	4.0	2.0	--	--	753	12.5	92	--
MAR 05...	1035	516	285	6.50	9.0	5.0	20	3.7	750	12.2	97	25
APR 02...	1025	505	235	7.20	21.0	13.0	--	--	755	10.0	96	--
MAY 07...	1050	322	300	6.60	12.0	15.0	--	--	752	7.8	78	--
JUN 10...	1025	2500	163	6.50	26.0	18.0	--	1.5	763	8.0	84	--
JUL 09...	1110	274	265	6.10	27.0	24.0	--	--	750	8.2	99	--
AUG 13...	1200	269	240	6.30	24.0	22.0	--	--	760	8.8	101	--
SEP 03...	0940	115	345	6.40	15.0	18.0	15	1.0	765	7.6	80	<10

DATE	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT 09...	--	2100	92	120	--	--	--	--	--	--	--
NOV 13...	3.0	15000	880	40	--	--	--	--	--	--	--
DEC 04...	--	35000	2000	320	32	21	9.8	1.7	28	64	2
JAN 08...	2.0	28000	1900	1100	--	--	--	--	--	--	--
FEB 05...	--	41000	3100	1200	--	--	--	--	--	--	--
MAR 05...	2.0	28000	72	210	39	16	12	2.1	32	62	2
APR 02...	--	4900	K200	K36	--	--	--	--	--	--	--
MAY 07...	3.0	3800	K150	25	--	--	--	--	--	--	--
JUN 10...	--	9600	180	220	28	11	8.6	1.5	19	58	2
JUL 09...	1.0	1700	220	300	--	--	--	--	--	--	--
AUG 13...	--	2400	K280	70	--	--	--	--	--	--	--
SEP 03...	1.0	2200	660	87	43	18	14	2.0	40	64	3

BLACKSTONE RIVER BASIN

69

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CAR- BONATE IT-FLD (MG/L AS CO3)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	2.6	--	--	--	14	48	0.20	7.3	129	120	7
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	3.2	--	--	--	16	52	0.20	6.5	143	140	4
APR											
02...	--	0	27	23	--	--	--	--	--	--	--
MAY											
07...	--	0	31	25	--	--	--	--	--	--	--
JUN											
10...	2.0	0	20	17	21	29	0.10	5.7	96	100	13
JUL											
09...	--	0	29	24	--	--	--	--	--	--	--
AUG											
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	5.0	0	30	25	28	50	0.30	5.1	200	170	1

DATE	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT											
09...	--	0.720	0.080	--	0.800	--	0.260	--	--	0.94	1.2
NOV											
13...	--	0.870	0.030	--	0.900	--	0.620	--	--	0.48	1.1
DEC											
04...	126	0.590	0.010	0.020	0.600	0.590	0.650	0.660	0.85	0.35	1.0
JAN											
08...	--	0.780	0.020	--	0.800	--	1.70	--	--	0.70	2.4
FEB											
05...	--	0.690	0.010	--	0.700	--	1.00	--	--	0.50	1.5
MAR											
05...	147	0.680	0.020	0.020	0.700	0.680	1.70	1.70	2.2	0.50	2.2
APR											
02...	--	0.570	0.030	--	0.600	--	0.750	--	--	0.65	1.4
MAY											
07...	--	1.78	0.120	--	1.90	--	0.860	--	--	0.94	1.8
JUN											
10...	109	0.470	0.030	0.030	0.500	0.550	0.230	0.280	0.36	0.57	0.80
JUL											
09...	--	--	<0.010	--	1.70	--	0.030	--	--	0.57	0.60
AUG											
13...	--	--	<0.010	--	1.40	--	0.020	--	--	0.58	0.60
SEP											
03...	183	3.09	0.010	0.020	3.10	3.20	0.030	0.040	0.05	0.97	1.0

BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)
OCT 09...	2.0	8.9	0.250	0.77	--	0.190	--	--	--	--	--
NOV 13...	2.0	8.9	0.250	0.77	--	0.140	--	--	--	--	--
DEC 04...	1.6	7.1	0.120	0.37	0.080	0.070	0.070	30	--	1	20
JAN 08...	3.2	14	0.260	0.80	--	0.190	--	--	--	--	--
FEB 05...	2.2	9.7	0.210	0.64	--	0.130	--	--	--	--	--
MAR 05...	2.9	13	0.300	0.92	0.190	0.210	0.160	40	2	1	21
APR 02...	2.0	8.9	0.240	0.74	--	0.140	--	--	--	--	--
MAY 07...	3.7	16	0.300	0.92	--	0.210	--	--	--	--	--
JUN 10...	1.3	5.8	0.170	0.52	0.070	0.080	0.050	50	--	2	26
JUL 09...	2.3	10	0.320	0.98	--	0.260	--	--	--	--	--
AUG 13...	2.0	8.9	0.210	0.64	--	0.170	--	--	--	--	--
SEP 03...	4.1	18	0.470	1.4	0.420	0.410	0.370	--	4	--	--

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	--	--	--	--	--	--	--	--	--	--	--
DEC 04...	<0.5	--	--	1	--	<1	<3	--	5	--	140
JAN 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	1	--	2	<1	20	8	<3	18	13	650	250
APR 02...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 10...	<0.5	--	--	2	--	<1	<3	--	10	--	350
JUL 09...	--	--	--	--	--	--	--	--	--	--	--
AUG 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	--	110	1	--	<10	--	--	21	--	460	--

BLACKSTONE RIVER BASIN

71

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	3	<4	--	69	--	<0.1	--	<10	--	16
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	7	2	<4	150	130	<0.10	0.1	--	<10	--	14
APR											
02...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	12	<4	--	60	--	<0.1	--	<10	--	12
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	<5	--	--	30	--	0.40	--	1	--	27	--

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	PHENOLS TOTAL (UG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)	PCB, TOTAL (UG/L)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	<1	--	<1	59	<6	--	53	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	<1	<1	--	<1	72	<6	80	59	2	<1	<0.1
APR											
02...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	<1	--	<1	53	<6	--	52	--	--	--
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	<1	--	<1	--	--	--	50	--	3	<1	<0.1

BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS.-Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	--	--	--	--	--	--	--	--	--	--	--
DEC 04...	--	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	--	<0.010	--	<0.1	--	<0.010	--	<0.010	--	<0.010	--
APR 02...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 10...	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	--	--	--	--	--	--	--	--	--	--
AUG 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	22	<0.010	<0.1	<0.1	1.0	<0.010	0.4	<0.010	2.2	<0.010	2.0

DATE	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DI- ELDRIN, TOTAL (UG/KG)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ENDO- SULFAN, TOTAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	--	--	--	--	--	--	--	--	--	--	--
DEC 04...	--	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	<0.010	--	<0.010	--	<0.010	--	<0.010	--	<0.010	--	<0.010
APR 02...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 10...	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	--	--	--	--	--	--	--	--	--	--
AUG 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	<0.010	0.1	<0.010	<0.1	<0.010	<0.1	<0.010	0.1	<0.010	<0.1	0.010

BLACKSTONE RIVER BASIN

73

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE TOTAL (UG/L)	PER- THANE TOTAL (UG/KG)	TOX- APHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	--	<0.01	--	<0.01	--	<0.10	--	<0.1	--	<1	--
APR											
02...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	<0.1	<0.01	2.3	<0.01	<0.1	<0.10	<1.0	<0.1	<1.00	<1	<10

BLACKSTONE RIVER BASIN

01111300 NIPMUC RIVER NEAR HARRISVILLE, R.I.

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 mi².

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

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 discharges, which are poor.

AVERAGE DISCHARGE.--22 years, 30.3 ft³/s, 25.72 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft³/s Jan. 25, 1979, gage height, 8.53 ft, from rating curve extended above 530 ft³/s; minimum, 0.09 ft³/s Sept. 10, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 270 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage hei ght (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	1145	374	5.74	June 7	0315	452	5.99
Mar. 15	0545	*518	*6.17				

Minimum discharge, 2.0 ft³/s Sept. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.0	e40	e13	40	e24	34	14	6.6	7.4	7.8	4.2
2	9.6	7.0	e65	e13	39	e21	31	14	6.9	26	6.8	3.8
3	10	7.0	e60	e20	41	e20	30	13	8.2	38	8.7	3.8
4	17	7.3	e50	e40	40	e20	27	12	7.4	23	10	3.8
5	21	96	e42	e33	34	e21	27	12	6.2	e15	7.4	3.8
6	33	168	e38	e28	34	e22	27	12	116	e13	5.8	3.8
7	23	97	e35	e23	e33	e22	28	12	326	e11	18	3.7
8	17	57	e33	e20	e28	e21	30	12	156	e9.9	48	3.3
9	13	40	e31	e17	e25	e19	30	12	78	e8.1	28	3.3
10	12	32	e29	e15	e23	e18	27	11	47	e6.8	16	3.1
11	12	33	e28	e14	e20	e26	23	10	37	5.6	12	2.8
12	9.7	46	e45	e13	e20	e38	22	10	49	6.7	9.9	2.8
13	9.0	58	e43	e12	e19	42	22	10	90	12	8.1	2.6
14	11	45	e38	e11	e19	82	19	9.9	58	18	7.3	2.6
15	11	56	e34	e10	e18	382	19	8.7	39	14	6.2	2.3
16	11	44	e29	e9.1	e18	152	18	8.7	31	9.9	5.7	2.8
17	11	104	e27	e9.0	19	94	16	8.7	33	8.2	7.7	3.0
18	9.2	91	e25	e9.0	29	71	16	8.7	28	7.2	33	2.6
19	9.6	59	e23	e11	41	79	14	7.9	22	6.8	25	2.6
20	13	48	e22	e41	33	93	14	7.0	21	6.6	16	2.6
21	13	41	e22	e36	42	62	14	7.9	21	5.9	12	2.6
22	11	37	e21	24	84	51	16	26	17	5.2	14	2.6
23	8.9	55	e21	23	63	46	16	24	15	4.7	11	3.1
24	8.7	44	e20	21	45	45	16	29	14	4.0	9.7	3.1
25	8.7	35	e19	19	40	42	21	25	14	3.7	8.3	3.1
26	8.7	32	e18	67	e38	41	25	17	12	3.4	6.9	3.1
27	8.7	41	e17	289	e33	40	25	13	11	7.8	6.1	3.1
28	8.0	56	e16	135	e28	56	24	11	10	8.4	6.2	3.1
29	7.4	56	e15	99	---	49	20	9.8	9.3	7.2	6.3	3.1
30	7.0	e44	e14	72	---	43	18	7.7	8.2	7.7	5.4	3.1
31	7.0	---	e13	53	---	38	---	6.6	---	8.1	4.8	---
TOTAL	370.2	1543.3	933	1199.1	946	1780	669	390.6	1297.8	319.3	378.1	93.3
MEAN	11.9	51.4	30.1	38.7	33.8	57.4	22.3	12.6	43.3	10.3	12.2	3.11
MAX	33	168	65	289	84	382	34	29	326	38	48	4.2
MIN	7.0	7.0	13	9.0	18	18	14	6.6	6.2	3.4	4.8	2.3
CFSM	.75	3.22	1.88	2.42	2.11	3.59	1.39	.79	2.70	.64	.76	.19
IN.	.86	3.59	2.17	2.79	2.20	4.14	1.56	.91	3.02	.74	.88	.22

CAL YR 1985 TOTAL 8009.7 MEAN 21.9 MAX 168 MIN 3.2 CFSM 1.37 IN. 18.62
WTR YR 1986 TOTAL 9919.6 MEAN 27.2 MAX 382 MIN 2.3 CFSM 1.70 IN. 23.06

e Estimated

01111500 BRANCH RIVER AT FORESTDALE, R.I.

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

DRAINAGE AREA.--91.2 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 2101: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 180 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 28, 1913, nonrecording gage at site 1 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records excellent. Occasional regulation by pond upstream. Prior to 1957, greater regulation by mills and reservoirs upstream.

AVERAGE DISCHARGE.--46 years, 172 ft³/s, 25.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,470 ft³/s Jan. 25, 1979, gage height, 11.80 ft; maximum gage height, 11.90 ft Mar. 18, 1968; minimum daily discharge, 5.2 ft³/s Oct. 7, 1948.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 880 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	1830	1,340	6.08	June 7	1245	1,260	5.90
Mar. 15	1400	*1,650	*6.74				

Minimum daily discharge, 29 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	90	259	99	223	177	199	86	63	47	55	57
2	51	92	334	100	244	154	186	76	57	87	54	53
3	48	95	366	126	282	150	177	71	55	161	64	51
4	54	84	291	232	249	151	167	70	54	128	69	60
5	87	283	252	200	243	161	162	71	46	98	58	62
6	134	757	236	172	237	170	160	73	153	82	49	62
7	106	580	224	140	205	170	176	78	1090	73	130	56
8	87	384	212	116	191	142	174	87	844	64	519	47
9	74	300	204	105	174	133	160	86	447	55	421	41
10	70	255	197	99	168	126	148	79	282	47	254	40
11	74	247	195	99	165	145	139	72	202	42	215	39
12	78	281	236	97	159	223	135	68	193	54	184	36
13	73	334	254	98	153	225	129	66	358	83	152	32
14	73	305	251	97	149	349	123	65	370	106	116	30
15	77	328	219	83	147	1380	118	60	231	100	83	29
16	75	310	184	75	140	970	113	58	179	81	68	36
17	99	467	170	74	150	594	111	60	159	65	77	34
18	115	555	164	77	220	431	106	63	136	58	265	33
19	104	409	146	96	282	386	97	58	118	53	330	31
20	123	332	137	204	234	439	91	52	129	52	170	30
21	123	288	138	227	279	365	93	57	133	47	120	32
22	116	265	133	171	484	298	108	119	114	44	124	31
23	110	314	129	151	430	268	111	138	86	41	112	34
24	107	272	126	131	333	253	116	175	82	39	93	34
25	107	228	128	116	289	239	126	176	79	35	74	34
26	103	220	124	226	249	230	128	147	69	34	64	37
27	101	244	114	1080	227	230	123	116	66	48	63	37
28	94	300	109	908	210	283	117	96	62	52	64	36
29	92	340	104	484	---	269	103	84	58	66	64	34
30	90	289	98	354	---	239	92	71	50	60	60	33
31	90	---	96	268	---	213	---	65	---	56	58	---
TOTAL	2795	9248	5830	6505	6516	9563	3988	2643	5965	2058	4229	1201
MEAN	90.2	308	188	210	233	308	133	85.3	199	66.4	136	40.0
MAX	134	757	366	1080	484	1380	199	176	1090	161	519	62
MIN	48	84	96	74	140	126	91	52	46	34	49	29
CFSM	.99	3.38	2.06	2.30	2.55	3.38	1.46	.93	2.18	.73	1.50	.44
IN.	1.14	3.77	2.38	2.65	2.66	3.90	1.63	1.08	2.43	.84	1.72	.49

CAL YR 1985	TOTAL	46384	MEAN	127	MAX	757	MIN	29	CFSM	1.39	IN.	18.92
WTR YR 1986	TOTAL	60541	MEAN	166	MAX	1380	MIN	29	CFSM	1.82	IN.	24.69

BLACKSTONE RIVER BASIN

01111500 BRANCH RIVER AT FORESTDALE, R.I.--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DIS- SOLVED (PER- CENT SATUR- ATION)	DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)
OCT												
09...	1220	76	87	7.40	19.0	15.5	--	--	765	9.8	98	--
NOV												
13...	1230	344	70	5.80	16.0	10.0	--	--	755	11.6	104	--
DEC												
04...	1245	287	77	6.60	3.5	3.0	--	1.2	765	13.6	101	19
JAN												
08...	1145	110	99	5.70	-7.0	1.0	--	--	768	14.3	100	--
FEB												
05...	1305	238	110	5.90	4.5	2.5	--	--	747	13.7	102	--
MAR												
05...	1320	162	88	5.10	9.5	5.0	30	--	750	13.1	104	18
APR												
02...	1210	186	79	7.20	21.0	14.0	--	--	755	11.0	108	--
MAY												
07...	1230	77	100	6.30	12.0	14.0	--	--	753	10.2	100	--
JUN												
10...	1230	276	66	6.80	26.5	19.0	--	1.2	762	10.0	108	32
JUL												
09...	1235	56	99	6.60	29.0	26.0	--	--	748	8.3	104	--
AUG												
13...	1315	148	76	6.30	25.0	23.5	--	--	765	8.7	102	--
SEP												
03...	1220	51	92	6.50	15.0	19.0	40	1.4	765	9.0	97	<10

DATE	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT											
09...	--	7200	140	40	--	--	--	--	--	--	--
NOV											
13...	1.0	2000	72	36	--	--	--	--	--	--	--
DEC											
04...	--	2500	K52	K30	--	--	--	--	--	--	--
JAN											
08...	0	3000	110	140	--	--	--	--	--	--	--
FEB											
05...	--	1700	K140	40	--	--	--	--	--	--	--
MAR											
05...	1.0	820	65	K7	--	--	5.0	<1.0	10	--	--
APR											
02...	--	1400	220	K8	--	--	--	--	--	--	--
MAY											
07...	1.0	3100	60	K16	--	--	--	--	--	--	--
JUN											
10...	--	2600	76	46	--	--	--	--	--	--	--
JUL											
09...	1.0	3900	160	64	--	--	--	--	--	--	--
AUG											
13...	--	3600	220	62	--	--	--	--	--	--	--
SEP											
03...	1.0	3800	120	K12	14	7	4.0	1.0	10	58	1

BLACKSTONE RIVER BASIN

77

01111500 BRANCH RIVER AT FORESTDALE, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)
OCT											
09...	--	--	--	--	--	0.170	0.030	0.200	0.110	0.69	0.80
NOV											
13...	--	--	--	--	--	0.190	0.010	0.200	0.110	0.39	0.50
DEC											
04...	--	--	14	7	46	--	<0.010	0.200	0.080	0.32	0.40
JAN											
08...	--	--	--	--	--	0.490	0.010	0.500	0.150	0.35	0.50
FEB											
05...	--	--	--	--	--	--	<0.010	0.300	0.070	0.43	0.50
MAR											
05...	1.1	9.6	12	9	55	0.290	0.010	0.300	0.090	0.31	0.40
APR											
02...	--	--	--	--	--	--	<0.010	0.200	0.060	0.44	0.50
MAY											
07...	--	--	--	--	--	0.290	0.010	0.300	0.250	0.45	0.70
JUN											
10...	--	--	--	17	54	--	<0.010	0.200	0.110	0.39	0.50
JUL											
09...	--	--	--	--	--	0.190	0.010	0.200	0.170	0.53	0.70
AUG											
13...	--	--	--	--	--	0.180	0.020	0.200	0.150	0.45	0.60
SEP											
03...	1.2	9.3	14	1	75	0.280	0.020	0.300	0.180	0.42	0.60

DATE	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS PO4)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT											
09...	1.0	4.4	0.030	0.09	<0.010	--	--	--	--	--	--
NOV											
13...	0.70	3.1	0.020	0.06	0.010	--	--	--	--	--	--
DEC											
04...	0.60	2.7	0.020	0.06	0.010	--	--	--	--	--	--
JAN											
08...	1.0	4.4	0.020	0.06	0.020	--	--	--	--	--	--
FEB											
05...	0.80	3.5	0.020	0.06	<0.010	--	--	--	--	--	--
MAR											
05...	0.70	3.1	0.030	0.09	<0.010	<1	--	<1	<10	3	250
APR											
02...	0.70	3.1	0.020	0.06	<0.010	--	--	--	--	--	--
MAY											
07...	1.0	4.4	0.020	0.06	<0.010	--	--	--	--	--	--
JUN											
10...	0.70	3.1	0.020	0.06	<0.010	--	--	--	--	--	--
JUL											
09...	0.90	4.0	0.020	0.06	0.010	--	--	--	--	--	--
AUG											
13...	0.80	3.5	0.030	0.09	<0.010	--	--	--	--	--	--
SEP											
03...	0.90	4.0	0.020	--	<0.010	<1	<10	<1	<10	4	640

BLACKSTONE RIVER BASIN

01111500 BRANCH RIVER AT FORESTDALE, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)	PCB, TOTAL (UG/L)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	1	80	0.10	--	--	<1	--	20	<1	<1	--
APR											
02...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	<5	70	0.20	4	5	<1	<1	20	1	<1	<0.1

DATE	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	--	--	--	--	--	--	--	--	--	--	--
APR											
02...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	39	<0.010	<0.1	<0.1	28	<0.010	62	<0.010	26	<0.010	<0.1

BLACKSTONE RIVER BASIN

79

01111500 BRANCH RIVER AT FORESTDALE, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO-SULFAN, TOTAL (UG/L)	ENDO-SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)
OCT												
09...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
13...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
04...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
08...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
05...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
02...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
07...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
10...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
09...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
13...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
03...	<0.010	0.6	<0.010	<0.1	<0.010	<0.1	<0.010	0.6	<0.010	<0.1	<0.010	<0.010

DATE	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, TOTAL (UG/L)	PCN, TOTAL (UG/KG)	PER- THANE TOTAL (UG/L)	PER- THANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOX- APHENE, TOTAL (UG/L)	TOX- APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	--	--	--	--	--	--	--	--	--	--	--
APR											
02...	--	--	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	--	--	--	--	--	--	--	--	--	--	--
JUL											
09...	--	--	--	--	--	--	--	--	--	--	--
AUG											
13...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	<0.1	<0.01	<0.1	<0.01	300	<0.10	<1.0	<0.1	<1.00	<1	<10

BLACKSTONE RIVER BASIN

01112500 BLACKSTONE RIVER AT WOONSOCKET, R.I.

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

DRAINAGE AREA.--416 mi².

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

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

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

GAGE.--Water-stage recorder. Datum of gage is 107.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records excellent except those below 200 ft³/s, which are fair. Flow regulated by powerplants, by West Hill Reservoir since May 1961, and by other reservoirs upstream. Extremes and figures of daily discharge include flow diverted from Nashua River basin and, at times since January 1966, from Quabbin Reservoir for supply of Worcester, MA, and, prior to July 1964, flow diverted around station in Hamlet Trench. See table with station 01111200 for monthend contents of West Hill Reservoir.

AVERAGE DISCHARGE.--57 years, 765 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,900 ft³/s Aug. 19, 1955, gage height, 21.8 ft, from floodmarks, from rating curve extended above 15,000 ft³/s on basis of slope-area measurement of peak flow (affected by failure of Horseshoe Dam on Mill River); minimum daily, 21 ft³/s Aug. 11, 1934 (flow diverted around station in Hamlet Trench not included). Maximum discharge since at least 1645, that of Aug. 19, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,880 ft³/s Mar. 15, gage height, 9.21 ft; minimum daily, 161 ft³/s Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	464	354	1180	509	1180	820	1070	534	331	348	304	235
2	441	365	1340	464	1140	763	1010	478	446	512	282	234
3	409	346	1510	618	1180	753	932	405	426	1060	427	163
4	511	319	1380	1130	1080	768	870	434	362	869	398	178
5	590	849	1240	1000	1010	814	839	410	309	641	348	247
6	846	2320	1120	819	1010	859	798	387	1170	552	304	244
7	834	2210	1060	684	875	846	850	450	4860	440	628	250
8	681	1650	1010	574	821	733	874	406	4290	452	1220	232
9	559	1310	949	557	757	659	879	410	2920	425	1130	211
10	516	1050	923	516	725	643	810	326	2260	332	821	223
11	489	1010	906	503	711	699	751	376	1810	286	571	228
12	468	1130	1040	482	688	1010	728	387	1690	297	583	212
13	479	1330	1150	469	667	1070	695	331	2160	435	473	192
14	505	1270	1160	484	638	1560	656	334	2110	590	384	178
15	517	1340	1090	411	611	4860	631	313	1690	507	419	164
16	481	1290	976	386	604	4240	604	299	1420	444	322	185
17	469	1530	919	372	636	2640	594	232	1330	385	304	187
18	461	1920	857	357	948	2240	534	349	1110	357	846	179
19	450	1620	816	422	1280	2110	497	373	973	311	1100	166
20	485	1400	701	959	1120	2230	454	292	835	298	687	161
21	472	1250	696	1090	1230	2100	473	296	872	302	617	179
22	450	1150	667	871	1960	1830	516	503	756	287	465	218
23	436	1270	676	748	1810	1610	514	592	659	253	493	224
24	426	1160	685	646	1470	1470	519	659	615	243	390	215
25	428	1050	666	566	1260	1300	617	708	592	207	479	214
26	417	1030	682	878	1100	1140	649	625	520	195	360	243
27	397	1090	615	3490	976	1100	681	529	466	283	311	186
28	374	1250	588	3810	909	1310	675	446	446	345	321	182
29	373	1360	554	2250	---	1330	632	376	416	336	345	185
30	366	1190	539	1790	---	1240	569	348	369	378	285	188
31	358	---	512	1450	---	1150	---	286	---	367	234	---
TOTAL	15152	36413	28207	29305	28396	45897	20921	12894	38213	12737	15851	6103
MEAN	489	1214	910	945	1014	1481	697	416	1274	411	511	203
MAX	846	2320	1510	3810	1960	4860	1070	708	4860	1060	1220	250
MIN	358	319	512	357	604	643	454	232	309	195	234	161

CAL YR 1985 TOTAL 211556 MEAN 580 MAX 2320 MIN 70
WTR YR 1986 TOTAL 290089 MEAN 795 MAX 4860 MIN 161

BLACKSTONE RIVER BASIN

81

01112900 BLACKSTONE RIVER AT MANVILLE, R.I.

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT											
09...	1310	582	196	7.40	19.5	14.5	--	--	767	10.0	97
NOV											
13...	1330	1340	152	6.70	16.0	9.5	--	--	758	11.4	100
DEC											
04...	1400	1360	200	6.50	3.5	3.0	--	2.2	767	12.6	93
JAN											
08...	1240	401	250	6.00	-7.0	0.5	--	--	768	14.3	98
FEB											
05...	0915	1080	270	5.90	2.0	2.0	--	--	750	13.5	99
MAR											
05...	1445	806	245	5.60	7.0	5.0	25	--	750	12.6	100
APR											
02...	1400	1010	197	7.30	24.5	14.0	--	--	755	9.8	96
MAY											
07...	1310	942	255	6.30	12.0	15.5	--	--	--	9.6	--
JUN											
10...	1330	3150	140	6.60	27.0	19.0	--	3.0	763	9.7	104
JUL											
09...	1335	558	235	6.20	30.0	25.0	--	--	750	8.2	101
AUG											
13...	1410	506	173	6.60	26.0	23.0	--	--	765	8.7	101
SEP											
03...	1435	234	290	6.50	17.0	19.0	25	4.0	767	9.3	100

DATE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
OCT											
09...	--	--	2800	56	36	--	--	--	--	--	--
NOV											
13...	--	2.0	11000	--	260	--	--	--	--	--	--
DEC											
04...	18	--	30000	550	120	--	--	--	--	--	--
JAN											
08...	--	1.0	10000	270	85	--	--	--	--	--	--
FEB											
05...	--	--	7200	570	34	--	--	--	--	--	--
MAR											
05...	25	2.0	1800	92	6	32	15	10	1.8	25	60
APR											
02...	--	--	9500	900	190	--	--	--	--	--	--
MAY											
07...	--	2.0	7600	740	40	--	--	--	--	--	--
JUN											
10...	31	--	12000	800	170	--	--	--	--	--	--
JUL											
09...	--	1.0	4100	300	75	--	--	--	--	--	--
AUG											
13...	--	--	3000	290	31	--	--	--	--	--	--
SEP											
03...	<10	2.0	13000	760	K11	38	21	12	2.0	32	62

BLACKSTONE RIVER BASIN

01112900 BLACKSTONE RIVER AT MANVILLE, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
OCT 09...	--	--	--	--	--	--	0.580	0.020	0.600	0.160	0.74
NOV 13...	--	--	--	--	--	--	0.670	0.030	0.700	0.400	0.60
DEC 04...	--	--	--	42	6	114	0.490	0.010	0.500	0.550	0.45
JAN 08...	--	--	--	--	--	--	0.690	0.010	0.700	1.00	0.50
FEB 05...	--	--	--	--	--	--	0.590	0.010	0.600	0.610	0.39
MAR 05...	2	2.7	13	41	3	123	0.580	0.020	0.600	0.970	0.43
APR 02...	--	--	--	--	--	--	0.580	0.020	0.600	0.610	0.99
MAY 07...	--	--	--	--	--	--	1.43	0.070	1.50	0.430	0.67
JUN 10...	--	--	--	--	21	98	0.380	0.020	0.400	0.140	0.56
JUL 09...	--	--	--	--	--	--	1.19	0.010	1.20	0.150	0.65
AUG 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	2	4.1	25	43	1	0	1.78	0.020	1.80	1.20	0.0

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 09...	0.90	1.5	6.6	0.250	0.77	0.250	--	--	--	--	--
NOV 13...	1.0	1.7	7.5	0.190	0.58	0.100	--	--	--	--	--
DEC 04...	1.0	1.5	6.6	0.140	0.43	0.110	--	--	--	--	--
JAN 08...	1.5	2.2	9.7	0.240	0.74	0.190	--	--	--	--	--
FEB 05...	1.0	1.6	7.1	0.170	0.52	0.110	--	--	--	--	--
MAR 05...	1.4	2.0	8.9	0.260	0.80	0.180	1	--	1	<10	10
APR 02...	1.6	2.2	9.7	0.210	0.64	0.140	--	--	--	--	--
MAY 07...	1.1	2.6	12	0.220	0.67	0.150	--	--	--	--	--
JUN 10...	0.70	1.1	4.9	0.160	0.49	0.060	--	--	--	--	--
JUL 09...	0.80	2.0	8.9	0.260	0.80	0.200	--	--	--	--	--
AUG 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	0.0	1.8	8.0	0.00	--	0.580	2	50	<1	50	22

BLACKSTONE RIVER BASIN

83

01112900 BLACKSTONE RIVER AT MANVILLE, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)	OIL AND GREASE, TOTAL RECOV- GRAVI- METRIC (MG/L)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	--	--	--	--	--	--	--	--	--	--	--
DEC 04...	--	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	460	4	120	0.10	--	--	<1	--	60	2	<1
APR 02...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 10...	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	--	--	--	--	--	--	--	--	--	--
AUG 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	0	9	0	<0.10	<1	19	0	<1	0	3	<1

DATE	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	--	--	--	--	--	--	--	--	--	--	--
DEC 04...	--	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	--	--	--	--	--	--	--	--	--	--	--
APR 02...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 10...	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	--	--	--	--	--	--	--	--	--	--
AUG 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	<0.1	780	<0.010	<0.1	84	<0.010	33	<0.010	55	<0.010	19

BLACKSTONE RIVER BASIN

01112900 BLACKSTONE RIVER AT MANVILLE, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	DI- ELDRIN TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ENDO- SULFAN, TOTAL SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)
OCT										
09...	--	--	--	--	--	--	--	--	--	--
NOV										
13...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	--	--	--	--	--	--	--	--	--	--
JAN										
08...	--	--	--	--	--	--	--	--	--	--
FEB										
05...	--	--	--	--	--	--	--	--	--	--
MAR										
05...	--	--	--	--	--	--	--	--	--	--
APR										
02...	--	--	--	--	--	--	--	--	--	--
MAY										
07...	--	--	--	--	--	--	--	--	--	--
JUN										
10...	--	--	--	--	--	--	--	--	--	--
JUL										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
13...	--	--	--	--	--	--	--	--	--	--
SEP										
03...	<0.010	9.4	<0.010	<0.5	<0.010	<0.5	<0.010	<0.010	<0.5	<0.010

DATE	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOTAL METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. (UG/L)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE TOTAL (UG/L)	PER- THANE IN BOT- TOM MA- TERIAL (UG/KG)	TOX- APHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT										
09...	--	--	--	--	--	--	--	--	--	--
NOV										
13...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	--	--	--	--	--	--	--	--	--	--
JAN										
08...	--	--	--	--	--	--	--	--	--	--
FEB										
05...	--	--	--	--	--	--	--	--	--	--
MAR										
05...	--	--	--	--	--	--	--	--	--	--
APR										
02...	--	--	--	--	--	--	--	--	--	--
MAY										
07...	--	--	--	--	--	--	--	--	--	--
JUN										
10...	--	--	--	--	--	--	--	--	--	--
JUL										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
13...	--	--	--	--	--	--	--	--	--	--
SEP										
03...	<0.5	<0.01	5.0	<0.01	<0.10	<5.0	<0.1	<5.00	<1	<50

MOSHASSUCK RIVER BASIN

85

01114000 MOSHASSUCK RIVER AT PROVIDENCE, R.I.

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

DRAINAGE AREA.--23.1 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 8.19 ft above 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.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation at low flow.

AVERAGE DISCHARGE.--23 years, 40.8 ft³/s, 23.99 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,390 ft³/s Mar. 18, 1968, gage height, 3.46 ft, present datum, from rating curve extended above 460 ft³/s; maximum gage height, 5.81 ft July 30, 1976; minimum discharge, 1.3 ft³/s Aug. 23, 1970; minimum daily, 1.7 ft³/s Aug. 10, 1970.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 6	0930	729	4.41	Aug. 7	1900	885	4.66
Jan. 27	0445	*907	*4.70				

Minimum discharge, 4.3 ft³/s Oct. 28; minimum daily, 5.0 ft³/s Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	6.4	38	20	50	31	30	24	24	12	22	15
2	6.7	6.0	74	18	91	30	29	19	19	111	12	22
3	6.1	5.0	45	71	70	30	27	22	18	60	35	17
4	7.6	7.2	36	44	54	30	27	17	22	34	23	22
5	74	284	34	43	77	30	27	16	16	23	12	24
6	17	279	35	29	65	29	27	18	71	15	13	24
7	11	96	34	26	53	29	35	20	109	19	218	13
8	9.9	47	31	24	48	25	50	23	67	19	350	15
9	8.6	32	29	19	43	23	38	17	43	13	95	16
10	8.0	27	29	17	40	23	32	19	31	12	50	15
11	6.2	25	30	20	37	27	29	15	29	12	125	15
12	5.6	41	47	16	35	31	28	20	52	56	55	14
13	6.9	38	42	21	32	51	26	19	112	32	38	13
14	5.7	34	44	17	31	119	25	14	50	48	33	10
15	8.5	46	33	20	31	223	25	17	33	28	29	16
16	8.7	35	29	15	29	99	23	14	28	23	28	34
17	7.2	128	27	15	37	68	19	17	29	15	27	16
18	6.0	60	27	15	91	58	23	11	24	18	70	15
19	10	43	25	58	73	67	23	15	18	13	61	18
20	7.8	36	24	81	47	60	22	17	24	11	39	13
21	8.2	31	18	50	108	46	26	61	16	18	39	13
22	7.8	42	21	35	98	45	24	58	14	17	61	15
23	7.2	42	24	31	60	44	25	79	19	12	35	15
24	7.0	32	26	28	48	41	27	95	22	12	32	13
25	8.9	28	26	25	44	36	40	48	21	9.8	27	15
26	6.8	36	25	111	38	34	32	32	14	11	25	15
27	5.3	45	24	412	34	38	33	26	14	89	23	18
28	7.3	66	24	144	32	41	29	25	14	28	28	9.0
29	8.0	58	23	78	---	38	28	22	13	25	25	12
30	5.5	44	19	63	---	34	26	17	14	31	19	13
31	5.4	---	17	56	---	32	---	35	---	24	20	---
TOTAL	306.6	1699.6	960	1622	1496	1512	855	852	980	850.8	1669	485.0
MEAN	9.89	56.7	31.0	52.3	53.4	48.8	28.5	27.5	32.7	27.4	53.8	16.2
MAX	74	284	74	412	108	223	50	95	112	111	350	34
MIN	5.3	5.0	17	15	29	23	19	11	13	9.8	12	9.0
CFSM	.43	2.45	1.34	2.27	2.31	2.11	1.23	1.19	1.41	1.19	2.33	.70
IN.	.49	2.74	1.55	2.61	2.41	2.43	1.38	1.37	1.58	1.37	2.69	.78
CAL YR 1985	TOTAL	9098.6	MEAN	24.9	MAX	284	MIN	5.0	CFSM	1.08	IN.	14.65
WTR YR 1986	TOTAL	13288.0	MEAN	36.4	MAX	412	MIN	5.0	CFSM	1.58	IN.	21.40

WOONASQUATUCKET RIVER BASIN

01114500 WOONASQUATUCKET RIVER AT CENTERDALE, R.I.

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

DRAINAGE AREA.--38.3 mi².

PERIOD OF RECORD.--Discharge: July 1941 to current year.
Water-quality records: Water years 1955-56.

GAGE.--Water-stage recorder. Elevation of gage is 95 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records poor. Some regulation by reservoirs upstream; regulation greater prior to 1956. Discharge figures prior to 1966 included leakage around station through bypass canal; leakage negligible subsequently.

AVERAGE DISCHARGE.--45 years, 73.0 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s Mar. 18, 1968, gage height, 7.75 ft, from floodmarks; minimum daily, 2.1 ft³/s Aug. 26, 1963.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 773 ft³/s Aug. 7, gage height, 5.98 ft; minimum daily, 6.5 ft³/s Oct. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	8.2	105	43	79	72	85	44	29	20	36	34
2	65	9.2	120	42	100	69	73	43	27	47	36	32
3	64	9.1	109	51	104	64	65	39	26	51	44	30
4	50	10	93	56	97	61	62	37	25	45	42	30
5	50	132	83	59	104	59	60	36	23	40	38	29
6	49	148	78	56	100	58	59	36	39	37	36	30
7	33	82	76	49	91	57	63	36	91	34	189	29
8	22	61	75	45	87	54	67	35	96	31	285	26
9	26	67	77	43	84	54	67	33	83	29	157	24
10	28	66	83	43	81	53	63	32	69	28	115	23
11	27	64	86	44	81	56	60	31	60	26	127	25
12	28	71	100	44	80	58	58	29	60	36	96	27
13	29	80	98	43	78	68	54	28	89	42	76	26
14	19	72	103	43	77	98	50	27	80	53	64	25
15	8.8	82	98	42	77	246	49	26	69	48	56	24
16	7.4	77	96	38	76	185	47	26	60	44	51	27
17	6.5	136	99	26	79	150	45	26	54	40	49	23
18	8.7	119	84	26	108	130	43	26	45	37	70	22
19	13	102	68	33	118	132	42	25	40	36	104	21
20	13	95	62	61	106	138	42	24	38	35	60	22
21	13	90	60	65	123	127	43	27	37	36	51	22
22	15	89	57	59	148	118	46	40	34	35	65	23
23	16	101	53	56	129	113	45	42	32	32	54	22
24	21	98	51	52	112	106	44	50	30	31	51	21
25	20	94	51	49	98	100	51	51	30	30	45	21
26	11	96	49	85	88	97	51	44	27	29	41	21
27	10	106	46	254	80	95	52	40	25	42	40	22
28	8.3	114	46	168	76	101	50	36	25	39	43	22
29	8.3	122	45	125	---	99	48	32	24	40	43	21
30	8.3	111	44	103	---	96	46	29	22	42	39	21
31	8.2	---	43	89	---	91	---	28	---	39	36	---
TOTAL	736.5	2511.5	2338	1992	2661	3005	1630	1058	1389	1154	2239	745
MEAN	23.8	83.7	75.4	64.3	95.0	96.9	54.3	34.1	46.3	37.2	72.2	24.8
MAX	65	148	120	254	148	246	85	51	96	53	285	34
MIN	6.5	8.2	43	26	76	53	42	24	22	20	36	21

CAL YR 1985 TOTAL 17540.0 MEAN 48.1 MAX 164 MIN 6.5
WTR YR 1986 TOTAL 21459.0 MEAN 58.8 MAX 285 MIN 6.5

PAWTUXET RIVER BASIN

87

01116000 SOUTH BRANCH PAWTUXET RIVER AT WASHINGTON, R.I.

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

DRAINAGE AREA.--63.8 mi².

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

Water-quality records: Water years 1955-1956, 1963.

GAGE.--Water-stage recorder. Datum of gage is 217.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor. Flow regulated by Flat River Reservoir 2 mi upstream (see table below), usable capacity, 250,000,000 ft³, and smaller reservoirs. Prior to May 1972, diversion from Carr Pond for municipal supply of Coventry, Warwick, and West Warwick.

AVERAGE DISCHARGE.--46 years, 130 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,980 ft³/s June 6, 1982, gage height, 5.30 ft; minimum daily, 2.8 ft³/s Aug. 27, 1944.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 388 ft³/s Nov. 22, gage height, 2.64 ft; minimum daily, 32 ft³/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	58	241	119	210	154	210	74	76	48	69	58
2	74	56	241	119	223	205	237	74	74	55	64	55
3	74	55	235	127	219	216	237	74	74	70	77	56
4	74	55	229	125	215	215	234	74	70	87	92	57
5	78	97	225	126	217	214	229	72	70	77	88	55
6	78	95	192	123	215	214	228	72	67	66	75	55
7	78	84	138	121	214	187	186	72	87	63	68	55
8	76	72	136	119	212	155	124	72	138	66	79	91
9	76	65	144	119	210	170	122	72	153	58	123	101
10	76	61	217	114	210	195	120	72	127	53	142	121
11	76	86	222	114	209	197	107	72	104	39	138	98
12	74	160	226	111	210	176	87	72	99	33	131	60
13	74	180	213	111	208	181	90	72	132	36	113	57
14	74	186	195	111	206	163	118	72	149	94	93	53
15	74	186	190	109	206	169	119	72	130	109	81	51
16	75	177	188	107	202	197	119	72	111	96	74	50
17	76	277	187	95	202	238	107	72	98	80	70	48
18	76	369	165	85	211	241	86	72	84	70	70	47
19	76	310	122	93	213	271	84	79	77	64	83	46
20	78	261	122	124	210	272	82	80	71	61	85	44
21	76	280	120	118	182	259	80	78	63	57	82	42
22	76	352	119	115	149	240	78	92	61	57	91	41
23	75	209	121	114	140	235	78	117	59	56	90	40
24	74	141	119	109	141	224	78	123	57	55	84	38
25	74	139	120	89	145	244	78	116	57	55	84	38
26	76	140	119	115	147	256	76	101	54	55	76	37
27	74	154	119	198	150	254	76	90	53	62	72	35
28	69	225	119	230	151	256	76	85	52	61	71	35
29	66	246	119	225	---	250	74	83	50	67	67	33
30	62	242	119	221	---	248	74	80	49	78	61	32
31	60	---	119	214	---	227	---	78	---	74	59	---
TOTAL	2295	5018	5141	4020	5427	6723	3694	2506	2546	2002	2652	1629
MEAN	74.0	167	166	130	194	217	123	80.8	84.9	64.6	85.5	54.3
MAX	78	369	241	230	223	272	237	123	153	109	142	121
MIN	60	55	119	85	140	154	74	72	49	33	59	32
(+)	126.5	261	165.5	250	243	182	243	257.5	257.5	265	261	226

CAL YR 1985 TOTAL 35621 MEAN 97.6 MAX 369 MIN 18

WTR YR 1986 TOTAL 43653 MEAN 120 MAX 369 MIN 32

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

PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, R.I.

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

DRAINAGE AREA.--200 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 8.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by powerplants and by Scituate Reservoir 13 mi upstream, Flat River Reservoir, and other reservoirs, combined usable capacity, about 6,000,000,000 ft³. Diversion from Scituate Reservoir for municipal supply of Providence, East Providence, North Providence, Cranston, Greenville, Johnston, East Smithfield, Smithfield, Warwick, West Warwick, Coventry, East Greenwich, and West Greenwich. See table below for figures of diversion and monthend contents in Scituate Reservoir and five smaller reservoirs, and see table with station 01116000 for monthend contents in Flat River Reservoir.

AVERAGE DISCHARGE.--46 years (water years 1941-86), 343 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,440 ft³/s June 7, 1982, gage height, 14.5 ft, from floodmark; minimum daily, 22 ft³/s Sept. 4, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,640 ft³/s Nov. 5, gage height, 8.32 ft, minimum daily, 61 ft³/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	77	396	190	374	268	313	146	138	90	100	94
2	115	79	525	184	522	302	340	143	126	277	161	97
3	117	80	424	269	463	323	329	135	122	190	264	112
4	117	73	366	266	395	316	330	142	115	183	219	128
5	214	868	351	257	448	311	322	159	112	165	204	126
6	212	1110	334	226	414	307	325	150	155	147	176	113
7	140	436	249	205	376	298	353	166	272	135	156	108
8	126	196	233	191	369	244	276	154	296	134	275	130
9	122	159	229	187	356	257	256	147	350	124	416	183
10	120	151	289	186	350	305	239	138	236	118	336	216
11	117	186	320	183	348	331	227	134	191	108	414	236
12	116	316	386	181	344	296	181	135	223	142	347	153
13	125	367	359	182	338	335	166	136	343	195	266	95
14	123	338	360	178	331	416	209	131	281	233	216	86
15	122	352	306	170	329	924	213	131	236	247	185	89
16	120	317	291	167	321	505	212	130	200	219	166	163
17	114	797	285	122	318	441	206	134	179	185	156	108
18	112	787	274	105	404	402	153	132	158	157	195	91
19	117	637	207	170	415	472	137	128	146	141	227	94
20	117	510	195	365	382	479	135	126	144	136	199	90
21	111	432	197	263	467	413	145	163	121	156	192	93
22	105	637	194	223	522	384	152	236	108	120	325	140
23	100	522	197	211	354	375	161	233	107	109	219	105
24	99	279	195	199	307	365	186	413	107	104	190	85
25	105	245	197	169	296	368	192	241	108	97	170	85
26	101	254	192	351	285	365	171	203	101	97	156	79
27	91	289	188	1190	274	383	169	182	98	271	145	62
28	84	424	189	737	272	398	159	168	98	456	155	65
29	72	522	186	474	---	379	155	157	95	254	126	119
30	69	438	183	415	---	365	150	136	92	309	99	61
31	66	---	183	385	---	350	---	122	---	180	94	---
TOTAL	3592	11878	8480	8601	10374	11677	6562	5051	5058	5479	6549	3406
MEAN	116	396	274	277	370	377	219	163	169	177	211	114
MAX	214	1110	525	1190	522	924	353	413	350	456	416	236
MIN	66	73	183	105	272	244	135	122	92	90	94	61
(+)	2654	3144	3275	3641	3972	4509	4569	4470	4389	4249	4353	4266
(++)	108	103	100	100	94.3	93.5	96.3	118	120	124	109	112

CAL YR 1985 TOTAL 73272 MEAN 201 MAX 1110 MIN 38
WTR YR 1986 TOTAL 86707 MEAN 238 MAX 1190 MIN 61

+ Monthend contents, in millions of cubic feet, of Scituate Reservoir and five smaller reservoirs.
++ Diversion, in cubic feet per second, from Scituate Reservoir for municipal supply of Providence, East Providence, North Providence, Cranston, Greenville, Johnston, East Smithfield, Smithfield, Warwick, West Warwick, Coventry, East Greenwich, and West Greenwich. Figures of diversion and monthend contents provided by Providence Water Supply Board.

PAWTUXET RIVER BASIN

89

01116500 PAWTUXET RIVER AT CRANSTON, R.I.--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1969 to September 1981.

WATER TEMPERATURES: November 1961 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)
OCT												
08...	1055	125	300	6.60	20.0	15.0	--	--	776	5.9	57	--
NOV												
12...	1210	305	285	5.90	5.0	11.0	--	--	775	9.7	86	--
DEC												
03...	1300	420	157	5.90	2.5	6.0	--	2.4	760	11.7	94	22
JAN												
07...	1045	201	245	6.10	1.0	2.0	--	--	768	13.3	95	--
FEB												
04...	0930	394	183	5.60	-3.5	3.0	--	--	773	13.2	97	--
MAR												
04...	1045	320	215	5.60	11.0	5.0	40	--	760	12.6	99	21
APR												
01...	1215	312	200	6.30	20.5	14.0	--	--	768	10.2	98	--
MAY												
06...	0915	146	375	6.10	20.0	15.0	--	--	758	8.0	80	--
JUN												
11...	0940	189	250	6.00	20.5	21.0	--	2.0	--	5.2	--	41
JUL												
08...	1115	135	260	6.40	28.0	24.5	--	--	761	4.8	58	--
AUG												
12...	1140	390	141	6.20	25.0	23.5	--	--	765	5.8	68	--
SEP												
02...	1300	102	360	6.30	23.0	19.0	30	1.3	768	4.2	45	<10

DATE	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT												
08...	--	580	K32	K2	--	--	--	--	--	--	--	--
NOV												
12...	3.0	2000	K12	K24	--	--	--	--	--	--	--	--
DEC												
03...	--	980	K4	K6	--	--	--	--	--	--	--	--
JAN												
07...	1.0	470	K12	K4	--	--	--	--	--	--	--	--
FEB												
04...	--	110	K2	K17	--	--	--	--	--	--	--	--
MAR												
04...	2.0	300	K4	K2	28	13	9.2	1.3	23	60	2	3.6
APR												
01...	--	1200	80	K8	--	--	--	--	--	--	--	--
MAY												
06...	3.0	K300	K20	K7	--	--	--	--	--	--	--	--
JUN												
11...	--	1900	130	44	--	--	--	--	--	--	--	--
JUL												
08...	1.0	1300	100	140	--	--	--	--	--	--	--	--
AUG												
12...	--	1800	140	40	--	--	--	--	--	--	--	--
SEP												
02...	2.0	300	K4	<2	44	22	16	1.0	42	64	3	5.5

PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CAR- BONATE IT-FLD (MG/L AS CO3)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
OCT 08...	--	--	--	--	--	--	--	0.530	0.070	0.600	1.30	0.30
NOV 12...	--	--	--	--	--	--	--	0.730	0.070	0.800	0.900	0.70
DEC 03...	--	--	--	--	27	7	82	0.480	0.020	0.500	0.630	0.57
JAN 07...	--	--	--	--	--	--	--	0.780	0.020	0.800	0.880	0.62
FEB 04...	--	--	--	--	--	--	--	--	<0.010	0.600	0.470	0.53
MAR 04...	--	--	--	17	33	10	118	0.690	0.010	0.700	0.620	0.58
APR 01...	0	25	21	--	--	--	--	0.490	0.010	0.500	0.770	0.73
MAY 06...	--	--	--	--	--	--	--	0.750	0.050	0.800	0.960	0.84
JUN 11...	0	27	22	--	--	51	142	0.440	0.060	0.500	0.740	0.76
JUL 08...	0	24	20	--	--	--	--	1.08	0.220	1.30	0.620	0.68
AUG 12...	--	--	--	--	--	--	--	0.700	0.100	0.800	0.540	0.66
SEP 02...	0	26	22	41	54	3	199	1.21	0.090	1.30	0.330	0.87

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 08...	1.6	2.2	9.7	0.330	1.0	0.270	--	--	--	--	--	--
NOV 12...	1.6	2.4	11	0.310	0.95	0.190	--	--	--	--	--	--
DEC 03...	1.2	1.7	7.5	0.220	0.67	0.140	--	--	--	--	--	--
JAN 07...	1.5	2.3	10	0.350	1.1	0.280	--	--	--	--	--	--
FEB 04...	1.0	1.6	7.1	0.160	0.49	0.100	--	--	--	--	--	--
MAR 04...	1.2	1.9	8.4	0.230	--	0.190	150	<1	100	1	<10	8
APR 01...	1.5	2.0	8.9	0.310	0.95	0.220	--	--	--	--	--	--
MAY 06...	1.8	2.6	12	0.330	1.0	0.190	--	--	--	--	--	--
JUN 11...	1.5	2.0	8.9	0.360	1.1	0.230	--	--	--	--	--	--
JUL 08...	1.3	2.6	12	0.530	1.6	0.460	--	--	--	--	--	--
AUG 12...	1.2	2.0	8.9	0.310	0.95	0.250	--	--	--	--	--	--
SEP 02...	1.2	2.5	11	0.240	--	0.190	--	<1	<10	2	<10	15

PAWTUXET RIVER BASIN

91

01116500 PAWTUXET RIVER AT CRANSTON, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)	PCB, TOTAL (UG/L)
OCT 08...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 12...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 03...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 04...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 04...	420	4	130	<0.10	<1	9	0	1	30	4	<1	<0.1
APR 01...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 11...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 12...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	480	<5	130	<0.10	1	22	<1	<1	30	9	<1	--

DATE	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT 08...	--	--	--	--	--	--	--	--	--	--	--
NOV 12...	--	--	--	--	--	--	--	--	--	--	--
DEC 03...	--	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 04...	--	--	--	--	--	--	--	--	--	--	--
MAR 04...	--	<0.010	--	<0.1	--	<0.010	--	<0.010	--	<0.010	--
APR 01...	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	--	--	--	--
JUN 11...	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	--	--	--	--	--	--	--	--	--	--	--
AUG 12...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	28	--	<0.1	--	3.0	--	6.3	--	25	--	68

PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	DI- ELDRIN TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)
OCT											
08...	--	--	--	--	--	--	--	--	--	--	--
NOV											
12...	--	--	--	--	--	--	--	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
MAR											
04...	<0.010	--	<0.010	--	<0.010	--	<0.010	--	<0.010	--	<0.010
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	--	--	--	--	--	--	--	--	--	--	--
SEP											
02...	--	<0.1	--	<0.1	--	<0.1	--	0.5	--	0.2	--

DATE	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE TOTAL IN BOT- TOM MA- TERIAL (UG/L)	PER- THANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOX- APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT											
08...	--	--	--	--	--	--	--	--	--	--	--
NOV											
12...	--	--	--	--	--	--	--	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
MAR											
04...	--	<0.01	--	<0.01	--	<0.10	--	<0.1	--	<1	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	--	--	--	--	--	--	--	--	--	--	--
SEP											
02...	<0.1	--	29	--	<0.1	--	<1.0	--	19.0	--	<10

PAWTUXET RIVER BASIN

93

01116617 PAWTUXET RIVER AT PAWTUXET, R.I.

WATER-QUALITY RECORDS

LOCATION.--Lat 41°45'51", long 71°23'45", Providence County, Hydrologic Unit 01090004, at Warwick Ave Road Bridge at Pawtuxet, and 3.2 mi downstream from Cranston Sewage Treatment Plant.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)
OCT												
08...	0950	150	335	6.30	20.0	15.0	--	--	777	3.6	35	--
NOV												
12...	1315	315	315	5.60	5.0	11.0	--	--	775	8.2	73	--
DEC												
03...	1200	515	215	5.70	2.5	5.0	--	2.7	760	10.9	86	26
JAN												
07...	0945	240	265	5.80	1.0	2.0	--	--	768	12.6	90	--
FEB												
04...	1030	480	230	5.70	-3.0	3.0	--	--	770	12.4	91	--
MAR												
04...	1245	380	265	6.10	12.0	6.0	40	--	760	11.9	96	23
APR												
01...	0950	370	240	6.20	17.0	13.0	--	--	769	8.8	83	--
MAY												
06...	1000	170	385	6.30	22.0	14.5	--	--	758	5.9	58	--
JUN												
11...	0820	230	230	6.20	21.5	20.0	--	2.3	756	3.8	42	28
JUL												
08...	1000	155	300	6.60	28.0	23.0	--	--	761	2.2	26	--
AUG												
12...	1050	410	172	6.00	24.0	23.0	--	--	765	4.2	49	--
SEP												
02...	1030	115	345	6.30	25.0	19.0	25	1.9	768	2.3	25	12

DATE	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT												
08...	--	2500	120	64	--	--	--	--	--	--	--	--
NOV												
12...	5.0	4200	250	380	--	--	--	--	--	--	--	--
DEC												
03...	--	15000	90	88	--	--	--	--	--	--	--	--
JAN												
07...	2.0	450	51	39	--	--	--	--	--	--	--	--
FEB												
04...	--	410	28	29	--	--	--	--	--	--	--	--
MAR												
04...	2.0	K33	<1	<1	34	12	11	1.7	30	62	2	3.9
APR												
01...	--	1700	38	K8	--	--	--	--	--	--	--	--
MAY												
06...	6.0	630	K80	K20	--	--	--	--	--	--	--	--
JUN												
11...	--	27000	520	420	--	--	--	--	--	--	--	--
JUL												
08...	2.0	560	160	K140	--	--	--	--	--	--	--	--
AUG												
12...	--	1400	200	80	--	--	--	--	--	--	--	--
SEP												
02...	2.0	22000	>2200	1300	46	21	15	2.0	40	62	3	5.4

PAWTUXET RIVER BASIN

01116617 PAWTUXET RIVER AT PAWTUXET, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CAR- BONATE IT-FLD (MG/L AS CO3)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
OCT 08...	--	--	--	--	--	--	--	0.570	0.130	0.700	1.60	1.3
NOV 12...	--	--	--	--	--	--	--	0.830	0.070	0.900	1.50	1.0
DEC 03...	--	--	--	--	33	6	106	0.670	0.030	0.700	0.710	0.69
JAN 07...	--	--	--	--	--	--	--	0.880	0.020	0.900	1.30	0.80
FEB 04...	--	--	--	--	--	--	--	0.790	0.010	0.800	0.710	0.49
MAR 04...	--	--	--	21	41	5	144	0.790	0.010	0.800	1.20	0.70
APR 01...	0	28	23	--	--	--	--	0.580	0.020	0.600	0.830	0.77
MAY 06...	--	--	--	--	--	--	--	0.900	0.100	1.00	1.70	1.4
JUN 11...	--	--	--	--	--	22	172	0.690	0.110	0.800	1.20	0.70
JUL 08...	0	37	31	--	--	--	--	1.37	0.230	1.60	1.80	0.80
AUG 12...	--	--	--	--	--	--	--	1.21	0.090	1.30	0.280	0.62
SEP 02...	0	30	25	35	51	1	191	2.04	0.160	2.20	0.460	0.94

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS PO4)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 08...	2.9	3.6	16	0.530	1.6	0.330	--	--	--	--	--	--
NOV 12...	2.5	3.4	15	0.470	1.4	0.330	--	--	--	--	--	--
DEC 03...	1.4	2.1	9.3	0.270	0.83	0.160	--	--	--	--	--	--
JAN 07...	2.1	3.0	13	0.400	1.2	0.290	--	--	--	--	--	--
FEB 04...	1.2	2.0	8.9	0.240	0.74	0.150	--	--	--	--	--	--
MAR 04...	1.9	2.7	12	0.430	--	0.340	140	<1	60	1	<10	10
APR 01...	1.6	2.2	9.7	0.340	1.0	0.240	--	--	--	--	--	--
MAY 06...	3.1	4.1	18	0.650	2.0	0.480	--	--	--	--	--	--
JUN 11...	1.9	2.7	12	0.470	1.4	0.340	--	--	--	--	--	--
JUL 08...	2.6	4.2	19	0.760	2.3	0.670	--	--	--	--	--	--
AUG 12...	0.90	2.2	9.7	0.220	0.67	0.180	--	--	--	--	--	--
SEP 02...	1.4	3.6	16	0.640	--	0.570	--	1	40	1	<10	15

PAWTUXET RIVER BASIN

95

01116617 PAWTUXET RIVER AT PAWTUXET, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)	PCB, TOTAL (UG/L)
OCT												
08...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
12...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
03...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
07...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
04...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	560	4	150	<0.10	<1	12	0	1	40	7	<1	<0.1
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
06...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
11...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
08...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
12...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	570	7	160	0.10	1	28	<1	<1	40	6	<1	<0.1

DATE	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT											
08...	--	--	--	--	--	--	--	--	--	--	--
NOV											
12...	--	--	--	--	--	--	--	--	--	--	--
DEC											
03...	--	--	--	--	--	--	--	--	--	--	--
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
MAR											
04...	--	<0.010	--	<0.1	--	<0.010	--	<0.010	--	<0.010	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
08...	--	--	--	--	--	--	--	--	--	--	--
AUG											
12...	--	--	--	--	--	--	--	--	--	--	--
SEP											
02...	60	<0.010	<0.1	<0.1	4.0	<0.010	8.0	<0.010	<0.1	<0.010	2.0

PAWTUXET RIVER BASIN

01116617 PAWTUXET RIVER AT PAWTUXET, R.I.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO-SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ENDO-SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA-CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOT- TOM MA- TERIAL (UG/KG)	LINDANE TOTAL (UG/L)
OCT 08...	--	--	--	--	--	--	--	--	--	--	--
NOV 12...	--	--	--	--	--	--	--	--	--	--	--
DEC 03...	--	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 04...	--	--	--	--	--	--	--	--	--	--	--
MAR 04...	<0.010	--	<0.010	--	<0.010	--	<0.010	--	<0.010	--	<0.010
APR 01...	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	--	--	--	--
JUN 11...	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	--	--	--	--	--	--	--	--	--	--	--
AUG 12...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	<0.010	0.2	<0.010	<0.1	<0.010	<0.1	<0.010	1.6	<0.010	0.4	0.010

DATE	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH-OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	METH-OXY- CHLOR, TOT. IN BOT- TOM MA- TERIAL (UG/KG)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH-THA- LENES, POLY- CHLOR. TOTAL IN BOT- TOM MA- TERIAL (UG/L)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER-THANE TOTAL IN BOT- TOM MA- TERIAL (UG/L)	PER-THANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOX-APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	TOX-APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
OCT 08...	--	--	--	--	--	--	--	--	--	--	--
NOV 12...	--	--	--	--	--	--	--	--	--	--	--
DEC 03...	--	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 04...	--	--	--	--	--	--	--	--	--	--	--
MAR 04...	--	<0.01	--	<0.01	--	<0.10	--	<0.1	--	<1	--
APR 01...	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	--	--	--	--
JUN 11...	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	--	--	--	--	--	--	--	--	--	--	--
AUG 12...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	<0.1	<0.01	<0.1	<0.01	<0.1	<0.10	<1.0	<0.1	<1.00	<1	<10

01117000 HUNT RIVER NEAR EAST GREENWICH, R.I.

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

DRAINAGE AREA.--23.0 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 5.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Feb. 4-12. Records fair. Flow affected by diversions for supply of East Greenwich, North Kingstown, Warwick, and Quonset Point (formerly U.S. Naval establishments). One observation of water temperature and specific conductance was made during the year.

AVERAGE DISCHARGE.--45 years 45.9 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft³/s June 6, 1982, gage height, 3.73 ft, from rating curve extended above 440 ft³/s; maximum gage height, 6.78 ft Aug. 31, 1954 (backwater from hurricane tidal wave); no flow Oct. 25, 1947, Aug. 28-30, 1960, parts of Oct. 1, 2, 1971, July 25, 1975, June 24, 1976, Aug. 26, 1977, and July 24, 1983, due to 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.--Peak discharges greater than base discharge of 230 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 30	2300	*360	*2.50	No other peak greater than base discharge.			

Minimum discharge, 3.0 ft³/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	25	93	53	76	62	55	40	20	9.5	18	12
2	20	25	101	49	114	62	52	39	20	48	17	11
3	21	26	96	66	120	61	51	35	20	54	27	10
4	22	24	83	92	93	58	48	35	19	36	25	11
5	49	129	77	83	98	57	49	33	18	26	19	11
6	115	259	75	73	97	56	50	33	19	21	14	11
7	68	185	73	56	82	56	68	36	32	18	12	10
8	47	126	71	44	75	50	69	37	50	15	38	9.0
9	37	94	68	41	72	49	69	33	35	14	90	7.5
10	32	79	65	42	69	51	60	31	23	14	55	7.3
11	30	71	64	42	67	55	53	31	20	12	45	7.1
12	27	79	83	40	65	56	52	30	28	19	30	7.9
13	31	108	81	42	62	65	50	27	64	32	22	8.5
14	34	93	85	39	58	98	46	26	44	65	18	8.3
15	34	90	76	33	59	196	45	24	28	41	15	7.6
16	37	83	67	30	57	158	43	24	22	27	13	11
17	32	185	63	32	56	109	42	25	20	20	14	11
18	30	175	60	35	72	87	40	25	18	17	19	9.6
19	29	127	55	51	114	86	40	22	17	16	31	9.6
20	31	104	51	117	93	95	40	20	17	15	25	9.6
21	28	92	53	92	97	80	40	27	18	14	22	10
22	27	92	52	67	155	72	47	82	17	12	41	10
23	26	113	53	56	121	69	46	62	17	11	30	9.6
24	26	100	55	48	96	67	52	44	15	10	25	11
25	28	87	56	43	84	62	58	36	16	9.5	19	10
26	29	83	54	79	74	60	54	30	15	9.5	15	8.9
27	28	99	48	291	68	60	53	26	12	16	14	8.8
28	26	108	48	212	65	76	49	23	e13	17	15	8.5
29	25	125	47	128	---	72	46	20	e12	14	16	8.2
30	24	108	45	96	---	64	41	20	11	26	14	7.9
31	26	---	44	83	---	58	---	20	---	22	13	---
TOTAL	1039	3094	2042	2255	2359	2307	1508	996	680	680.5	771	282.9
MEAN	33.5	103	65.9	72.7	84.2	74.4	50.3	32.1	22.7	22.0	24.9	9.43
MAX	115	259	101	291	155	196	69	82	64	65	90	12
MIN	20	24	44	30	56	49	40	20	11	9.5	12	7.1

CAL YR 1985 TOTAL 15120.4 MEAN 41.4 MAX 292 MIN 7.5
WTR YR 1986 TOTAL 18014.4 MEAN 49.4 MAX 291 MIN 7.1

e Estimated

PAWCATUCK RIVER BASIN

01117350 CHIPUXET RIVER AT WEST KINGSTON, R.I.

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

DRAINAGE AREA.--9.99 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 89.80 ft above National Geodetic Vertical Datum of 1929 (Rhode Island State Board of Public Roads benchmark).

REMARKS.--No estimated daily discharges. Records poor. Diversion upstream for supply of University of Rhode Island.

AVERAGE DISCHARGE.--14 years (water years 1959, 1974-86), 21.5 ft³/s.

EXTREMES FOR PERIOD OF RECORD (SINCE 1973).--Maximum discharge, about 250 ft³/s June 6, 1982; minimum, 2.1 ft³/s Aug. 27-31, Sept. 2, 1981. Instantaneous maximum and minimum discharges not available prior to Sept. 14, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 86 ft³/s Jan. 28, gage height, 6.27 ft; minimum, 7.7 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	11	39	18	40	30	24	17	10	8.4	16	10
2	13	10	38	19	41	28	23	16	9.9	11	15	9.5
3	13	11	36	21	46	27	22	15	9.5	14	16	9.3
4	13	11	34	26	45	26	21	15	9.1	18	16	9.1
5	15	19	32	32	43	25	21	14	8.9	17	15	8.9
6	18	43	30	34	42	25	21	14	9.0	16	14	9.0
7	21	55	29	34	40	24	22	14	10	14	13	9.1
8	23	51	28	30	38	23	23	14	14	13	13	8.9
9	19	42	27	26	35	22	25	14	17	11	17	8.7
10	18	34	26	23	32	22	25	14	17	10	20	8.4
11	16	30	27	21	31	21	23	14	15	9.1	19	8.4
12	15	27	27	20	30	22	22	13	15	9.8	18	8.2
13	15	28	26	20	29	23	21	13	18	12	16	8.5
14	15	29	28	20	27	30	20	12	21	17	14	8.4
15	15	30	28	19	27	47	19	12	21	22	13	8.1
16	15	28	28	18	26	61	18	11	19	22	12	8.4
17	15	39	27	17	25	57	18	11	17	20	11	8.4
18	14	55	25	17	26	48	17	11	15	17	12	8.1
19	14	54	24	18	32	42	16	11	13	17	14	8.2
20	14	47	22	25	38	38	15	10	12	15	14	8.4
21	13	41	22	33	40	35	15	11	12	14	14	8.7
22	12	38	21	33	48	32	16	14	11	13	15	8.8
23	12	38	21	30	52	29	17	17	11	11	15	8.9
24	12	39	21	26	48	28	18	18	10	10	15	9.0
25	13	36	21	23	43	26	19	17	10	9.3	14	9.1
26	13	34	21	25	38	25	19	15	9.5	8.9	13	8.8
27	13	35	21	52	35	25	18	13	8.9	11	12	8.7
28	12	36	20	84	32	25	18	13	9.0	12	11	8.4
29	12	39	19	72	---	26	18	12	8.7	12	11	8.2
30	12	40	19	57	---	27	17	11	8.7	15	11	8.0
31	11	---	18	47	---	25	---	11	---	16	10	---
TOTAL	449	1030	805	940	1029	944	591	417	379.2	425.5	439	260.6
MEAN	14.5	34.3	26.0	30.3	36.7	30.5	19.7	13.5	12.6	13.7	14.2	8.69
MAX	23	55	39	84	52	61	25	18	21	22	20	10
MIN	11	10	18	17	25	21	15	10	8.7	8.4	10	8.0

CAL YR 1985 TOTAL 6341.2 MEAN 17.4 MAX 158 MIN 5.5
WTR YR 1986 TOTAL 7709.3 MEAN 21.1 MAX 84 MIN 8.0

01117420 USQUEPAUG RIVER NEAR USQUEPAUG, R.I.

LOCATION.--Lat 41°28'36", long 71°36'19", Washington County, Hydrologic Unit 01090005, on left bank at upstream side of Heaton Orchard Bridge on State Highway 2 in South Kingstown, 1.2 mi upstream from Chickasheen Brook, 1.8 mi south of Usquepaug, and 2.6 mi west of West Kingston.

DRAINAGE AREA.--36.1 mi².

PERIOD OF RECORD.--Discharge: February 1958 to July 1960 in Rhode Island Water Resources Board Geologic Bulletin 13. December 1974 to current year.
Water-quality records: Water years 1975-83.

GAGE.--Water-stage recorder. Datum of gage is 81.28 ft above National Geodetic Vertical Datum of 1929 (State of Rhode Island benchmark).

REMARKS.--No estimated daily discharges. Records fair October to February, good thereafter. Flow affected at times by irrigation upstream.

AVERAGE DISCHARGE.--12 years, (water years 1959, 1976-86), 78.9 ft³/s, 29.68 in/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1974).--Maximum discharge, 1,060 ft³/s June 6, 1982, gage height, 9.23 ft; minimum, 3.9 ft³/s Sept. 10, 1977, Sept. 30, 1980. Instantaneous maximum and minimum discharges not available prior to Dec. 5, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 268 ft³/s Jan. 28, gage height, 5.97 ft; maximum gage height, 5.99 ft Nov. 7; minimum discharge, 20 ft³/s Sept. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	38	151	62	130	96	87	56	38	23	46	30
2	41	38	139	64	134	90	83	55	37	42	42	29
3	41	38	136	70	159	86	79	52	35	69	49	28
4	43	37	130	104	155	84	75	49	33	64	53	28
5	50	81	120	116	144	82	75	48	32	45	44	28
6	101	213	114	114	144	79	73	48	33	37	38	27
7	116	248	109	99	135	79	83	51	45	34	36	27
8	101	203	104	83	126	71	91	56	71	32	41	25
9	75	165	100	67	118	66	95	52	68	30	95	23
10	61	138	96	62	107	66	90	50	48	27	116	22
11	56	126	93	61	104	70	81	47	40	26	83	23
12	51	113	96	60	101	75	76	44	43	29	58	23
13	50	121	103	59	94	78	71	44	82	46	46	24
14	60	135	107	60	92	109	67	42	81	77	41	23
15	61	135	106	50	87	182	65	41	57	80	38	22
16	62	130	98	48	86	216	62	40	44	53	36	25
17	58	160	90	46	85	185	62	41	42	39	36	27
18	53	211	85	49	86	155	61	42	37	34	38	25
19	51	199	79	56	121	136	57	41	35	32	54	23
20	50	172	71	99	144	137	56	40	35	30	49	23
21	50	153	70	124	136	134	58	42	34	29	42	23
22	47	143	68	114	157	122	67	77	32	28	51	24
23	45	148	67	91	171	112	63	81	30	30	51	24
24	44	152	67	76	155	105	67	61	29	36	45	24
25	46	143	71	65	136	100	70	52	34	35	40	23
26	48	134	71	75	122	95	73	48	31	33	36	22
27	46	134	64	179	110	93	70	44	28	45	34	22
28	44	143	61	259	101	97	67	42	28	48	35	21
29	41	156	59	217	---	105	62	42	28	42	36	20
30	40	159	57	170	---	101	58	39	25	56	34	20
31	39	---	55	144	---	94	---	36	---	53	32	---
TOTAL	1714	4166	2837	2943	3440	3300	2144	1503	1235	1284	1475	728
MEAN	55.3	139	91.5	94.9	123	106	71.5	48.5	41.2	41.4	47.6	24.3
MAX	116	248	151	259	171	216	95	81	82	80	116	30
MIN	39	37	55	46	85	66	56	36	25	23	32	20
CFSM	1.53	3.85	2.54	2.63	3.40	2.95	1.98	1.34	1.14	1.15	1.32	.67
IN.	1.77	4.29	2.92	3.03	3.54	3.40	2.21	1.55	1.27	1.32	1.52	.75

CAL YR 1985 TOTAL 22343 MEAN 61.2 MAX 516 MIN 19 CFSM 1.70 IN. 23.02
WTR YR 1986 TOTAL 26769 MEAN 73.3 MAX 259 MIN 20 CFSM 2.03 IN. 27.59

PAWCATUCK RIVER BASIN

01117468 BEAVER RIVER NEAR USQUEPAUG, R.I.

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

DRAINAGE AREA.--8.87 mi².

PERIOD OF RECORD.--Discharge: December 1974 to current year.
Water-quality records: Water years 1979-83.

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

GAGE.--Water-stage recorder. Datum of gage is 107.68 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. One observation of water temperature and specific conductance was made during the year.

AVERAGE DISCHARGE.--11 years (water years 1976-86), 22.5 ft³/s, 34.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 370 ft³/s June 6, 1982, gage height, 3.83 ft; minimum, 1.7 ft³/s Sept. 10, 12, 13, 24, 25, 28, 29, 30, Oct. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 6	0730	*74	*2.21	Jan. 27	1645	72	2.19
Nov. 17	1730	71	2.18				

Minimum discharge, 7.5 ft³/s Sept. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	39	18	32	28	28	19	11	8.5	11	11
2	14	14	38	19	39	27	27	19	11	18	10	11
3	14	14	38	24	42	26	27	18	11	22	14	11
4	14	14	35	30	35	26	26	17	10	19	13	11
5	21	41	34	27	35	26	26	17	10	13	10	11
6	32	68	34	28	35	26	26	17	11	12	9.7	11
7	24	50	34	23	31	25	29	17	14	11	9.7	10
8	20	39	32	19	31	22	30	18	23	9.5	17	9.3
9	18	33	32	19	29	22	30	18	18	9.0	48	9.0
10	17	31	31	18	28	22	27	17	13	8.4	28	8.7
11	16	29	32	18	28	22	26	16	11	8.0	22	8.4
12	15	31	33	18	27	23	26	15	14	10	18	8.4
13	15	39	34	18	26	23	25	15	27	15	16	8.4
14	17	35	33	18	25	36	24	15	20	28	14	8.4
15	18	34	32	16	24	62	23	15	15	20	13	8.1
16	18	32	29	16	24	54	22	15	13	13	13	10
17	18	60	29	16	24	42	21	15	12	11	13	10
18	16	61	27	16	27	36	21	14	11	11	15	9.0
19	16	49	25	19	39	36	21	13	11	10	22	8.4
20	16	44	24	32	34	39	20	13	10	10	17	8.4
21	16	41	24	29	34	36	20	14	10	10	15	8.4
22	16	39	23	24	46	34	22	23	9.9	9.3	22	8.4
23	15	44	22	22	41	33	22	22	9.7	8.7	19	8.4
24	15	41	22	20	35	33	22	17	9.6	8.4	16	8.4
25	15	37	23	19	32	32	23	15	11	8.1	14	8.4
26	15	36	22	26	31	30	23	14	10	7.8	13	8.4
27	15	40	22	65	29	29	22	13	9.5	13	13	8.1
28	15	41	22	58	28	32	22	13	9.3	12	13	7.6
29	14	44	21	41	---	33	21	13	9.5	10	13	7.5
30	14	42	20	36	---	30	20	11	9.0	18	12	7.5
31	14	---	19	33	---	29	---	11	---	14	11	---
TOTAL	517	1137	885	785	891	974	722	489	373.5	385.7	494.4	271.6
MEAN	16.7	37.9	28.5	25.3	31.8	31.4	24.1	15.8	12.4	12.4	15.9	9.05
MAX	32	68	39	65	46	62	30	23	27	28	48	11
MIN	14	14	19	16	24	22	20	11	9.0	7.8	9.7	7.5
CFSM	1.88	4.27	3.22	2.85	3.59	3.54	2.71	1.78	1.40	1.40	1.80	1.02
IN.	2.17	4.77	3.71	3.29	3.74	4.08	3.03	2.05	1.57	1.62	2.07	1.14

CAL YR 1985 TOTAL 6723.3 MEAN 18.4 MAX 139 MIN 3.8 CFSM 2.08 IN. 28.22
WTR YR 1986 TOTAL 7925.2 MEAN 21.7 MAX 68 MIN 7.5 CFSM 2.45 IN. 33.24

01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, R.I.

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. Prior to June 19, 1984, at site 10 ft upstream.

DRAINAGE AREA.--100 mi².

PERIOD OF RECORD.--October 1940 to current year. October and November 1940, monthly discharge only, published in WSP 1301. Prior to October 1943, published as Charles River at Wood River Junction.

REVISED RECORDS.--WSP 1051: Drainage area. WSP 1201: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 43.86 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Doubtful gage-height record Oct. 1 to Sept. 30. Occasional regulation by fish hatchery on White Brook. Prior to 1972, occasional regulation at low flow by powerplant and mills upstream; regulation greater prior to 1969. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--46 years, 195 ft³/s, 26.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft³/s June 7, 1982, gage height, 8.75 ft; minimum, 7.4 ft³/s Oct. 10, 1947; minimum daily, 15 ft³/s Oct. 11, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 510 ft³/s Jan. 29, gage height, 4.55 ft; minimum, 58 ft³/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	108	382	171	360	257	228	163	108	73	156	87
2	143	107	372	169	371	245	218	160	106	113	137	83
3	144	104	350	185	389	235	211	156	105	150	143	81
4	144	103	332	228	381	228	204	150	102	162	144	81
5	159	194	319	255	382	222	199	148	98	146	136	79
6	195	348	306	272	368	218	197	150	100	122	123	79
7	209	449	293	254	343	213	211	155	123	105	110	79
8	215	472	280	219	311	201	219	158	165	95	112	78
9	200	429	269	209	293	192	229	155	167	85	136	74
10	180	380	259	197	292	190	225	150	153	78	172	72
11	165	339	252	194	278	192	216	147	132	71	185	69
12	155	328	259	189	262	193	205	143	134	83	167	69
13	154	347	260	189	251	205	196	140	175	121	142	70
14	155	345	272	184	246	271	188	136	184	154	124	69
15	158	348	265	171	233	386	183	133	170	167	112	67
16	161	336	252	159	226	446	178	133	146	158	104	70
17	155	426	243	155	222	462	176	133	131	135	100	75
18	149	485	230	159	236	427	169	133	119	112	110	74
19	147	499	203	174	291	387	163	131	110	98	136	69
20	143	473	198	234	314	359	157	129	107	88	140	68
21	138	429	188	265	339	337	156	136	107	85	131	70
22	136	397	182	264	372	319	162	179	99	82	140	74
23	132	407	181	250	385	299	166	190	93	75	141	73
24	129	394	182	221	383	281	168	184	91	70	134	72
25	130	376	188	197	357	263	173	165	96	65	122	72
26	128	359	184	209	323	252	175	149	94	62	109	68
27	124	362	174	371	292	242	176	134	87	110	99	64
28	120	366	171	473	273	246	174	124	85	129	96	63
29	116	391	166	498	---	249	170	124	84	115	96	62
30	111	390	162	453	---	246	166	119	80	190	94	59
31	109	---	160	401	---	238	---	111	---	173	92	---
TOTAL	4650	10491	7534	7569	8773	8501	5658	4518	3551	3472	3943	2170
MEAN	150	350	243	244	313	274	189	146	118	112	127	72.3
MAX	215	499	382	498	389	462	229	190	184	190	185	87
MIN	109	103	160	155	222	190	156	111	80	62	92	59
CFSM	1.50	3.50	2.43	2.44	3.13	2.74	1.89	1.46	1.18	1.12	1.27	.72
IN.	1.73	3.90	2.80	2.82	3.26	3.16	2.10	1.68	1.32	1.29	1.47	.81

CAL YR 1985 TOTAL 59723 MEAN 164 MAX 780 MIN 33 CFSM 1.64 IN. 22.22
WTR YR 1986 TOTAL 70830 MEAN 194 MAX 499 MIN 59 CFSM 1.94 IN. 26.35

PAWCATUCK RIVER BASIN

01117800 WOOD RIVER NEAR ARCADIA, R.I.

LOCATION.--Lat 41°34'26", long 71°43'16", Washington County, Hydrologic Unit 01090005, on left bank at upstream side of bridge on Ten Rod Road, 1.8 mi northwest of Arcadia, and 4.5 mi north of Hope Valley.

DRAINAGE AREA.--35.2 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 118.20 ft (revised) 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 NGVD of 1929.

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

AVERAGE DISCHARGE.--21 years (water years 1965-81, 1983-86), 77.4 ft³/s, 29.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 896 ft³/s Mar. 18, 1968, gage height, 8.64 ft; minimum, 4.9 ft³/s Sept. 24-26, Sept. 29 to Oct. 1, 1980.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 28	0230	*354	*5.71	Aug. 9	unknown	320	unknown
Mar. 16	0045	344	5.63				

Minimum discharge, 20 ft³/s Sept. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	23	118	58	130	92	96	62	33	23	e43	31
2	22	22	122	58	156	90	92	59	32	52	e39	30
3	22	22	117	70	160	86	88	56	31	61	e44	30
4	23	22	107	91	146	84	84	53	30	52	e47	30
5	32	107	98	91	149	83	82	52	30	44	e40	29
6	46	189	93	93	143	81	82	52	33	39	e36	28
7	37	174	89	85	129	81	95	53	57	34	e34	27
8	32	131	85	73	120	75	102	55	88	30	e90	26
9	29	103	82	67	109	72	107	52	85	28	e290	24
10	28	87	79	60	103	72	100	49	72	26	e150	23
11	26	77	77	59	100	78	93	47	61	24	e105	23
12	24	81	91	56	98	84	87	46	64	31	e80	23
13	28	99	92	57	93	97	81	44	100	41	e67	22
14	32	90	102	54	90	139	77	43	92	76	e61	21
15	32	93	95	48	89	309	73	42	78	62	e57	20
16	34	86	87	47	84	324	71	42	66	e52	e52	28
17	29	162	84	47	86	247	71	41	56	e47	e50	29
18	27	162	80	47	96	193	68	40	47	e43	e68	27
19	27	144	71	59	126	183	64	40	42	e38	e65	26
20	29	124	66	97	122	182	62	38	40	e36	e54	26
21	27	107	68	98	133	160	65	40	37	e34	e52	25
22	26	98	64	88	189	141	74	60	33	e32	e63	26
23	24	110	65	80	182	128	72	62	32	e29	e62	26
24	23	104	64	69	162	121	78	70	31	e26	e54	27
25	27	96	64	63	142	112	82	61	29	e25	e49	26
26	26	93	65	102	123	107	79	53	28	e28	42	24
27	23	106	65	299	108	106	76	46	28	e37	39	23
28	27	117	61	334	100	119	72	43	28	e48	39	22
29	28	137	59	245	---	116	68	39	26	e42	40	21
30	25	129	56	183	---	109	65	36	24	e49	37	21
31	24	---	56	151	---	102	---	34	---	e48	34	---
TOTAL	864	3095	2522	3029	3468	3973	2406	1510	1433	1237	1983	764
MEAN	27.9	103	81.4	97.7	124	128	80.2	48.7	47.8	39.9	64.0	25.5
MAX	46	189	122	334	189	324	107	70	100	76	290	31
MIN	22	22	56	47	84	72	62	34	24	23	34	20
CFSM	.79	2.93	2.31	2.78	3.52	3.64	2.28	1.38	1.36	1.13	1.82	.72
IN.	.91	3.27	2.67	3.20	3.67	4.20	2.54	1.60	1.51	1.31	2.10	.81

CAL YR 1985 TOTAL 19295 MEAN 52.9 MAX 189 MIN 10 CFSM 1.50 IN. 20.39
WTR YR 1986 TOTAL 26284 MEAN 72.0 MAX 334 MIN 20 CFSM 2.05 IN. 27.78

e Estimated

01118000 WOOD RIVER AT HOPE VALLEY, R.I.

LOCATION.--Lat 41°29'53", long 71°43'01", Washington County, Hydrologic Unit 01090005, on right bank 0.2 mi downstream from highway bridge at Hope Valley and 6.6 mi upstream from mouth.

DRAINAGE AREA.--72.4 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 61.11 ft above National Geodetic Vertical Datum of 1929. August to December 1909, nonrecording gage at site 1,000 ft upstream at different datum.

REMARKS.--No estimated daily discharges. 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.--45 years, 156 ft³/s, 29.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,390 ft³/s June 6, 1982, gage height, 10.26 ft; minimum, 4.4 ft³/s Oct. 18, 1941; minimum daily, 10 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 580 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	2330	*670	*4.88	Aug. 9	0400	582	4.52
Mar. 15	2030	662	4.85				

Minimum discharge, 40 ft³/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	54	231	110	250	187	184	116	66	45	85	65
2	58	54	232	105	307	179	176	111	64	86	76	63
3	57	54	230	122	334	171	166	103	62	147	90	62
4	58	52	208	184	283	165	158	99	59	125	96	62
5	68	185	192	181	287	162	157	96	57	96	79	61
6	110	399	184	178	283	159	155	96	60	80	69	59
7	95	345	177	148	250	155	180	104	85	71	67	57
8	77	253	169	119	232	144	192	113	146	63	190	54
9	75	199	163	113	211	137	204	104	147	56	516	51
10	78	170	156	108	202	135	186	96	114	54	293	49
11	76	152	153	105	195	144	171	92	96	48	230	49
12	71	157	173	101	187	155	161	88	101	57	178	49
13	77	217	180	102	177	174	151	85	189	99	143	49
14	89	195	195	98	169	273	144	82	173	176	130	45
15	90	190	182	87	166	568	138	80	133	161	114	43
16	92	179	163	85	159	595	135	79	110	114	104	51
17	86	357	153	84	156	456	134	78	97	92	100	55
18	79	387	144	88	185	371	129	74	84	85	140	52
19	78	299	130	102	271	342	120	72	74	78	135	50
20	79	255	120	188	250	363	115	70	72	73	105	49
21	75	227	119	193	264	308	118	74	69	70	99	49
22	72	217	115	159	389	272	141	114	63	65	131	50
23	69	246	117	140	356	249	140	128	61	60	130	50
24	66	226	119	123	308	234	141	117	62	55	112	51
25	69	205	120	111	273	218	151	108	71	51	97	50
26	69	200	119	157	241	208	148	95	60	49	84	47
27	65	226	111	527	216	201	143	84	55	74	80	45
28	62	242	110	607	200	228	137	80	55	99	81	43
29	61	280	106	451	---	231	127	75	53	85	81	42
30	58	258	102	358	---	209	121	69	48	104	75	41
31	56	---	99	288	---	195	---	66	---	100	69	---
TOTAL	2276	6480	4772	5522	6801	7588	4523	2848	2586	2618	3979	1543
MEAN	73.4	216	154	178	243	245	151	91.9	86.2	84.5	128	51.4
MAX	110	399	232	607	389	595	204	128	189	176	516	65
MIN	56	52	99	84	156	135	115	66	48	45	67	41
CFSM	1.01	2.98	2.13	2.46	3.35	3.38	2.08	1.27	1.19	1.17	1.77	.71
IN.	1.17	3.33	2.45	2.84	3.49	3.90	2.32	1.46	1.33	1.35	2.04	.79

CAL YR 1985	TOTAL 41032	MEAN 112	MAX 620	MIN 27	CFSM 1.55	IN. 21.08
WTR YR 1986	TOTAL 51536	MEAN 141	MAX 607	MIN 41	CFSM 1.95	IN. 26.48

01118000 WOOD RIVER AT HOPE VALLEY, R.I.--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1977 to current year.

WATER TEMPERATURES: October 1977 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 244 microsiemens Oct. 13, 1983; minimum recorded, 21 microsiemens Jan. 23, 1979.

WATER TEMPERATURES: Maximum recorded, 28.0°C July 9, 10, 1981, July 8, 1986; minimum recorded, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 109 microsiemens Oct. 5; minimum recorded, 48 microsiemens Jan. 28, 29.

WATER TEMPERATURES: Maximum recorded, 28.0°C July 8; minimum recorded, 0.0°C on many days during winter period.

SPECIFIC CONDUCTANCE MICROSIEMENS/CM AT 25 DEG C, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	85	83	84	84	82	83	61	60	61	76	72	74
2	86	84	85	84	82	83	62	60	61	72	70	71
3	89	85	87	85	83	84	62	60	61	82	70	73
4	89	86	88	85	84	85	62	60	61	70	64	66
5	109	84	89	89	67	79	62	61	62	69	64	66
6	98	79	83	71	68	69	63	62	63	66	65	66
7	83	79	81	70	68	69	63	62	63	67	65	66
8	85	83	84	70	68	69	64	63	63	74	67	70
9	85	80	83	71	69	70	64	63	64	71	69	70
10	81	80	80	72	70	71	65	64	64	72	70	71
11	81	80	80	73	71	72	65	64	64	71	70	70
12	81	80	80	75	71	73	67	64	65	71	69	70
13	85	79	82	71	68	69	65	62	63	71	70	70
14	85	78	81	69	68	68	65	61	63	72	69	71
15	80	78	79	71	68	69	63	61	62	74	71	72
16	80	78	79	70	67	68	64	62	63	76	73	74
17	79	77	78	70	61	65	65	64	65	76	74	75
18	79	78	78	62	60	61	66	64	65	76	74	75
19	81	79	79	61	60	61	68	66	67	75	73	74
20	82	79	80	62	61	61	70	67	69	74	63	67
21	80	78	79	63	62	62	71	69	70	63	62	63
22	79	78	79	73	63	67	71	70	70	65	63	64
23	79	78	79	75	62	67	75	71	72	65	64	65
24	80	78	79	74	62	67	74	71	72	65	64	65
25	83	79	81	74	62	67	73	70	71	70	65	66
26	81	79	80	77	62	66	71	70	71	73	56	70
27	81	79	80	71	62	64	71	70	70	63	53	57
28	83	81	82	69	61	63	71	70	70	53	48	50
29	83	82	83	73	59	64	70	69	70	51	48	50
30	83	81	82	62	59	60	71	69	70	54	51	53
31	83	82	82	---	---	---	73	70	71	56	54	55
MONTH	109	77	82	89	59	69	75	60	66	82	48	67

01118000 WOOD RIVER AT HOPE VALLEY, R.I.--Continued

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE MICROSIEMENS/CM AT 25 DEG C, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	57	55	56	67	65	66	70	66	68	70	69	69
2	84	57	64	68	66	67	71	66	68	71	69	70
3	60	58	59	68	67	67	72	67	69	74	70	71
4	65	58	59	69	67	68	70	66	68	78	70	72
5	74	60	63	69	67	68	72	66	68	77	72	74
6	60	59	59	69	68	69	72	67	69	77	71	74
7	61	60	60	70	68	69	73	66	70	76	69	73
8	65	60	62	69	68	68	73	67	69	75	70	72
9	63	61	62	70	68	69	70	65	67	76	71	73
10	63	62	63	70	69	69	71	66	68	77	72	74
11	64	63	63	74	69	71	70	66	68	77	71	73
12	70	63	66	70	66	68	70	67	69	77	72	74
13	67	65	66	75	67	69	71	67	69	76	72	74
14	67	65	66	68	62	65	72	68	70	e75	e72	e73
15	70	66	67	63	54	59	73	68	71	e71	e69	e70
16	67	66	67	54	52	53	73	69	71	71	70	70
17	79	67	70	54	52	53	74	69	71	73	70	71
18	101	69	77	56	54	55	73	70	72	73	72	72
19	73	67	70	60	56	57	75	71	73	74	72	73
20	68	66	67	59	56	57	74	69	72	76	73	74
21	78	65	68	59	58	58	76	71	73	76	72	73
22	68	62	65	60	58	59	77	69	71	80	69	73
23	63	62	62	62	60	61	76	70	73	70	68	69
24	63	61	62	63	61	62	75	67	70	70	68	69
25	64	62	63	64	62	63	72	66	68	69	67	68
26	64	63	63	66	63	64	75	66	68	70	67	68
27	65	63	64	68	65	66	73	66	67	71	68	69
28	67	65	66	68	64	66	69	66	67	72	69	71
29	---	---	---	66	64	65	75	67	71	73	70	71
30	---	---	---	69	65	66	71	68	69	72	71	71
31	---	---	---	70	66	67	---	---	---	74	72	72
MONTH	101	55	64	75	52	64	77	65	70	80	67	72

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	75	72	73	79	76	77	74	69	70	76	75	75
2	74	72	73	93	67	77	71	69	70	77	75	76
3	75	73	74	69	63	66	77	67	71	77	76	77
4	74	73	74	69	65	67	75	68	70	77	77	77
5	76	72	74	72	67	69	78	71	73	78	77	78
6	80	73	74	73	69	71	77	73	75	79	78	79
7	79	70	74	74	70	72	75	71	73	80	78	79
8	77	64	70	75	71	73	72	57	68	81	79	80
9	66	63	64	78	73	75	61	56	58	81	80	81
10	66	63	65	78	73	75	60	56	57	81	80	81
11	65	63	64	78	74	76	59	54	57	82	81	81
12	72	63	66	85	73	77	65	58	60	82	81	82
13	65	59	62	78	67	71	64	60	61	82	81	82
14	63	60	61	78	63	67	64	60	62	84	81	83
15	62	60	61	67	62	65	64	62	63	85	83	84
16	63	61	62	69	65	67	68	64	66	86	82	84
17	64	62	63	70	66	68	68	66	67	82	80	81
18	64	63	64	71	66	69	70	57	64	82	80	81
19	66	64	65	71	67	69	71	64	68	82	80	81
20	67	66	67	72	68	69	71	68	70	81	80	80
21	67	66	67	72	68	70	73	68	70	81	80	80
22	70	66	68	76	71	73	76	66	70	81	80	81
23	71	68	70	76	72	73	68	66	66	82	80	81
24	72	68	70	79	73	75	70	67	68	81	80	81
25	82	69	73	80	75	76	72	69	70	82	80	80
26	73	71	72	78	75	76	73	70	71	82	72	76
27	75	73	74	89	71	76	74	70	72	80	72	76
28	75	74	75	71	67	69	76	71	72	81	76	77
29	76	74	75	70	66	68	76	72	73	83	81	82
30	76	75	75	79	67	71	77	73	75	83	82	83
31	---	---	---	73	66	69	77	74	75	---	---	---
MONTH	82	59	69	93	62	72	78	54	68	86	72	80
YEAR	MAXIMUM 109	MINIMUM 48	MEAN 70									

e Estimated

PAWCATUCK RIVER BASIN

01118000 WOOD RIVER AT HOPE VALLEY, R.I.--Continued

WATER-QUALITY RECORDS

TEMPERATURE, WATER, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	20.0	17.5	18.5	10.0	7.5	8.5	6.5	5.0	5.5	2.0	1.5	1.5
2	20.0	17.5	18.5	10.0	8.5	9.0	8.0	6.5	7.5	2.5	1.5	2.0
3	18.5	18.0	18.5	10.0	9.0	9.5	7.0	4.0	5.5	3.0	1.5	2.0
4	17.5	17.0	17.5	10.0	9.5	10.0	4.0	3.0	3.5	2.5	1.5	2.0
5	18.5	17.0	17.5	12.0	10.0	11.0	3.5	2.5	3.0	2.0	1.5	2.0
6	18.5	16.5	17.5	13.0	12.0	12.5	4.0	3.5	3.5	1.5	.5	1.0
7	18.0	16.0	16.5	13.0	12.0	12.5	4.0	3.0	3.5	1.0	.0	.5
8	17.0	15.0	16.0	12.0	11.0	11.5	4.0	3.5	3.5	.5	.0	.0
9	17.0	14.5	15.5	11.0	10.5	10.5	4.0	3.5	4.0	1.0	.0	.5
10	17.5	15.5	16.5	13.0	11.0	12.0	4.0	3.5	4.0	1.5	.5	1.0
11	17.5	16.0	17.0	13.5	12.0	13.0	4.5	4.0	4.5	1.5	.5	1.0
12	17.0	14.5	16.0	12.0	11.0	11.5	5.5	4.5	5.0	2.5	.5	1.5
13	15.5	15.0	15.0	12.0	11.0	11.5	5.0	4.5	5.0	2.5	1.0	1.5
14	17.0	14.5	15.5	12.5	12.0	12.0	5.0	3.5	4.5	1.5	.5	1.0
15	16.5	15.5	16.0	12.5	10.0	11.5	3.5	2.0	2.5	.5	.0	.0
16	17.5	16.0	17.0	10.0	8.0	9.0	2.5	1.5	2.0	1.0	.0	.5
17	17.0	15.0	16.0	9.5	8.0	9.0	2.5	2.0	2.0	1.5	.0	.5
18	16.0	14.5	15.0	9.5	9.0	9.0	2.5	1.0	2.0	2.0	1.0	1.5
19	16.0	15.0	15.5	9.5	8.5	9.0	1.5	1.0	1.0	3.0	1.0	2.0
20	16.0	14.0	15.0	12.0	9.5	11.0	1.5	.5	1.0	3.5	2.5	3.0
21	15.0	13.0	14.0	12.5	11.0	12.0	1.5	1.0	1.0	3.0	2.5	3.0
22	14.5	12.0	13.0	11.0	9.0	10.0	1.5	.5	1.0	6.0	1.5	3.0
23	14.0	11.5	12.5	9.5	8.5	9.0	2.0	1.0	1.5	4.5	3.0	4.0
24	13.5	11.0	12.5	8.5	7.5	8.0	2.5	1.5	2.0	3.0	2.0	2.5
25	15.0	13.0	14.0	8.0	7.0	7.5	3.0	2.0	2.5	2.0	1.5	1.5
26	14.5	12.5	13.5	7.0	6.0	6.5	2.0	1.0	1.5	4.5	2.0	3.0
27	15.0	12.5	13.5	6.5	6.0	6.0	2.0	1.0	1.5	5.0	3.0	4.5
28	13.5	11.5	13.0	6.0	6.0	6.0	2.0	1.0	1.5	3.0	.5	2.0
29	11.5	9.5	11.0	6.0	5.5	5.5	2.0	1.0	1.5	1.5	.5	1.0
30	10.0	9.0	9.5	5.5	5.0	5.0	2.0	1.0	1.5	1.5	1.0	1.5
31	10.0	8.5	9.5	---	---	---	2.0	.5	1.5	2.0	1.0	1.5
MONTH	20.0	8.5	15.0	13.5	5.0	9.5	8.0	.5	3.0	6.0	.0	1.5
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	2.0	1.5	2.0	4.5	2.5	3.5	14.0	11.5	13.0	18.5	16.5	17.5
2	3.0	2.0	2.5	4.5	3.0	4.0	15.0	12.5	13.5	19.0	15.5	17.0
3	3.0	2.5	3.0	5.0	3.0	4.0	15.0	12.5	13.5	17.0	14.0	15.5
4	2.5	2.5	2.5	5.0	3.5	4.5	13.0	11.5	12.5	15.5	13.0	14.0
5	3.0	2.5	3.0	5.5	3.5	4.5	12.5	10.5	11.5	16.5	13.0	14.5
6	3.5	2.5	3.0	5.5	4.0	5.0	11.0	9.5	10.0	18.5	14.0	16.0
7	2.5	1.0	2.0	5.5	3.5	4.5	11.0	9.5	10.0	16.5	15.0	15.5
8	1.5	1.0	1.5	3.0	1.5	2.5	10.5	10.0	10.5	15.5	13.5	15.0
9	2.0	1.0	1.5	2.5	1.5	2.0	11.5	9.5	10.5	14.5	12.0	13.0
10	2.5	1.0	2.0	3.0	2.0	2.5	11.5	10.5	11.0	16.5	11.0	13.5
11	2.0	1.5	2.0	6.0	3.0	4.5	10.5	9.0	10.0	17.0	12.0	14.0
12	2.5	1.0	2.0	7.0	5.0	6.0	10.0	8.5	9.0	13.5	12.0	13.0
13	2.5	1.0	1.5	6.0	5.0	5.5	10.5	7.5	9.0	16.5	11.5	13.5
14	2.0	1.0	1.5	5.0	5.0	5.0	12.5	9.0	10.5	e17.0	e12.0	e15.0
15	2.5	1.5	1.5	6.5	4.5	5.5	13.5	10.5	12.0	e18.0	e14.0	e15.0
16	2.5	1.5	2.0	7.5	6.0	6.5	12.5	11.5	12.0	16.5	14.5	15.5
17	2.0	2.0	2.0	7.0	6.0	6.5	12.0	11.0	11.5	18.5	15.0	16.5
18	2.5	2.0	2.5	8.0	6.0	7.0	14.0	11.0	12.0	21.0	16.0	18.5
19	3.0	2.5	2.5	8.5	7.5	8.0	14.5	11.0	12.5	23.0	18.5	20.0
20	3.5	2.5	3.0	9.0	7.5	8.5	15.5	11.0	12.5	21.5	19.5	20.5
21	3.5	3.0	3.5	7.5	5.0	6.0	13.0	12.5	13.0	21.5	20.0	20.5
22	4.0	3.0	3.5	5.5	4.0	5.0	15.0	12.5	13.5	20.5	19.0	19.5
23	3.5	3.5	3.5	6.0	4.0	5.0	14.5	12.5	13.5	21.5	19.0	20.0
24	4.0	3.0	3.5	7.5	5.0	6.5	13.5	12.0	12.5	21.0	19.0	20.0
25	4.5	3.5	3.5	8.0	5.5	7.0	13.5	12.0	12.5	20.5	18.5	19.5
26	3.5	2.0	2.5	9.5	7.0	8.5	15.0	13.0	14.0	20.5	17.5	18.5
27	3.0	2.0	2.5	11.5	9.0	10.5	15.5	14.0	14.5	20.5	17.0	18.5
28	4.0	2.0	3.0	12.0	10.5	11.0	18.0	14.5	16.0	21.0	18.0	19.0
29	---	---	---	12.0	10.0	11.0	19.5	16.0	17.5	22.0	17.5	19.5
30	---	---	---	13.0	10.0	11.5	19.5	17.5	18.0	23.5	19.0	21.0
31	---	---	---	14.5	11.0	12.5	---	---	---	23.0	20.5	21.5
MONTH	4.5	1.0	2.5	14.5	1.5	6.0	19.5	7.5	12.5	23.5	11.0	17.0

01118000 WOOD RIVER AT HOPE VALLEY, R.I.--Continued

WATER-QUALITY RECORDS

TEMPERATURE, WATER, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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

YEAR MAXIMUM 28.0 MINIMUM .0 MEAN 12.5

e Estimated

PAWCATUCK RIVER BASIN

01118500 PAWCATUCK RIVER AT WESTERLY, R.I.
(National stream-quality accounting network station)

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

DRAINAGE AREA.--295 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1051: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.76 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuation at low flow prior to 1962 by mills upstream; regulation much greater prior to 1958. Diversion upstream for municipal supply of Westerly.

AVERAGE DISCHARGE.--45 years (water years 1942-86), 578 ft³/s, 26.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,070 ft³/s June 6, 1982, gage height, 12.86 ft; minimum daily, 25 ft³/s Aug. 17, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a discharge of 3,150 ft³/s, by computation of flow over dam 1.5 mi upstream. Maximum discharge since 1886 occurred in November 1927 and was possibly more than twice that in March 1936. Maximum stage since at least 1635, 15.0 ft Sept. 21, 1938, due to hurricane tidal wave.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,850 ft³/s Mar. 15, gage height, 6.51 ft; minimum daily, 163 ft³/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	335	299	1140	457	1040	781	717	417	243	177	685	256
2	325	299	1090	470	1080	743	685	411	238	252	528	243
3	325	294	1050	506	1180	701	653	386	234	405	521	234
4	335	294	982	709	1130	669	622	363	226	484	544	230
5	346	477	909	788	1090	637	607	341	218	424	470	230
6	470	1090	862	825	1090	630	600	335	218	335	399	270
7	492	1270	832	734	1010	607	653	341	252	275	363	234
8	457	1250	803	552	957	559	709	357	424	238	363	214
9	424	1130	774	575	840	528	743	369	499	218	803	202
10	399	982	743	528	810	513	726	346	430	198	957	194
11	380	870	726	492	788	513	685	319	352	184	817	194
12	369	832	751	470	760	521	653	309	341	194	693	191
13	357	941	781	470	701	567	607	294	506	309	559	194
14	375	965	803	457	669	870	567	285	575	457	450	191
15	392	957	796	392	661	1600	544	280	521	536	392	180
16	399	925	751	375	637	1810	528	275	430	484	357	180
17	386	1440	701	369	615	1730	521	270	369	386	341	187
18	375	1740	661	375	685	1550	499	266	319	309	363	191
19	363	1620	615	405	957	1370	470	256	285	275	521	187
20	363	1440	536	592	1010	1260	443	252	266	261	492	187
21	357	1300	552	743	1040	1180	430	252	256	247	424	184
22	346	1200	521	717	1280	1080	470	346	243	230	470	180
23	341	1250	506	661	1310	982	499	430	230	218	499	180
24	330	1210	506	600	1210	901	492	430	226	202	464	180
25	341	1120	521	528	1110	847	513	399	222	184	399	187
26	346	1050	521	559	1010	803	521	357	226	170	346	191
27	341	1050	492	1270	917	774	513	319	210	214	319	180
28	330	1090	470	1660	840	803	499	289	202	309	309	173
29	314	1200	464	1560	---	817	477	280	198	330	309	170
30	314	1210	443	1400	---	803	450	261	187	1120	299	163
31	309	---	430	1210	---	760	---	252	---	949	280	---
TOTAL	11336	30795	21732	21449	26427	27909	17096	10087	9146	10574	14736	5977
MEAN	366	1026	701	692	944	900	570	325	305	341	475	199
MAX	492	1740	1140	1660	1310	1810	743	430	575	1120	957	270
MIN	309	294	430	369	615	513	430	252	187	170	280	163
CFSM	1.24	3.48	2.38	2.35	3.20	3.05	1.93	1.10	1.03	1.16	1.61	.68
IN.	1.43	3.88	2.74	2.70	3.33	3.52	2.16	1.27	1.15	1.33	1.86	.75

CAL YR 1985 TOTAL 178593 MEAN 489 MAX 3150 MIN 124 CFSM 1.66 IN. 22.52
WTR YR 1986 TOTAL 207264 MEAN 568 MAX 1810 MIN 163 CFSM 1.92 IN. 26.13

01118500 PAWCATUCK RIVER AT WESTERLY, R.I.--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1978 to current year.

WATER TEMPERATURES: June 1978 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 150 microsiemens Sept. 22; minimum, 60 microsiemens Mar. 16, 17.

WATER TEMPERATURES: Maximum, 27.0°C July 26; minimum, 0.0°C on many days during the winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

										OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)			
OCT 24...	1010	325	102	6.30	20.0	11.0	--	1.1	10.5	94	--	
NOV 13...	1320	941	84	6.20	16.5	10.0	--	2.5	10.4	92	--	
DEC 17...	1115	701	93	6.40	2.5	1.0	--	1.1	14.8	104	20	
JAN 14...	1030	457	98	6.80	<-5.0	0.5	--	1.2	14.0	98	--	
FEB 24...	1130	1230	67	6.60	5.0	2.5	--	0.6	13.5	99	--	
MAR 12...	1040	521	95	7.60	2.0	4.5	30	1.1	12.8	97	25	
APR 16...	1000	521	86	6.50	15.5	11.5	--	0.8	11.0	100	--	
MAY 15...	1050	280	103	7.00	22.0	16.0	--	1.5	11.4	113	--	
JUN 18...	1145	314	93	6.30	21.0	18.0	--	1.4	8.0	84	23	
JUL 15...	1320	544	86	6.40	26.0	21.0	--	2.0	9.8	109	--	
AUG 13...	1110	559	70	6.80	23.5	22.0	--	1.1	7.9	89	--	
SEP 04...	1030	230	94	7.20	21.0	18.0	50	1.4	8.6	92	<10	
DATE		OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS WH WAT (MG/L AS CACO3)	HARD- NESS NONCARB TOT FLD (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
OCT 24...	1010	325	102	6.30	20.0	11.0	--	1.1	10.5	94	--	--
NOV 13...	1320	941	84	6.20	16.5	10.0	--	2.5	10.4	92	--	--
DEC 17...	1115	701	93	6.40	2.5	1.0	--	1.1	14.8	104	20	20
JAN 14...	1030	457	98	6.80	<-5.0	0.5	--	1.2	14.0	98	--	--
FEB 24...	1130	1230	67	6.60	5.0	2.5	--	0.6	13.5	99	--	--
MAR 12...	1040	521	95	7.60	2.0	4.5	30	1.1	12.8	97	25	25
APR 16...	1000	521	86	6.50	15.5	11.5	--	0.8	11.0	100	--	--
MAY 15...	1050	280	103	7.00	22.0	16.0	--	1.5	11.4	113	--	--
JUN 18...	1145	314	93	6.30	21.0	18.0	--	1.4	8.0	84	23	23
JUL 15...	1320	544	86	6.40	26.0	21.0	--	2.0	9.8	109	--	--
AUG 13...	1110	559	70	6.80	23.5	22.0	--	1.1	7.9	89	--	--
SEP 04...	1030	230	94	7.20	21.0	18.0	50	1.4	8.6	92	<10	<10

PAWCATUCK RIVER BASIN

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03)	ALKA- LINITY LAB (MG/L AS CAC03)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CAC03	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 24...	--	--	--	--	12	13	--	--	76	0.10	67
NOV 13...	5.0	5.0	5.0	5	11	13	<0.10	8.3	65	0.09	165
DEC 17...	--	--	--	--	14	13	--	--	51	0.07	96
JAN 14...	12	10	8.0	11	14	10	0.10	9.1	59	0.08	73
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
MAR 12...	--	--	8.0	--	14	10	--	--	62	0.08	87
APR 16...	--	--	--	--	14	9.4	--	--	52	0.07	73
MAY 15...	11	9.0	11	11	16	11	0.20	4.4	64	0.09	48
JUN 18...	--	--	--	--	17	9.6	--	--	72	0.10	61
JUL 15...	11	9.0	10	11	16	9.9	0.10	7.8	66	0.09	97
AUG 13...	--	--	--	--	13	9.6	--	--	65	0.09	98
SEP 04...	--	--	13	--	15	11	--	--	70	0.09	44

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)
OCT 24...	--	84	0.280	0.020	0.300	--	0.020	--	0.28	0.30	0.60
NOV 13...	--	67	0.190	0.010	0.200	0.190	0.040	0.040	0.76	0.80	1.0
DEC 17...	1	58	--	<0.010	0.400	--	0.050	--	0.45	0.50	0.90
JAN 14...	--	71	--	<0.010	0.500	0.490	0.050	0.050	0.35	0.40	0.90
FEB 24...	--	--	--	<0.010	0.400	--	0.030	--	0.47	0.50	0.90
MAR 12...	2	65	--	<0.010	0.500	--	0.040	--	0.36	0.40	0.90
APR 16...	--	77	--	<0.010	0.300	--	0.020	--	0.38	0.40	0.70
MAY 15...	--	67	--	<0.010	0.400	0.410	0.140	0.040	0.36	0.50	0.90
JUN 18...	6	81	--	<0.010	0.300	--	0.050	--	0.65	0.70	1.0
JUL 15...	--	71	--	<0.010	0.300	0.310	0.050	0.050	0.55	0.60	0.90
AUG 13...	--	78	--	<0.030	0.200	--	0.020	--	0.58	0.60	0.80
SEP 04...	2	70	--	<0.010	0.600	--	0.040	--	0.46	0.50	1.1

PAWCATUCK RIVER BASIN

111

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)
OCT 24...	0.020	0.020	0.020	--	--	--	--	--	--	--	--
NOV 13...	0.020	0.020	0.010	0.020	--	150	--	<1	19	<0.5	--
DEC 17...	0.020	0.010	<0.010	--	--	--	--	--	--	--	--
JAN 14...	0.020	0.020	0.010	0.010	--	70	--	<1	10	<0.5	--
FEB 24...	0.020	--	0.010	--	--	--	--	--	--	--	--
MAR 12...	0.020	0.020	<0.010	--	60	--	<1	--	--	--	<10
APR 16...	0.020	0.020	<0.010	--	--	--	--	--	--	--	--
MAY 15...	0.030	0.010	0.010	<0.010	--	--	--	--	--	--	--
JUN 18...	0.050	0.040	0.030	--	--	--	--	--	--	--	--
JUL 15...	0.050	0.030	0.040	0.020	--	80	--	<1	13	<0.5	--
AUG 13...	0.060	0.030	0.020	--	--	--	--	--	--	--	--
SEP 04...	0.040	0.030	0.020	--	190	--	<1	--	--	--	--

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 24...	--	<1	--	2	--	--	2	--	--	--	<5
NOV 13...	--	<1	--	1	<3	--	5	--	360	--	<5
DEC 17...	--	<1	--	<1	--	--	1	--	--	--	<5
JAN 14...	--	<1	--	<1	<3	--	<1	--	150	--	<5
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
MAR 12...	2	<1	10	<1	--	4	3	160	--	<5	<5
APR 16...	--	<1	--	<1	--	--	1	--	--	--	<5
MAY 15...	--	<1	--	<1	--	--	3	--	180	--	<5
JUN 18...	--	1	--	7	--	--	4	--	--	--	<5
JUL 15...	--	<1	--	<1	<3	--	4	--	310	--	<5
AUG 13...	--	1	--	<1	--	--	2	--	--	--	<5
SEP 04...	<1	<1	<10	<1	--	2	3	460	--	6	<5

PAWCATUCK RIVER BASIN

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)
OCT 24...	--	--	--	--	--	--	--	--	1	--
NOV 13...	16	--	36	--	0.3	--	<10	--	<1	--
DEC 17...	--	--	--	--	--	--	--	--	<1	--
JAN 14...	<4	--	32	--	0.2	--	<10	--	1	--
FEB 24...	--	--	--	--	--	--	--	--	--	--
MAR 12...	--	30	--	0.40	--	<1	--	<1	<1	<1
APR 16...	--	--	--	--	--	--	--	--	<1	--
MAY 15...	--	--	22	--	--	--	--	--	1	--
JUN 18...	--	--	--	--	--	--	--	--	2	--
JUL 15...	<4	--	27	--	0.5	--	<10	--	2	--
AUG 13...	--	--	--	--	--	--	--	--	<1	--
SEP 04...	--	30	--	0.30	--	2	--	2	1	<1

DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)
OCT 24...	--	--	--	--	--	--	28	8.1	--	--
NOV 13...	<1	--	<1	27	<6	--	15	9.8	--	--
DEC 17...	--	--	--	--	--	--	9	6.0	--	--
JAN 14...	<1	--	<1	32	<6	--	14	5.0	--	--
FEB 24...	--	--	--	--	--	--	--	--	--	--
MAR 12...	--	<1	--	--	--	10	11	5.4	1	<1
APR 16...	--	--	--	--	--	--	18	5.4	--	--
MAY 15...	--	--	--	--	--	--	27	4.6	--	--
JUN 18...	--	--	--	--	--	--	15	9.6	--	--
JUL 15...	<1	--	<1	28	<6	--	32	7.9	--	--
AUG 13...	--	--	--	--	--	--	21	14	--	--
SEP 04...	--	<1	--	--	--	10	<3	7.8	<1	<1

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL (UG/L)
MAR 12...	1040	<0.1	--	<0.1	--	<0.01	--	<0.1	--	<0.01	--	<0.01
SEP 04...	1030	<0.1	<1	<0.1	<1.0	<0.01	<0.1	<0.1	<1.0	<0.01	1.0	<0.01

DATE	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAR 12...	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
SEP 04...	<0.1	<0.01	0.4	<0.01	0.1	<0.01	0.2	<0.01	<0.1	<0.01	<0.1

DATE	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE TOTAL (UG/L)	PER- THANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOX- APHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAR 12...	<0.01	--	<0.01	--	<0.01	<0.01	--	<0.1	--	<1	--
SEP 04...	<0.01	<0.1	<0.01	<0.1	<0.01	<0.01	<0.1	<0.1	<1.00	<1	<10

SUSPENDED SEDIMENT MEASUREMENTS, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 13...	1320	941	12	30	61
JAN 14...	1030	457	10	12	61
MAY 15...	1050	280	4	3	83
JUL 15...	1320	544	9	13	77

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	97	96	97	115	112	113	79	76	78	110	106	107
2	100	97	98	119	115	117	79	77	78	109	104	107
3	106	100	103	119	117	118	79	77	78	109	103	105
4	119	107	113	118	110	114	--	--	--	105	98	102
5	121	116	118	109	97	102	86	84	84	99	92	96
6	122	115	119	111	98	108	87	85	86	91	82	85
7	121	114	116	103	81	92	90	86	88	--	--	--
8	114	110	112	84	80	81	91	89	90	--	--	--
9	111	106	109	94	88	92	89	85	87	--	--	--
10	112	105	109	92	90	91	91	88	89	109	105	107
11	110	106	108	92	90	91	93	91	92	111	109	110
12	112	107	110	92	87	89	98	94	96	112	106	109
13	112	105	109	87	74	78	94	91	92	106	100	103
14	104	101	103	82	74	77	96	91	94	--	--	--
15	101	96	98	83	81	82	--	--	--	--	--	--
16	101	97	99	87	83	84	--	--	--	--	--	--
17	105	101	103	87	64	77	97	94	95	--	--	--
18	109	104	107	66	63	63	--	--	--	123	121	122
19	109	106	107	70	63	67	--	--	--	121	98	111
20	111	107	108	74	69	73	--	--	--	98	88	94
21	108	98	102	82	73	77	--	--	--	92	86	89
22	101	97	98	80	79	80	--	--	--	89	84	86
23	100	96	98	81	72	76	--	--	--	92	89	90
24	107	98	102	76	73	74	106	102	104	100	93	96
25	111	107	109	79	75	77	107	105	106	104	99	101
26	116	110	114	82	78	80	--	--	--	106	99	103
27	118	111	115	82	76	80	--	--	--	100	67	81
28	112	104	108	79	76	78	109	102	105	67	62	64
29	105	100	102	78	71	74	111	100	108	--	--	--
30	107	101	103	76	72	74	106	102	104	75	66	71
31	112	107	110	--	--	--	107	101	104	84	75	80
MONTH	122	96	107	119	63	86	111	76	93	123	62	96

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	89	83	85	--	--	--	91	82	88	98	95	97
2	90	76	85	--	--	--	88	83	86	100	98	99
3	76	72	74	--	--	--	90	86	88	102	100	102
4	86	75	79	--	--	--	92	89	90	102	97	100
5	86	83	84	--	--	--	--	--	--	97	92	94
6	82	79	81	94	90	93	--	--	--	93	88	91
7	--	--	--	95	92	93	89	86	88	97	92	94
8	--	--	--	--	--	--	86	82	84	100	97	99
9	96	87	91	--	--	--	88	84	86	103	100	101
10	96	78	84	99	94	96	89	85	87	104	98	102
11	88	82	85	95	92	93	--	--	--	98	91	94
12	93	87	90	99	92	95	--	--	--	92	89	91
13	96	93	94	100	98	99	--	--	--	94	88	91
14	--	--	--	--	--	--	90	86	88	95	91	93
15	103	91	97	80	62	71	88	84	86	100	92	95
16	99	93	97	63	60	62	91	87	88	108	101	106
17	95	90	92	66	60	62	95	92	94	113	109	111
18	96	91	93	71	65	69	99	95	97	114	112	113
19	96	75	85	75	71	73	99	96	98	114	105	109
20	86	75	82	75	72	74	100	95	97	106	101	103
21	87	83	85	--	--	--	95	91	92	106	101	103
22	84	68	75	--	--	--	92	89	90	119	108	113
23	71	69	70	--	--	--	98	92	94	121	115	118
24	--	--	--	78	77	78	101	97	98	114	102	107
25	--	--	--	--	--	--	101	98	99	104	101	103
26	--	--	--	86	80	83	102	99	100	100	90	98
27	--	--	--	87	83	85	101	95	98	97	94	95
28	--	--	--	87	83	85	96	89	92	94	83	89
29	--	--	--	82	77	79	92	89	90	86	83	84
30	--	--	--	82	78	80	95	91	92	88	85	87
31	--	--	--	82	79	81	--	--	--	93	88	90
MONTH	103	68	85	100	60	82	102	82	92	121	83	99

PAWCATUCK RIVER BASIN

115

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986--Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	96	91	94	110	105	108	100	93	96	108	104	106
2	97	95	96	107	98	102	94	88	91	110	95	100
3	97	95	96	104	100	102	90	86	88	96	92	94
4	97	95	96	102	96	98	89	84	87	94	92	93
5	97	94	95	95	90	92	86	84	85	102	95	98
6	112	96	99	92	90	91	87	86	87	109	101	106
7	118	99	106	93	91	92	92	87	88	108	105	106
8	102	96	99	96	92	95	97	91	93	113	109	111
9	94	84	87	97	94	96	91	72	78	111	108	109
10	88	85	86	98	94	96	72	65	67	109	107	108
11	92	87	88	99	95	96	69	64	66	116	109	112
12	96	92	94	95	87	93	70	67	68	126	117	122
13	106	95	100	93	88	92	74	69	71	130	126	128
14	105	97	100	90	84	87	79	73	76	137	130	134
15	96	87	91	88	85	86	85	79	83	140	138	138
16	88	85	86	88	86	87	88	83	86	139	132	135
17	90	86	88	88	85	86	88	84	86	133	125	130
18	95	91	93	90	87	89	87	84	86	129	126	127
19	101	95	99	94	90	92	89	81	84	132	128	131
20	108	101	104	94	90	92	93	88	90	138	130	136
21	107	104	106	89	87	88	95	92	93	148	138	144
22	109	105	107	87	85	86	101	92	96	150	143	147
23	105	99	102	91	86	88	102	95	99	146	141	143
24	99	95	97	97	91	95	99	93	96	143	129	136
25	100	95	97	101	96	98	92	88	90	133	130	131
26	104	98	102	101	97	99	91	88	89	139	133	136
27	105	101	103	100	95	97	95	91	94	143	139	141
28	110	104	107	98	89	95	100	96	98	141	135	137
29	111	108	109	89	74	84	106	100	103	137	106	127
30	109	106	108	85	69	77	109	105	106	114	101	106
31	---	---	---	102	86	96	111	109	110	---	---	---
MONTH	118	84	98	110	69	93	111	64	88	150	92	122
YEAR	150	60	96									

TEMPERATURE, WATER, (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	17.5	15.5	16.5	9.0	7.5	8.0	5.0	4.0	4.5	2.0	1.5	1.5
2	17.5	15.5	16.5	8.5	8.0	8.5	6.0	5.0	5.5	2.0	1.0	1.5
3	16.5	16.0	16.0	9.0	8.0	8.5	5.5	4.0	5.0	2.5	1.5	2.0
4	16.0	15.5	15.5	9.0	8.5	9.0	3.5	2.5	3.0	2.0	1.5	2.0
5	16.0	15.0	15.5	10.5	9.0	9.5	2.0	1.5	2.0	2.0	1.5	2.0
6	16.0	14.5	15.0	11.0	10.0	11.0	2.5	1.5	2.0	1.5	.5	1.0
7	15.0	14.0	14.5	11.0	10.5	11.0	2.5	2.0	2.0	.5	.0	.5
8	14.5	13.0	14.0	11.0	9.5	10.5	2.5	2.0	2.5	.0	.0	.0
9	14.0	13.0	13.5	10.0	9.5	9.5	2.5	2.0	2.5	.5	.0	.0
10	14.5	13.5	14.0	10.5	9.5	10.0	2.5	2.0	2.5	1.0	.0	.5
11	15.5	14.0	14.5	11.0	10.5	10.5	3.0	2.5	3.0	1.0	.0	.5
12	15.0	13.5	14.0	10.5	9.5	10.0	3.5	3.0	3.5	1.5	.0	.5
13	13.5	13.0	13.5	10.0	9.5	9.5	3.5	3.5	3.5	1.5	.0	1.0
14	14.0	12.5	13.5	10.5	10.0	10.0	3.5	2.5	3.0	1.0	.5	.5
15	15.0	13.5	14.0	10.5	9.0	10.0	2.5	1.5	2.0	.0	.0	.0
16	15.5	14.0	14.5	9.0	7.5	8.0	1.5	.5	1.0	.5	.0	.0
17	15.0	13.5	14.0	8.0	7.5	8.0	1.5	1.0	1.5	1.0	.0	.5
18	14.0	13.0	13.5	8.5	7.5	8.0	1.5	.5	1.0	1.5	.5	1.0
19	14.0	13.0	13.5	8.0	7.5	8.0	1.0	.0	.5	2.5	1.0	1.5
20	13.5	12.5	13.0	9.5	8.0	9.0	.5	.0	.5	3.5	2.5	3.0
21	13.5	12.0	12.5	10.0	9.5	9.5	1.0	.0	.5	3.5	2.5	3.0
22	12.5	11.0	12.0	9.5	8.0	8.5	.5	.0	.5	3.0	2.5	3.0
23	12.0	10.5	11.0	8.0	6.5	7.5	1.0	.5	.5	3.0	2.0	2.5
24	11.5	10.0	11.0	7.0	6.0	6.5	1.5	.5	1.0	2.5	1.5	2.0
25	12.5	11.5	12.0	6.0	5.5	5.5	2.5	1.5	2.0	1.5	1.0	1.0
26	12.5	11.0	11.5	5.5	4.5	5.0	1.5	.5	1.0	3.0	1.5	2.0
27	12.5	11.0	11.5	4.5	4.5	4.5	1.0	.5	.5	3.5	3.5	3.5
28	12.0	10.5	11.0	4.5	4.0	4.5	1.0	.5	.5	3.5	1.5	2.5
29	10.5	9.0	10.0	4.5	4.0	4.5	1.0	.5	.5	1.5	.5	1.0
30	9.5	8.5	9.0	4.5	4.0	4.0	1.0	.5	.5	1.0	.5	.5
31	9.5	8.0	8.5	---	---	---	1.5	.0	1.0	1.0	.5	.5
MONTH	17.5	8.0	13.0	11.0	4.0	8.0	6.0	.0	2.0	3.5	.0	1.5

01123360 QUINEBAUG RIVER BELOW EAST BRIMFIELD DAM, AT FISKDALE, MASS.

LOCATION.--Lat 42°06'31", long 72°07'27", Worcester County, Hydrologic Unit 01100001, on right bank at Fiskdale, 750 ft downstream from East Brimfield Dam, and 2.4 mi upstream from Cedar Pond outlet.

DRAINAGE AREA.--67.4 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 613.51 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--No estimated daily discharges. Records excellent except those below 15 ft³/s, which are good. Flow regulated by East Brimfield Lake (Reservoirs in Thames River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--14 years, 132 ft³/s, 26.60 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 1,040 ft³/s Jan. 30, 1976, gage height, 6.42 ft; maximum gage height, 6.52 ft Mar. 17, 1977; minimum daily discharge, 2.2 ft³/s Sept. 10, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1886, 15,400 ft³/s Aug. 19, 1955, by slope-area measurement. Flood of Mar. 18, 1936, reached a discharge of 2,390 ft³/s and flood in September 1938, 7,000 ft³/s, both by computation of flow over dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 781 ft³/s Jan. 30, gage height, 5.94 ft; minimum daily, 7.5 ft³/s June 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	47	244	58	672	110	162	85	52	61	38	19
2	125	45	370	58	433	102	152	79	58	87	41	18
3	114	45	374	73	308	97	139	70	56	139	51	16
4	122	45	248	125	251	95	126	62	47	159	55	15
5	138	77	208	152	245	98	118	59	46	152	55	15
6	177	154	191	149	215	104	114	59	170	130	49	15
7	198	211	178	126	184	109	120	63	93	106	43	14
8	189	215	159	91	171	92	131	66	7.5	86	49	13
9	165	183	144	86	164	95	140	65	248	71	50	12
10	126	155	131	78	155	89	135	61	553	60	51	11
11	123	136	125	71	151	98	126	56	624	50	47	10
12	109	137	140	68	146	134	116	52	425	46	40	11
13	90	165	154	67	139	165	101	49	390	51	33	10
14	81	181	166	61	133	208	80	46	485	61	27	9.2
15	78	187	158	59	129	105	76	44	474	65	22	8.2
16	77	183	145	52	116	8.2	88	44	443	64	20	8.6
17	72	221	134	47	107	233	76	46	288	57	20	8.0
18	67	234	124	47	114	408	51	50	201	50	41	8.2
19	65	237	110	55	136	451	104	50	163	44	61	8.3
20	65	301	94	98	145	520	80	46	146	39	60	8.3
21	65	243	83	150	156	508	74	44	133	35	50	8.4
22	63	199	76	157	193	500	84	51	121	32	44	8.6
23	59	188	76	141	215	486	92	93	114	28	36	9.7
24	56	177	75	116	199	467	103	114	104	25	35	11
25	62	171	79	95	176	359	107	125	93	21	33	12
26	62	173	79	169	152	238	110	116	81	20	30	11
27	62	183	77	130	133	202	115	99	72	25	28	11
28	58	68	74	299	120	192	115	80	68	26	27	10
29	51	13	70	578	---	193	107	64	74	29	25	9.6
30	48	163	66	733	---	189	97	53	66	37	23	9.3
31	48	---	61	740	---	177	---	44	---	38	21	---
TOTAL	2972	4737	4413	4929	5458	6832.2	3239	2035	5895.5	1894	1205	338.4
MEAN	95.9	158	142	159	195	220	108	65.6	197	61.1	38.9	11.3
MAX	198	301	374	740	672	520	162	125	624	159	61	19
MIN	48	13	61	47	107	8.2	51	44	7.5	20	20	8.0
MEAN+	92.1	177	124	186	167	222	106	64.4	197	59.9	38.2	10.7
CFSM+	1.37	2.63	1.84	2.76	2.48	3.29	1.57	.96	2.92	.89	.57	.16
IN.+	1.58	2.93	2.13	3.18	2.58	3.79	1.76	1.10	3.26	1.02	.65	.18

CAL YR 1985 TOTAL 29285.0 MEAN 80.2 MAX 374 MIN 13 MEAN+ 80.3 CFSM+ 1.19 IN.+ 16.17
WTR YR 1986 TOTAL 43948.0 MEAN 120 MAX 740 MIN 7.5 MEAN+ 120 CFSM+ 1.78 IN.+ 24.16

+ Adjusted for change in contents in East Brimfield Lake.

THAMES RIVER BASIN

01123600 QUINEBAUG RIVER BELOW WESTVILLE DAM, NEAR SOUTHBRIDGE, MASS.

LOCATION.--Lat 42°04'58", long 72°03'27", Worcester County, Hydrologic Unit 01100001, 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.--99.0 mi².

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

REVISED RECORDS.--WDR MA-RI-75-1: 1963-64 (monthly runoff). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 511.33 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by mills, by East Brimfield and Westville Lakes (Reservoirs in Thames River basin), and by other reservoirs upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--24 years, 171 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft³/s Mar. 23, 1980, gage height, 6.83 ft; minimum daily, 7.3 ft³/s Nov. 21, 28, 1964, July 30, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,230 ft³/s Jan. 29, gage height, about 6.28 ft; minimum daily, 17 ft³/s Sept. 21-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e244	84	316	86	e745	88	215	122	67	80	60	37
2	159	80	404	84	e530	132	203	114	80	127	58	34
3	150	79	484	126	371	e193	185	100	78	189	74	32
4	159	76	e322	191	e306	e236	170	91	67	194	76	32
5	198	117	e265	201	e329	e180	162	86	61	183	74	29
6	e265	e242	e253	195	288	144	158	85	246	161	68	29
7	e265	e283	231	168	243	146	171	89	151	136	63	29
8	e259	e329	211	128	219	127	178	94	31	113	77	27
9	e214	331	194	118	206	123	187	95	e552	94	78	26
10	e171	273	189	113	194	117	179	85	e940	82	75	25
11	151	256	182	104	188	139	168	80	e652	70	65	24
12	147	266	206	79	183	177	158	78	e551	66	49	26
13	126	297	216	24	174	e173	146	70	e432	75	49	26
14	117	309	e230	27	165	e183	136	67	e490	88	49	22
15	112	328	216	81	161	82	131	63	e469	91	49	35
16	110	324	196	167	150	40	127	62	e436	86	38	55
17	101	362	178	119	142	e396	143	69	e350	79	33	19
18	92	e440	165	70	163	e682	95	71	e280	71	59	19
19	91	e357	146	85	e201	e778	106	68	e240	64	107	18
20	95	e357	129	100	197	e804	115	63	e210	58	93	18
21	92	e336	118	41	e220	e688	104	60	e190	55	79	17
22	89	e274	110	57	e296	e583	123	71	e170	51	72	17
23	83	e271	108	e109	e302	557	132	98	e160	34	60	17
24	79	e271	110	e222	e280	531	146	133	e140	28	62	18
25	87	262	115	e209	e225	490	155	144	e130	38	46	20
26	87	251	114	e209	e193	326	159	137	e115	52	39	24
27	86	e247	110	e246	127	278	169	119	e105	38	49	23
28	95	e212	106	e676	44	268	160	97	e95	38	56	21
29	110	106	99	e1040	---	259	149	80	e100	38	55	20
30	97	168	94	e1070	---	248	136	67	e88	63	44	19
31	88	---	89	e885	---	234	---	58	---	78	39	---
TOTAL	4219	7588	5906	7030	6842	9402	4566	2716	7676	2620	1895	758
MEAN	136	253	191	227	244	303	152	87.6	256	84.5	61.1	25.3
MAX	265	440	484	1070	745	804	215	144	940	194	107	55
MIN	79	76	89	24	44	40	95	58	31	28	33	17

CAL YR 1985 TOTAL 40629 MEAN 111 MAX 484 MIN 17
WTR YR 1986 TOTAL 61218 MEAN 168 MAX 1070 MIN 17

e Estimated

01124000 QUINEBAUG RIVER AT QUINEBAUG, CONN.

LOCATION.--Lat 42°01'20", long 71°57'22", Windham County, Hydrologic Unit 01100001, on right bank at Quinebaug, 500 ft upstream from bridge on State Highway 197, 0.2 mi downstream from Massachusetts-Connecticut State line, 7.8 mi upstream from French River, and at mile 46.

DRAINAGE AREA.--155 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 341.52 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by East Brimfield and Westville Lakes, (Reservoirs in Thames River basin), and by smaller reservoirs upstream.

AVERAGE DISCHARGE.--55 years, 272 ft³/s, 23.85 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,300 ft³/s Aug. 19, 1955, gage height, 18.96 ft, from floodmarks, from rating curve extended above 5,100 ft³/s on basis of slope-area measurement of peak flow; minimum, about 1 ft³/s Sept. 9, 1943, July 12, 1949, Sept. 17, 18, 1950, July 9, 1951, Sept. 4 and Oct. 29, 1956, Jan. 27, 1985 (result of freezeup); minimum gage height, 1.74 ft Aug. 20, 1940; minimum daily discharge, about 1 ft³/s Sept. 4, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,890 ft³/s Jan. 27, gage height, 5.45 ft; minimum, 5.0 ft³/s Aug. 23, gage height, 1.95 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	359	115	482	142	957	169	368	201	131	121	77	37
2	224	109	638	157	808	182	358	194	137	222	68	e35
3	213	106	740	201	575	309	311	168	131	322	93	e34
4	231	155	537	356	488	362	293	136	75	283	85	e33
5	380	261	448	324	484	299	277	89	76	252	78	e31
6	552	508	417	310	441	270	263	142	887	222	69	30
7	468	538	379	298	378	240	304	151	1050	192	66	29
8	410	481	347	360	347	227	292	140	557	165	137	29
9	346	434	321	314	335	219	319	121	856	112	121	27
10	280	362	320	152	332	159	303	127	1260	109	104	25
11	232	349	348	148	240	269	279	117	919	88	89	24
12	220	380	352	148	315	346	263	116	904	87	64	23
13	201	446	367	77	271	428	243	106	804	115	56	25
14	187	426	380	127	263	610	226	109	800	149	51	21
15	185	474	364	254	242	1220	228	92	733	118	57	23
16	175	440	326	514	234	678	200	92	661	118	34	63
17	175	660	288	306	194	735	190	101	554	104	35	25
18	156	698	245	110	306	1050	211	103	395	104	92	19
19	139	647	221	162	365	1090	133	70	316	56	163	17
20	152	584	250	266	334	1220	175	86	291	70	134	16
21	153	557	192	171	435	1020	162	88	271	101	177	17
22	57	462	184	151	558	863	187	113	227	51	106	17
23	141	471	186	186	510	808	205	151	211	53	56	19
24	113	447	174	287	468	765	233	207	186	23	79	19
25	143	414	194	275	431	711	244	222	182	25	70	20
26	147	400	215	692	308	554	254	200	163	48	48	22
27	118	427	262	1480	295	480	270	175	149	59	51	26
28	100	454	172	1190	147	479	259	150	142	38	65	22
29	145	304	194	1290	---	451	235	113	100	42	60	21
30	132	303	206	1270	---	430	203	103	124	73	50	20
31	121	---	195	1110	---	407	---	70	---	69	42	---
TOTAL	6655	12412	9944	12828	11061	17050	7488	4053	13292	3591	2477	769
MEAN	215	414	321	414	395	550	250	131	443	116	79.9	25.6
MAX	552	698	740	1480	957	1220	368	222	1260	322	177	63
MIN	57	106	172	77	147	159	133	70	75	23	34	16
MEAN+	209	434	303	442	372	546	248	130	444	115	79.0	23.2
CFSM+	1.35	2.80	1.95	2.85	2.40	3.52	1.60	.84	2.86	.74	.51	.15
IN.+	1.56	3.12	2.25	3.29	2.50	4.06	1.78	.97	3.19	.85	.59	.17

CAL YR 1985 TOTAL 67214 MEAN 184 MAX 740 MIN 28 MEAN+ 184 CFSM+ 1.19 IN.+ 16.14
WTR YR 1986 TOTAL 101620 MEAN 278 MAX 1480 MIN 16 MEAN+ 277 CFSM+ 1.79 IN.+ 24.33

e Estimated

+ Adjusted for change in contents in East Brimfield and Westville Reservoirs.

01124000 QUINEBAUG RIVER AT QUINEBAUG, CONN.--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

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

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

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

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER-- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED CENT SATUR- ATION	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 23...	1015	123	122	6.70	15.5	11.0	1.0	11.6	105	2600	600
NOV 18...	1030	658	106	6.50	10.5	6.0	1.7	12.9	104	1300	580
DEC 16...	1000	335	118	7.00	1.0	0.5	1.1	14.8	104	160	60
JAN 16...	1030	404	145	7.10	-1.0	0.0	1.2	14.8	101	4800	1500
MAR 13...	0940	349	120	6.30	0.0	2.5	3.2	13.4	98	720	720
APR 16...	1415	200	114	7.00	20.0	12.0	1.4	12.0	112	22	K2
MAY 13...	1005	93	124	6.80	21.0	15.0	1.7	10.3	102	32	K5
JUN 20...	0845	293	97	6.40	22.0	18.0	2.6	8.4	89	460	200
JUL 09...	1320	154	112	6.70	30.0	26.5	1.7	7.6	96	820	K14
AUG 14...	1140	36	140	6.90	26.0	23.0	2.0	8.9	103	100	47
SEP 05...	1245	32	160	7.30	23.0	19.5	1.8	10.5	115	80	140

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT 23...	22	0	5.8	1.8	--	7.9	21	--	89	0.12
NOV 18...	19	11	5.2	1.5	8.0	9.8	18	7.0	78	0.11
DEC 16...	20	0	5.4	1.7	--	11	20	--	60	0.08
JAN 16...	25	14	6.4	2.1	11	13	26	9.7	80	0.11
MAR 13...	22	0	6.0	1.8	--	12	24	--	69	0.09
APR 16...	20	0	5.4	1.7	--	11	18	--	72	0.10
MAY 13...	23	13	6.1	1.8	10	13	23	2.9	78	0.11
JUN 20...	19	0	5.1	1.5	--	12	14	--	58	0.08
JUL 09...	21	8	5.8	1.7	13	11	18	5.5	72	0.10
AUG 14...	26	0	6.9	2.1	--	11	25	--	84	0.11
SEP 05...	27	0	7.3	2.1	--	14	29	--	96	0.13

THAMES RIVER BASIN

121

01124000 QUINEBAUG RIVER AT QUINEBAUG, CONN.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 23...	30	83	0.47	0.03	0.50	0.41	0.09	0.50	1.00	0.11
NOV 18...	139	77	0.19	0.01	0.20	0.08	0.42	0.50	0.70	0.05
DEC 16...	54	72	--	<0.01	0.20	0.13	0.37	0.50	0.70	0.04
JAN 16...	87	90	0.29	0.01	0.30	0.28	0.42	0.70	1.00	0.14
MAR 13...	65	82	--	<0.01	0.40	0.11	0.39	0.50	0.90	0.07
APR 16...	39	75	--	<0.01	0.10	0.12	0.38	0.50	0.60	0.09
MAY 13...	20	81	0.28	0.02	0.30	0.39	0.11	0.50	0.80	0.18
JUN 20...	46	76	0.19	0.01	0.20	0.11	0.49	0.60	0.80	0.13
JUL 09...	30	83	0.27	0.03	0.30	0.10	0.40	0.50	0.80	0.17
AUG 14...	8.0	102	0.28	0.02	0.30	0.03	0.47	0.50	0.80	0.31
SEP 05...	8.0	105	0.68	0.02	0.70	0.06	0.64	0.70	1.40	0.54

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CADMIUM, DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 23...	0.08	<1	3	3	--	6	--	3	6	6.9
NOV 18...	0.02	<1	<1	5	180	<5	26	3	17	6.9
DEC 16...	0.02	<1	<1	1	--	<5	--	1	18	3.3
JAN 16...	0.09	<1	<1	2	190	<5	63	2	27	2.7
MAR 13...	0.05	<1	<1	2	--	<5	--	<1	19	4.5
APR 16...	0.06	<1	5	2	--	<5	--	1	25	3.6
MAY 13...	0.14	<1	<1	2	270	<5	45	<1	9	4.2
JUN 20...	0.07	<1	<1	5	--	5	--	3	9	6.4
JUL 09...	0.11	<1	<1	3	480	<5	47	3	7	6.2
AUG 14...	0.26	<1	<1	3	--	<5	--	<1	13	4.6
SEP 05...	0.47	<1	<1	4	--	12	--	4	11	5.7

01124350 FRENCH RIVER BELOW HODGES VILLAGE DAM, AT HODGES VILLAGE, MASS.

LOCATION.--Lat 42°07'06", long 71°52'54", Worcester County, Hydrologic Unit 01100001, on right bank at Hodges Village, 240 ft downstream from Hodges Village Dam, 0.8 mi west of Oxford, and 1.2 mi upstream from Little River.

DRAINAGE AREA.--31.2 mi².

PERIOD OF RECORD.--Discharge: March 1962 to current year.
Water-quality records: Water year 1962.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 466.98 ft U.S. Army Corps of Engineers datum.

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

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Hodges Village Reservoir (Reservoirs in Thames River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--24 years, 55.8 ft³/s, 24.29 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 628 ft³/s Jan. 28, 1978, gage height, 3.47 ft; no flow for part of July 17, 1968 (caused by unusual regulation); minimum daily discharge, 1.4 ft³/s Sept. 14, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 490 ft³/s June. 11, gage height, 3.19 ft; minimum, 3.1 ft³/s Sept. 20, 21, 28-30; minimum daily, 3.1 ft³/s Sept. 20, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	21	70	30	184	49	95	46	19	18	17	7.4
2	75	21	73	30	82	46	73	42	28	23	9.4	6.9
3	67	21	98	37	74	44	86	38	28	58	11	6.3
4	74	19	106	72	69	43	93	35	20	63	13	5.9
5	73	35	95	72	65	47	87	34	17	52	12	5.8
6	121	84	82	63	62	54	82	33	74	39	9.8	6.2
7	140	149	72	48	58	55	77	33	80	33	9.7	6.6
8	120	144	64	41	52	47	74	33	39	27	24	6.2
9	97	99	59	39	47	44	85	31	202	21	32	5.4
10	80	69	55	38	48	42	102	26	411	18	24	5.1
11	63	60	53	36	44	47	66	22	468	15	17	4.6
12	45	62	58	32	43	74	57	21	298	13	13	4.5
13	38	81	67	32	41	81	53	20	288	16	10	4.5
14	37	85	69	29	40	85	50	18	313	23	9.7	4.3
15	37	84	68	25	40	39	47	17	234	29	9.0	3.9
16	31	86	62	24	38	27	47	16	134	24	8.2	3.7
17	30	97	56	23	39	129	43	17	84	28	7.7	3.7
18	30	102	51	25	45	158	41	18	68	21	11	3.5
19	30	88	41	31	62	145	35	16	55	16	60	3.3
20	30	127	40	62	52	123	35	14	43	16	62	3.1
21	28	120	39	82	57	124	35	14	46	15	32	3.7
22	30	100	36	73	87	124	38	16	45	14	22	4.1
23	28	89	37	62	99	124	40	23	43	13	17	4.1
24	27	86	37	53	92	211	42	32	37	11	16	4.2
25	26	77	39	44	81	260	46	39	35	9.1	16	4.1
26	26	71	41	64	67	228	50	36	30	9.1	12	3.7
27	26	67	39	87	58	78	54	28	26	11	11	3.8
28	24	71	38	227	53	120	58	22	24	12	11	3.5
29	22	75	33	369	---	185	55	18	23	11	10	3.1
30	21	75	32	371	---	171	50	14	21	12	9.0	3.1
31	21	---	30	308	---	159	---	13	---	14	7.9	---
TOTAL	1601	2365	1740	2529	1779	3163	1796	785	3233	684.2	533.4	138.3
MEAN	51.6	78.8	56.1	81.6	63.5	102	59.9	25.3	108	22.1	17.2	4.61
MAX	140	149	106	371	184	260	102	46	468	63	62	7.4
MIN	21	19	30	23	38	27	35	13	17	9.1	7.7	3.1
MEAN+	50.1	79.6	55.5	85.0	59.9	111	50.9	25.0	108	22.1	17.2	4.53
CFSM+	1.61	2.55	1.78	2.72	1.92	3.56	1.63	.80	3.46	.71	.55	.15
IN.+	1.85	2.85	2.05	3.14	2.00	4.09	1.82	.93	3.85	.82	.63	.16

CAL YR 1985 TOTAL 14597.5 MEAN 40.0 MAX 181 MIN 4.3 MEAN+ 40.0 CFSM+ 1.28 IN.+ 17.41
WTR YR 1986 TOTAL 20346.8 MEAN 55.7 MAX 468 MIN 3.1 MEAN+ 55.6 CFSM+ 1.78 IN.+ 24.20

+ Adjusted for change in contents in Hodges Village Reservoir.

01124500 LITTLE RIVER NEAR OXFORD, MASS.

LOCATION.--Lat 42°06'57", long 71°53'26", Worcester County, Hydrologic Unit 01100001, on left bank 0.6 mi upstream from mouth, 1.1 mi downstream from Buffumville Dam, and 1.5 mi west of Oxford.

DRAINAGE AREA.--26.0 mi².

PERIOD OF RECORD.--Discharge: July 1939 to current year. Prior to October 1977, published as "at Buffumville." Water-quality records: Water year 1973.

REVISED RECORDS.--WSP 1201: 1940, 1948. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 457.00 ft above National Geodetic Vertical Datum of 1929, (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good except those for October and November and those above 100 ft³/s, which are fair. Flow regulated by Buffumville Lake since 1958 (Reservoirs in Thames River basin) and by other reservoirs upstream. July 1982 to about January 1983, flow affected by draining of Buffum Pond. Prior to 1958, flow regulated by mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years, 49.6 ft³/s, 25.91 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,340 ft³/s Aug. 19, 1955, gage height, 15.53 ft, from rating curve extended above 1,200 ft³/s on basis of computation of peak flow over dam; minimum, 0.1 ft³/s Sept. 25, 26, 1957. Maximum discharge since construction of Buffumville Dam in 1958, 429 ft³/s Apr. 7, 1959, gage height, 5.04 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 313 ft³/s June 10, gage height, 4.86 ft; minimum, 2.1 ft³/s Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	26	75	37	181	50	67	41	21	22	8.1	10
2	27	25	81	36	120	48	41	37	24	28	8.1	9.4
3	28	25	96	42	89	46	73	33	23	37	10	8.9
4	29	25	99	58	73	45	60	29	21	43	9.5	8.4
5	36	37	89	71	67	47	54	28	21	42	8.7	8.0
6	59	65	80	68	63	50	50	27	90	38	7.8	8.1
7	78	94	74	61	56	51	51	26	88	33	9.8	7.6
8	71	96	69	54	52	48	53	26	27	29	19	7.8
9	59	84	66	48	49	45	55	25	99	25	19	7.4
10	49	72	63	45	47	42	55	25	262	22	18	6.2
11	42	66	59	42	45	43	52	23	296	19	17	5.5
12	36	67	63	40	44	54	50	23	202	18	15	5.7
13	33	76	69	38	41	70	47	22	113	19	13	6.0
14	30	81	73	37	40	90	44	21	125	21	12	5.4
15	31	83	72	34	38	59	42	20	123	20	10	4.5
16	31	81	66	32	37	23	40	19	121	19	9.3	2.4
17	30	99	62	30	37	89	38	20	122	17	9.0	6.2
18	29	98	58	29	43	202	36	19	123	16	17	8.3
19	28	70	53	32	49	168	34	19	118	15	24	8.6
20	28	124	49	43	53	258	32	19	108	14	27	8.8
21	28	121	47	62	61	282	32	21	74	13	25	9.4
22	28	110	45	68	78	279	32	21	55	12	24	8.6
23	27	95	44	64	92	255	33	23	46	10	21	4.9
24	26	86	44	58	90	185	35	27	40	7.0	21	2.8
25	27	79	45	52	79	100	38	31	36	6.7	19	2.6
26	27	73	46	74	68	82	42	31	29	6.3	17	2.9
27	28	72	46	95	60	75	46	29	28	10	16	4.9
28	28	75	45	130	54	77	48	26	28	8.9	15	6.7
29	28	80	43	220	---	79	47	23	27	8.5	14	7.0
30	28	79	40	264	---	77	44	20	25	9.0	12	6.9
31	27	---	38	258	---	73	---	18	---	8.7	11	---
TOTAL	1085	2264	1899	2222	1806	3092	1371	772	2515.0	597.1	466.3	199.9
MEAN	35.0	75.5	61.3	71.7	64.5	99.7	45.7	24.9	83.8	19.3	15.0	6.66
MAX	78	124	99	264	181	282	73	41	296	43	27	10
MIN	26	25	38	29	37	23	32	18	21	6.3	7.8	2.4
MEAN+	34.4	78.2	59.3	80.3	56.4	100	44.7	23.0	83.8	18.6	15.3	5.35
CFSM+	1.32	3.01	2.28	3.09	2.17	3.85	1.72	.88	3.22	.72	.59	.21
IN.+	1.52	3.36	2.63	3.56	2.26	4.45	1.92	1.02	3.60	.83	.68	.23

CAL YR 1985 TOTAL 12804.0 MEAN 35.1 MAX 126 MIN 3.7 MEAN+ 35.1 CFSM+ 1.35 IN.+ 18.32
WTR YR 1986 TOTAL 18289.3 MEAN 50.1 MAX 296 MIN 2.4 MEAN+ 49.9 CFSM+ 1.92 IN.+ 26.05

+ Adjusted for change in contents in Buffumville Lake.

Reservoirs in Thames River Basin

- 01123350 EAST BRIMFIELD LAKE.--Lat 42°06'32", long 72°07'35", Worcester County, Hydrologic Unit 01100001, on Quinebaug River, 0.7 mi southwest of Fiskdale, Mass., 1.2 mi east of East Brimfield. Completed in 1960 by U.S. Army Corps of Engineers for storage of water for recreation, conservation, and flood control. Usable capacity, 1,400,000,000 ft³, including 101,000,000 ft³ storage in recreation and conservation pool. Records provided by U.S. Army Corps of Engineers.
- 01123550 WESTVILLE LAKE.--Lat 42°04'55", long 72°03'28", Worcester County, Hydrologic Unit 01100001, on Quinebaug River, 1.3 mi west of Southbridge, Mass. Completed in 1962 by U.S. Army Corps of Engineers for storage of water for recreation and flood control. Usable capacity, 484,000,000 ft³, including 4,400,000 ft³ storage in recreation pool. Records provided by U.S. Army Corps of Engineers.
- 01124300 HODGES VILLAGE RESERVOIR.--Lat 42°07'09", long 71°52'51", Worcester County, Hydrologic Unit 01100001, on French River at Hodges Village, Mass. Completed in 1960 by U.S. Army Corps of Engineers for storage of water for flood control. Usable capacity, 577,000,000 ft³. Records provided by U.S. Army Corps of Engineers.
- 01124400 BUFFUMVILLE LAKE.--Lat 42°06'58", long 71°54'29", Worcester County, Hydrologic Unit 01100001, on Little River at Charlton, Mass., 2.2 mi west of Oxford. Completed in 1958 by U.S. Army Corps of Engineers for storage of water for recreation and flood control. Usable capacity, 553,000,000 ft³, including 61,000,000 ft³ storage in recreation pool. Records provided by U.S. Army Corps of Engineers.

MONTHEND USABLE CONTENTS, IN MILLIONS OF CUBIC FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	East Brimfield Lake	Westville Lake	Hodges Village Reservoir	Buffumville Lake
Sept. 30, 1985.....	116.0	10.8	4.9	62.7
Oct. 31.....	106.0	5.2	.7	61.0
Nov. 30.....	155.9	6.2	2.6	68.0
Dec. 31.....	107.7	5.2	1.0	62.7
Jan. 31, 1986.....	178.9	9.1	10.2	85.8
Feb. 28.....	111.0	21.2	1.5	66.2
Mar. 31.....	114.3	6.3	24.8	68.0
Apr. 30.....	109.3	5.4	1.5	65.3
May 31.....	106.0	4.9	.7	60.1
June 30.....	107.7	5.1	.7	60.1
July 31.....	104.4	5.2	.7	58.4
Aug. 31.....	102.7	4.6	.6	59.2
Sept. 30.....	101.1	.1	.4	55.8

CONNECTICUT RIVER BASIN

125

01162000 MILLERS RIVER NEAR WINCHENDON, MASS.

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

DRAINAGE AREA.--81.8 mi².

PERIOD OF RECORD.--Discharge: June 1916 to current year. March to May 1917, monthly discharge only, published in WSP 1301.

Water-quality records: Water years 1957, 1965-66.

REVISED RECORDS.--WSP 451: 1916. WSP 1051: 1919, 1920-21(M), 1922-24, 1928(M), 1933-34.

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

GAGE.--Water-stage recorder. Concrete control since Oct. 6, 1933. Datum of gage is 826.66 ft above National Geodetic Vertical Datum of 1929. Prior to July 27, 1916, nonrecording gage at bridge at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Lake Monomonac 6 mi upstream and other reservoirs and, prior to 1957, by powerplant. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--70 years, 144 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,500 ft³/s Sept. 22, 1938, gage height, 21.55 ft, from flood-marks, from rating curve extended above 2,000 ft³/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, 1,010 ft³/s Jan. 27, gage height, 8.35 ft; maximum gage height, 8.83 ft Jan. 29; minimum daily, 20 ft³/s July 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	66	103	70	e360	118	390	102	49	38	257	52
2	21	71	145	67	e325	107	352	94	73	55	210	53
3	23	74	159	84	e280	105	317	86	71	112	172	47
4	41	67	143	99	e265	100	280	79	60	123	144	45
5	54	101	131	116	e240	99	252	78	64	111	116	43
6	99	166	120	108	e215	97	227	69	239	101	102	54
7	87	156	114	95	e200	95	246	62	393	89	93	44
8	70	150	109	86	e190	e91	249	60	439	75	136	43
9	111	130	106	e85	e180	89	240	61	372	53	314	38
10	117	111	103	e80	e175	88	222	59	278	38	358	34
11	102	113	101	e72	e160	108	208	55	204	27	317	32
12	104	122	101	e64	e150	122	191	52	199	27	225	36
13	102	140	98	e58	e140	127	173	50	249	36	173	34
14	96	131	103	e55	126	192	151	45	234	65	130	31
15	101	206	101	e53	123	579	137	42	196	66	95	29
16	119	191	92	e51	115	652	127	40	156	73	79	32
17	113	228	88	e50	115	631	111	41	140	47	98	35
18	114	248	83	e50	121	618	102	41	117	41	211	36
19	130	234	78	e52	122	e690	95	40	101	37	325	38
20	125	218	78	e75	115	e930	82	37	202	31	310	39
21	110	196	78	e96	138	e900	81	36	243	28	241	42
22	100	180	75	e94	207	e780	81	40	255	25	187	42
23	93	196	79	e93	199	604	103	47	207	22	148	69
24	81	188	79	e82	e180	474	104	70	155	20	124	105
25	68	168	76	75	e160	394	113	111	125	20	100	92
26	63	134	72	310	e150	368	115	108	105	21	64	85
27	63	118	73	e910	e135	414	117	93	93	42	69	76
28	59	118	72	e990	126	507	121	87	83	69	80	68
29	59	114	70	e750	---	515	118	71	73	137	73	63
30	73	107	70	e550	---	478	111	56	64	295	61	69
31	70	---	70	e440	---	433	---	47	---	289	53	---
TOTAL	2634	4442	2970	5860	5012	11505	5216	1959	5239	2213	5065	1506
MEAN	85.0	148	95.8	189	179	371	174	63.2	175	71.4	163	50.2
MAX	130	248	159	990	360	930	390	111	439	295	358	105
MIN	21	66	70	50	115	88	81	36	49	20	53	29

CAL YR 1985 TOTAL 31110 MEAN 85.2 MAX 480 MIN 10
WTR YR 1986 TOTAL 53621 MEAN 147 MAX 990 MIN 20

e Estimated

01162500 PRIEST BROOK NEAR WINCHENDON, MASS.

LOCATION.--Lat 42°40'57", long 72°06'56", Worcester County, Hydrologic Unit 01080202, on right bank 100 ft downstream from highway bridge, 3 mi upstream from mouth, and 3.5 mi west of Winchendon.

DRAINAGE AREA.--19.4 mi².

PERIOD OF RECORD.--Discharge: May 1916 to current year. Monthly discharge only October 1917 to July 1918 (published in WSP 1301) and September 1935 to September 1936.
Water-quality records: Water years 1965-66.

REVISED RECORDS.--WSP 451: 1916. WSP 871: Drainage area. WSP 1051: 1919, 1922-24. WSP 1301: 1917(M), 1919-24(M), 1926-27(M), 1929(M), 1931-35(M).

GAGE.--Water-stage recorder. Concrete control since September 1936. Datum of gage is 849.67 ft above 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 discharge, which are fair. Prior to 1962, occasional diurnal fluctuation at low flow by mill upstream; prior to 1953, regulation at low flow by mill and ponds. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--70 years, 32.6 ft³/s, 22.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,000 ft³/s Sept. 21, 1938, gage height, 9.90 ft, from rating curve extended above 620 ft³/s on basis of contracted-opening measurements at gage heights 8.4 ft and 9.90 ft; minimum, 0.08 ft³/s several times in September 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 190 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 28	unknown	*450	unknown	Mar. 20	1245	405	5.13
Mar. 15	1515	342	4.87				

Minimum discharge, 3.1 ft³/s July. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	4.8	27	9.9	e87	22	101	22	11	6.9	49	6.8
2	5.6	4.5	35	9.4	68	21	89	19	13	11	43	6.1
3	4.3	4.2	51	11	e58	19	77	17	11	18	41	5.8
4	8.0	4.0	e47	15	e47	19	63	16	9.1	15	32	5.6
5	13	7.1	e39	16	41	19	44	15	9.0	13	23	5.7
6	23	27	34	16	39	19	37	14	28	12	17	6.8
7	20	37	e30	15	34	19	45	14	53	11	14	6.8
8	14	34	27	13	31	18	53	14	61	9.3	23	6.3
9	13	29	25	12	28	16	55	14	48	7.3	84	5.4
10	43	24	e23	12	27	16	51	13	33	6.5	132	4.9
11	49	25	21	11	25	19	46	12	25	5.8	114	4.5
12	27	30	22	11	23	25	41	11	28	6.7	77	4.2
13	12	36	24	11	22	25	37	9.7	46	9.5	58	5.0
14	9.2	35	26	10	21	38	34	8.6	48	17	34	5.8
15	9.9	42	e24	e9.5	21	200	31	8.3	38	13	20	5.1
16	14	42	21	e9.3	19	218	28	7.7	29	9.4	19	5.1
17	12	45	20	e9.4	19	195	26	7.2	24	7.6	21	4.3
18	9.7	54	18	9.6	19	177	24	6.7	22	7.5	28	6.2
19	8.9	57	16	9.7	20	209	22	5.7	18	14	24	7.0
20	9.4	53	14	e16	19	344	18	5.3	37	7.0	22	6.6
21	8.9	46	14	e22	23	263	17	7.2	67	5.8	12	6.7
22	8.2	40	13	e24	39	206	21	9.4	59	4.8	7.4	7.4
23	7.4	38	13	e24	54	153	24	11	44	4.2	6.6	16
24	6.5	37	13	e22	e52	121	27	15	34	3.8	9.1	47
25	6.2	34	13	e21	43	100	28	24	35	3.4	8.8	42
26	5.9	31	12	e38	e32	90	29	27	19	3.6	7.7	32
27	5.6	29	11	e220	28	111	29	24	15	3.8	11	27
28	5.3	30	11	e380	25	148	23	20	13	4.6	16	20
29	4.9	30	9.5	e290	---	140	23	17	11	37	11	16
30	4.7	29	10	e185	---	126	24	15	8.5	72	8.9	14
31	4.6	---	9.5	e120	---	114	---	11	---	69	7.8	---
TOTAL	382.5	938.6	673.0	1581.8	964	3210	1167	420.8	896.6	419.5	981.3	342.1
MEAN	12.3	31.3	21.7	51.0	34.4	104	38.9	13.6	29.9	13.5	31.7	11.4
MAX	49	57	51	380	87	344	101	27	67	72	132	47
MIN	4.3	4.0	9.5	9.3	19	16	17	5.3	8.5	3.4	6.6	4.2
CFSM	.64	1.61	1.12	2.63	1.77	5.34	2.01	.70	1.54	.70	1.63	.59
IN.	.73	1.80	1.29	3.03	1.85	6.16	2.24	.81	1.72	.80	1.88	.66

CAL YR 1985 TOTAL 6943.6 MEAN 19.0 MAX 156 MIN 2.2 CFSM .98 IN. 13.3
WTR YR 1986 TOTAL 11977.1 MEAN 32.8 MAX 380 MIN 3.4 CFSM 1.69 IN. 23.0

e Estimated

CONNECTICUT RIVER BASIN

127

01163200 OTTER RIVER AT OTTER RIVER, MASS.

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

DRAINAGE AREA.--34.1 mi².

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

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

GAGE.--Water-stage recorder. Elevation of gage is 900 ft above National Geodetic Vertical Datum of 1929 from topographic map.

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

AVERAGE DISCHARGE.--21 years (water years 1966-86), 61.9 ft³/s, 24.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 948 ft³/s Mar. 7, 1979, gage height, 5.02 ft; minimum, 2.2 ft³/s Aug. 13, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 536 ft³/s Jan. 27, gage height, 3.88 ft; minimum not determined; minimum daily, 11 ft³/s Sept. 13-15, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	e24	e56	22	116	45	106	46	22	16	41	e18
2	27	e23	e68	22	89	41	94	41	33	41	33	e16
3	26	e24	e95	36	83	40	84	36	35	81	34	e15
4	48	e25	e75	62	e77	40	77	35	27	70	30	e14
5	71	e27	e67	54	69	42	72	33	28	52	25	e14
6	106	e60	59	54	64	41	67	33	98	39	22	e16
7	101	e78	53	e42	e56	40	74	33	203	30	20	e19
8	77	e65	52	e38	57	e37	79	33	211	25	43	e17
9	59	e55	48	34	e56	35	79	33	165	22	135	e15
10	47	e48	47	31	53	34	74	30	112	20	134	e14
11	38	e54	45	30	49	56	68	28	77	18	83	e13
12	32	e66	51	28	e50	81	63	25	71	18	51	e12
13	36	e76	53	28	e47	76	59	23	93	29	35	e11
14	37	e77	56	e27	e44	97	53	23	90	120	28	e11
15	37	e80	e51	e23	42	332	49	22	70	141	24	e11
16	41	e82	46	e22	e40	364	47	21	53	100	24	e14
17	37	e96	42	21	40	310	44	24	57	76	25	e13
18	32	e115	40	22	43	250	42	25	53	78	46	e12
19	31	e105	e37	32	51	245	40	24	42	78	87	e12
20	35	e95	e33	62	48	349	38	22	67	76	72	e11
21	31	e90	31	74	59	293	37	23	85	58	47	e14
22	27	e85	30	68	97	204	47	26	67	33	35	e13
23	23	e80	30	62	91	154	54	32	49	22	29	e12
24	24	e75	31	e51	92	131	62	44	39	19	25	e17
25	26	e70	33	e40	78	118	63	53	32	17	22	e27
26	27	e64	e32	128	68	110	65	45	28	16	19	e24
27	24	e60	29	429	e56	119	69	34	24	22	23	e20
28	22	e70	26	439	e48	154	69	29	22	27	e40	e18
29	e24	e65	24	320	---	156	61	26	21	29	e33	e17
30	e26	e60	23	198	---	136	53	23	18	59	e27	e16
31	e25	---	22	136	---	120	---	20	---	57	e21	---
TOTAL	1230	1994	1385	2635	1763	4250	1889	945	1992	1489	1313	456
MEAN	39.7	66.5	44.7	85.0	63.0	137	63.0	30.5	66.4	48.0	42.4	15.2
MAX	106	115	95	439	116	364	106	53	211	141	135	27
MIN	22	23	22	21	40	34	37	20	18	16	19	11
CFSM	1.16	1.95	1.31	2.49	1.85	4.02	1.85	.89	1.95	1.41	1.24	.45
IN.	1.34	2.18	1.51	2.87	1.92	4.64	2.06	1.03	2.17	1.62	1.43	.50

CAL YR 1985 TOTAL 14238 MEAN 39.0 MAX 213 MIN 8.2 CFSM 1.14 IN. 15.53
WTR YR 1986 TOTAL 21341 MEAN 58.5 MAX 439 MIN 11 CFSM 1.71 IN. 23.28

e Estimated

CONNECTICUT RIVER BASIN

01164000 MILLERS RIVER AT SOUTH ROYALSTON, MASS.

LOCATION.--Lat 42°37'47", long 72°09'03", Worcester County, Hydrologic Unit 01080202, on right bank 500 ft downstream from bridge in South Royalston, 0.4 mi downstream from Beaver Brook, 1.7 mi downstream from Birch Hill Dam, and at mile 25.5.

DRAINAGE AREA.--189 mi².

PERIOD OF RECORD.--Discharge: July 1939 to current year.
Water-quality records: Water years 1957, 1965-66.

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

GAGE.--Water-stage recorder. Datum of gage is 792.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Lake Manomonac and other reservoirs, by mills and powerplants prior to 1955, and at high flow by Birch Hill Reservoir since 1941 (Reservoirs in Connecticut River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years, 327 ft³/s, 23.50 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft³/s Apr. 13, 1940, gage height, 8.40 ft; maximum gage height, at least 10.6 ft about Jan. 18, 1982 (ice jam); minimum daily discharge, 9.3 ft³/s Aug. 4, 1956. Maximum discharge since construction of Birch Hill Reservoir in 1941, 2,830 ft³/s June 25, 26, 1944, gage height, 7.57 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 21 or 22, 1938, reached a stage of 15.9 ft, from floodmarks, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft³/s Mar. 21, gage height, 7.14 ft; minimum daily, 66 ft³/s July 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	298	129	300	e160	1080	e280	1040	275	124	117	468	126
2	142	127	365	e160	1040	e270	765	251	171	141	386	122
3	110	137	493	e165	1100	e250	613	227	195	312	337	106
4	152	131	443	e290	990	252	646	209	161	343	295	102
5	221	178	397	e295	899	256	1510	201	146	290	245	101
6	323	414	351	e260	966	250	967	193	419	244	204	115
7	350	519	317	e235	996	246	732	182	358	209	181	123
8	284	486	300	e230	952	248	691	179	429	181	217	106
9	241	414	282	e220	e865	e225	630	176	911	139	546	100
10	286	343	267	e210	784	220	556	169	1200	110	721	91
11	259	319	259	e180	584	262	500	157	894	91	726	84
12	245	361	269	e155	e390	375	462	146	556	83	576	83
13	220	416	280	e140	e325	371	427	146	541	114	412	85
14	214	413	290	e130	e305	407	389	134	429	260	313	79
15	216	460	269	e125	e300	651	358	124	375	348	224	75
16	246	482	e285	e120	e285	751	329	123	522	314	188	86
17	245	495	e240	e120	e280	1000	309	121	415	226	190	96
18	225	571	e215	e125	281	1190	285	122	329	182	272	94
19	227	581	e215	e130	299	1180	267	116	269	177	543	92
20	246	549	e215	e180	295	1590	245	109	349	163	631	90
21	226	505	e210	e280	321	1840	233	108	520	146	487	98
22	207	452	e200	e270	477	1850	253	129	519	114	362	102
23	188	438	e190	e260	518	1750	287	155	451	88	291	112
24	173	430	e190	e230	e485	1640	320	189	363	73	254	231
25	159	400	e190	e200	e450	1540	328	267	296	67	225	238
26	147	360	e185	e300	e390	1200	338	271	243	66	167	204
27	141	335	e180	e430	e345	926	350	228	205	93	163	181
28	132	339	e175	732	e310	921	344	198	183	131	236	148
29	122	337	e170	786	---	986	320	170	161	200	216	132
30	132	315	e170	816	---	1050	298	142	140	449	177	127
31	135	---	e165	1140	---	1080	---	121	---	522	148	---
TOTAL	6512	11436	8077	9074	16312	25057	14792	5338	11874	5993	10401	3529
MEAN	210	381	261	293	583	808	493	172	396	193	336	118
MAX	350	581	493	1140	1100	1850	1510	275	1200	522	726	238
MIN	110	127	165	120	280	220	233	108	124	66	148	75
MEAN+	208	382	260	446	414	871	429	171	396	195	334	118
CFSM+	1.10	2.02	1.38	2.36	2.19	4.61	2.27	.90	2.10	1.03	1.77	.62
IN.+	1.27	2.26	1.59	2.72	2.28	5.31	2.53	1.05	2.34	1.19	2.04	.69

CAL YR 1985 TOTAL 79637 MEAN 218 MAX 1150 MIN 39 MEAN+ 218 CFSM+ 1.15 IN.+ 15.67
WTR YR 1986 TOTAL 128395 MEAN 352 MAX 1850 MIN 66 MEAN+ 352 CFSM+ 1.86 IN.+ 25.26

e Estimated

+ Adjusted for change in contents in Birch Hill Reservoir.

01165000 EAST BRANCH TULLY RIVER NEAR ATHOL, MASS.

LOCATION.--Lat 42°38'32", long 72°13'34", Worcester County, Hydrologic Unit 01080202, on right bank 300 ft downstream from Tully Dam, 1.3 mi downstream from Lawrence Brook, 3.5 mi north of Athol, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--50.5 mi².

PERIOD OF RECORD.--Discharge: October 1915 to current year. October 1915 to May 1916 monthly discharge only, published in WSP 1301.
Water-quality records: Water years 1965-66.

REVISED RECORDS.--WSP 451: 1916. WSP 1051: 1916(M), 1928. WSP 1301: 1917-35(M), 1937(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 613.71 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Oct. 26, 1948, nonrecording gage at site 0.2 mi upstream at datum 14.40 ft higher.

REMARKS.--No estimated daily discharges. Records good except those above 100 ft³/s, which are fair. Flow regulated by Tully Reservoir since 1948 (Reservoirs in Connecticut River basin). Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--71 years, 81.7 ft³/s, 21.97 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,140 ft³/s Sept. 21, 1938, gage height, 8.60 ft, from flood-marks, site and datum then in use, from rating curve extended above 1,500 ft³/s on basis of contracted-opening measurement and computation of peak flow over dam; minimum, 0.01 ft³/s Nov. 6-11, 1961; minimum daily, 0.01 ft³/s Nov. 7-10, 1961. Maximum discharge since construction of Tully Lake in 1948, 828 ft³/s Apr. 21, 1960, gage height, 5.38 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 600 ft³/s Mar. 21, gage height, 4.65 ft; minimum, 9.7 ft³/s Aug. 28; minimum daily, 11 ft³/s July 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	13	76	18	43	76	316	63	26	17	85	18
2	28	13	76	23	98	76	255	56	26	17	92	19
3	31	13	93	25	160	56	151	37	26	18	91	19
4	31	14	141	39	136	48	116	40	26	25	91	19
5	31	14	157	68	176	48	253	41	26	45	90	19
6	31	14	134	78	270	51	218	41	26	51	40	19
7	43	19	90	55	307	53	337	39	27	50	20	19
8	71	42	75	45	311	53	409	37	27	25	20	19
9	78	66	59	45	304	49	361	37	277	15	74	19
10	90	86	53	45	317	47	233	37	321	15	180	19
11	44	114	53	32	351	47	208	30	204	13	252	19
12	32	120	68	27	360	47	133	27	74	13	290	19
13	32	119	75	31	345	47	113	27	64	14	156	19
14	24	119	75	33	323	70	117	20	97	15	104	17
15	21	118	75	29	292	86	116	18	97	16	64	16
16	46	119	67	28	142	102	84	18	95	19	34	16
17	26	119	45	28	84	229	77	18	94	23	29	16
18	23	151	37	22	83	316	78	18	49	24	44	16
19	36	164	37	20	83	302	69	18	29	24	73	16
20	40	163	37	30	82	507	66	18	42	24	95	16
21	40	161	37	35	72	597	59	18	86	24	60	16
22	40	159	37	36	75	589	57	18	131	19	47	16
23	25	103	37	72	81	567	57	40	144	18	22	16
24	20	106	37	129	104	541	53	50	142	14	12	17
25	20	117	37	97	150	509	80	50	54	12	12	15
26	20	115	38	84	170	326	94	49	28	11	12	15
27	21	88	37	49	152	274	94	39	29	13	12	24
28	21	76	37	210	82	353	93	35	29	14	12	31
29	21	76	23	260	---	370	88	29	29	14	12	32
30	16	76	17	212	---	343	82	26	21	18	13	32
31	13	---	17	134	---	317	---	26	---	54	13	---
TOTAL	1094	2677	1877	2039	5153	7096	4467	1020	2346	674	2151	573
MEAN	35.3	89.2	60.5	65.8	184	229	149	32.9	78.2	21.7	69.4	19.1
MAX	90	164	157	260	360	597	409	63	321	54	290	32
MIN	13	13	17	18	43	47	53	18	21	11	12	15
MEAN+	32.7	90.2	61.2	126	117	264	128	32.4	78.2	27.2	66.9	19.6
CFSM+	.65	1.79	1.21	2.50	2.32	5.23	2.53	.64	1.55	.54	1.32	.39
IN.+	.75	1.99	1.40	2.88	2.42	6.04	2.82	.74	1.73	.62	1.53	.43

CAL YR 1985 TOTAL 18072.5 MEAN 49.5 MAX 446 MIN 6.0 MEAN+ 49.2 CFSM+ .97 IN.+ 13.24
WTR YR 1986 TOTAL 31167 MEAN 85.4 MAX 597 MIN 11 MEAN+ 86.8 CFSM+ 1.72 IN.+ 23.34

+ Adjusted for change in contents in Tully Reservoir.

01166105 WHETSTONE BROOK AT DEPOT ROAD AT WENDELL DEPOT, MASS.

LOCATION.--Lat 42°35'39", long 72°21'41", Franklin County, Hydrologic Unit 01080202, on left bank at downstream side of bridge on Depot Road, 0.2 mi southwest of Wendell Depot, and 600 ft upstream from mouth.

DRAINAGE AREA.--5.22 mi².

PERIOD OF RECORD.--December 1985 to September 1986.

GAGE.--Water-stage recorder. Elevation of gage is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for winter period, which are poor.

EXTREMES FOR CURRENT PERIOD.--Peak discharges during period December to September greater than base discharge of 75 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	--	*250	*a6.27	Mar. 19	1915	119	4.34
Mar. 15	0115	184	4.82				

a Ice jam

Minimum discharge, 0.79 ft³/s Sept. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	e3.9	e13	e7.9	16	6.0	4.4	1.9	7.1	1.2
2	---	---	---	e3.9	e12	7.8	14	5.7	6.9	10	5.5	1.0
3	---	---	---	e6.0	e11	7.1	13	5.8	4.2	9.5	4.7	1.0
4	---	---	---	e9.0	e11	6.5	12	5.5	3.2	5.1	3.9	1.1
5	---	---	---	e8.5	e10	6.4	11	5.5	3.5	3.6	3.0	1.3
6	---	---	---	e6.5	e10	6.4	11	5.5	26	3.4	2.5	1.6
7	---	---	---	e5.9	e9.5	e6.4	16	5.5	28	2.9	2.4	1.3
8	---	---	---	e5.6	e9.3	e6.1	15	5.5	17	2.3	3.0	1.3
9	---	---	---	e5.2	e9.0	6.5	13	5.5	11	2.1	5.4	1.2
10	---	---	---	e4.8	e8.6	6.2	12	5.4	6.8	1.9	3.9	1.2
11	---	---	---	e4.6	e8.4	8.3	11	4.6	5.5	1.7	3.3	.87
12	---	---	---	e4.4	e7.9	9.4	9.3	4.4	9.2	2.4	2.4	.93
13	---	---	---	e4.2	e7.5	9.5	9.1	4.4	13	11	2.0	.93
14	---	---	---	e3.9	e7.2	29	8.5	4.1	8.8	23	1.7	.93
15	---	---	---	e3.6	e7.0	e105	7.9	3.9	5.8	9.5	1.7	.91
16	---	---	---	e3.3	e7.0	e40	7.6	3.9	4.7	8.3	2.0	1.5
17	---	---	---	e3.2	e7.0	30	7.4	4.3	6.3	4.8	2.4	1.1
18	---	---	e7.0	e3.2	e8.0	27	6.6	4.0	4.5	3.9	3.0	.99
19	---	---	e6.3	e5.0	e10	72	6.1	3.6	4.0	3.5	2.7	.93
20	---	---	e5.8	e10	e9.2	58	6.1	3.3	12	3.5	2.3	.96
21	---	---	e5.4	e8.0	16	e24	6.4	3.8	8.8	3.1	1.9	1.7
22	---	---	e5.2	e6.5	22	e18	9.3	5.4	5.3	2.7	1.7	1.5
23	---	---	e4.9	e5.8	13	e17	8.1	4.9	4.6	2.4	1.4	2.1
24	---	---	e4.7	e5.2	e11	16	8.2	5.5	3.5	2.2	1.4	3.0
25	---	---	e4.5	e5.0	9.9	15	7.4	5.6	3.4	1.9	1.3	2.0
26	---	---	e4.4	e90	e9.2	20	8.5	3.9	3.2	2.0	1.1	1.8
27	---	---	e4.3	e130	e8.3	28	8.7	3.3	3.0	3.8	2.6	1.7
28	---	---	e4.2	e38	e7.9	31	7.6	3.0	2.8	2.9	2.3	1.3
29	---	---	e4.1	e24	---	23	6.8	2.5	2.3	9.6	1.8	1.4
30	---	---	e4.0	e17	---	21	6.4	2.5	2.2	18	1.5	1.5
31	---	---	e4.0	e14	---	18	---	2.2	---	11	1.3	---
TOTAL	---	---	---	448.2	279.9	686.5	290.0	139.0	223.9	173.9	83.2	40.25
MEAN	---	---	---	14.5	10.0	22.1	9.67	4.48	7.46	5.61	2.68	1.34
MAX	---	---	---	130	22	105	16	6.0	28	23	7.1	3.0
MIN	---	---	---	3.2	7.0	6.1	6.1	2.2	2.2	1.7	1.1	.87
CFSM	---	---	---	2.77	1.92	4.24	1.85	.86	1.43	1.07	.51	.26
IN.	---	---	---	3.19	1.99	4.89	2.07	.99	1.60	1.24	.59	.29

e Estimated

CONNECTICUT RIVER BASIN

131

01166500 MILLERS RIVER AT ERVING, MASS.

LOCATION.--Lat 42°35'51", long 72°26'19", Franklin County, Hydrologic Unit 01080202, on right bank 5 ft downstream from bridge at Farley, 0.6 mi upstream from Mormon Hollow Brook, 2.4 mi downstream from Erving, and 5.5 mi upstream from mouth.

DRAINAGE AREA.--372 mi².

PERIOD OF RECORD.--Discharge: August 1914 to June 1915 (twice-daily gage heights and corresponding discharge), July 1915 to current year.
Water-quality records: Water years 1953, 1965-66.

REVISED RECORDS.--WSP 641: 1920(M). WSP 781: 1928(M), 1933(M). WSP 1301: 1915(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 380 ft above 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 winter period and period of doubtful gage-height record, June 26 to Aug. 15, which are poor. Flow regulated by powerplants and by Lake Monomonic and other reservoirs; high flow regulated by Birch Hill Reservoir 22 mi upstream and Tully Reservoir (Reservoirs in Connecticut River basin); greater regulation by powerplants prior to 1966. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--72 years, 632 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/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 regulation; minimum daily, 8 ft³/s Sept. 6, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,920 ft³/s Jan. 27, gage height, 6.67 ft; minimum daily, 59 ft³/s Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	551	190	586	e330	1470	558	1800	496	216	221	713	179
2	327	187	816	e320	1440	541	1550	445	293	229	626	174
3	217	176	1020	e360	1480	492	1140	406	301	418	551	157
4	247	237	870	e500	1550	475	1040	370	274	458	513	156
5	403	326	822	e570	1180	467	1730	353	228	419	435	158
6	545	614	747	e500	1410	478	1690	340	796	376	353	161
7	594	762	668	e470	1430	467	1330	334	1200	337	264	177
8	585	717	599	e425	1490	399	1430	321	845	293	410	184
9	451	656	567	e400	1390	446	1330	310	1310	221	1290	155
10	442	586	527	e380	1330	401	1140	298	1810	174	1160	154
11	447	593	514	e340	1200	424	958	278	1450	147	1170	152
12	297	692	557	e310	966	588	878	242	1040	158	1060	145
13	307	791	596	e290	830	635	766	233	836	208	817	59
14	359	772	608	e280	780	869	653	227	848	490	556	132
15	351	848	560	e270	744	2750	673	199	664	515	435	147
16	386	853	558	e260	699	2420	626	199	690	500	351	116
17	421	942	524	e250	522	2120	570	205	756	431	341	157
18	357	1050	e470	e250	548	2520	533	202	575	329	532	148
19	347	1070	e450	e270	564	2700	504	190	448	282	561	118
20	404	1000	e435	e450	561	3830	474	182	591	283	865	155
21	386	912	e425	e660	647	3440	456	192	833	226	707	157
22	351	896	e410	e650	881	3320	499	252	807	202	533	154
23	322	820	e375	e600	936	3080	514	269	753	174	428	162
24	275	741	e380	e570	885	2870	561	338	648	159	344	245
25	275	695	e390	e500	826	2640	570	402	534	151	280	342
26	241	691	e375	e1600	732	2330	616	416	397	62	117	289
27	213	670	e360	3920	697	1870	632	370	331	205	246	247
28	232	657	e350	2110	639	1910	609	306	284	310	300	233
29	207	649	e345	1820	---	1970	575	266	256	290	309	197
30	191	612	e350	1250	---	1920	532	211	218	750	268	191
31	200	---	e340	1850	---	1890	---	199	---	779	227	---
TOTAL	10931	20405	16594	22755	27827	50820	26379	9051	20232	9797	16762	5201
MEAN	353	680	535	734	994	1639	879	292	674	316	541	173
MAX	594	1070	1020	3920	1550	3830	1800	496	1810	779	1290	342
MIN	191	176	340	250	522	399	456	182	216	62	117	59

CAL YR 1985 TOTAL 141077 MEAN 387 MAX 2260 MIN 53
WTR YR 1986 TOTAL 236754 MEAN 649 MAX 3920 MIN 59

e Estimated

CONNECTICUT RIVER BASIN

01168151 DEERFIELD RIVER NEAR ROWE, MASS.

LOCATION.--Lat 42°40'57", long 72°58'37", Franklin County, Hydrologic Unit 01080203, on left bank 400 ft downstream from Fife Brook, 600 ft downstream from Fife Brook Dam, 1.2 mi northeast of Hoosac Tunnel, and 4 mi west of Rowe.

DRAINAGE AREA.--254 mi².

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

REVISED RECORDS.--WDR MA-RI-78: 1977.

GAGE.--Water-stage recorder. Datum of gage is 745.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records excellent. Flow regulated by Somerset and Harriman Reservoirs (Reservoirs in Connecticut River basin) and by several powerplants upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--12 years, 732 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,900 ft³/s May 29, 1984, gage height, 14.73 ft, from flood-mark in stilling well, from rating curve extended above 8,300 ft³/s, on basis of slope-area measurement of peak flow and conveyance-slope study; maximum gage height, 14.79 ft Aug. 10, 1976; minimum daily discharge, 28 ft³/s Nov. 14, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,730 ft³/s Mar. 15, gage height, 7.93 ft; minimum daily, 77 ft³/s May 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	680	414	950	1070	1060	592	1430	117	126	311	1140	144
2	627	166	1110	861	713	639	1380	145	233	600	982	325
3	626	143	1040	927	927	625	1460	104	454	496	1100	314
4	508	364	981	871	1070	616	1500	113	325	480	1060	223
5	333	668	946	888	1070	634	1170	369	623	204	1100	207
6	402	820	1010	1100	1090	655	921	344	656	330	1040	233
7	449	743	993	1070	1070	646	1320	295	294	548	1120	310
8	577	626	981	982	1000	629	1190	272	304	454	1100	241
9	304	495	861	1050	971	609	1320	295	256	410	1030	426
10	379	519	996	1080	979	616	1380	299	600	841	671	686
11	303	690	961	1080	980	235	1310	265	599	702	1190	686
12	160	727	1000	1050	1050	179	1270	191	1140	768	1020	322
13	197	1260	993	1060	1040	167	1190	243	1750	991	1110	524
14	142	1520	1030	1070	1050	625	1260	183	1320	813	1050	491
15	567	2900	1010	1050	647	1770	450	156	745	1130	1090	633
16	593	2380	1020	949	659	1300	154	345	830	868	999	698
17	572	2270	1120	1050	888	1080	83	142	1060	707	753	692
18	568	1840	984	791	878	818	139	77	743	681	1330	608
19	599	1990	1070	794	953	1750	83	338	742	184	1170	419
20	793	1470	1090	995	913	1860	83	254	1060	247	1120	236
21	847	1070	1040	1100	842	1500	227	305	1210	539	1100	409
22	784	897	1040	1020	704	1250	558	659	1080	496	1030	773
23	635	1020	1060	1030	646	1030	292	942	1120	557	1130	1160
24	671	980	1070	1060	668	1180	297	480	1070	511	789	1280
25	810	964	1060	1070	635	1890	375	294	1100	808	1100	1040
26	390	985	1070	1020	659	2080	167	155	1050	230	1160	1130
27	105	899	1050	1410	660	2150	97	198	1100	214	1090	1090
28	527	951	1050	963	630	1530	125	226	800	566	1090	1080
29	761	979	1050	995	---	1420	117	145	561	809	969	1050
30	726	999	1010	1040	---	1570	142	449	201	1130	250	767
31	517	---	1070	1050	---	1800	---	124	---	1380	101	---
TOTAL	16152	31749	31716	31546	24452	33445	21490	8524	23152	19005	30984	18197
MEAN	521	1058	1023	1018	873	1079	716	275	772	613	999	607
MAX	847	2900	1120	1410	1090	2150	1500	942	1750	1380	1330	1280
MIN	105	143	861	791	630	167	83	77	126	184	101	144

CAL YR 1985 TOTAL 219327 MEAN 601 MAX 2900 MIN 73
WTR YR 1986 TOTAL 290412 MEAN 796 MAX 2900 MIN 77

CONNECTICUT RIVER BASIN

133

01168500 DEERFIELD RIVER AT CHARLEMONT, MASS.

LOCATION.--Lat 42°37'33", long 72°51'20", Franklin County, Hydrologic Unit 01080203, on left bank 0.8 mi east of Charlemont, 2.5 mi downstream from Chickley River, and at mile 24.5.

DRAINAGE AREA.--361 mi².

PERIOD OF RECORD.--Discharge: June 1913 to current year.
Water-quality records: Water years 1954-55, 1958, 1967-69.

REVISED RECORDS.--WSP 781: 1915(M). WSP 1301: 1918(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 517.36 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Somerset Reservoir, since 1924 by Harriman Reservoir (Reservoir in Connecticut River basin), and by several powerplants upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--73 years, 898 ft³/s

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,300 ft³/s Sept. 21, 1938, gage height, 20.17 ft, from floodmarks, from rating curve extended above 31,000 ft³/s on basis of slope-area and contracted-opening measurements at gage heights 17.75 ft and 20.17 ft; minimum daily, 5 ft³/s June 17, 1921.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,200 ft³/s Mar. 19, gage height, 8.36 ft; minimum daily, 154 ft³/s May 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	696	456	1280	1090	1290	710	2110	263	202	329	1310	162
2	669	276	1790	906	1050	742	1910	289	291	708	1190	396
3	697	223	1620	982	1120	734	1900	195	517	602	1170	345
4	676	363	1450	924	1270	722	1800	211	385	676	1070	265
5	474	1070	1390	973	1280	735	1480	421	503	355	1070	270
6	686	1340	1400	1120	1260	728	1230	476	903	289	1000	287
7	570	1100	1350	1090	1250	753	1750	399	1200	677	1210	306
8	647	854	1290	1010	1140	748	1740	352	693	494	1330	375
9	420	697	1150	1080	1110	699	1690	428	421	427	1330	424
10	444	682	1230	1070	1090	700	1640	380	742	698	830	522
11	374	903	1180	1060	1070	473	1540	280	690	663	1380	655
12	237	1110	1300	1040	1110	344	1460	323	1250	718	1090	470
13	265	1700	1260	1060	1110	353	1340	298	2030	1060	1110	491
14	324	1740	1260	1050	1110	774	1400	260	1560	866	1050	414
15	592	3380	1160	977	801	3760	812	221	924	1110	1030	592
16	803	2540	1230	1010	760	2350	368	371	848	997	1120	714
17	687	2670	1240	997	926	1940	282	229	1110	559	960	583
18	664	2400	1100	761	952	1680	319	154	893	840	1530	637
19	648	2480	1140	932	1050	4800	252	363	761	251	1330	449
20	882	2020	1160	e1300	974	4040	240	313	1480	281	1160	225
21	908	1520	1140	e1500	1070	2250	387	375	1430	489	1110	421
22	832	1320	1110	e1300	1040	1810	655	562	1190	480	1020	695
23	744	1340	1140	e1250	862	1520	570	1090	1130	587	1100	1210
24	699	1350	1130	e1200	830	1560	520	654	1080	502	798	1320
25	763	1290	1130	e1150	785	2140	520	392	1070	716	1070	1040
26	601	1290	1080	e1900	765	2780	377	271	1050	289	1090	1060
27	221	1280	1100	e3500	780	3330	253	331	1030	278	1100	1020
28	435	1330	1100	e1800	755	2580	248	286	808	508	1060	995
29	762	1320	1080	e1300	---	2450	264	203	637	864	1050	965
30	730	1330	1060	e1300	---	2740	252	442	340	1640	346	782
31	631	---	1080	1310	---	2830	---	179	---	1610	170	---
TOTAL	18781	41374	38130	37942	28610	53775	29309	11011	27168	20563	33184	18090
MEAN	606	1379	1230	1224	1022	1735	977	355	906	663	1070	603
MAX	908	3380	1790	3500	1290	4800	2110	1090	2030	1640	1530	1320
MIN	221	223	1060	761	755	344	240	154	202	251	170	162

CAL YR 1985 TOTAL 265790 MEAN 728 MAX 3380 MIN 99
WTR YR 1986 TOTAL 357937 MEAN 981 MAX 4800 MIN 154

e Estimated

CONNECTICUT RIVER BASIN

01169000 NORTH RIVER AT SHATTUCKVILLE, MASS.

LOCATION.--Lat 42°38'18", long 72°43'32", Franklin County, Hydrologic Unit 01080203, on right bank in Shattuckville, 1.2 mi south of Griswoldville, and 1.3 mi upstream from mouth.

DRAINAGE AREA.--89.0 mi².

PERIOD OF RECORD.--Discharge: October 1939 to current year. October and November 1939 monthly discharge only, published in WSP 1301.
Water-quality records: Water years 1957, 1967-69.

REVISED RECORDS.--WSP 1111: 1945(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 458.36 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at times caused by mill upstream; because storage capacity is small, daily flows are not affected appreciably. Prior to 1950, greater regulation by mill. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years, 184 ft³/s, 28.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft³/s Oct. 15, 1955, gage height, 10.37 ft, from rating curve extended above 5,700 ft³/s on basis of computation of flow over dam at gage height 9.62 ft; minimum daily, 5.1 ft³/s Oct. 3, 1948.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	0845	3,300	6.85	Mar. 19	1845	*3,550	*7.01
Mar. 15	0300	2,520	6.29	July 29	2115	3,170	6.76

Minimum discharge, 15 ft³/s July 25 minimum daily, 27 ft³/s July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	61	208	e95	e220	e115	765	105	57	49	224	50
2	98	60	631	e93	210	e110	656	102	124	181	178	47
3	98	60	413	101	e200	e110	515	96	82	165	140	45
4	e250	60	292	e110	e180	e105	420	95	60	99	106	48
5	e300	616	245	e98	191	109	371	97	53	79	78	63
6	244	609	234	e95	e175	107	341	92	213	69	67	110
7	158	402	208	e91	e160	104	555	93	336	54	116	69
8	122	261	196	e89	e160	e83	539	93	214	51	179	56
9	103	200	184	e86	e150	e95	421	94	179	46	150	48
10	94	179	173	83	e145	98	345	84	108	42	110	43
11	84	258	168	e80	e135	108	298	76	94	39	175	41
12	e81	366	221	e79	e130	133	265	71	343	42	101	40
13	e100	464	206	e79	e125	126	239	68	525	139	77	55
14	101	383	196	e77	e120	307	219	64	274	158	66	42
15	127	713	e160	e75	e120	1900	194	60	168	92	59	36
16	160	363	e160	e74	e120	990	190	59	131	65	105	37
17	113	569	151	e74	e120	709	179	62	219	54	155	39
18	97	590	e125	e74	118	651	164	59	143	49	287	35
19	e97	478	e120	85	131	1920	152	55	109	46	178	33
20	103	456	e130	343	121	1730	142	52	439	44	122	35
21	89	343	e130	340	191	719	154	83	268	48	94	123
22	81	303	e130	213	317	531	225	160	161	42	80	77
23	77	335	128	e180	197	474	177	175	126	38	67	340
24	74	300	127	e130	e165	446	178	177	105	35	93	296
25	85	252	124	e140	145	422	170	114	90	27	75	141
26	e79	233	e120	750	e125	759	160	83	81	29	60	97
27	72	263	e115	1950	e120	1050	153	71	80	31	132	83
28	69	286	e110	630	e120	939	137	62	67	39	109	71
29	64	240	e105	370	---	970	126	53	60	588	78	67
30	62	216	e105	312	---	1110	115	47	53	932	64	64
31	63	---	e100	e260	---	1060	---	43	---	434	55	---
TOTAL	3457	9919	5715	7256	4411	18090	8565	2645	4962	3806	3580	2331
MEAN	112	331	184	234	158	584	285	85.3	165	123	115	77.7
MAX	300	713	631	1950	317	1920	765	177	525	932	287	340
MIN	62	60	100	74	118	83	115	43	53	27	55	33
CFSM	1.25	3.71	2.07	2.63	1.77	6.56	3.21	.96	1.86	1.38	1.30	.87
IN.	1.44	4.15	2.39	3.03	1.84	7.56	3.58	1.11	2.07	1.59	1.50	.97

CAL YR 1985 TOTAL 51237 MEAN 140 MAX 1940 MIN 12 CFSM 1.58 IN. 21.42
WTR YR 1986 TOTAL 74737 MEAN 205 MAX 1950 MIN 27 CFSM 2.30 IN. 31.24

e Estimated

01169900 SOUTH RIVER NEAR CONWAY, MASS.

LOCATION.--Lat 42°32'31", long 72°41'39", Franklin County, Hydrologic Unit 01080203, on left bank at upstream side of Reeds Bridge just off Bardwell Road, 2.2 mi north of Conway, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--24.1 mi².

PERIOD OF RECORD.--Discharge: June 1966 to current year.
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: 1968-70(P), 1971(M), 1972(P). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 460 ft above 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 good except those for estimated daily discharges, which are poor. Diurnal fluctuation by small powerplant upstream since April 1982. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--20 years, 52.2 ft³/s, 29.41 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,150 ft³/s Sept. 27, 1985, gage height, 9.06 ft, minimum, 2.5 ft³/s Sept. 12-14, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 660 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 5	1330	881	5.53	July 13	2315	909	5.58
Jan. 27	0645	1,210	6.08	July 29	2045	*2,910	*8.04
Mar. 15	0200	1,050	5.82	July 30	1330	1,140	5.98
Mar. 19	1900	838	5.45				

Minimum discharge, 8.3 ft³/s Sept. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	16	57	e25	e64	e35	108	31	e24	13	76	12
2	21	16	177	e25	e57	e33	97	30	e23	68	136	12
3	22	16	87	e35	e52	e31	85	29	e20	39	73	12
4	58	16	e68	e40	e51	e30	79	28	e17	26	58	12
5	65	235	e61	e33	e50	e30	73	28	e20	21	45	14
6	51	110	58	e30	e49	e29	75	27	e180	18	41	19
7	34	77	54	e29	e47	e27	136	28	e190	18	50	15
8	28	54	53	e28	e45	e24	103	30	e130	16	46	13
9	25	45	51	e27	e43	e27	85	29	e90	14	38	12
10	23	43	47	e26	e41	e29	74	26	e50	13	31	11
11	22	63	48	e25	e39	e33	67	24	e42	12	31	9.2
12	19	86	74	e25	e37	e40	63	22	e60	16	26	9.2
13	26	85	60	e24	e36	46	62	22	e90	132	23	9.1
14	28	76	58	e23	e35	156	59	21	e64	136	22	8.6
15	30	100	e52	e22	e34	e590	52	20	e44	43	21	8.3
16	31	66	e50	e22	e34	198	51	20	e35	33	27	9.4
17	24	131	43	e25	e33	165	49	28	e43	26	26	9.2
18	22	117	e39	e30	e33	167	46	22	e35	24	34	8.8
19	22	100	e37	e40	e35	428	44	19	e29	21	36	8.8
20	22	90	e36	e70	e34	278	41	18	e41	21	25	9.4
21	20	72	e36	e150	e50	140	45	41	e38	20	23	21
22	20	71	e36	e90	e90	125	59	42	e28	17	20	14
23	19	83	e36	e56	e60	123	47	e70	e24	17	18	16
24	19	71	e36	e48	e50	117	48	e80	e21	15	18	22
25	22	62	e35	e45	e45	117	44	e48	e20	14	16	14
26	21	59	e32	e350	e42	205	42	e35	18	14	15	12
27	19	66	e30	e560	e40	217	41	e29	17	17	27	11
28	18	71	e29	e120	e37	187	38	e24	17	17	20	10
29	16	62	e28	e95	---	169	36	e21	16	420	16	9.9
30	16	57	e27	e82	---	160	35	e18	14	373	14	10
31	16	---	e26	e72	---	134	---	e17	---	118	13	---
TOTAL	802	2216	1561	2272	1263	4090	1884	927	1440	1752	1065	361.9
MEAN	25.9	73.9	50.4	73.3	45.1	132	62.8	29.9	48.0	56.5	34.4	12.1
MAX	65	235	177	560	90	590	136	80	190	420	136	22
MIN	16	16	26	22	33	24	35	17	14	12	13	8.3
CFSM	1.07	3.07	2.09	3.04	1.87	5.47	2.61	1.24	1.99	2.35	1.43	.50
IN.	1.24	3.42	2.41	3.51	1.95	6.31	2.91	1.43	2.22	2.70	1.64	.56

CAL YR 1985 TOTAL 11225.3 MEAN 30.8 MAX 545 MIN 3.8 CFMS 1.28 IN. 17.33
WTR YR 1986 TOTAL 19633.9 MEAN 53.8 MAX 590 MIN 8.3 CFMS 2.23 IN. 30.31

e Estimated

CONNECTICUT RIVER BASIN

01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MASS.

LOCATION.--Lat 42°32'09", long 72°39'14", Franklin County, Hydrologic Unit 01080203, on right bank 0.4 mi downstream from South River, 1.2 mi west of West Deerfield, 2.5 mi west of Deerfield, and 9.2 mi upstream from mouth.

DRAINAGE AREA.--557 mi².

PERIOD OF RECORD.--Discharge: March to November 1904, January 1905, March to December 1905, October 1940 to current year, published as "at Deerfield" 1904-5.
Water-quality records: Water years 1953, 1967-70.

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

GAGE.--Water-stage recorder. Elevation of gage is 155 ft above 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.--No estimated daily discharges. Records good. Flow regulated since 1913 by Somerset Reservoir, since 1924 by Harriman Reservoir (Reservoirs in Connecticut River basin), and by several powerplants upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--46 years (water years 1941-86), 1,289 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,500 ft³/s Dec. 31, 1948, gage height, 15.3 ft; minimum daily, 28 ft³/s July 29, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,200 ft³/s Mar. 19, gage height, 8.01 ft; minimum daily, 262 ft³/s Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	823	585	1680	1390	1790	1020	3400	504	346	485	1960	262
2	924	464	2830	1150	1620	957	3010	498	648	1100	1630	385
3	878	401	2350	1330	1460	1120	2840	412	657	842	1670	480
4	1160	491	1780	1240	1580	992	2560	472	606	1060	1320	451
5	1050	2260	1800	1240	1650	994	2210	653	586	470	1310	416
6	1330	2540	1750	1440	1640	984	1990	781	1720	510	1310	443
7	856	2100	1710	1410	1570	1040	2680	572	2590	809	1350	473
8	969	1190	1690	1240	1380	958	2810	655	1390	691	1790	472
9	745	1210	1360	1330	1480	960	2470	603	720	444	1830	428
10	595	1170	1530	1470	1390	1130	2350	591	774	912	1260	550
11	614	1380	1460	1300	1500	775	2130	562	1100	813	1490	738
12	415	1900	1830	1240	1410	604	2100	495	1710	968	1520	811
13	413	2620	1780	1370	1440	531	1900	521	3100	1590	1170	435
14	589	2430	1620	1330	1420	1380	1910	298	2420	1180	1400	633
15	882	4680	1600	1340	1110	7720	1500	441	1660	1510	1230	692
16	1240	3340	1580	1300	1080	4380	760	442	956	1250	1350	836
17	1030	3960	1470	1400	1180	3390	617	487	1340	849	1280	686
18	774	3600	1420	1100	1300	3050	540	290	1370	1030	2310	767
19	922	3500	1430	1200	1440	6900	614	608	950	381	1780	681
20	1200	3060	1410	1860	1240	7890	592	422	2220	344	1550	348
21	1190	2310	1430	2320	1500	3710	654	502	2270	715	1380	593
22	1090	1770	1410	1800	1890	2960	1050	896	1590	489	1180	1010
23	1020	2010	1470	1520	1480	2510	1080	1500	1240	843	1260	1420
24	863	2000	1510	1570	1190	2450	855	1330	1430	538	1030	2020
25	960	1710	1460	1390	1160	2920	901	665	1310	754	1280	1350
26	932	1660	1370	3460	1030	3960	772	578	1370	468	1310	1230
27	388	1890	1310	7260	1060	5530	720	433	1260	452	1450	1370
28	555	1850	1380	3100	1110	4490	554	389	878	498	1400	1120
29	881	1750	1350	2240	---	4100	568	285	901	1780	1300	1160
30	995	1710	1400	1960	---	4570	498	535	633	3680	616	1130
31	854	---	1350	1780	---	4680	---	270	---	2580	356	---
TOTAL	27137	61541	49520	55080	39100	88655	46635	17690	39745	30035	43072	23390
MEAN	875	2051	1597	1777	1396	2860	1554	571	1325	969	1389	780
MAX	1330	4680	2830	7260	1890	7890	3400	1500	3100	3680	2310	2020
MIN	388	401	1310	1100	1030	531	498	270	346	344	356	262

CAL YR 1985 TOTAL 381690 MEAN 1046 MAX 6040 MIN 182
WTR YR 1986 TOTAL 521600 MEAN 1429 MAX 7890 MIN 262

CONNECTICUT RIVER BASIN

137

01170100 GREEN RIVER NEAR COLRAIN, MASS.

LOCATION.--Lat 42°42'12", long 72°40'16", Franklin County, Hydrologic Unit 01080203, on right bank 0.5 mi upstream from bridge on West Leyden Road and 2.5 mi northeast of Colrain.

DRAINAGE AREA.--41.4 mi².

PERIOD OF RECORD.--Discharge: October 1967 to current year.
Water-quality records: Water years 1968-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-71-1: 1968(M), 1969.

GAGE.--Water-stage recorder. Elevation of gage is 435 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--19 years, 91.7 ft³/s, 30.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,560 ft³/s Dec. 21, 1973, gage height, 8.2 ft, from floodmarks, from rating curve extended above 1,500 ft³/s on basis of slope area measurement of peak flow and conveyance-slope study; maximum gage height, 8.87 ft Jan. 27, 1976 (ice jam); minimum discharge, 1.9 ft³/s Aug. 1, 1968, caused by unusual regulation.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	0715	1,120	5.04	Mar. 19	1845	*1,330	*5.33
Mar. 15	0330	1,230	5.19				

Minimum discharge, 13 ft³/s July 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	23	89	e41	e115	e50	356	57	27	23	88	22
2	35	23	253	e37	e100	e49	313	51	50	91	86	20
3	37	23	173	e43	e91	e48	249	48	36	71	55	20
4	72	23	126	e47	e86	e47	210	47	27	45	43	21
5	98	221	113	e44	e86	e47	187	47	24	36	34	26
6	103	245	103	e42	e80	e46	171	46	84	32	29	42
7	60	167	91	e40	e75	e44	260	45	107	29	51	28
8	47	108	86	e38	e73	e40	240	46	78	24	68	23
9	40	81	81	e37	e70	e42	195	46	57	22	58	20
10	36	74	74	e36	e67	e45	163	41	41	20	50	19
11	32	105	74	e35	e62	e50	144	37	37	18	72	17
12	29	142	91	e34	e60	e59	129	35	136	22	42	18
13	37	175	84	e33	e58	e58	116	33	238	59	33	21
14	44	155	82	e33	e57	e110	108	31	121	62	28	17
15	47	254	65	e32	e56	e760	99	29	71	39	25	15
16	56	147	e65	e31	e55	407	92	30	59	29	37	16
17	41	213	e60	e31	55	306	87	30	127	25	88	17
18	36	221	e54	e31	58	296	79	28	69	23	141	15
19	36	191	e51	e35	64	714	73	26	53	22	86	15
20	38	186	e54	e140	57	556	70	24	197	20	56	16
21	33	144	e56	e140	114	304	77	42	126	21	43	46
22	31	130	e55	e100	165	244	110	66	75	19	36	30
23	29	143	e54	e80	84	222	83	89	58	17	30	115
24	29	129	e53	e56	e70	211	82	93	49	15	42	93
25	36	108	e52	e60	e62	201	82	58	42	14	34	46
26	31	101	e50	e340	e53	320	78	42	37	14	26	33
27	28	113	e49	685	e52	439	74	35	34	15	61	29
28	25	122	e48	278	e51	418	66	31	32	26	48	26
29	24	101	e47	164	---	433	62	26	27	148	35	25
30	24	92	e45	145	---	491	60	24	24	302	28	23
31	24	---	e43	e130	---	459	---	22	---	171	25	---
TOTAL	1278	3960	2421	3018	2076	7516	4115	1305	2143	1474	1578	874
MEAN	41.2	132	78.1	97.4	74.1	242	137	42.1	71.4	47.5	50.9	29.1
MAX	103	254	253	685	165	760	356	93	238	302	141	115
MIN	24	23	43	31	51	40	60	22	24	14	25	15
CFSM	.99	3.19	1.89	2.35	1.79	5.86	3.31	1.02	1.73	1.15	1.23	.70
IN.	1.15	3.56	2.18	2.71	1.87	6.75	3.70	1.17	1.93	1.32	1.42	.79

CAL YR 1985 TOTAL 21441 MEAN 58.7 MAX 571 MIN 5.7 CFSM 1.42 IN. 19.27
WTR YR 1986 TOTAL 31758 MEAN 87.0 MAX 760 MIN 14 CFSM 2.10 IN. 28.54

e Estimated

CONNECTICUT RIVER BASIN

01170500 CONNECTICUT RIVER AT MONTAGUE CITY, MASS.

LOCATION.--Lat 42°34'48", long 72°34'30", Franklin County, Hydrologic Unit 01080201, on left bank 75 ft downstream from railroad bridge at Montague City, 1,000 ft downstream from Deerfield River, and at mile 119.0.

DRAINAGE AREA.--7,860 mi².

PERIOD OF RECORD.--March 1904 to current year. Prior to October 1929, published as "at Sunderland." Records published for both sites October 1929 to September 1932.

REVISED RECORDS.--WSP 471: 1904-17. WSP 741: 1930-32. WSP 781: 1928(M). WSP 1051: 1905, 1909-10, 1912-14, 1920, 1922-23, 1925-26, 1928, drainage area at Sunderland. WSP 1301: 1905(M), 1914-19(M), 1930-31(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 99.87 ft above 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 excellent except those for winter period, which are good. Flow regulated by powerplants and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs (Reservoirs in Connecticut River basin), and other reservoirs, combined usable capacity, about 43,400,000,000 ft³. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--82 years, 13,810 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 236,000 ft³/s Mar. 19, 1936, gage height, 49.2 ft, from floodmarks; minimum daily, 215 ft³/s Aug. 31, Sept. 1, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 87,300 ft³/s Apr. 1, gage height, 29.59 ft; minimum daily, 1,860 ft³/s July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12500	5450	11000	6220	31200	7720	84200	14700	9150	7450	21300	4170
2	7800	7340	15200	8180	22900	8930	77900	12500	11700	10200	16200	5600
3	7210	4100	25100	10500	22600	9840	71800	10000	13800	8870	18100	8000
4	6670	5770	18800	9710	24100	9500	63700	10600	13100	10200	19800	7990
5	8130	9570	18400	5530	17200	7730	54100	10800	12200	5070	17800	7450
6	8740	19200	14700	11200	15700	7650	44100	9990	14100	4950	11000	7770
7	9740	21600	12800	e7900	16900	8550	40500	10900	10300	8570	14500	6590
8	10600	19500	14800	e8200	17500	8880	42000	10400	9530	11200	14200	6490
9	7870	17000	10800	e8200	16300	6200	34400	10900	9040	9870	20600	6310
10	7690	15100	10600	e7800	13600	9400	37100	13100	10300	5190	18600	7070
11	6640	15200	13100	e7200	11700	9060	29500	14600	12100	5090	18300	6200
12	4670	17100	14600	e4800	13000	9900	27800	15100	12700	4690	21500	7350
13	5010	18300	13800	e6600	11700	10400	27300	9130	25000	8680	17900	4470
14	6920	20200	14300	e9400	11600	13900	26200	9500	23500	10400	14300	3530
15	8580	31900	10400	e7500	11400	37900	17100	8590	15900	10500	11500	5180
16	12800	32400	8960	e8000	9500	36900	18700	8210	13000	12800	7590	7360
17	18800	28000	9190	e8600	10600	34900	19900	3360	11000	10300	6190	8390
18	15600	26100	10900	e7200	10800	35600	19000	3030	17600	9270	12500	7760
19	14100	28700	10200	e5700	10700	42000	18700	8500	16000	2470	11100	7120
20	8050	21500	9830	e10500	12000	67200	16500	9340	15900	1860	11700	4870
21	15900	22200	7550	11800	11900	66900	16200	9660	18800	6570	10900	6180
22	12500	19600	7610	13800	11500	54200	14900	13700	13700	4880	8280	7870
23	9770	22000	10600	12500	9220	42200	15700	16300	11300	6020	6400	10800
24	8440	17400	9590	10400	10600	40100	18000	30100	9260	5040	5120	12300
25	10200	16400	8970	11300	12000	37900	18200	29700	11700	5480	7490	11900
26	7020	15400	10800	14300	11200	33900	15000	26200	8680	2410	10100	9880
27	4230	14300	9250	e38000	11400	46800	15800	17800	9360	3750	12400	6990
28	7500	15900	7530	e41000	9470	64200	14200	15500	3730	7950	12100	7770
29	7660	10400	5600	e41000	---	63800	14200	14500	2900	10200	14400	8530
30	6660	12200	8020	36100	---	67200	14800	9530	7860	23700	7250	9820
31	6490	---	8600	34300	---	77400	---	4980	---	30500	7500	---
TOTAL	284490	529830	361600	423440	398290	976760	927500	391220	373210	264130	406620	221710
MEAN	9177	17660	11660	13660	14220	31510	30920	12620	12440	8520	13120	7390
MAX	18800	32400	25100	41000	31200	77400	84200	30100	25000	30500	21500	12300
MIN	4230	4100	5600	4800	9220	6200	14200	3030	2900	1860	5120	3530

CAL YR 1985 TOTAL 4153030 MEAN 11380 MAX 43700 MIN 1740
WTR YR 1986 TOTAL 5558800 MEAN 15230 MAX 84200 MIN 1860

e Estimated

01171300 FORT RIVER NEAR AMHERST, MASS.

LOCATION.--Lat 42°21'30", long 72°30'23", Hampshire County, Hydrologic Unit 01080201, on left bank 400 ft downstream from Southeast Street Bridge, 600 ft downstream from Hop Brook, and 1.3 mi southeast of Amherst.

DRAINAGE AREA.--36.3 mi², excludes 5.16 mi², drained by Nurse and Dean Brooks, flow of which is diverted from basin.

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

Water-quality records: Water years 1971, 1973.

REVISED RECORDS.--WDR MA-RI-84-1: 1968-69(M), 1970(P), 1974-77(M), 1979(M), 1980(P), 1983(M), drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 147 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 10, 1974, at site 400 ft upstream at same datum.

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

AVERAGE DISCHARGE.--20 years, 58.1 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft³/s, Mar. 6, 1979, gage height, 9.94 ft; minimum, 1.9 ft³/s Sept. 3, 1966, Sept. 6, 7, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in March 1936 and September 1938 reached discharges of 2,360 ft³/s and 1,640 ft³/s, respectively, by computation of flow over dam 1.2 mi downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 26	1930	*1,350	*7.60	Mar. 15	0415	971	6.25

Minimum discharge, 7.5 ft³/s July 25, 26, Sept. 15; minimum daily, 7.9 ft³/s July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	64	e32	110	e49	72	34	26	12	55	13
2	12	15	159	e32	79	e49	67	32	26	38	51	12
3	16	15	144	e45	78	e49	63	31	21	57	74	12
4	71	15	90	e78	71	e50	57	30	17	40	46	12
5	107	61	67	e56	58	60	56	30	18	24	33	13
6	97	140	61	e46	52	61	56	30	169	19	26	20
7	52	149	52	e41	e50	57	86	29	263	16	22	17
8	35	85	49	e37	48	e47	80	29	172	14	42	15
9	27	54	49	e36	e48	e44	71	28	110	11	55	13
10	24	45	46	e35	48	40	61	26	67	10	39	12
11	21	66	45	e34	46	67	56	24	48	9.0	52	11
12	18	93	77	e33	e45	82	53	23	54	13	36	10
13	24	110	73	e32	e44	105	50	23	77	34	27	9.8
14	31	87	66	e31	47	198	47	21	65	42	22	8.9
15	29	111	57	e28	41	809	44	20	46	e32	20	8.1
16	29	80	49	e25	e40	424	43	20	35	21	21	10
17	23	180	48	e30	38	263	42	34	38	18	22	9.5
18	20	183	e46	e35	47	214	40	29	34	16	24	8.7
19	22	130	e39	e50	72	228	38	23	28	15	23	8.7
20	29	97	e36	e95	62	292	37	22	38	14	21	9.2
21	25	76	e34	e100	110	171	39	23	39	13	19	11
22	22	68	e35	e84	168	127	55	31	29	12	17	12
23	19	85	36	e70	118	112	49	47	24	10	16	13
24	18	74	39	e56	102	101	49	43	22	8.8	17	e14
25	22	64	42	e45	79	89	47	43	20	7.9	e16	12
26	22	60	e36	717	e64	89	48	30	19	25	e14	10
27	19	65	e35	1050	e56	105	48	24	17	60	22	10
28	18	79	e34	335	e53	129	44	21	16	36	22	9.4
29	16	76	e33	242	---	109	40	16	15	47	17	9.1
30	16	64	e32	190	---	91	36	18	13	209	15	9.0
31	16	---	e31	155	---	81	---	15	---	116	14	---
TOTAL	914	2442	1704	3875	1874	4392	1574	849	1566	999.7	900	342.4
MEAN	29.5	81.4	55.0	125	66.9	142	52.5	27.4	52.2	32.2	29.0	11.4
MAX	107	183	159	1050	168	809	86	47	263	209	74	20
MIN	12	15	31	25	38	40	36	15	13	7.9	14	8.1

CAL YR 1985 TOTAL 14308.0 MEAN 39.2 MAX 272 MIN 5.5
WTR YR 1986 TOTAL 21432.1 MEAN 58.7 MAX 1050 MIN 7.9

e Estimated

CONNECTICUT RIVER BASIN

01171500 MILL RIVER AT NORTHAMPTON, MASS.

LOCATION.--Lat 42°19'05", long 72°39'21", Hampshire County, Hydrologic Unit 01080201, on right bank at Northampton 3.5 mi upstream from mouth.

DRAINAGE AREA.--54.0 mi².

PERIOD OF RECORD.--Discharge: October 1938 to current year. October 1938 monthly discharge only, published in WSP 1301.
Water-quality records: Water years 1957-59, 1971, 1973.

REVISED RECORDS.--WSP 921: 1940. WSP 1231: 1940-42(M), 1944-45(M), 1948(M), 1949.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to 1956, flow regulated by mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--47 years, 96.8 ft³/s, 24.34 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,300 ft³/s Aug. 19, 1955, gage height, 11.78 ft, from rating curve extended above 3,700 ft³/s on basis of computation of peak flow over dam; minimum, 2.2 ft³/s Oct. 1, 1950; minimum daily, 4.2 ft³/s Aug. 21, 23, 24, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 26	1415	1,820	5.85	Mar. 15	Unknown	2,000	Unknown
Jan. 27	0745	2,210	6.48	Mar. 19	Unknown	*2,400	*Unknown

Minimum discharge, 13 ft³/s Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	23	94	e46	e145	e82	e190	56	45	23	93	16
2	32	22	301	e46	e130	e74	e170	55	42	127	98	17
3	38	22	179	e50	e120	e70	e150	52	38	107	74	17
4	106	23	118	e74	e120	e68	e140	50	31	56	61	18
5	135	203	105	e65	131	e67	e130	50	37	41	46	20
6	121	189	101	e60	115	e66	e130	49	325	35	40	27
7	68	126	92	e58	e110	e64	e240	50	343	33	38	23
8	65	79	89	e62	e105	e58	e170	54	219	28	43	20
9	59	62	87	e57	e99	e62	e160	52	151	24	41	18
10	55	56	81	e53	e99	e68	e130	46	93	22	39	16
11	50	85	84	e50	89	e80	e120	43	76	20	41	15
12	31	133	149	e47	e85	e100	e110	41	113	28	33	16
13	34	156	119	e45	e85	e120	e110	39	171	101	28	15
14	42	111	112	e42	e83	e250	e105	37	111	140	26	14
15	41	174	86	e39	79	e1300	e95	35	78	70	24	13
16	45	110	86	e41	e76	e600	86	35	65	e46	25	15
17	36	266	80	e40	72	e420	85	53	81	e36	30	15
18	31	226	69	e40	87	e400	76	45	63	e31	44	14
19	31	176	e56	e43	114	e900	71	38	53	e28	41	14
20	34	146	e65	e260	97	e950	68	35	78	e26	32	14
21	31	119	66	227	165	e350	76	79	71	e24	28	21
22	29	111	62	134	234	e250	108	154	52	e22	27	21
23	29	135	67	114	141	e220	88	147	46	e21	24	22
24	28	115	67	89	e120	e210	88	150	41	20	23	29
25	31	98	64	80	e105	e200	80	91	38	18	21	22
26	28	97	e59	834	e94	e310	77	63	34	24	19	18
27	26	109	e55	1230	e90	e400	76	53	32	24	26	16
28	25	124	e52	e370	e84	e350	70	45	31	31	27	15
29	23	104	e50	e260	--	e300	64	38	29	103	21	15
30	23	92	e48	e200	--	e280	59	33	25	352	19	15
31	24	--	e47	e165	--	e240	--	32	--	174	17	--
TOTAL	1387	3492	2790	4921	3074	8909	3322	1800	2612	1835	1149	531
MEAN	44.7	116	90.0	159	110	287	111	58.1	87.1	59.2	37.1	17.7
MAX	135	266	301	1230	234	1300	240	154	343	352	98	29
MIN	23	22	47	39	72	58	59	32	25	18	17	13
CFSM	.83	2.16	1.67	2.94	2.03	5.32	2.05	1.08	1.61	1.10	.69	.33
IN.	.96	2.41	1.92	3.39	2.12	6.14	2.29	1.24	1.80	1.26	.79	.37

CAL YR 1985 TOTAL 19541 MEAN 53.5 MAX 478 MIN 8.4 CFSM .99 IN. 13.46
WTR YR 1986 TOTAL 35822 MEAN 98.1 MAX 1300 MIN 13 CFSM 1.82 IN. 24.68

e Estimated

141

LOCATION.--Lat 42°12'36", long 72°35'44", Hampden County, Hydrologic Unit 01080201, on right bank 2,200 ft downstream from dam of Holyoke Water Power Co. in Holyoke, and at mile 86.

PERIOD OF RECORD.--December 1983 to current year.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by powerplants, by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs (Reservoirs in Connecticut River basin), and other reservoirs, combined usable capacity, about 44 billion ft³. Records do not include water diverted around gage by Holyoke Water Power Co. for industrial use. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 244,000 ft³/s Mar. 20, 1936, gage height, 35.0 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 89,400 ft³/s Apr. 1, gage height, 17.68 ft; minimum daily, 1,330 ft³/s Dec. 30.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7250	3330	7570	2850	28300	6140	87000	9300	7690	7650	19200	5170
2	5830	3680	8390	1540	24500	6390	84500	8050	8800	9990	11700	3110
3	4840	4150	17100	3140	18300	6970	78200	7610	9210	8480	10700	4210
4	4500	3890	18100	5480	20500	6660	69000	7200	9200	10600	14400	4610
5	5970	4450	13800	2820	17800	6370	57700	7620	8270	7410	13200	4140
6	6230	9920	11200	1400	13000	5200	45400	6700	11300	5220	7160	5930
7	6140	15700	8500	5320	12900	5410	37200	5340	9890	6400	9170	6240
8	6140	17600	9680	4360	14700	5850	37800	5560	9070	6250	9570	3530
9	5550	11700	7720	3940	13800	4910	33000	6650	7030	7760	12700	3270
10	5740	12400	5800	4180	10800	5070	32500	7580	7580	2310	13100	3280
11	6040	10500	7020	4170	9280	5950	28400	8960	9040	3390	11600	3180
12	4000	12500	8990	3690	9730	7360	24200	9580	8300	3440	15900	2900
13	3800	12600	9240	2710	8360	6660	22700	7490	15600	6930	12200	3120
14	5440	15000	9630	4610	7930	9010	23900	6010	20800	9100	10500	3990
15	4700	20900	8640	5330	8640	29600	14800	5180	14000	7140	8430	2740
16	4450	30300	5010	2630	7270	40600	13000	4460	10500	7140	5720	4430
17	9550	25700	4990	3880	6850	32600	15100	3270	7270	7230	6640	4820
18	11600	22800	5170	3810	8790	33100	15200	2720	12000	4780	6100	3920
19	9350	24500	5790	3950	8070	35900	14300	4270	11600	4010	5910	3080
20	6320	20100	5500	4660	9490	58400	13000	7250	10000	1630	5590	4020
21	6290	19400	5140	7840	8950	73100	11600	6210	14200	2870	5560	4410
22	9420	15400	4890	8390	12000	60100	11200	8460	12000	3600	4800	6860
23	5320	17800	5270	7510	6620	46000	8900	9840	6460	1530	2140	6320
24	4680	14900	6790	6350	7900	38500	12600	21000	5830	3980	2190	7930
25	4460	13200	6130	7310	8650	35400	12500	26700	7090	4190	2700	6610
26	4410	11100	7280	10700	8300	31700	12400	22700	5900	4270	4690	8170
27	3000	9720	6950	36800	8290	37200	10300	16100	4750	1830	4770	3280
28	5530	12200	3690	48800	6580	58100	10600	11400	4780	5620	7280	3440
29	4430	8600	2470	45700	---	65400	8890	10600	1600	5910	6970	4480
30	4130	7520	1330	37500	---	66900	9320	7220	4460	14100	6060	6030
31	3330	---	2880	31400	---	75500	---	4170	---	23000	4710	---
TOTAL	178440	411560	230660	322770	326300	906050	855210	275200	274220	197760	261360	137220
MEAN	5756	13720	7441	10410	11650	29230	28510	8877	9141	63		

CAL YR 1985	TOTAL 2889810	MEAN 7917	MAX 39600	MIN 1050
WTR YR 1986	TOTAL 4376750	MEAN 11990	MAX 87000	MIN 1330

CONNECTICUT RIVER BASIN

01172500 WARE RIVER NEAR BARRE, MASS.

LOCATION.--Lat 42°25'30", long 72°01'30" Worcester County, Hydrologic Unit 01080204, on left bank 700 ft downstream from Barre Falls Reservoir, 1.6 mi upstream from Burnshirt River, 4 mi east of Barre, and at mile 33.3.

DRAINAGE AREA.--55.1 mi².

PERIOD OF RECORD.--Discharge: July 1946 to current year.
Water-quality records: Water year 1957.

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

GAGE.--Water-stage recorder. Elevation of gage is 745 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Prior to August 1955, slight regulation at low flow at times by Long Pond. Flow regulated by Barre Falls Reservoir (Reservoirs in Connecticut River basin) since 1958. Diversion at times since 1955 from 6.5 mi² upstream of station for municipal supply of Fitchburg. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--40 years, 93.4 ft³/s, 23.02 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft³/s Oct. 16, 1955, gage height, 6.31 ft; minimum, 0.21 ft³/s Aug. 18, 1980, Oct. 22, 1984; minimum daily, 0.5 ft³/s Sept. 11, 1963. Maximum discharge since construction of Barre Falls Reservoir in 1958, 1,230 ft³/s Mar. 14, 1979, gage height, 5.62 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 640 ft³/s Mar. 19, gage height, 4.80 ft; minimum, 6.8 ft³/s Sept. 15, 16; minimum daily, 7.2 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	29	115	51	383	74	224	89	55	25	36	13
2	75	30	115	48	234	66	220	78	52	48	31	12
3	70	31	142	47	203	66	212	68	46	109	35	11
4	104	32	168	71	167	67	193	62	37	91	34	11
5	156	76	165	82	138	67	135	60	34	68	27	11
6	201	187	144	83	116	67	125	60	155	53	22	14
7	205	264	113	83	118	73	128	60	227	44	19	15
8	158	213	113	83	117	70	135	59	306	36	50	14
9	122	163	84	83	117	67	136	58	471	30	70	12
10	101	131	59	82	114	67	129	54	500	25	71	10
11	86	130	60	81	113	68	121	48	255	21	52	9.3
12	74	150	61	81	86	96	114	45	189	20	34	8.9
13	69	165	79	81	84	109	106	43	216	45	28	9.1
14	70	166	102	57	78	143	99	39	208	97	23	8.2
15	72	164	102	48	75	182	92	37	168	98	19	7.2
16	72	155	103	47	75	265	85	34	134	72	17	7.7
17	66	170	103	46	75	373	81	38	134	52	16	8.5
18	57	197	101	46	75	418	75	41	125	41	19	8.4
19	54	203	101	46	76	502	69	38	103	34	48	8.1
20	58	186	100	68	103	543	62	33	107	31	54	7.8
21	55	160	70	91	115	500	61	32	120	28	44	8.6
22	50	159	58	105	117	489	77	42	103	24	34	9.3
23	46	156	58	105	158	465	85	112	82	21	26	9.8
24	43	147	70	105	173	330	96	151	68	18	25	11
25	45	117	76	105	169	273	103	146	57	15	23	11
26	46	110	76	105	120	266	115	114	42	14	18	11
27	43	111	68	113	105	196	131	84	39	20	18	9.9
28	40	113	63	273	101	167	137	65	37	26	21	9.1
29	36	114	62	487	---	211	120	51	35	28	20	9.9
30	29	115	53	582	---	229	102	42	30	39	17	9.7
31	28	---	50	595	---	227	---	35	---	41	15	---
TOTAL	2428	4144	2834	3980	3605	6736	3568	1918	4135	1314	966	305.5
MEAN	78.3	138	91.4	128	129	217	119	61.9	138	42.4	31.2	10.2
MAX	205	264	168	595	383	543	224	151	500	109	71	15
MIN	28	29	50	46	75	66	61	32	30	14	15	7.2
MEAN+	77.8	146	92.6	143	110	226	104	61.6	138	42.5	30.9	10.2
CFSM+	1.41	2.65	1.68	2.60	2.00	4.10	1.89	1.12	2.50	.77	.56	.19
IN.+	1.63	2.96	1.94	2.99	2.08	4.73	2.10	1.29	2.79	.89	.65	.21

CAL YR 1985 TOTAL 24496.9 MEAN 67.1 MAX 314 MIN 2.9 MEAN+ 67.1 CFSM+ 1.22 IN.+ 16.54
WTR YR 1986 TOTAL 35933.5 MEAN 98.4 MAX 595 MIN 7.2 MEAN+ 98.4 CFSM+ 1.79 IN.+ 24.25

+ Adjusted for change in contents in Barre Falls Reservoir.

01172680 NATTY POND BROOK TEMPLETON RD (DS) NEAR HUBBARDSTON, MASS.

LOCATION.--Lat 42°29'44", long 72°01'24", Worcester County, Hydrologic Unit 01080204, on right bank at upstream side of culvert on New Templeton Road, 1.7 mi northwest of Hubbardston.

DRAINAGE AREA.--1.63 mi².

PERIOD OF RECORD.--Water year 1984 (discharge measurements only), October 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 922.13 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29 ft³/s Jan. 27, 1986, gage height, 2.21 ft; minimum, 0.29 ft³/s Oct. 25, 26, Nov. 1, 4, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 17 ft³/s and maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	0715	*29	*2.21	Mar. 20	0115	23	1.89
Mar. 15	0645	19	1.72				

Minimum discharge, 0.30 ft³/s Sept. 14-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	1.3	2.6	1.9	4.0	e2.6	5.5	3.1	1.8	1.3	1.4	.58
2	.90	1.3	4.9	1.9	4.2	e2.5	5.4	3.0	2.1	4.6	1.2	.54
3	1.5	1.4	4.2	3.5	4.0	e2.5	5.0	2.9	1.7	4.1	1.6	.56
4	5.5	1.4	3.0	4.4	3.7	e2.5	4.9	2.8	1.5	2.3	1.3	.59
5	6.8	5.6	2.9	2.8	3.8	e2.6	4.7	2.8	1.6	1.9	.95	.63
6	7.0	6.3	2.9	2.4	3.6	e2.6	4.5	2.8	10	1.9	.87	1.6
7	3.3	4.0	2.7	2.2	3.4	e2.5	5.1	2.8	11	1.8	.82	.81
8	2.6	2.6	2.7	2.0	3.3	e2.4	5.0	2.7	6.3	1.5	3.3	.56
9	2.3	2.2	2.7	1.9	3.2	e2.4	4.6	2.6	6.2	1.3	3.3	.48
10	2.1	2.2	2.5	1.9	3.0	e2.4	4.2	2.4	3.9	1.3	1.5	.40
11	1.9	3.3	2.5	1.9	3.0	e3.1	3.8	2.3	3.4	1.2	1.2	.36
12	1.8	3.7	3.2	1.9	2.9	e3.5	3.6	2.3	4.3	1.5	.95	.38
13	2.1	4.4	3.2	1.9	2.8	e4.0	3.4	2.2	5.2	4.0	.85	.39
14	2.2	3.2	3.2	1.8	2.7	e6.5	3.3	2.1	3.7	7.0	.76	.35
15	1.9	4.1	2.7	1.6	2.7	e18	3.2	2.0	2.9	2.7	.72	.30
16	1.9	3.0	2.5	1.5	2.7	11	3.3	2.0	2.6	1.9	.78	.75
17	1.8	5.8	2.5	1.4	2.6	8.9	3.2	2.4	3.9	1.6	.82	.56
18	1.6	5.3	2.5	1.5	2.7	8.3	3.2	2.3	e2.8	1.5	.85	.43
19	1.8	4.6	2.3	2.0	3.0	13	3.1	2.0	e2.4	1.4	.87	.43
20	2.0	4.0	2.2	3.9	2.7	17	3.1	1.8	e3.6	1.4	.84	.40
21	1.7	3.4	2.2	3.6	3.9	9.0	3.3	2.0	e2.7	1.4	.72	.47
22	1.6	3.1	2.2	2.6	5.6	7.3	3.9	2.6	e2.4	1.2	.68	.47
23	1.5	3.4	2.2	2.5	3.5	6.8	3.9	2.8	e2.0	1.0	.58	.80
24	1.4	3.1	2.2	2.2	3.2	6.5	4.1	3.9	1.9	.96	.95	1.3
25	1.9	2.8	2.2	2.1	2.9	5.9	4.1	3.1	1.9	.86	.68	.58
26	1.7	2.8	2.3	10	e2.9	5.9	3.9	2.3	1.8	1.0	.52	.50
27	1.5	2.8	2.1	24	e2.8	6.5	4.5	2.1	1.7	2.1	1.1	.49
28	1.4	2.9	2.1	9.7	e2.7	8.2	3.9	1.9	1.7	1.4	.93	.44
29	1.3	2.7	2.0	6.2	---	6.8	3.5	1.7	1.6	1.8	.68	.47
30	1.3	2.6	1.9	5.2	---	6.3	3.3	1.6	1.4	2.3	.63	.41
31	1.3	---	1.9	4.6	---	5.9	---	1.5	---	1.6	.58	---
TOTAL	68.59	99.3	81.2	117.0	91.5	193.4	120.5	74.8	100.0	61.82	32.93	17.03
MEAN	2.21	3.31	2.62	3.77	3.27	6.24	4.02	2.41	3.33	1.99	1.06	.57
MAX	7.0	6.3	4.9	24	5.6	18	5.5	3.9	11	7.0	3.3	1.6
MIN	.90	1.3	1.9	1.4	2.6	2.4	3.1	1.5	1.4	.86	.52	.30
CFSM	1.36	2.03	1.61	2.32	2.00	3.83	2.46	1.48	2.04	1.22	.65	.35
IN.	1.57	2.27	1.85	2.67	2.09	4.41	2.75	1.71	2.28	1.41	.75	.39

CAL YR 1985 TOTAL 706.21 MEAN 1.93 MAX 9.6 MIN .35 CFSM 1.19 IN. 16.12
WTR YR 1986 TOTAL 1058.07 MEAN 2.90 MAX 24 MIN .30 CFSM 1.78 IN. 24.15

e Estimated

CONNECTICUT RIVER BASIN

01172800 NATTY POND BROOK NEAR HUBBARDSTON, MASS.

LOCATION.--Lat 42°27'06", long 72°01'48", Worcester County, Hydrologic Unit 01080204, on left bank at upstream side of bridge on Hale Road, 0.2 mi southwest of Hubbardston.

DRAINAGE AREA.--5.48 mi².

PERIOD OF RECORD.--Water year 1984 (discharge measurements only), November 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 865.37 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 64 ft³/s Jan. 27, 1986, gage height, 2.81 ft; minimum, 0.23 ft³/s Sept. 16, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	1700	*64	*2.81	Mar. 21	0945	49	2.56
Mar. 16	1445	62	2.78	June 8	2345	39	2.37

Minimum discharge, 0.23 ft³/s Sept. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	4.4	9.9	4.4	14	6.9	15	6.6	4.6	1.9	4.7	3.1
2	4.5	4.4	14	4.4	13	6.6	12	5.1	4.7	9.0	3.9	e24
3	5.6	4.4	15	7.3	13	6.5	11	3.3	4.2	14	4.7	e14
4	13	4.4	12	12	12	6.7	11	2.6	3.5	11	4.5	e2.5
5	19	13	10	10	12	6.9	10	20	4.0	7.8	2.8	e1.2
6	23	20	9.2	8.8	11	6.8	9.7	16	24	6.0	2.4	1.5
7	21	21	8.9	6.9	9.8	6.6	12	8.4	35	4.8	1.9	.98
8	16	16	8.6	5.8	9.6	5.8	12	6.2	36	3.7	8.6	.70
9	11	12	8.4	5.5	9.1	5.6	12	4.2	35	2.6	7.0	.57
10	8.9	9.0	8.0	5.5	8.9	5.6	10	2.8	27	2.0	6.0	.39
11	7.5	10	7.8	5.3	8.6	8.3	9.2	1.5	19	1.9	4.8	.28
12	6.6	12	11	5.1	8.2	11	8.9	1.2	17	2.1	3.4	.28
13	7.3	15	10	5.0	7.9	11	8.0	1.1	19	7.2	2.5	.27
14	7.9	14	11	4.7	7.5	15	7.6	1.2	16	12	1.7	.32
15	8.0	14	9.2	4.3	7.4	41	7.8	1.2	13	11	1.2	.23
16	7.7	13	7.8	4.6	7.0	56	7.2	1.4	11	7.5	.91	.44
17	6.7	18	7.3	4.2	7.0	48	6.5	2.0	13	4.9	.91	.51
18	5.8	20	6.8	4.4	7.9	38	6.1	2.4	11	3.8	.91	.39
19	6.1	19	6.1	5.4	9.7	37	5.6	2.1	8.9	3.2	.84	.35
20	6.6	20	5.5	11	8.7	45	5.4	1.7	12	3.1	.83	.37
21	6.0	17	5.5	13	11	41	5.3	2.0	11	3.0	.83	.47
22	5.7	14	5.3	10	19	35	6.9	3.8	9.2	2.3	.86	.54
23	5.5	14	5.6	9.2	17	26	7.6	7.0	7.6	1.9	.83	.53
24	5.3	13	5.8	7.0	12	23	8.2	10	6.3	1.7	1.0	.71
25	6.5	12	5.8	5.7	9.9	20	9.7	9.0	5.2	1.5	.93	.79
26	6.0	11	5.5	20	8.7	20	22	6.7	4.4	1.4	.69	.59
27	5.5	11	4.9	57	7.8	21	27	4.7	4.1	2.3	.95	.52
28	5.2	11	4.9	58	7.4	25	21	3.6	4.0	3.0	1.5	.44
29	4.7	11	4.6	42	---	23	15	2.6	3.3	6.2	1.3	.40
30	4.4	10	4.4	25	---	21	9.8	1.5	2.3	7.2	1.2	.56
31	4.4	---	4.3	18	---	19	---	1.8	---	5.7	1.1	---
TOTAL	257.6	387.6	243.1	389.5	285.1	648.3	319.5	143.7	375.3	155.7	75.69	57.93
MEAN	8.31	12.9	7.84	12.6	10.2	20.9	10.6	4.64	12.5	5.02	2.44	1.93
MAX	23	21	15	58	19	56	27	20	36	14	8.6	24
MIN	4.4	4.4	4.3	4.2	7.0	5.6	5.3	1.1	2.3	1.4	.69	.23
CFSM	1.52	2.36	1.43	2.29	1.86	3.82	1.94	.85	2.28	.92	.45	.35
IN.	1.75	2.63	1.65	2.64	1.94	4.40	2.17	.98	2.55	1.06	.51	.39

CAL YR 1985 TOTAL 2376.69 MEAN 6.51 MAX 31 MIN .78 CFSM 1.19 IN. 16.13
WTR YR 1986 TOTAL 3339.02 MEAN 9.15 MAX 58 MIN .23 CFSM 1.67 IN. 22.67

e Estimated

01173000 WARE RIVER AT INTAKE WORKS, NEAR BARRE, MASS.

LOCATION.--Lat 42°23'26", long 72°03'39", Worcester County, Hydrologic Unit 01080204, on right bank above diversion dam at Ware River intake works, 2.7 mi downstream from Burnshirt River, 3 mi southeast of Barre, and at mile 29.1.

DRAINAGE AREA.--96.3 mi².

PERIOD OF RECORD.--January 1928 to current year. Prior to October 1977, published as Ware River at Coldbrook.

REVISED RECORDS.--WSP 1031: 1944. WDR MA-RI-84-1: Drainage area.

GAGE.--Venturi meters and water-stage recorder. Datum of gage is 5.65 ft below National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1936, water-stage recorder at site 0.2 mi downstream at datum 631.91 ft above NGVD.

REMARKS.--No estimated daily discharges. 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 (Reservoirs in Connecticut River basin) since 1958. Diversion at times since 1955 from 6.5 mi² upstream for municipal supply of Fitchburg.

COOPERATION.--Computations of daily discharge made in cooperation with Water Division, Metropolitan District Commission, which collected gage-height and venturi-meter records.

AVERAGE DISCHARGE.--58 years, 167 ft³/s, 23.55 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s Sept. 21, 1938, gage height, 664.28 ft, by computation of flow over dam; minimum daily, 1.1 ft³/s Sept. 19, 1965, caused by unusual regulation. Maximum daily discharge since construction of Barre Falls Reservoir in 1958, 1,570 ft³/s Mar. 6, 14, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 988 ft³/s Mar. 20; minimum daily, 17 ft³/s Sept. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	53	169	98	468	144	373	140	103	54	66	28
2	93	53	243	91	359	126	352	131	95	123	61	41
3	102	53	289	118	318	125	298	130	82	157	66	42
4	186	67	262	138	262	125	311	97	71	150	63	29
5	265	186	232	170	220	126	252	114	84	127	52	27
6	311	351	210	140	219	127	260	122	489	96	45	32
7	275	375	191	137	183	125	273	115	547	85	44	31
8	205	309	169	132	194	122	268	109	569	86	93	28
9	158	205	146	130	158	118	273	94	768	70	104	24
10	132	183	134	130	170	120	257	95	652	50	100	22
11	112	235	131	127	165	131	210	84	371	45	80	20
12	99	246	138	126	138	177	194	90	314	49	58	20
13	99	297	164	125	135	202	177	82	376	124	51	20
14	102	259	187	97	135	397	168	79	292	143	45	18
15	106	273	145	81	137	674	144	77	229	165	40	17
16	107	220	187	81	135	759	163	84	206	159	37	18
17	97	341	153	82	135	736	147	94	223	125	37	19
18	89	345	157	87	137	709	139	90	196	90	38	19
19	90	352	140	109	154	916	138	86	165	75	66	18
20	97	294	138	135	169	988	125	80	195	68	71	18
21	88	273	131	174	291	844	121	119	197	62	60	18
22	80	250	108	165	262	711	133	101	164	55	50	18
23	75	265	115	159	292	669	141	157	145	47	42	19
24	69	238	126	141	275	478	167	261	141	42	42	21
25	77	163	125	132	251	448	186	177	115	38	39	22
26	78	199	120	460	180	466	186	158	88	38	33	21
27	73	172	117	884	156	406	253	131	80	47	36	19
28	69	192	108	699	153	404	228	105	78	50	39	18
29	61	183	104	743	---	446	189	85	71	60	38	18
30	56	183	96	796	---	419	157	71	63	73	33	18
31	53	---	94	740	---	353	---	68	---	74	30	---
TOTAL	3616	6815	4829	7427	5851	12591	6283	3426	7169	2627	1659	683
MEAN	117	227	156	240	209	406	209	111	239	84.7	53.5	22.8
MAX	311	375	289	884	468	988	373	261	768	165	104	42
MIN	53	53	94	81	135	118	121	68	63	38	30	17
MEAN†	116	235	157	254	190	415	194	110	239	84.8	53.3	22.8
CFSM†	1.20	2.44	1.63	2.64	1.97	4.31	2.01	1.14	2.48	.88	.55	.24
IN.†	1.39	2.73	1.88	3.04	2.06	4.97	2.25	1.32	2.77	1.02	.64	.26

CAL YR 1985 TOTAL 41885 MEAN 115 MAX 536 MIN 16 MEAN† 115 CFSM† 1.19 IN.† 16.18
WTR YR 1986 TOTAL 62976 MEAN 173 MAX 988 MIN 17 MEAN† 172 CFSM† 1.79 IN.† 24.32

† Adjusted for change in contents in Barre Falls Reservoir.

CONNECTICUT RIVER BASIN

01173500 WARE RIVER AT GIBBS CROSSING, MASS.

LOCATION.--Lat 42°14'10", long 72°16'23", Hampshire County, Hydrologic Unit 01080204, on right bank 0.5 mi upstream from Gibbs Crossing, 1.8 mi upstream from Beaver Brook, 2.5 mi southwest of Ware, and 8.8 mi upstream from mouth.

DRAINAGE AREA.--197 mi².

PERIOD OF RECORD.--Discharge: August 1912 to current year.
Water-quality records: Water years 1953-54.

WSP 1301: 1914(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.79 ft above 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 winter period, which are poor. Diversion at times: Since March 1931 from 96.3 mi² for supply of Boston metropolitan district and since 1955 from 6.5 mi² for municipal supply of Fitchburg. Regulation by Barre Falls Reservoir (Reservoirs in Connecticut River basin) since 1958. Flow regulated by mills upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--18 years, (water years 1913-30), 313 ft³/s, 21.36 in/yr; 56 years (water years 1931-86), affected by diversion and storage, 282 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,700 ft³/s Sept. 21, 1938, gage height, 18.2 ft, from floodmarks, from rating curve extended above 4,600 ft³/s on basis of contracted-opening measurement at gage height 12.83 ft and slope-area measurement at gage height 18.2 ft; minimum, 5.0 ft³/s Oct. 26, 1914; minimum daily, 6.0 ft³/s Oct. 4, 1914. Maximum discharge since construction of Barre Falls Reservoir in 1958, 5,050 ft³/s Mar. 6, 1979, gage height, 7.94 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,970 ft³/s Jan. 27, gage height, 6.18 ft; minimum, 30 ft³/s May 21; minimum daily, 38 ft³/s Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	139	342	e180	e680	e290	359	259	223	127	123	56
2	193	134	483	e180	e540	e280	342	233	246	200	120	66
3	192	120	583	282	e480	e270	342	239	179	363	119	41
4	261	123	403	e410	e430	e280	375	209	113	295	123	54
5	479	211	391	e370	e400	293	326	213	176	242	97	57
6	684	587	361	e300	e370	289	320	199	1330	219	100	64
7	559	491	360	e300	e350	294	359	230	1570	181	80	71
8	459	407	340	e300	e320	e270	362	202	937	143	78	65
9	405	330	323	e290	e280	e250	352	205	685	140	127	48
10	261	324	337	e280	e300	243	330	150	455	98	142	51
11	266	339	298	e270	e330	316	314	188	395	105	131	60
12	217	444	394	e260	e300	492	301	168	393	84	95	56
13	187	518	447	e250	e290	478	293	91	515	157	82	53
14	204	428	403	e240	e290	669	280	156	423	328	94	54
15	232	488	377	e220	e280	2090	266	96	345	279	60	48
16	206	445	334	e210	e280	1370	260	138	394	288	74	54
17	219	566	340	e200	e280	956	258	151	386	236	67	65
18	208	695	318	162	e280	776	247	147	376	209	84	46
19	157	576	e350	186	e290	804	225	126	304	153	66	53
20	229	452	e260	398	e320	1090	244	145	294	107	79	57
21	170	424	e310	533	e520	799	237	113	367	121	99	54
22	215	383	e260	448	e500	568	285	224	304	109	85	57
23	193	426	255	403	e520	485	289	317	276	101	79	53
24	189	413	267	e330	e480	488	306	328	196	87	82	58
25	142	390	268	e270	e430	409	314	329	203	74	71	52
26	151	332	e280	870	e380	354	306	276	187	68	61	54
27	128	408	e250	2670	e320	401	363	213	171	94	74	51
28	158	392	e250	1330	e310	506	345	200	110	84	74	53
29	150	385	e240	e1000	---	466	285	179	158	107	59	38
30	148	392	e210	e1100	---	427	270	145	102	138	61	54
31	133	---	e185	e1000	---	401	---	99	---	134	61	---
TOTAL	7655	11762	10219	15242	10550	17104	9155	5968	11813	5071	2747	1643
MEAN	247	392	330	492	377	552	305	193	394	164	88.6	54.8
MAX	684	695	583	2670	680	2090	375	329	1570	363	142	71
MIN	128	120	185	162	280	243	225	91	102	68	59	38

CAL YR 1985 TOTAL 82435 MEAN 226 MAX 812 MIN 44
WTR YR 1986 TOTAL 108929 MEAN 298 MAX 2670 MIN 38

e Estimated

01174500 EAST BRANCH SWIFT RIVER NEAR HARDWICK, MASS.

LOCATION.--Lat 42°23'36", long 72°14'21", Worcester County, Hydrologic Unit 01080204, on left bank 100 ft above spillway of regulating dam and 4.6 mi northwest of Hardwick.

DRAINAGE AREA.--43.7 mi².

PERIOD OF RECORD.--Discharge: January 1937 to current year. Published as "near Dana" January 1937 to September 1939.
Water-quality records: Water year 1957.

GAGE.--Water-stage recorder. Concrete spillway since Mar. 12, 1940. Datum of gage is 504.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--49 years, 69.6 ft³/s, 21.63 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,780 ft³/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.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	1400	*1,090	*21.24	Mar. 20	0900	517	20.47
Mar. 16	0200	596	20.58	June 7	1300	418	20.18

Minimum discharge, 7.7 ft³/s Sept. 14-16, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	33	76	36	111	56	116	60	36	20	31	10
2	46	34	91	36	114	54	106	56	44	42	26	9.2
3	48	33	128	51	102	52	100	50	39	85	29	9.1
4	85	33	118	83	91	50	91	45	31	73	26	8.4
5	124	57	97	90	94	52	84	46	32	52	21	9.3
6	147	119	87	76	88	52	81	48	162	40	17	13
7	121	144	80	60	75	52	90	48	391	31	16	13
8	90	119	75	48	72	45	96	51	316	26	24	11
9	71	93	71	42	68	44	92	51	258	21	27	10
10	60	79	67	41	66	44	85	46	189	18	31	9.2
11	53	88	67	41	65	51	77	45	134	13	29	8.6
12	45	104	81	39	61	72	72	44	112	13	24	9.0
13	46	123	92	38	56	82	66	38	128	34	19	8.9
14	49	120	98	37	54	113	62	34	123	72	16	8.2
15	53	125	84	32	55	447	59	33	101	84	14	7.7
16	53	115	76	28	53	522	56	33	80	84	13	9.7
17	48	150	70	27	54	386	57	42	90	62	14	8.9
18	43	178	61	28	62	301	52	43	79	42	15	8.2
19	47	167	50	33	75	307	46	41	67	32	14	8.4
20	52	143	45	64	70	485	46	37	75	27	15	8.7
21	52	122	45	108	83	329	48	41	85	25	14	10
22	49	106	45	103	139	221	58	54	74	20	13	10
23	45	107	48	90	137	169	65	59	62	17	11	11
24	42	100	49	72	104	144	71	66	53	14	12	12
25	46	93	49	57	88	126	73	79	42	15	11	12
26	45	89	44	172	73	118	77	67	35	18	10	13
27	41	86	41	912	65	129	86	53	31	26	12	13
28	39	92	41	618	61	158	85	45	30	24	14	11
29	35	93	37	290	---	159	76	35	27	25	14	11
30	34	82	36	186	---	140	66	31	23	36	12	11
31	34	---	36	139	---	128	---	28	---	35	11	---
TOTAL	1795	3027	2085	3677	2236	5088	2239	1449	2949	1126	555	302.5
MEAN	57.9	101	67.3	119	79.9	164	74.6	46.7	98.3	36.3	17.9	10.1
MAX	147	178	128	912	139	522	116	79	391	85	31	13
MIN	34	33	36	27	53	44	46	28	23	13	10	7.7
CFSM	1.33	2.31	1.54	2.71	1.83	3.76	1.71	1.07	2.25	.83	.41	.23
IN.	1.53	2.58	1.77	3.13	1.90	4.33	1.91	1.23	2.51	.96	.47	.26
CAL YR 1985	TOTAL	17133.2	MEAN	46.9	MAX	307	MIN	4.7	CFSM	1.07	IN.	14.58
WTR YR 1986	TOTAL	26528.5	MEAN	72.7	MAX	912	MIN	7.7	CFSM	1.66	IN.	22.58

CONNECTICUT RIVER BASIN

01174570 DICKEY BROOK NEAR COOLEYVILLE, MASS.

LOCATION.--Lat 42°25'42", long 72°21'06", Franklin County, Hydrologic Unit 01080204, on left bank off gate 17 road, 2.4 mi south of State Highway 202, and 2.7 mi southeast of Cooleyville.

DRAINAGE AREA.--1.19 mi².

PERIOD OF RECORD.--February 1985 to September 1986.

GAGE.--Water-stage recorder. Elevation of gage is 870 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair above 1 ft³/s, poor below.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 16 ft³/s, and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 13, 1985	1000	17	1.64	Mar. 15, 1986	0315	29	2.00
Mar. 12, 1985	1745	*22	*1.78	Mar. 20, 1986	0600	16	1.57
Jan. 26, 1986	0445	*38	*2.24				

Minimum discharge for period February to September 1985: 0.09 ft³/s July 23-26, 30, 31.

Water year 1986: 0.12 ft³/s July 10-12, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	1.1	1.7	.47	2.7	.41	2.1	1.0
2	---	---	---	---	---	.98	1.9	.39	1.1	.28	.65	.68
3	---	---	---	---	---	.84	1.9	1.2	.70	.28	.40	.56
4	---	---	---	---	---	e1.0	1.8	1.1	.57	.27	.26	.33
5	---	---	---	---	---	2.1	1.5	.78	.58	.24	.18	.32
6	---	---	---	---	---	e1.5	1.5	.86	.94	.24	.15	.37
7	---	---	---	---	---	e1.3	1.2	.95	.61	.24	.12	.55
8	---	---	---	---	---	1.6	1.9	.72	.49	.23	.30	.45
9	---	---	---	---	---	2.0	2.0	.55	.56	.18	.27	.36
10	---	---	---	---	---	1.9	1.4	.50	.48	.18	.20	.56
11	---	---	---	---	---	1.7	1.4	.44	.29	.17	.16	.51
12	---	---	---	---	e1.3	1.2	1.2	.41	.37	.15	.18	.40
13	---	---	---	---	14	8.3	1.1	.40	.46	.24	.17	.33
14	---	---	---	---	10	4.0	1.0	.34	.40	.21	.11	.31
15	---	---	---	---	3.3	2.8	1.0	.31	.32	.18	.23	.28
16	---	---	---	---	1.3	e2.2	1.0	.28	.31	.33	1.5	.28
17	---	---	---	---	.98	1.9	.91	.28	.93	.63	.58	.27
18	---	---	---	---	.95	1.8	.75	1.8	.88	.36	.32	.21
19	---	---	---	---	.90	e1.9	.74	1.3	.62	.27	.25	.21
20	---	---	---	---	.83	2.0	.74	.88	.42	.22	.27	.21
21	---	---	---	---	.70	2.1	.74	3.7	.31	.16	.23	.21
22	---	---	---	---	.91	1.8	.83	6.1	.26	.12	.18	.19
23	---	---	---	---	1.7	1.6	.98	2.0	.27	.11	.16	.18
24	---	---	---	---	2.7	1.5	.82	1.1	.35	.1	.12	.19
25	---	---	---	---	3.2	1.4	.65	.75	.47	.1	1.5	.24
26	---	---	---	---	1.8	1.2	.59	.58	.38	.24	1.9	.18
27	---	---	---	---	1.5	1.1	.54	.51	.28	.57	1.2	1.1
28	---	---	---	---	e1.3	1.0	.51	1.2	.51	.23	.63	1.2
29	---	---	---	---	---	1.0	.51	1.5	.89	.17	.48	.67
30	---	---	---	---	---	1.0	.51	.83	.57	.11	1.0	.48
31	---	---	---	---	---	.96	---	.61	---	.28	2.8	---
TOTAL	---	---	---	---	---	67.58	33.32	32.84	18.02	7.50	18.60	12.83
MEAN	---	---	---	---	---	2.18	1.11	1.06	.60	.24	.60	.43
MAX	---	---	---	---	---	12	2.0	6.1	2.7	.63	2.8	1.2
MIN	---	---	---	---	---	.84	.51	.28	.26	.10	.11	.18
CFSM	---	---	---	---	---	1.83	.93	.89	.50	.20	.50	.36
IN.	---	---	---	---	---	2.11	1.04	1.03	.56	.23	.58	.40

e Estimated

CONNECTICUT RIVER BASIN

149

01174570 DICKEY BROOK NEAR COOLEYVILLE, MASS.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.41	1.4	.74	2.5	1.1	2.1	.80	.66	.18	1.2	.28
2	.36	.41	3.7	.60	2.3	1.1	1.9	.70	.49	1.9	1.7	.27
3	.53	.41	3.5	3.8	2.4	1.1	1.8	.62	.46	1.5	2.5	.15
4	2.1	.41	e2.1	4.4	2.1	1.1	1.5	.62	.39	.61	1.1	.18
5	2.9	1.9	e1.7	1.4	2.0	1.2	1.5	.62	.45	.30	.81	.22
6	2.2	3.5	1.4	1.1	2.0	1.3	1.5	.62	8.3	.28	.65	.46
7	1.0	2.6	e1.4	.88	1.8	e1.3	2.0	.62	6.8	.28	.41	.30
8	.81	1.5	1.5	.88	1.5	e1.1	2.4	.62	3.2	.27	1.1	.24
9	.70	.98	1.4	.88	1.5	.98	2.0	.62	1.7	.23	1.5	.24
10	.56	.88	1.2	.81	1.4	.95	1.7	.62	1.0	.19	.92	.24
11	.48	1.3	1.1	.74	1.3	2.8	1.5	.60	.68	.12	1.0	.24
12	.46	2.1	2.3	.74	1.3	2.5	1.3	.46	1.5	.20	.70	.24
13	.52	2.3	1.9	.74	1.3	2.7	1.2	.46	1.9	1.9	.51	.24
14	.56	1.8	e1.9	.62	1.3	4.8	1.1	.46	1.2	1.7	.50	.21
15	.67	2.3	e1.6	e.55	1.3	25	.97	.42	.77	.86	.32	.18
16	.68	1.6	e1.3	e.52	1.1	13	1.0	.41	.64	.57	.39	.26
17	.68	5.4	1.3	e.50	1.1	9.1	1.0	.69	.96	.42	.41	.28
18	.64	4.2	e1.1	e.56	1.8	6.7	.99	.56	.61	.36	.41	.28
19	.67	2.9	e.95	e1.9	2.0	7.5	.88	.49	.51	.36	.41	.28
20	.74	2.1	e.81	10	1.4	12	.88	.43	1.2	.36	.41	.28
21	.67	1.7	.81	4.5	2.8	e5.9	.85	.55	.91	.31	.41	.36
22	.56	1.5	.81	1.9	4.7	e4.4	1.3	.84	.57	.24	.32	.36
23	.54	2.0	.81	1.8	2.5	3.6	1.2	.87	.51	.23	.28	.42
24	.46	1.8	.81	e1.5	2.0	2.8	1.1	.99	.51	.18	.28	.49
25	.56	1.3	.88	e1.4	1.7	2.5	1.1	.92	.39	.17	.28	.46
26	.56	1.3	.87	21	e1.5	2.2	1.3	.62	.28	.39	.28	.46
27	.56	1.6	.81	28	1.4	2.4	1.3	.47	.28	1.0	.48	.45
28	.45	1.6	.81	14	1.2	4.0	1.2	.46	.28	.97	.44	.41
29	.41	1.8	.75	e9.7	---	3.4	.97	.36	.26	2.1	.34	.41
30	.41	1.6	.74	e4.9	---	2.7	.81	.29	.18	4.6	.32	.43
31	.41	---	.74	e2.8	---	2.4	---	.29	---	1.8	.31	---
TOTAL	23.23	55.20	42.40	123.86	51.2	133.63	40.35	18.10	37.59	24.58	20.69	9.32
MEAN	.75	1.84	1.37	4.00	1.83	4.31	1.34	.58	1.25	.79	.67	.31
MAX	2.9	5.4	3.7	28	4.7	25	2.4	.99	8.3	4.6	2.5	.49
MIN	.36	.41	.74	.50	1.1	.95	.81	.29	.18	.12	.28	.15
CFSM	.63	1.55	1.15	3.36	1.54	3.62	1.13	.49	1.05	.67	.56	.26
IN.	.73	1.73	1.33	3.87	1.60	4.18	1.26	.57	1.18	.77	.65	.29

WTR YR 1986 TOTAL 580.14 MEAN 1.59 MAX 28 MIN .12 CFSM 1.34 IN. 18.14

e Estimated

CONNECTICUT RIVER BASIN

01174575 DICKEY BROOK TRIBUTARY NEAR COOLEYVILLE, MASS.

LOCATION.--Lat 42°26'38", long 72°22'13", Franklin County, Hydrologic Unit 01080204, on right bank off gate 17 road, 1.2 mi southeast of State Highway 202, and 1.4 mi southeast of Cooleyville.

DRAINAGE AREA.--1.06 mi².

PERIOD OF RECORD.--February 1985 to September 1986.

GAGE.--Water-stage recorder. Elevation of gage is 575 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 10 ft/s, and maximums (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 12, 1985	1245	*7.6	*1.01	Mar. 15, 1986	0115	22	1.35
Jan. 27, 1986	0445	*25	*1.41	Mar. 19, 1986	2145	13	1.17

Minimum Discharge for period February to September 1985: 0.07 ft³/s July 23-26, Aug. 14, 15.

Water year 1986: 0.11 ft³/s Sept. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e1.2	1.7	.79	1.2	.45	1.2	.60
2	---	---	---	---	---	e1.1	1.8	.71	.86	.37	.54	.43
3	---	---	---	---	---	e1.0	1.7	1.2	.75	.34	.38	.36
4	---	---	---	---	---	e1.2	1.9	1.4	.65	.32	.28	.32
5	---	---	---	---	---	e1.7	1.7	1.2	.64	.26	.21	.27
6	---	---	---	---	---	e1.1	1.7	1.1	.72	.22	.17	.37
7	---	---	---	---	---	e1.1	1.5	1.1	.58	.30	.17	.48
8	---	---	---	---	---	1.3	1.8	1.1	.64	.25	.21	.40
9	---	---	---	---	---	1.5	1.9	.91	.72	.13	.24	.36
10	---	---	---	---	---	1.5	1.7	.84	.55	.29	.21	.45
11	---	---	---	---	---	1.5	1.6	.77	.44	.28	.20	.38
12	---	---	---	---	---	5.3	1.5	.72	.58	.19	.12	.33
13	---	---	---	---	---	4.6	1.2	.67	.60	.24	.11	.32
14	---	---	---	---	e5.6	3.3	1.2	.63	.50	.25	.1	.25
15	---	---	---	---	e3.0	2.9	1.2	.60	.47	.32	.29	.24
16	---	---	---	---	e2.5	2.9	1.2	.53	.49	.35	1.9	.22
17	---	---	---	---	e2.0	2.7	1.2	.54	.83	.32	.77	.20
18	---	---	---	---	e1.7	2.5	1.1	1.3	.81	.30	.43	.19
19	---	---	---	---	e1.5	2.4	1.1	1.1	.65	.15	.36	.17
20	---	---	---	---	e1.3	2.4	1.0	.95	.48	.11	.33	.19
21	---	---	---	---	e1.2	2.2	.98	1.8	.43	.1	.30	.14
22	---	---	---	---	e1.2	2.2	1.0	2.4	.37	.1	.25	.14
23	---	---	---	---	e1.5	2.1	1.1	1.3	.38	.1	.20	.20
24	---	---	---	---	e3.0	1.8	.99	1.1	.44	.1	.19	.24
25	---	---	---	---	e2.0	1.8	.98	.96	.42	.1	.89	.24
26	---	---	---	---	e1.6	1.8	.96	.83	.38	.13	1.2	.20
27	---	---	---	---	e1.5	1.6	.85	.73	.36	.27	.75	.85
28	---	---	---	---	e1.3	1.5	.85	1.0	.47	.22	.45	1.2
29	---	---	---	---	---	1.6	.85	1.1	.62	.18	.34	.73
30	---	---	---	---	---	1.4	.79	.87	.53	.17	.52	.48
31	---	---	---	---	---	1.5	---	.73	---	.27	.98	---
TOTAL	---	---	---	---	---	62.7	39.05	30.98	17.56	7.18	14.29	10.95
MEAN	---	---	---	---	---	2.02	1.30	.999	.59	.23	.46	.36
MAX	---	---	---	---	---	5.3	1.9	2.4	1.2	.45	1.9	1.2
MIN	---	---	---	---	---	1.0	.79	.53	.36	.10	.10	.14
CFSM	---	---	---	---	---	1.91	1.23	.94	.55	.22	.43	.34
IN.	---	---	---	---	---	2.20	1.37	1.09	.62	.25	.50	.38

e Estimated

CONNECTICUT RIVER BASIN

151

01174575 DICKEY BROOK TRIBUTARY NEAR COOLEYVILLE, MASS.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	.58	1.7	.98	e3.4	e1.5	2.5	.91	.37	.19	.80	.28
2	.36	.59	2.7	.98	e3.2	1.5	2.3	.91	.33	1.0	.65	.21
3	.33	.62	2.6	3.8	3.1	1.5	2.1	.91	.28	1.1	.73	.17
4	1.0	.62	2.0	2.2	e2.8	1.4	2.0	.91	.21	.66	.58	.17
5	1.2	1.4	1.9	1.7	2.8	1.4	2.0	.93	.31	.45	.43	.17
6	1.4	2.3	1.7	1.3	e2.5	1.5	2.1	1.0	4.7	.39	.35	.24
7	.91	2.8	1.7	e1.2	e2.4	e1.5	2.9	.98	4.0	.36	.32	.19
8	e.65	1.5	1.7	e1.1	2.2	e1.4	2.3	.92	2.1	.27	.66	.18
9	e.60	.91	1.7	e1.1	e2.1	1.1	2.2	.88	1.1	.30	1.0	.15
10	e.57	.85	1.7	e1.0	2.1	1.1	2.1	.74	.83	.21	.68	.15
11	e.54	1.1	1.5	e1.0	2.0	1.8	1.8	.70	.64	.19	1.1	.16
12	e.52	1.5	2.4	.98	e1.8	2.0	1.8	.67	.97	.23	.70	.17
13	e.50	1.7	2.1	.98	e1.8	2.1	1.6	.58	1.1	.91	.50	.17
14	e.60	1.6	2.0	e.91	e1.7	4.5	1.4	.56	.94	1.3	.38	.14
15	e.66	1.7	1.8	e.86	1.7	13	1.4	.63	.69	.78	.34	.11
16	e.66	1.5	1.6	e.82	1.6	8.1	1.3	.56	.52	.50	.42	.16
17	e.62	2.9	1.6	e.78	1.6	7.1	1.3	.77	1.0	.40	.43	.17
18	e.60	2.6	1.6	e.75	1.8	6.7	1.3	.74	.60	.30	.35	.15
19	e.64	2.2	e1.4	e1.3	2.1	8.3	1.2	.55	.42	.30	.30	.15
20	e.66	2.0	e1.4	e4.0	1.7	8.8	1.1	.48	1.1	.31	.30	.15
21	e.62	1.9	1.3	e2.4	3.4	6.0	1.3	.61	.87	.28	.30	.18
22	e.58	1.9	e1.3	1.8	3.4	4.9	1.7	.71	.60	.23	.33	.21
23	e.54	2.0	1.3	1.8	2.2	4.4	1.4	.77	.45	.17	.25	.22
24	e.60	1.9	1.3	e1.4	e2.0	3.7	1.4	.78	.50	.17	.21	.24
25	e.66	1.7	1.3	e1.3	1.9	3.4	1.4	.80	.44	.17	.21	.24
26	e.65	1.7	1.4	13	e1.8	2.9	1.4	.55	.33	.35	.19	.25
27	e.60	1.8	1.3	19	e1.7	3.3	1.4	.37	.33	.61	.29	.29
28	e.56	2.0	1.2	e9.2	e1.6	4.0	1.3	.36	.33	.53	.28	.26
29	e.53	1.9	1.1	e6.6	---	3.2	1.1	.33	.33	1.0	.23	.22
30	.56	1.7	1.1	e4.9	---	2.8	1.0	.28	.27	1.9	.19	.22
31	.63	---	1.0	e3.9	---	2.4	---	.24	---	1.2	.19	---
TOTAL	19.96	49.47	50.4	93.04	62.4	117.3	50.1	21.13	26.66	16.76	13.69	5.77
MEAN	.64	1.65	1.63	3.00	2.23	3.78	1.67	.68	.89	.54	.44	.19
MAX	1.4	2.9	2.7	19	3.4	13	2.9	1.0	4.7	1.9	1.1	.29
MIN	.33	.58	1.0	.75	1.6	1.1	1.0	.24	.21	.17	.19	.11
CFSM	.61	1.56	1.53	2.83	2.10	3.57	1.58	.64	.84	.51	.42	.18
IN.	.70	1.74	1.77	3.27	2.19	4.12	1.76	.74	.94	.59	.48	.20

WTR YR 1986 TOTAL 526.67 MEAN 1.44 MAX 19 MIN .11 CFSM 1.36 IN. 18.48

e Estimated

CONNECTICUT RIVER BASIN

01174600 CADWELL CREEK NEAR PELHAM, MASS.

LOCATION.--Lat 42°21'16", long 72°23'18", Hampshire County, Hydrologic Unit 01080204, on left bank 0.8 mi east of Knights Corner, 2 mi upstream from mouth, 2.7 mi south of Pelham, and 5 mi north of Belchertown.

DRAINAGE AREA.--0.60 mi².

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

REVISED RECORDS.--WDR MA-RI-84-1: 1962(M), 1964(M), 1968-69(M), 1970(P), 1972-73(P), 1974(M), 1975-77(P), 1979-80(P), 1982-83(P); Drainage area.

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir. Elevation of gage is 860 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--25 years, 1.15 ft³/s, 26.03 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62 ft³/s, Mar. 6, 1979, gage height, 5.26 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 19 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	0545	*34	*4.87	July 29	2015	22	4.61
Mar. 15	0045	22	4.61				

Minimum discharge, 0.02 ft³/s Sept. 14, 15, 16, 18, 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.23	.29	1.2	.52	1.3	.74	1.1	.49	.34	.07	.88	.05
2	.20	.29	4.6	.48	1.3	.71	.99	.46	.33	2.5	.75	.05
3	.96	.31	2.7	1.6	1.2	.73	.89	.47	.19	1.1	.93	.05
4	3.1	.31	1.6	1.5	1.1	.80	.85	.39	.13	.48	.49	.06
5	2.8	2.7	1.3	1.1	1.1	.89	.83	.42	.47	.30	.29	.07
6	1.8	5.1	1.2	.87	1.0	.87	.94	.40	8.4	.20	.21	.25
7	.93	3.0	1.1	.75	.95	.76	1.6	.41	5.9	.17	.18	.18
8	.63	1.6	1.0	.69	.91	e.63	1.3	.42	3.2	.11	1.7	.13
9	.51	1.1	.95	.62	.85	.56	1.2	.39	1.7	.09	.62	.09
10	.44	.97	.88	.60	.81	.57	1.0	.32	.88	.07	.40	.07
11	.38	2.4	.93	.57	.80	1.2	.88	.30	.74	.05	.61	.06
12	.30	2.8	2.2	.56	.75	1.4	.80	.28	1.4	.16	.31	.06
13	.62	2.6	1.6	.56	.71	1.9	.73	.26	1.8	1.5	.21	.05
14	.60	1.8	1.6	.49	.66	5.2	.67	.23	1.0	.90	.17	.03
15	.67	2.0	1.2	e.42	.65	17	.62	.22	.60	.42	.13	.03
16	.63	1.5	.98	e.40	.63	7.3	.63	.21	.44	.24	.14	.04
17	.45	5.8	.90	e.38	.65	5.2	.58	.81	1.6	.17	.15	.03
18	.39	3.9	.79	e.52	1.0	4.0	.52	.43	.64	.14	.24	.03
19	.63	2.4	.69	e1.2	1.1	5.4	.45	.27	.42	.13	.20	.03
20	.65	1.8	.63	4.7	.98	4.6	.46	.26	.95	.12	.14	.03
21	.47	1.4	.65	3.3	2.5	e2.6	.65	.40	.57	.10	.12	.05
22	.42	1.4	.58	2.0	2.9	2.0	.87	.53	.35	.07	.11	.08
23	.36	1.9	.62	1.7	1.8	1.7	.84	.53	.32	.06	.10	.15
24	.36	1.4	.66	1.2	1.4	1.5	.72	.70	.29	.06	.14	.20
25	.57	1.2	.70	.85	1.2	1.3	.75	.51	.25	.05	.10	.14
26	.44	1.1	.61	19	1.0	1.3	.87	.32	.18	.19	.08	.09
27	.38	1.2	.57	20	.91	1.6	.98	.25	.15	.59	.19	.05
28	.30	1.4	.57	5.1	.78	2.1	.76	.20	.14	.30	.19	.06
29	.30	1.2	.53	2.9	---	1.6	.65	.14	.12	3.3	.12	.04
30	.29	1.0	.51	2.0	---	1.4	.52	.11	.12	4.1	.09	.06
31	.29	---	.50	1.6	---	1.2	---	.12	---	1.6	.07	---
TOTAL	21.10	55.87	34.55	78.18	30.94	78.76	24.65	11.25	33.62	19.34	10.06	2.31
MEAN	.68	1.86	1.11	2.52	1.10	2.54	.82	.36	1.12	.62	.32	.08
MAX	3.1	5.8	4.6	20	2.9	.17	1.6	.81	8.4	4.1	1.7	.25
MIN	.20	.29	.50	.38	.63	.56	.45	.11	.12	.05	.07	.03
CFSM	1.13	3.10	1.86	4.20	1.84	4.23	1.37	.60	1.87	1.04	.54	.13
IN.	1.31	3.46	2.14	4.85	1.92	4.88	1.53	.70	2.08	1.20	.62	.14

CAL YR 1985 TOTAL 319.19 MEAN .87 MAX 7.1 MIN .05 CFSM 1.46 IN. 19.79
WTR YR 1986 TOTAL 400.62 MEAN 1.10 MAX 20 MIN .03 CFSM 1.83 IN. 24.84

e Estimated

CONNECTICUT RIVER BASIN

153

01174900 CADWELL CREEK NEAR BELCHERTOWN, MASS.

LOCATION.--Lat 42°20'08", long 72°22'12", Hampshire County, Hydrologic Unit 01080204, on left bank 200 ft upstream from mouth, 2 mi southeast of Knights Corner, and 4.5 mi north of Belchertown.

DRAINAGE AREA.--2.55 mi².

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

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

GAGE.--Water-stage recorder and concrete control with V-notch sharp-crested weir. Elevation of gage is 540 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--25 years, 4.89 ft³/s, 26.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 271 ft³/s Mar. 6, 1979, gage height, 7.42 ft, from rating curve extended above 92 ft³/s; minimum, 0.07 ft³/s several times in water years 1964-66.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 26	1415	122	6.73	Mar. 15	0115	88	6.53
Jan. 27	0530	*126	*6.75				

Minimum discharge, 0.28 ft³/s Sept. 14, 15, from recorded range in stage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.8	5.8	2.9	e7.4	4.1	5.7	3.2	1.3	.54	4.0	.40
2	1.3	1.8	16	2.7	e6.9	3.9	5.4	3.0	1.2	e5.0	3.3	.37
3	4.5	1.8	11	6.5	e6.4	3.9	5.0	2.8	.97	e5.5	3.9	.37
4	12	1.8	7.2	6.6	e5.9	4.1	4.7	2.6	.71	e3.0	2.4	.42
5	13	10	6.0	4.8	e5.7	4.5	4.6	2.7	1.8	e2.1	1.5	.47
6	8.9	17	5.7	4.2	e5.5	4.5	5.0	2.6	28	e1.4	1.2	1.3
7	5.4	12	5.3	3.5	e5.2	3.8	7.2	2.7	23	e1.1	1.1	.87
8	4.1	7.1	5.1	3.3	e4.9	3.9	6.0	2.7	13	e.87	5.8	.66
9	3.4	5.5	4.9	3.3	e4.7	3.5	5.4	2.5	8.3	.61	2.8	.52
10	3.0	5.1	4.7	3.2	e4.5	3.5	4.8	2.3	5.0	.54	2.0	.42
11	2.6	9.5	4.8	3.1	e4.4	5.4	4.5	2.0	4.4	.41	2.1	.35
12	2.3	11	9.2	3.0	e4.2	6.1	4.2	1.9	e5.8	1.1	1.3	e.35
13	3.5	11	6.9	3.0	e3.9	8.3	4.0	1.8	e8.0	e5.0	1.0	e.33
14	3.6	8.5	6.7	2.6	e3.7	20	3.8	1.6	e5.4	4.3	.90	e.28
15	3.7	11	5.4	2.3	e3.6	60	3.7	1.5	3.7	2.3	.78	e.28
16	3.5	7.3	5.0	2.3	e3.5	33	3.6	1.5	2.9	1.3	.71	e.68
17	2.7	23	4.7	2.6	e3.6	23	3.5	3.8	e5.3	.96	.87	.40
18	2.4	17	4.0	2.9	e5.5	19	3.2	2.4	3.2	.89	1.0	.31
19	3.3	11	3.9	4.8	e6.0	23	3.0	e1.6	2.3	.79	1.1	.31
20	3.7	9.2	3.9	19	e5.4	20	2.9	1.4	e3.9	.79	.90	.32
21	2.8	7.2	3.9	12	e9.0	12	3.6	e1.9	e2.9	.74	.74	.65
22	2.5	7.1	3.5	7.5	e12	10	5.1	e2.5	2.0	.56	.68	.59
23	2.3	9.0	3.7	6.8	e9.0	8.8	4.8	e2.5	1.9	.50	e.62	.88
24	2.3	6.7	3.8	4.9	e6.8	7.9	4.3	e3.3	1.6	.42	e.78	.88
25	3.9	5.9	3.9	4.3	e5.7	7.2	4.4	e2.4	1.5	.37	e.60	.65
26	3.6	5.7	3.5	57	4.7	7.1	4.7	e2.0	1.1	e.65	.52	.52
27	3.1	6.0	3.3	78	4.8	8.0	5.2	1.5	.95	e3.8	1.1	.47
28	2.6	6.7	3.2	e22	4.3	9.8	4.4	1.3	.93	1.7	1.0	.38
29	2.1	5.8	2.9	e14	---	7.7	3.8	.97	.78	e4.0	.74	.37
30	1.9	5.3	2.8	e10	---	6.8	3.4	.74	.61	e13	.58	.38
31	1.8	---	2.8	e8.0	---	6.2	---	.66	---	e6.1	.49	---
TOTAL	117.2	247.8	163.5	311.1	157.2	349.0	133.9	66.37	142.45	70.34	46.51	15.18
MEAN	3.78	8.26	5.27	10.0	5.61	11.3	4.46	2.14	4.75	2.27	1.50	.51
MAX	13	23	16	78	12	60	7.2	3.8	28	13	5.8	1.3
MIN	1.3	1.8	2.8	2.3	3.5	3.5	2.9	.66	.61	.37	.49	.28
CFSM	1.48	3.24	2.07	3.94	2.20	4.41	1.75	.84	1.86	.89	.59	.20
IN.	1.71	3.61	2.39	4.54	2.29	5.09	1.95	.97	2.08	1.03	.68	.22

CAL YR 1985 TOTAL 1596.73 MEAN 4.37 MAX 27 MIN .49 CFSM 1.72 IN. 23.29
WTR YR 1986 TOTAL 1820.53 MEAN 4.99 MAX 78 MIN .28 CFSM 1.96 IN. 26.56

e Estimated

CONNECTICUT RIVER BASIN

01175500 SWIFT RIVER AT WEST WARE, MASS.

LOCATION.--Lat 42°16'04", long 72°19'59", Hampshire County, Hydrologic Unit 01080204, on left bank at West Ware, 1.4 mi downstream from Quabbin Reservoir, 3.5 mi east of Belchertown, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--189 mi², includes 1.6 mi² drained by Beaver Brook, flow of which is diverted from Ware River basin. Prior to January 1937, 186 mi².

PERIOD OF RECORD.--Discharge: July 1910 to September 1912 (twice-daily gage heights and corresponding discharge), October 1912 to current year.
Water-quality records: Water years 1952-54.

REVISED RECORDS.--WSP 451: 1916. WSP 871: 1919. WSP 1031: 1944 (changes in reservoir contents and adjusted figures only). WSP 1301: 1925(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 365.18 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1912, nonrecording gage at site 400 ft upstream at same datum.

REMARKS.--Records good. Flow regulated since August 1939 by Quabbin Reservoir (Reservoirs in Connecticut River basin). Diversion from Ware River to Quabbin Reservoir since 1940, from Quabbin Reservoir to Wachusett Reservoir since 1941, from Quabbin Reservoir to Chicopee Valley aqueduct since 1950, and at times since 1966 from Quabbin Reservoir to city of Worcester. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--27 years (water years 1913-39) prior to completion of Quabbin Reservoir, 314 ft³/s, 22.56 in/yr; 47 years (water years 1940-86), affected by storage and diversions, 97.2 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,590 ft³/s Mar. 19, 1936, gage height, 15.00 ft; minimum daily, 9.1 ft³/s Dec. 15, 1968. Maximum discharge since construction of Quabbin Reservoir in 1939, 3,070 ft³/s June 1, 1984, gage height, 11.58 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 126 ft³/s Oct. 5, June 6, gage height, 2.67 ft; maximum gage height, 3.20 ft, Jan. 15, 16 (ice jam); minimum daily discharge, 36 ft³/s Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	45	46	44	47	45	45	42	45	78	43	47
2	120	45	47	44	e47	45	44	43	43	50	43	47
3	121	44	46	46	e46	45	44	43	44	45	44	46
4	121	43	45	45	46	45	45	42	42	44	43	45
5	117	47	45	45	46	46	44	42	49	44	43	45
6	120	47	45	45	45	45	44	43	60	44	44	45
7	119	46	45	44	45	e44	44	43	49	44	44	45
8	119	45	45	45	45	e44	44	42	48	43	45	45
9	120	45	45	44	46	44	44	42	45	41	44	45
10	117	45	45	44	45	44	43	42	45	42	44	45
11	117	45	45	44	45	46	43	42	45	42	44	44
12	117	46	46	44	45	45	43	42	46	43	44	44
13	117	45	46	44	e46	47	43	42	46	43	45	44
14	117	45	46	e44	46	54	43	42	45	43	44	36
15	118	48	45	e44	45	57	43	42	46	43	44	44
16	117	45	45	e44	45	49	43	42	45	42	46	45
17	117	48	45	44	45	e48	43	43	45	43	45	44
18	116	46	45	44	46	e48	43	42	44	43	46	44
19	116	46	45	45	47	48	43	42	44	42	45	44
20	117	45	45	47	46	47	43	42	45	42	46	44
21	118	45	44	45	49	46	43	42	44	43	46	44
22	117	45	45	45	48	46	43	43	44	47	46	44
23	117	45	45	45	46	46	44	43	44	43	46	45
24	118	45	44	44	46	46	43	43	44	43	46	46
25	118	45	44	e44	46	45	43	44	44	44	46	40
26	117	45	44	57	e46	45	44	43	44	43	46	41
27	117	46	44	56	e45	46	44	43	44	44	47	41
28	81	46	44	e46	45	46	43	43	44	43	47	40
29	44	46	44	e46	---	45	43	43	44	46	47	40
30	45	46	44	46	---	45	43	43	80	45	46	41
31	45	---	44	46	---	45	---	43	---	43	46	---
TOTAL	3400	1365	1393	1410	1285	1437	1304	1318	1397	1385	1395	1310
MEAN	110	45.5	44.9	45.5	45.9	46.4	43.5	42.5	46.6	44.7	45.0	43.7
MAX	121	48	47	57	49	57	45	44	80	78	47	47
MIN	44	43	44	44	45	44	43	42	42	41	43	36

CAL YR 1985 TOTAL 23694 MEAN 64.9 MAX 126 MIN 39 -
WTR YR 1986 TOTAL 18399 MEAN 50.4 MAX 121 MIN 36

e Estimated

01175670 SEVENMILE RIVER NEAR SPENCER, MASS.

LOCATION.--Lat 42°15'54", long 72°00'19", Worcester County, Hydrologic Unit 01080204, on right bank 40 ft upstream from bridge on Cooney Road and 1.5 mi north of Spencer.

DRAINAGE AREA.--8.68 mi².

PERIOD OF RECORD.--Occasional low-flow measurements, water year 1960. October 1960 to current year. October and November 1960 monthly discharge only, published in WSP 1901.

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

GAGE.--Water-stage recorder. 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. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--26 years, 14.7 ft³/s, 23.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 412 ft³/s Mar. 18, 1968, gage height, 5.19 ft, datum then in use; maximum gage height, 11.77 ft Jan. 27, 1986; minimum discharge, 0.04 ft³/s Sept. 10, 11, 1980 (regulated); minimum daily, 0.13 ft³/s July 21, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 6	0045	72	10.84	Mar. 15	0045	*204	11.66
Jan. 27	1030	187	*11.77	June 7	0045	186	11.53

Minimum discharge, 0.58 ft³/s, Sept. 30; minimum daily, 0.73 ft³/s Sept. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	8.0	18	e8.8	e32	e11	24	11	16	4.2	3.3	1.7
2	10	7.7	29	e9.0	e29	e11	22	9.8	8.9	15	7.5	1.5
3	15	7.6	30	e12	e27	e11	20	9.0	7.0	16	20	1.4
4	23	7.4	e22	e20	e25	e12	19	8.9	5.8	13	11	1.2
5	34	27	e19	e17	e23	e12	19	8.3	7.2	10	7.2	1.3
6	60	45	18	e14	e20	e12	17	7.9	111	8.4	5.2	1.6
7	42	35	e17	e13	e17	e10	19	7.8	148	6.7	6.6	1.6
8	32	26	16	e12	e16	e10	20	8.3	87	5.6	7.2	1.5
9	24	20	15	e11	e16	25	19	7.5	61	4.8	5.8	1.2
10	21	18	14	e10	e15	11	19	7.5	43	4.0	4.7	.95
11	19	19	14	e10	e15	27	16	7.1	34	3.3	3.7	.97
12	17	21	21	e9.7	e14	30	15	5.8	35	3.6	2.9	1.1
13	14	25	20	e9.4	e14	35	14	5.4	42	7.4	2.5	1.4
14	15	23	e19	e8.8	e13	67	13	5.3	36	9.9	2.3	1.5
15	17	30	e17	e8.0	e13	160	12	5.0	27	8.8	2.2	.93
16	22	24	e16	e7.0	e13	106	11	4.7	22	11	2.1	.91
17	17	39	14	e7.0	e14	81	10	7.7	19	8.7	2.2	.94
18	14	40	e13	e8.0	e16	64	10	8.2	16	7.4	2.9	.87
19	15	32	e12	e13	e21	65	10	9.4	13	6.1	3.8	.92
20	17	28	e11	e27	e17	69	9.0	6.3	18	5.6	3.8	1.0
21	14	25	e11	e22	e24	54	9.5	6.3	17	4.5	3.2	1.1
22	11	22	e11	e19	e36	45	12	8.2	13	3.5	2.9	1.0
23	9.6	25	e11	16	e27	40	11	11	11	3.0	2.5	1.0
24	9.2	23	12	e13	e22	37	13	16	9.9	2.6	3.3	1.2
25	11	20	12	e17	e19	33	14	17	9.3	2.3	2.4	1.0
26	11	19	e11	73	e14	32	15	13	8.4	2.4	1.9	.73
27	10	20	e10	149	e14	34	20	9.6	7.6	2.6	2.1	.89
28	9.0	21	e10	e71	e13	38	18	8.3	7.1	2.4	2.2	1.1
29	8.4	21	e9.5	e56	---	36	14	6.8	6.4	2.4	1.8	1.0
30	8.0	19	e9.0	e44	---	32	12	5.6	5.2	2.7	1.8	.80
31	7.7	---	e8.8	e38	---	28	---	5.1	---	2.9	1.8	---
TOTAL	552.9	697.7	470.3	752.7	539	1238	456.5	257.8	851.8	190.8	132.8	34.31
MEAN	17.8	23.3	15.2	24.3	19.2	39.9	15.2	8.32	28.4	6.15	4.28	1.14
MAX	60	45	30	149	36	160	24	17	148	16	20	1.7
MIN	7.7	7.4	8.8	7.0	13	10	9.0	4.7	5.2	2.3	1.8	.73
CFSM	2.05	2.68	1.75	2.80	2.22	4.60	1.75	.96	3.27	.71	.49	.13
IN.	2.37	2.99	2.02	3.23	2.31	5.31	1.96	1.10	3.65	.82	.57	.15

CAL YR 1985 TOTAL 4618.68 MEAN 12.7 MAX 65 MIN 1.2 CFSM 1.46 IN. 19.79
WTR YR 1986 TOTAL 6174.56 MEAN 16.9 MAX 160 MIN .73 CFSM 1.95 IN. 26.46

e Estimated

CONNECTICUT RIVER BASIN

01176000 QUABOAG RIVER AT WEST BRIMFIELD, MASS.

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

DRAINAGE AREA.--150 mi².

PERIOD OF RECORD.--Discharge: August 1909 to July 1912 (twice-daily gage heights and corresponding discharges), August 1912 to current year.
Water-quality records: Water years 1953, 1967, 1969-70, 1972-74.

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

GAGE.--Water-stage recorder. Elevation of gage is 390 ft above 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 winter period, which are poor. Slight diurnal fluctuation at low flow caused by mill upstream prior to 1956; regulation much greater prior to 1938. High flow slightly affected by retarding reservoirs since 1965. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--74 years (water years 1913-86), 246 ft³/s, 22.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft³/s Aug. 19, 1955, gage height, 15.36 ft, from floodmarks, present site and datum, from rating curve extended above 2,700 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 6.6 ft³/s Sept. 28, 29, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 840 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	0800	993	5.72	June 6	2200	*1,040	*5.82
Mar. 15	0030	908	5.53				

Minimum discharge, 41 ft³/s Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	311	202	407	e200	e670	279	413	223	184	134	97	57
2	299	211	440	e200	e634	257	390	196	179	206	107	56
3	328	202	418	e220	591	244	367	186	170	218	102	55
4	368	194	411	e260	554	237	348	178	155	200	103	54
5	412	283	e410	e260	527	238	331	177	150	192	99	54
6	456	321	401	e250	488	246	314	172	726	188	98	52
7	441	338	382	e240	e440	219	308	170	935	176	103	50
8	423	338	371	e230	e400	e170	307	166	942	159	99	49
9	399	337	359	e225	e370	e210	303	158	923	148	97	51
10	380	329	343	e220	e340	211	293	150	872	133	92	49
11	356	336	336	e215	e310	244	285	142	804	119	86	50
12	336	356	369	e210	e290	294	272	128	775	120	83	52
13	323	373	364	e205	e280	358	257	114	757	130	79	52
14	308	367	e360	e200	e260	472	248	109	693	134	72	49
15	302	393	e330	e190	e250	840	239	103	635	127	68	46
16	293	387	e340	e180	e250	850	223	100	578	123	74	47
17	283	489	328	e170	254	834	215	111	520	120	93	43
18	285	486	308	e190	273	808	204	108	464	116	102	46
19	287	485	e250	e210	296	798	190	107	417	110	99	45
20	291	479	e320	238	296	767	180	104	400	107	87	44
21	286	461	e280	264	338	733	180	107	370	102	82	46
22	276	458	e270	264	387	697	185	125	336	89	80	46
23	268	462	e260	277	402	652	202	303	306	82	79	48
24	259	440	e250	269	388	598	206	276	277	77	72	49
25	253	422	e240	e240	365	564	211	279	245	75	72	48
26	241	419	e240	499	e300	531	223	267	224	76	74	49
27	236	418	e230	912	323	510	246	245	204	77	70	50
28	216	429	e220	882	300	501	249	216	178	89	66	48
29	212	421	e215	835	---	480	244	191	161	90	64	51
30	207	407	e210	792	---	459	234	165	143	82	61	51
31	199	---	e205	733	---	433	---	148	---	79	59	---
TOTAL	9534	11243	9867	10280	10576	14734	7867	5224	13723	3878	2619	1487
MEAN	308	375	318	332	378	475	262	169	457	125	84.5	49.6
MAX	456	489	440	912	670	850	413	303	942	218	107	57
MIN	199	194	205	170	250	170	180	100	143	75	59	43
CFSM	2.05	2.50	2.12	2.21	2.52	3.17	1.75	1.12	3.05	.83	.56	.33
IN.	2.36	2.79	2.45	2.55	2.62	3.65	1.95	1.30	3.40	.96	.65	.37

CAL YR 1985 TOTAL 75191 MEAN 206 MAX 606 MIN 54 CFSM 1.37 IN. 18.65
WTR YR 1986 TOTAL 101032 MEAN 277 MAX 942 MIN 43 CFSM 1.85 IN. 25.05

e Estimated

01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MASS.

LOCATION.--Lat 42°09'38", long 72°30'52", Hampden County, Hydrologic Unit 01080204, on left bank 1,000 ft downstream from West Street Bridge at Indian Orchard, 1.1 mi upstream from Fuller Brook, and 7.2 mi upstream from mouth.

DRAINAGE AREA.--689 mi².

PERIOD OF RECORD.--Discharge: August 1928 to current year. Published as "at Bircham Bend" prior to November 1938. Water-quality records: Water years 1953, 1957.

REVISED RECORDS.--WSP 1231: 1934. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 125 ft above 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.--No estimated daily discharges. Records excellent. Diversion since 1941 from 186 mi² in Swift River basin and at times since 1931 from 97 mi² in Ware River basin for Boston metropolitan district; since 1950, for Chicopee; since 1952, for South Hadley; at times since 1966 for Worcester; at times since 1955 from 6.5 mi² in Ware River basin for Fitchburg. Diversion from Ludlow Reservoir for Springfield and, prior to 1952, for Chicopee. Flow regulated by powerplants upstream, by Quabbin Reservoir 21 mi upstream on Swift River since 1939, by Barre Falls Reservoir on Ware River since 1958, by Conant Brook Reservoir since 1966 (Reservoirs in Connecticut River basin), and by smaller reservoirs. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--58 years, 907 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,200 ft³/s Sept. 21, 1938, by computation of flow over dam; minimum daily, 16 ft³/s several times in 1929-31.

EXTREMES FR CURRENT YEAR.--Maximum discharge, 5,820 ft³/s Jan. 27, gage height, 9.63 ft; minimum daily, 67 ft³/s Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	922	562	1100	587	1510	867	987	787	563	524	440	226
2	803	522	1200	584	1490	843	1190	695	594	627	409	235
3	814	428	1400	726	1410	796	1010	629	560	973	551	238
4	1100	568	1200	1000	1210	803	941	641	478	868	453	141
5	1130	653	1060	962	1410	824	1010	516	476	740	425	310
6	1570	1290	1060	871	1240	880	955	601	2580	680	263	296
7	1460	1380	996	829	1100	892	1170	592	4260	660	359	260
8	1290	1050	976	990	1020	714	977	617	3110	569	415	215
9	1110	943	915	758	993	708	1080	663	2410	474	452	105
10	1030	881	961	700	904	853	997	650	1980	414	427	93
11	872	819	906	726	943	698	845	435	1690	378	412	530
12	879	1110	1060	713	913	1150	870	451	1650	397	386	67
13	769	1240	1120	676	829	1210	849	506	1900	450	330	137
14	812	1120	1090	649	790	1720	751	533	1720	599	283	302
15	813	1240	1000	467	840	4010	774	287	1390	658	311	215
16	753	1150	936	515	802	3630	773	440	1320	593	282	245
17	764	1480	887	462	797	2650	751	436	1280	572	278	173
18	797	1730	910	543	915	2340	721	431	1250	533	393	219
19	787	1490	718	609	1140	2140	721	369	915	464	387	254
20	756	1320	622	957	1040	2430	696	470	911	433	316	194
21	773	1210	722	1170	1290	2150	702	481	1010	380	413	243
22	777	1120	726	1030	1640	1880	713	474	941	371	433	191
23	690	1210	735	930	1470	1670	804	848	846	343	245	289
24	715	1160	732	922	1290	1530	862	861	790	305	302	253
25	712	1100	730	666	1020	1450	936	888	697	300	295	247
26	694	1040	707	1770	985	1350	882	789	678	292	280	169
27	650	1100	647	4900	901	1270	935	725	680	298	289	175
28	588	1210	671	3900	917	1350	747	690	686	330	307	265
29	645	1220	617	2380	---	1460	969	604	394	346	269	162
30	321	1110	635	2040	---	1360	791	507	503	506	246	191
31	515	---	598	1750	---	1200	---	449	---	491	264	---
TOTAL	26311	32456	27637	35782	30809	46828	26409	18065	38262	15568	10915	6640
MEAN	849	1082	892	1154	1100	1511	880	583	1275	502	352	221
MAX	1570	1730	1400	4900	1640	4010	1190	888	4260	973	551	530
MIN	321	428	598	462	790	698	696	287	394	292	245	67

CAL YR 1985 TOTAL 252920 MEAN 693 MAX 2220 MIN 191
WTR YR 1986 TOTAL 315682 MEAN 865 MAX 4900 MIN 67

CONNECTICUT RIVER BASIN

01179500 WESTFIELD RIVER AT KNIGHTVILLE, MASS.

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 mi².

PERIOD OF RECORD.--Discharge: August 1909 to current year.
Water-quality records: Water year 1953.

REVISED RECORDS.--WSP 415: 1909-12. WSP 1001: 1941-43. WSP 1231: 1910, 1912, 1913(M), 1914-15, 1916-19(M), 1921-23(M), 1925-27(M), 1929-33(M), 1935(M). 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 (Reservoirs in Connecticut River basin). Several observations of water temperatures and specific conductance were made during the year.

AVERAGE DISCHARGE.--77 years, 328 ft³/s, 27.67 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,900 ft³/s Sept. 21, 1938, gage height, 29.58 ft, from floodmarks, site and datum then in use, from rating curve extended above 3,800 ft³/s on basis of slope-area measurements at gage heights 24.07 ft and 29.58 ft; minimum, 0.1 ft³/s Apr. 3, 1965; minimum daily, 1.1 ft³/s Apr. 2, 1965. Maximum discharge since construction of Knightville Reservoir in 1941, 6,660 ft³/s Mar. 21, 1945, gage height, 7.45 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,960 ft³/s Mar. 21, gage height, 5.90 ft; minimum, 1.6 ft³/s Sept. 15; minimum daily, 39 ft³/s Sept. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1310	94	314	151	383	190	1080	168	101	59	1590	61
2	190	93	631	148	316	190	963	160	96	218	740	58
3	182	92	877	138	334	187	656	153	95	410	514	55
4	326	91	454	158	348	184	534	146	72	241	352	58
5	407	271	360	194	300	182	737	143	70	151	254	66
6	455	764	352	203	301	180	754	137	279	116	197	99
7	366	710	326	194	299	173	521	139	179	95	214	85
8	234	396	289	158	222	e135	495	152	93	79	271	65
9	187	267	275	123	e205	122	589	153	895	65	256	58
10	166	231	266	139	224	143	539	132	1650	56	208	55
11	148	267	233	151	232	167	446	119	497	50	202	51
12	130	418	304	140	214	177	681	110	274	59	216	48
13	136	766	383	132	203	277	855	104	685	208	144	47
14	196	660	340	e125	168	321	671	96	414	814	122	43
15	184	830	320	e105	154	203	411	90	264	498	109	39
16	258	606	248	93	196	497	296	87	203	262	121	39
17	190	571	233	92	186	1400	284	131	250	174	177	45
18	154	927	197	105	177	1680	264	129	187	126	161	42
19	147	993	133	112	232	900	239	100	152	104	194	41
20	175	830	e115	227	254	1950	219	84	272	91	139	41
21	153	590	157	443	218	2790	215	117	385	83	113	70
22	141	405	173	518	298	2590	311	251	213	76	102	87
23	132	475	171	495	430	2210	313	277	156	67	89	75
24	124	470	175	467	479	979	316	332	131	61	86	192
25	139	376	199	379	415	585	325	277	116	56	80	108
26	139	347	200	294	e195	619	262	182	101	51	69	74
27	120	361	160	681	e150	873	249	128	91	56	81	61
28	111	418	133	1830	186	1220	229	104	84	118	158	56
29	102	407	125	2310	---	1320	204	87	76	125	98	51
30	98	329	122	1510	---	1330	184	73	65	1510	80	51
31	97	---	124	466	---	1160	---	66	---	2130	71	---
TOTAL	6897	14055	8389	12281	7319	24934	13842	4427	8146	8209	7208	1921
MEAN	222	468	271	396	261	804	461	143	272	265	233	64.0
MAX	1310	993	877	2310	479	2790	1080	332	1650	2130	1590	192
MIN	97	91	115	92	150	122	184	66	65	50	69	39
MEAN+	196	470	275	399	258	855	404	143	272	290	208	63.8
CFSM+	1.22	2.92	1.71	2.48	1.60	5.31	2.51	.89	1.69	1.80	1.29	.40
IN.+	1.40	3.26	1.97	2.86	1.67	6.12	2.80	1.02	1.88	2.07	1.49	.44

CAL YR 1985 TOTAL 81094 MEAN 222 MAX 2280 MIN 21 MEAN+ 221 CFSM+ 1.37 IN.+ 18.65
WTR YR 1986 TOTAL 117628 MEAN 322 MAX 2790 MIN 39 MEAN+ 320 CFSM+ 1.99 IN.+ 26.99

e Estimated

+ Adjusted for change in contents in Knightville Reservoir.

CONNECTICUT RIVER BASIN

159

01180500 MIDDLE BRANCH WESTFIELD RIVER AT GOSS HEIGHTS, MASS.

LOCATION.--Lat 42°15'31", long 72°52'23", Hampshire County, Hydrologic Unit 01080206, on right bank at upstream side of highway bridge at Goss Heights, 0.3 mi upstream from mouth, 0.7 mi downstream from Littleville Dam, and 1.7 mi north of Huntington.

DRAINAGE AREA.--52.7 mi².

PERIOD OF RECORD.--July 1910 to current year.

REVISED RECORDS.--WSP 415: 1910-13. WSP 781: 1933(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 399.30 ft above National Geodetic Vertical Datum of 1929. Prior to June 25, 1930, datum was 2.00 ft higher, and June 25, 1930, to Sept. 30, 1964, datum was 1.00 ft higher. Prior to Sept. 8, 1912, nonrecording gage at same site.

REMARKS.--Records good except those for period Apr. 26 to July 9 and those for estimated daily discharges, which are fair. Some diurnal fluctuation at low flow prior to 1952 caused by mill upstream. Flow regulated by Littleville Lake (Reservoirs in Connecticut River basin) since 1965. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--76 years, 105 ft³/s 27.06 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft³/s Sept. 12, 1938, gage height, 11.61 ft, present datum, from rating curve extended above 3,200 ft³/s on basis of mean of two contracted-opening measurements of peak flow; maximum gage height, 14.87 ft, present datum, Mar. 12, 1936, (ice jam); practically no flow Sept. 3, 22, Oct. 20, 1910, July 30, 1912, Oct. 26, 27, 1914. Maximum discharge since construction of Littleville Dam in 1965, 1,670 ft³/s Mar. 26, 1980, gage height, 5.93 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,010 ft³/s Mar. 21, gage height, 5.28 ft; minimum, 3.6 ft³/s Mar. 16; minimum daily, 8.4 ft³/s Sept. 18-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	491	28	81	46	117	62	219	e77	43	e18	238	15
2	296	26	178	44	92	59	285	e74	49	e55	186	14
3	97	25	248	48	81	56	241	e70	43	e120	154	13
4	97	25	156	60	71	55	207	67	38	e76	110	13
5	129	92	116	63	71	55	323	66	35	e59	78	14
6	142	244	98	62	67	56	305	66	104	e48	59	19
7	100	169	85	60	65	55	186	65	85	e43	49	20
8	71	113	77	59	65	e43	186	68	45	e34	53	18
9	65	81	71	55	e65	44	186	68	252	e29	54	16
10	58	67	67	44	65	45	185	64	429	24	48	14
11	51	70	66	43	66	48	183	61	292	19	45	13
12	44	111	88	41	e65	64	181	58	134	22	40	12
13	42	198	106	40	62	70	450	55	175	41	34	12
14	45	171	97	39	e56	95	447	52	e155	134	29	10
15	43	254	76	e34	58	53	190	48	e105	131	26	8.9
16	48	201	67	e31	e53	112	111	46	e85	91	25	8.9
17	47	252	66	29	55	496	92	52	e84	65	30	8.5
18	42	302	65	29	58	681	90	60	e84	49	37	8.4
19	40	299	61	36	64	397	89	58	e71	39	46	8.4
20	44	287	58	119	65	657	89	53	e75	32	44	8.4
21	45	205	61	251	66	931	89	52	e90	28	35	10
22	41	143	62	172	118	867	88	69	e70	24	30	13
23	37	132	63	125	111	698	96	86	e56	21	25	16
24	34	122	63	83	83	360	99	90	e44	19	23	24
25	35	104	63	65	68	192	94	90	e38	16	20	28
26	36	95	57	55	e65	165	e96	84	e32	16	18	24
27	34	96	53	217	64	184	e94	64	e28	18	19	20
28	27	114	53	e600	64	197	e89	53	e26	20	22	17
29	19	107	51	e780	---	205	e84	46	e25	40	21	14
30	30	90	49	e680	---	211	e80	40	e21	416	19	13
31	31	---	47	230	---	217	---	35	---	388	17	---
TOTAL	2361	4223	2549	4240	2000	7430	5154	1937	2813	2135	1634	433.5
MEAN	76.2	141	82.2	137	71.4	240	172	62.5	93.8	68.9	52.7	14.4
MAX	491	302	248	780	118	931	450	90	429	416	238	28
MIN	19	25	47	29	53	43	80	35	21	16	17	8.4
MEAN+	46.6	144	79.8	141	67.1	297	113	61.0	93.3	77.1	44.5	14.4
CFSM+	.88	2.73	1.51	2.68	1.27	5.64	2.14	1.16	1.77	1.46	.84	.27
IN.+	1.02	3.04	1.75	3.09	1.33	6.50	2.38	1.34	1.98	1.69	.97	.31

CAL YR 1985 TOTAL 23497.1 MEAN 64.4 MAX 654 MIN 4.2 MEAN+ 64.2 CFSM+ 1.22 IN.+ 16.54
WTR YR 1986 TOTAL 36909.5 MEAN 101 MAX 931 MIN 8.4 MEAN+ 98.5 CFSM+ 1.87 IN.+ 25.39

e Estimated

+ Adjusted for change in contents in Littleville Lake.

CONNECTICUT RIVER BASIN

01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MASS.

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

DRAINAGE AREA.--94.0 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 388.60 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are fair. Prior to 1950, some diurnal fluctuation at low flow caused by small mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--51 years, 190 ft³/s, 27.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft³/s Aug. 19, 1955, gage height, 15.27 ft, from rating curve extended above 9,500 ft³/s on basis of slope-area measurement of peak flow; minimum, 3.3 ft³/s Aug. 9, 1955, Nov. 27, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	0715	3,080	5.28	Mar. 19	2330	*3,090	*5.29
Mar. 15	0300	2,750	5.00				

Minimum discharge, 24 ft³/s July 25, 26, Sept. 1, 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	46	189	81	206	106	325	92	94	27	209	25
2	86	45	508	77	195	96	292	87	81	198	193	25
3	109	44	397	90	182	91	261	82	62	211	147	24
4	327	44	269	133	175	87	240	76	45	99	107	25
5	338	479	228	111	165	87	225	73	41	64	75	27
6	310	428	212	96	148	87	222	70	448	108	60	41
7	197	279	188	94	135	82	275	75	567	68	56	41
8	144	206	175	e93	e130	67	274	80	374	49	79	36
9	113	160	165	e87	e120	82	248	79	245	39	75	33
10	98	138	152	e82	e115	77	223	68	160	34	58	31
11	85	200	150	e78	108	116	207	61	124	31	55	30
12	75	323	282	e76	107	179	193	55	182	48	49	30
13	84	403	250	73	111	176	177	51	287	135	40	31
14	105	309	219	e69	109	380	162	48	206	165	39	33
15	120	490	159	e60	97	1840	151	45	139	95	38	32
16	123	324	163	e55	97	756	143	45	106	63	38	32
17	83	636	143	e52	85	587	142	90	176	49	45	33
18	73	608	117	e52	103	546	126	79	121	43	108	29
19	78	475	e105	e64	134	1310	115	56	88	38	71	27
20	106	403	e105	e220	112	1400	107	48	113	36	49	27
21	84	328	e105	e300	157	508	118	58	108	33	41	29
22	76	297	e105	227	282	388	196	89	75	31	37	32
23	70	321	e110	221	198	346	175	229	63	28	34	36
24	66	287	e110	150	157	336	194	162	54	26	33	50
25	72	226	109	159	133	312	168	124	49	25	31	43
26	65	212	100	1030	104	475	147	83	41	25	28	36
27	58	246	e99	1820	131	640	137	65	37	33	32	34
28	53	290	e94	491	119	532	123	53	36	46	38	33
29	49	238	e90	300	---	461	112	45	34	59	30	32
30	48	201	e87	258	---	462	101	40	30	466	27	33
31	47	---	e84	233	---	411	---	37	---	327	25	---
TOTAL	3454	8686	5269	6932	3915	13023	5579	2345	4186	2699	1947	970
MEAN	111	290	170	224	140	420	186	75.6	140	87.1	62.8	32.3
MAX	338	636	508	1820	282	1840	325	229	567	466	209	50
MIN	47	44	84	52	85	67	101	37	30	25	25	24
CFSM	1.19	3.08	1.81	2.38	1.49	4.47	1.98	.80	1.48	.93	.67	.34
IN.	1.37	3.44	2.09	2.74	1.55	5.15	2.21	.93	1.66	1.07	.77	.38

CAL YR 1985 TOTAL 44257 MEAN 121 MAX 1830 MIN 18 CFSM 1.29 IN. 17.51
WTR YR 1986 TOTAL 59005 MEAN 162 MAX 1840 MIN 24 CFSM 1.72 IN. 23.35

e Estimated

01183000 LITTLE RIVER AT OUTLET OF COBBLE MOUNTAIN RESERVOIR, NEAR WESTFIELD, MASS.

LOCATION.--Lat 42°07'34", long 72°53'37", Hampden County, Hydrologic Unit 01080206, at Cobble Mountain Dam, 7.5 mi west of Westfield, and at mile 13.0.

DRAINAGE AREA.--45.8 mi².

PERIOD OF RECORD.--Discharge: July 1905 to current year. Published as Westfield Little River near Blandford 1905-11, as Westfield Little River near Westfield 1912-35, and as Westfield Little River at outlet of Cobble Mountain Reservoir, near Westfield 1936-76.
Water-quality records: Water year 1957.

REVISED RECORDS.--WSP 501: Drainage area. WDR MA-RI-80-1: 1979.

GAGE.--Venturi meters at outlet tunnel at powerhouse 2.4 mi downstream. Prior to Mar. 1, 1910, nonrecording gage at site 0.2 mi upstream, and Mar. 1, 1910, to Sept. 30, 1935, water-stage recorder at diversion dam 2.8 mi downstream.

REMARKS.--Discharge computed on basis of flow through venturi meters and flow over reservoir spillway or through bypass tunnel. Flow regulated by Borden Brook Reservoir since 1910 and Cobble Mountain Reservoir since August 1931 (Reservoirs in Connecticut River basin).

COOPERATION.--Records provided by Springfield Board of Water Commissioners.

AVERAGE DISCHARGE.--76 years (water years 1911-86), 89.8 ft³/s, 26.63 in/yr, adjusted for storage.

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	Mean†	Per square mile†	Runoff, in inches†
October.....	76.5	1.67	1.93
November.....	163	3.56	3.96
December.....	80.1	1.75	2.02

Calendar year 1985.....	65.7	1.43	19.48

January.....	141	3.08	3.55
February.....	59.5	1.30	1.35
March.....	201	4.39	5.06
April.....	59.3	1.29	1.45
May.....	24.3	.53	.61
June.....	129	2.82	3.15
July.....	52.1	1.14	1.31
August.....	21.0	.46	.53
September.....	7.32	.16	.18

Water year 1986.....	84.6	1.85	25.08

† Adjusted for change in contents in Borden Brook and Cobble Mountain Reservoirs.

CONNECTICUT RIVER BASIN

01183500 WESTFIELD RIVER NEAR WESTFIELD, MASS.

LOCATION.--Lat 42°06'24", long 72°41'58", Hampden County, Hydrologic Unit 01080206, on left bank 0.7 mi downstream from Great Brook, 3 mi east of Westfield, and 8.1 mi upstream from mouth.

DRAINAGE AREA.--497 mi².

PERIOD OF RECORD.--Discharge: June 1914 to current year.

Water-quality records: Water years 1952-53, 1957, 1967-74.

REVISED RECORDS.--WSP 601: 1924(M). WSP 756: Drainage area. WSP 1051: 1919-21(M), 1925(M). WSP 1231: 1915-16(M), 1920.

GAGE.--Water-stage recorder. Datum of gage is 98.25 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 3, 1933, on right bank at same datum.

REMARKS.--Records excellent. Flow regulated by Borden Brook Reservoir, Cobble Mountain Reservoir since 1931, Knightville Reservoir since 1941, and Littleville Lake since 1965 (Reservoirs in Connecticut River basin). High flow slightly affected by retarding reservoirs since 1963. Diversion from Little River for municipal supply of Springfield. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--72 years, 923 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,300 ft³/s Aug. 19, 1955, gage height, 34.2 ft, from floodmarks, from rating curve extended above 18,000 ft³/s on basis of computations of flow over dam at gage heights 27.20 ft, 29.40 ft, and 34.2 ft; minimum, 9 ft³/s Oct. 2, 1921; minimum daily, 40 ft³/s Dec. 28, 29, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,300 ft³/s May 23, gage height, 13.05 ft; maximum gage height, 13.86 ft Jan. 26 (ice jam); minimum discharge, 87 ft³/s Sept. 21; minimum daily, 122 ft³/s Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2970	329	987	472	1150	633	2230	513	261	257	2450	182
2	1350	352	1780	486	1040	604	2270	496	371	655	1510	175
3	976	348	2260	528	938	618	1790	482	342	1250	1220	155
4	1240	352	1520	611	922	662	1390	456	289	778	838	173
5	1550	1030	1170	619	892	632	1610	412	366	535	626	181
6	1670	2040	1070	598	896	629	1580	426	2310	499	504	201
7	1340	1750	1010	559	1030	569	1600	444	2700	431	454	249
8	1040	1260	933	656	800	451	1360	463	1610	356	516	237
9	830	926	884	579	699	451	1340	485	1480	291	539	171
10	733	775	835	479	730	726	1390	432	2570	265	474	168
11	658	759	801	477	751	636	1210	378	1720	216	625	175
12	572	1140	998	463	803	727	1200	353	1030	273	659	153
13	593	1710	1180	445	748	926	1660	333	1800	468	585	166
14	664	1630	1060	621	671	1420	1660	310	1360	1190	428	134
15	677	1920	944	823	572	4570	1210	299	939	1120	393	141
16	724	1670	847	681	552	2640	879	280	736	822	328	143
17	683	2240	780	377	563	2990	790	358	803	503	354	139
18	591	2560	707	385	753	3960	715	441	737	694	604	146
19	545	2410	599	479	938	3320	664	351	601	415	686	122
20	595	2080	532	1140	932	4950	616	303	584	314	528	133
21	598	1680	565	1600	893	5190	630	360	857	365	429	140
22	525	1330	577	1350	1260	4580	790	748	657	276	309	181
23	489	1300	604	1220	1150	4020	1070	1200	499	241	281	213
24	464	1300	620	1030	1100	2820	868	1170	453	211	246	298
25	472	1200	608	885	1040	1780	827	840	411	258	227	309
26	481	1040	684	e3400	792	1720	767	606	422	162	216	234
27	439	1090	581	5220	660	2370	704	469	331	262	413	190
28	404	1280	536	3730	640	2620	653	397	327	349	296	181
29	374	1240	468	4010	---	2590	619	329	348	331	284	167
30	368	1070	471	3530	---	2590	559	465	276	2230	221	222
31	379	---	454	1570	---	2660	---	300	---	3150	190	---
TOTAL	24994	39811	27065	39023	23915	65054	34651	14899	27190	19167	17433	5479
MEAN	806	1327	873	1259	854	2099	1155	481	906	618	562	183
MAX	2970	2560	2260	5220	1260	5190	2270	1200	2700	3150	2450	309
MIN	368	329	454	377	552	451	559	280	261	162	190	122

CAL YR 1985 TOTAL 262883 MEAN 720 MAX 3280 MIN 112
WTR YR 1986 TOTAL 338681 MEAN 928 MAX 5220 MIN 122

e Estimated

CONNECTICUT RIVER BASIN

163

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN.
(National stream-quality accounting network and radiochemical station)

LOCATION.--Lat 41°59'14", long 72°36'21", Hartford County, Hydrologic Unit 01080205, on right bank just upstream from Enfield Dam, 1 mi downstream from Thompsonville, 3 mi downstream from Massachusetts-Connecticut State line, and at mile 68.2.

DRAINAGE AREA.--9,660 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1928 to current year.

REVISED RECORDS.--WSP 741: 1932. WDR MA-RI-77-1: 1976. WDR MA-RI-83-1: Drainage area, 1982.

GAGE.--Water-stage recorders on river and on canal of The Dexter Corp. Datum of gage is 38.48 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Discharge includes water diverted around station by canal of The Dexter Corp. Flow regulated by powerplants, by diversion from Chicopee River basin, and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, Quabbin Reservoir, (Reservoirs in Connecticut River basin), and other reservoirs, combined usable capacity, about 107 billion cu ft.

AVERAGE DISCHARGE.--58 years, 16,490 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 282,000 ft³/s Mar. 20, 1936, gage height, 16.6 ft, from floodmarks; minimum daily, 968 ft³/s Oct. 20, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 92,300 ft³/s Apr. 1, gage height, 6.77 ft; minimum daily, 5,210 ft³/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16600	7520	14300	9350	35000	12200	89800	16200	9070	9800	29200	8350
2	11800	5860	15300	7670	31800	11400	89400	15200	13100	15500	22000	6290
3	10500	7360	23000	9680	24400	11800	83200	13900	15200	14600	19700	8110
4	8620	5340	26800	12200	25000	12300	73800	12400	15400	13600	21200	9520
5	10200	9500	20800	10600	24500	12100	63000	12900	15600	13500	21100	8540
6	12000	16600	18700	7400	20000	11100	51400	12200	23300	9060	16800	8500
7	11900	22900	15800	11800	18500	10800	42900	12200	23300	10200	14000	8610
8	12000	24800	15900	11900	20400	10800	42600	12500	18500	11500	16700	7690
9	10800	18500	15300	10200	20000	10700	39800	12900	15300	13800	17900	8130
10	9350	18000	13100	8830	17700	9670	37300	13800	16300	10600	20800	7250
11	9960	16300	13500	8810	15800	11900	35100	14800	17000	8110	19300	9080
12	6810	18500	15800	8240	15600	13200	29700	15900	16700	8910	21100	6800
13	5720	20100	16600	6690	14400	15000	28300	14300	22200	8810	21100	6630
14	7370	22400	16800	9280	13900	17400	29700	11500	28600	13500	18100	6070
15	9390	26300	15900	11300	14400	36900	22700	11300	22400	14600	15900	5210
16	9180	37900	11900	7640	12900	50300	19500	9250	18600	13700	11700	6970
17	14500	35000	11200	8040	12300	41900	21100	9540	16200	15200	12300	8900
18	18100	31900	11800	8450	13900	42700	20900	5850	18400	12300	15600	9060
19	15700	32900	11300	8480	14200	43500	20000	6110	19700	11100	15100	7950
20	13300	28600	11300	10000	15100	62700	19300	11500	18100	5910	14200	7140
21	11400	25700	10300	14400	15500	82700	18100	11600	20900	5690	14100	6640
22	15500	22300	8620	15400	18900	71200	18100	14100	20400	7660	14300	8340
23	12400	23700	8510	15100	14500	55800	16400	17200	15500	7320	10800	10200
24	11000	22300	11600	12800	14200	45800	18600	24000	14000	6990	8720	12600
25	9970	19900	11500	12000	14700	41900	19200	31900	13800	6890	7870	11900
26	10300	18000	10600	19000	14200	38700	19300	28800	13700	7090	10000	12900
27	6790	17000	11800	46400	13600	40900	17200	24000	11400	7240	11400	8920
28	6920	18800	9480	61400	13000	60200	17500	19500	12300	7340	13900	7960
29	7440	16900	8610	56500	---	70600	16200	18000	8070	10000	13800	8900
30	7280	14200	7190	49400	---	70900	15900	14600	5900	18600	14300	9980
31	7260	---	8170	39600	---	77800	---	11400	---	30400	9020	---
TOTAL	330060	605080	421480	528560	498400	1104870	1036000	459350	498940	349520	492010	253140
MEAN	10650	20170	13600	17050	17800	35640	34530	14820	16630	11270	15870	8438
MAX	18100	37900	26800	61400	35000	82700	89800	31900	28600	30400	29200	12900
MIN	5720	5340	7190	6690	12300	9670	15900	5850	5900	5690	7870	5210

CAL YR 1985 TOTAL 4604450 MEAN 12610 MAX 48600 MIN 3060
WTR YR 1986 TOTAL 6577410 MEAN 18020 MAX 89800 MIN 5210

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

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

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 246 microsiemens Jan. 26, 1984; minimum, 46 microsiemens Apr. 2, 1977.

WATER TEMPERATURES: Maximum, 36.5°C Aug. 30, 1977; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 207 microsiemens Feb. 19; minimum, 60 microsiemens Apr. 4, 5.

WATER TEMPERATURES: Maximum, 27.5°C July 27; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)
OCT												
22...	0900	15700	122	6.80	9.5	12.0	1.8	9.7	89	300	25	--
NOV												
12...	1015	18000	106	6.70	3.5	7.5	3.0	11.2	92	1100	560	1200
DEC												
13...	1015	16800	106	6.80	0.0	2.0	0.90	13.2	96	2000	860	--
JAN												
15...	1115	11900	130	7.30	<-5.0	0.0	19	13.1	89	500	260	540
MAR												
10...	1030	9800	139	7.20	-2.0	0.5	1.7	14.7	100	2900	1400	--
APR												
14...	0930	29000	78	6.80	16.0	7.0	1.8	12.7	103	57	20	--
MAY												
14...	0830	10900	116	7.00	18.0	15.0	1.5	10.0	97	160	K13	180
JUN												
16...	1000	18900	103	6.60	24.5	19.0	1.6	8.8	94	<1	54	--
JUL												
07...	0940	10500	128	6.90	29.0	23.0	1.2	7.9	91	130	27	120
AUG												
11...	0845	19400	98	6.90	28.5	24.0	1.3	7.6	90	140	56	--
SEP												
03...	0955	7620	122	6.80	23.0	21.0	0.60	8.0	90	100	19	--

CONNECTICUT RIVER BASIN

165

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L- AS CACO3)	ALKA- LINITY LAB (MG/L AS CACO3)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 22...	40	0	13	1.9	--	--	--	--	--	--	9.1	10
NOV 12...	32	9	10	1.8	6.0	1.5	28	23	24	24	10	9.3
DEC 13...	32	0	10	1.7	--	--	--	--	--	--	8.7	10
JAN 15...	38	11	12	1.9	9.1	1.7	33	27	26	27	12	13
MAR 10...	38	0	12	2.0	--	--	--	--	--	--	13	13
APR 14...	26	0	8.3	1.3	--	--	--	--	--	--	9.7	7.3
MAY 14...	39	0	13	1.6	7.1	1.6	94	77	30	76	11	9.9
JUN 16...	34	0	11	1.6	--	--	--	--	--	--	10	9.8
JUL 07...	40	15	13	1.9	9.2	1.7	30	25	29	24	12	11
AUG 11...	31	0	10	1.4	--	--	--	--	--	--	10	8.9
SEP 03...	40	0	13	1.9	--	--	--	--	--	--	12	10

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT 22...	--	--	77	0.10	3260	97	0.260	0.040	0.300	--	0.160	--
NOV 12...	<0.10	5.5	70	0.09	3400	62	0.290	0.010	0.300	0.310	0.100	0.100
DEC 13...	--	--	54	0.07	2450	56	0.390	0.010	0.400	--	0.110	--
JAN 15...	<0.10	6.8	70	0.09	2250	78	0.490	0.010	0.500	0.510	0.330	0.330
MAR 10...	--	--	77	0.10	2040	91	--	<0.010	0.600	--	0.290	--
APR 14...	--	--	53	0.07	4150	64	--	<0.010	0.300	--	0.040	--
MAY 14...	<0.10	4.6	73	0.10	2150	79	0.390	0.010	0.400	0.350	0.340	0.320
JUN 16...	--	--	66	0.09	3370	81	--	<0.010	0.300	--	0.110	--
JUL 07...	0.10	5.3	75	0.10	2130	86	0.390	0.010	0.400	0.390	0.320	0.320
AUG 11...	--	--	71	0.10	3720	86	0.280	0.020	0.300	--	0.040	--
SEP 03...	--	--	70	0.09	1440	75	--	<0.010	0.400	--	0.040	--

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
OCT												
22...	0.14	0.30	0.60	0.060	<0.010	--	--	--	--	--	<1	<1
NOV												
12...	0.40	0.50	0.80	0.070	0.030	0.020	30	<1	18	<0.5	1	<1
DEC												
13...	--	<0.20	--	0.040	0.030	--	--	--	--	--	<1	<1
JAN												
15...	0.17	0.50	1.0	0.090	0.070	0.070	30	<1	20	<0.5	<1	<1
MAR												
10...	0.51	0.80	1.4	0.050	0.040	--	--	--	--	--	1	<1
APR												
14...	0.36	0.40	0.70	0.030	0.020	--	--	--	--	--	<1	<1
MAY												
14...	0.36	0.70	1.1	0.050	0.040	0.030	--	--	--	--	1	1
JUN												
16...	0.49	0.60	0.90	0.060	0.030	--	--	--	--	--	<1	<1
JUL												
07...	0.48	0.80	1.2	0.070	0.050	0.040	20	<1	21	<0.5	3	<1
AUG												
11...	0.36	0.40	0.70	0.050	0.020	--	--	--	--	--	<1	<1
SEP												
03...	0.36	0.40	0.80	0.060	0.030	--	--	--	--	--	<1	<1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT											
22...	2	3	--	9	3	600	--	<5	<5	--	--
NOV											
12...	2	<1	<3	10	4	500	100	9	5	10	20
DEC											
13...	8	<1	--	11	3	290	--	8	<5	--	--
JAN											
15...	7	<1	<3	<1	<1	240	100	<5	<5	<4	32
MAR											
10...	15	<1	--	9	3	290	--	<5	<5	--	--
APR											
14...	20	3	--	13	2	410	--	8	<5	--	--
MAY											
14...	29	<1	--	5	2	190	75	36	5	--	21
JUN											
16...	5	<1	--	42	4	540	--	17	<5	--	--
JUL											
07...	5	<1	<3	23	6	290	130	36	<5	<4	17
AUG											
11...	9	<1	--	3	3	600	--	<5	<5	--	--
SEP											
03...	4	<1	--	8	3	220	--	<5	<5	--	--

CONNECTICUT RIVER BASIN

167

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 22...	--	--	3	<1	--	--	--	--	10	6	5.1
NOV 12...	0.1	<10	5	4	<1	<1	48	<6	10	--	4.3
DEC 13...	--	--	9	4	--	--	--	--	--	15	3.0
JAN 15...	0.5	<10	<1	2	<1	<1	61	<6	10	6	2.1
MAR 10...	--	--	3	2	--	--	--	--	30	16	5.8
APR 14...	--	--	13	1	--	--	--	--	10	7	2.9
MAY 14...	--	--	5	5	--	--	--	--	20	15	3.1
JUN 16...	--	--	9	3	--	--	--	--	20	14	4.6
JUL 07...	0.6	<10	16	3	<1	<1	64	<6	20	13	5.1
AUG 11...	--	--	4	1	--	--	--	--	20	16	4.5
SEP 03...	--	--	2	3	--	--	--	--	20	<3	4.6

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
OCT 22...	0900	<0.5	0.7	0.5	2.0	0.5	1.8	0.5	0.03	0.05
APR 14...	0930	<0.4	<0.9	--	1.6	0.6	1.5	0.6	0.05	0.04

SUSPENDED SEDIMENT MEASUREMENTS, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 12...	1015	18000	6	292	89
JAN 15...	1115	11900	4	129	79
MAY 14...	0830	10900	3	88	86
JUL 07...	0940	10500	4	113	90

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	129	125	127	112	103	107	98	96	97	127	123	125
2	135	130	132	103	100	102	98	96	97	129	123	126
3	141	135	137	101	99	100	99	93	97	135	126	129
4	142	140	141	101	99	100	93	89	91	136	124	130
5	141	139	140	100	98	99	91	88	89	131	119	128
6	141	134	138	98	91	95	93	90	91	134	131	132
7	134	130	132	91	86	88	94	92	93	132	128	130
8	131	128	129	91	85	87	97	94	96	128	124	127
9	129	128	128	101	92	97	98	96	97	134	129	132
10	131	129	130	104	101	103	101	97	99	132	129	131
11	133	131	132	107	104	106	103	100	101	134	130	132
12	131	122	123	109	107	109	106	104	105	136	130	133
14	124	121	123	110	106	108	108	104	106	136	133	134
15	128	125	127	107	85	96	109	107	108	135	124	129
16	129	127	128	84	79	81	108	107	108	128	120	124
17	127	122	125	80	78	79	109	108	109	135	128	132
18	123	117	119	79	75	77	110	109	109	134	132	133
19	118	117	118	76	73	74	117	104	108	141	133	137
20	123	118	121	74	72	73	120	116	117	141	135	138
21	124	123	123	76	73	75	122	118	120	135	110	121
22	123	115	121	77	74	75	124	122	123	113	107	110
23	115	111	112	79	77	78	125	122	123	113	108	110
24	111	108	109	79	78	79	134	123	129	111	108	110
25	110	107	109	79	78	79	129	122	126	114	109	111
26	109	106	108	83	78	80	128	123	126	135	110	122
27	108	106	107	93	84	90	124	118	121	111	81	89
28	111	106	109	92	90	91	126	122	123	90	84	86
29	111	109	110	97	92	95	127	125	126	85	73	82
30	110	109	110	97	95	96	129	125	127	--	--	--
31	111	109	110	--	--	--	128	126	127	90	84	88
MONTH	142	106	123	112	72	91	134	88	109	141	73	121
DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	87	83	86	131	126	128	72	66	69	107	103	105
2	97	88	92	131	128	129	66	61	63	105	103	104
3	100	87	97	130	126	128	62	61	62	109	106	107
4	98	95	97	131	127	129	62	60	61	110	107	108
5	117	95	100	133	127	130	63	60	61	111	108	110
6	127	113	121	129	127	128	70	62	65	113	109	111
7	112	104	109	133	129	131	71	68	69	111	108	110
8	104	97	100	134	131	133	72	70	71	111	107	109
9	106	101	103	135	131	133	74	71	72	108	106	107
10	109	106	107	140	134	138	78	73	75	109	105	107
11	111	108	109	138	126	131	82	77	79	110	107	108
12	119	109	115	136	126	132	84	82	83	111	107	109
13	119	114	115	133	126	130	84	80	82	115	109	113
14	119	114	116	132	114	127	82	79	81	122	114	117
15	117	112	114	113	88	97	89	82	85	125	114	117
16	123	116	119	96	89	92	92	89	90	126	120	122
17	127	118	122	89	84	86	94	91	92	126	119	123
18	199	127	156	85	78	79	95	93	94	121	119	120
19	207	162	188	90	80	87	98	94	96	121	117	120
20	163	140	150	87	75	80	100	98	99	120	114	117
21	142	131	138	77	73	75	103	98	101	118	111	115
22	140	129	135	79	73	76	104	101	102	123	117	120
23	129	128	128	74	72	73	103	100	102	124	114	119
24	128	123	126	84	75	78	100	96	98	123	116	118
25	124	120	122	92	84	89	99	96	97	121	115	117
26	129	121	124	92	90	91	100	98	99	115	113	115
27	130	125	127	92	88	89	103	99	100	114	105	108
28	129	124	126	89	85	87	103	100	101	109	105	107
29	--	--	--	86	80	83	103	100	102	111	108	110
30	--	--	--	80	77	78	106	103	105	112	107	110
31	--	--	--	78	71	75	--	--	--	114	111	113
MONTH	207	83	119	140	71	105	106	60	85	126	103	113

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CT--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986--Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	119	113	115	126	117	121	105	104	104	118	113	116
2	125	113	117	120	108	115	103	101	102	121	118	120
3	114	108	111	114	109	111	106	99	102	125	120	122
4	110	104	107	116	110	112	101	92	97	127	125	126
5	114	108	110	118	113	116	92	89	91	132	127	130
6	121	94	105	123	115	120	99	92	94	133	131	132
7	99	96	98	128	121	124	102	98	99	132	131	132
8	105	98	102	129	123	126	98	94	96	131	128	129
9	106	101	103	130	118	122	96	89	94	127	120	123
10	103	93	97	120	114	117	88	85	86	121	120	121
11	103	94	98	130	119	125	90	88	89	120	116	118
12	114	102	106	134	124	129	87	82	85	120	117	118
13	111	97	103	130	126	128	87	82	85	122	120	121
14	98	93	96	127	118	123	88	85	86	124	120	122
15	99	97	98	117	109	112	91	88	89	126	121	124
16	98	93	95	121	112	116	96	91	93	122	119	120
17	99	95	97	121	118	119	99	96	97	121	114	117
18	103	96	100	126	119	122	101	98	99	116	113	114
19	97	94	95	128	124	126	100	94	97	117	115	116
20	100	97	98	129	122	125	96	95	95	120	116	118
21	99	92	95	134	129	131	97	94	96	122	119	120
22	94	89	91	138	130	135	99	96	98	123	121	123
23	103	94	97	137	130	133	101	99	100	125	123	124
24	110	104	106	135	130	133	105	99	102	129	125	127
25	111	103	106	139	134	136	109	104	107	130	126	129
26	104	100	102	143	136	140	111	108	109	139	131	135
27	110	103	107	140	136	137	110	108	109	140	134	137
28	117	105	111	142	137	140	111	103	109	136	129	133
29	116	110	112	138	134	135	104	103	104	131	125	130
30	116	109	111	134	127	132	105	103	104	129	125	127
31	--	--	--	125	104	112	113	105	109	--	--	--
MONTH	125	89	103	143	104	125	113	82	98	140	113	124
YEAR	207	60	110									

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	18.0	17.5	17.5	9.5	8.5	9.0	3.5	3.0	3.0	1.0	.5	1.0
2	17.5	17.5	17.5	9.0	8.5	9.0	4.5	3.5	4.0	1.0	.5	1.0
3	17.5	16.5	17.0	9.0	8.5	8.5	4.0	1.5	3.0	1.0	1.0	1.0
4	16.5	15.5	16.0	8.5	8.5	8.5	2.0	1.0	1.5	1.0	.5	1.0
5	16.0	15.5	16.0	9.0	8.5	9.0	1.5	1.0	1.0	1.0	.5	.5
6	15.5	15.0	15.5	9.0	8.5	8.5	1.5	1.0	1.5	1.0	.0	.5
7	15.5	14.5	15.0	9.0	8.5	8.5	1.5	1.0	1.0	.5	.0	.5
8	15.0	14.5	15.0	8.5	8.0	8.5	1.5	1.0	1.5	.5	.0	.5
9	15.0	14.5	15.0	8.0	7.5	8.0	2.0	1.5	1.5	1.0	.0	.5
10	15.5	15.0	15.5	8.5	7.5	8.0	2.0	1.5	2.0	1.0	.0	1.0
11	15.5	15.0	15.5	8.5	7.5	8.0	2.5	2.0	2.0	1.0	1.0	1.0
12	15.0	14.0	14.5	7.5	7.0	7.5	3.0	2.0	2.5	1.0	.0	1.0
13	14.5	14.0	14.0	7.5	7.5	7.5	2.5	2.0	2.0	1.0	.0	1.0
14	15.0	14.0	14.5	8.0	7.0	7.5	2.0	1.5	1.5	.5	.0	.5
15	15.0	14.5	15.0	7.5	7.0	7.5	1.0	1.0	1.0	.5	.0	.5
16	15.5	14.5	15.0	7.0	5.5	6.0	1.5	.5	1.0	1.0	.0	.5
17	14.5	13.5	14.0	5.5	5.0	5.0	1.5	1.5	1.5	1.0	.0	.5
18	14.0	13.0	13.5	5.5	5.0	5.5	1.5	1.0	1.5	1.0	1.0	1.0
19	13.5	13.5	13.5	6.0	5.5	5.5	1.0	.0	.5	1.0	1.0	1.0
20	13.5	12.5	13.0	7.5	6.0	7.0	.5	.0	.5	1.5	1.0	1.5
21	13.0	12.0	12.5	7.5	6.5	7.5	1.0	.0	.5	1.5	1.0	1.5
22	12.5	12.0	12.0	7.0	6.5	6.5	.5	.0	.5	2.0	1.0	1.0
23	12.0	11.5	12.0	6.0	5.5	5.5	.5	.5	.5	1.5	.5	1.0
24	12.5	11.5	12.0	5.5	5.0	5.0	1.5	1.0	1.0	1.0	.0	.5
25	13.0	12.0	12.5	5.0	4.5	5.0	1.0	.5	1.0	.5	.0	.5
26	12.5	12.0	12.0	5.0	4.0	4.5	.5	.0	.5	1.0	.5	1.0
27	12.5	11.5	12.0	4.5	3.5	4.0	.5	.0	.5	1.0	1.0	1.0
28	11.5	11.0	11.5	4.0	3.0	3.5	1.0	.5	.5	.5	.0	.5
29	11.0	10.0	10.5	3.0	3.0	3.0	.5	.0	.5	.5	.5	.5
30	10.0	9.0	10.0	3.0	3.0	3.0	1.0	.5	.5	.5	.0	.5
31	9.5	9.0	9.5	--	--	--	1.0	.5	.5	1.0	.5	.5
MONTH	18.0	9.0	14.0	9.5	3.0	6.5	4.5	.0	1.5	2.0	.0	1.0

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986--Continued

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	1.0	.5	.5	2.0	1.0	1.5	6.5	5.5	6.0	16.0	15.5	16.0
2	.5	.5	.5	2.0	1.5	1.5	7.0	6.0	6.5	16.0	14.5	15.0
3	1.0	.5	.5	2.5	1.5	2.0	7.0	6.5	7.0	14.5	13.5	14.0
4	1.0	.0	.5	3.0	2.0	2.5	7.0	6.5	6.5	14.5	13.0	13.5
5	1.0	.5	.5	3.5	2.5	3.0	7.0	6.0	6.5	15.0	13.5	14.0
6	1.5	1.0	1.0	3.0	3.0	3.0	6.5	5.5	6.0	15.5	14.5	15.0
7	1.0	.0	.5	3.0	2.0	3.0	6.5	5.5	6.0	15.5	15.0	15.0
8	.5	.5	.5	2.0	1.0	1.5	6.5	6.0	6.0	14.5	13.5	14.0
9	1.0	.5	.5	1.0	.0	.5	6.5	6.0	6.5	14.5	12.5	13.5
10	1.0	.5	.5	1.0	.5	.5	7.0	6.5	6.5	15.0	13.5	14.0
11	1.5	.5	1.0	2.0	1.0	1.5	7.0	6.0	6.5	15.0	13.5	14.5
12	1.5	.0	1.0	2.5	1.5	2.0	7.0	6.0	6.5	15.0	13.5	14.5
13	1.5	.0	1.0	3.0	2.0	2.5	7.5	6.5	7.0	15.5	14.0	15.0
14	1.0	.5	1.0	2.5	1.5	2.5	8.5	7.0	7.5	16.0	14.5	15.5
15	1.0	.5	1.0	2.0	1.5	1.5	9.5	7.5	8.5	16.5	15.5	16.0
16	1.0	.5	.5	2.0	2.0	2.0	9.0	8.5	9.0	17.0	16.0	16.5
17	1.0	.5	.5	2.5	1.5	2.0	9.5	8.5	9.0	17.5	16.5	17.0
18	1.0	1.0	1.0	2.5	2.0	2.5	11.0	9.0	10.0	19.0	17.0	18.0
19	1.5	1.0	1.0	3.0	2.5	3.0	11.5	10.0	10.5	20.5	19.0	20.0
20	2.0	1.5	1.5	3.0	2.0	2.5	12.0	10.5	11.0	20.5	20.0	20.0
21	2.0	1.5	2.0	1.5	.0	1.0	12.0	11.0	11.5	20.5	20.0	20.5
22	2.0	1.5	2.0	2.0	.5	1.0	12.5	11.5	12.0	20.0	19.5	19.5
23	2.0	1.5	1.5	2.0	1.5	2.0	12.0	10.0	11.0	20.0	19.0	19.5
24	2.0	1.5	1.5	2.5	2.0	2.5	11.0	10.0	10.5	19.5	18.5	19.0
25	2.0	2.0	2.0	3.5	2.0	3.0	12.5	11.0	11.5	19.5	18.5	19.0
26	2.0	1.0	1.5	5.0	3.0	4.0	12.5	11.5	12.0	19.5	18.5	19.0
27	1.5	.5	1.0	5.0	4.5	5.0	13.5	12.0	12.5	20.0	18.5	19.0
28	1.5	.5	1.0	4.5	3.5	4.0	15.0	13.0	14.0	20.5	19.0	19.5
29	--	--	--	4.5	3.5	4.0	16.0	14.0	15.0	21.0	19.5	20.5
30	--	--	--	5.5	4.5	5.0	16.5	15.0	16.0	22.0	20.5	21.0
31	--	--	--	6.5	5.5	6.0	--	--	--	22.5	21.5	22.0
MONTH	2.0	.0	1.0	6.5	.0	2.5	16.5	5.5	9.0	22.5	12.5	17.0
DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	23.0	21.5	22.5	24.0	22.5	23.5	23.0	22.0	22.5	21.5	20.0	21.0
2	22.5	20.0	21.5	23.0	21.0	22.0	23.5	22.0	22.5	21.0	20.5	21.0
3	21.0	20.0	20.5	21.5	20.5	21.0	23.5	22.0	22.5	21.0	20.0	20.5
4	21.0	19.0	20.0	21.5	20.0	21.0	24.0	22.5	23.5	20.0	20.0	20.0
5	20.5	20.0	20.5	22.0	20.5	21.5	24.0	23.0	23.5	20.0	19.5	19.5
6	20.0	18.0	19.0	24.0	22.0	23.0	24.0	23.5	23.5	21.0	19.5	20.0
7	18.0	17.5	17.5	25.5	23.0	24.0	24.0	23.5	24.0	20.5	19.0	20.0
8	18.5	17.0	18.0	26.0	24.5	25.5	24.5	23.5	24.0	20.0	18.5	19.5
9	19.5	18.0	18.5	25.5	25.0	25.5	24.5	24.0	24.0	20.0	19.0	19.5
10	20.0	18.5	19.0	25.0	24.5	24.5	24.0	23.5	24.0	19.5	18.5	19.5
11	19.5	19.0	19.0	25.0	23.5	24.5	24.5	23.5	24.0	20.5	19.5	20.0
12	19.5	17.5	18.5	24.5	22.5	23.5	24.0	23.0	23.5	21.0	20.0	20.5
13	18.0	17.0	17.5	22.5	21.5	22.0	23.5	22.0	23.0	21.0	20.0	20.5
14	18.5	17.0	18.0	21.5	21.0	21.5	24.0	22.5	23.0	20.5	19.5	20.0
15	20.0	18.0	19.0	22.0	20.5	21.0	24.0	22.5	23.0	19.5	18.5	19.0
16	20.5	19.0	20.0	23.0	21.0	22.0	23.5	23.0	23.0	19.0	18.0	18.5
17	21.0	20.0	20.5	23.0	22.5	23.0	24.0	23.0	23.5	18.5	17.0	18.0
18	20.5	19.0	20.0	24.5	22.5	23.5	23.5	23.0	23.0	18.0	17.0	17.5
19	20.5	19.0	19.5	24.5	23.5	24.0	23.5	23.0	23.0	18.5	17.5	18.0
20	19.5	19.5	19.5	24.0	23.0	23.5	23.5	22.5	23.0	18.5	17.5	18.0
21	20.0	19.0	19.5	25.0	23.0	24.0	23.5	23.0	23.0	18.5	17.5	18.0
22	20.5	19.0	20.0	25.5	24.0	25.0	23.5	22.5	23.0	17.5	17.0	17.0
23	21.0	20.0	20.5	26.5	24.5	25.5	23.5	22.0	23.0	17.5	17.0	17.0
24	21.0	20.5	20.5	26.5	25.5	26.0	23.0	22.0	22.5	18.0	17.5	17.5
25	20.5	20.0	20.0	26.5	25.5	26.0	22.0	21.0	21.5	18.0	17.0	17.5
26	21.0	19.0	20.0	26.5	26.0	26.5	22.0	20.5	21.5	18.0	17.5	17.5
27	21.5	20.0	21.0	27.5	25.5	26.5	22.0	21.5	21.5	18.0	17.5	18.0
28	22.5	21.0	22.0	27.0	26.5	26.5	21.5	20.5	21.0	17.5	17.0	17.5
29	24.0	22.0	23.0	27.0	26.0	26.5	20.5	20.0	20.5	18.0	17.0	17.5
30	24.0	23.0	23.0	26.5	24.0	25.5	20.5	19.0	20.0	19.0	18.0	18.5
31	--	--	--	23.5	22.5	23.0	21.0	19.5	20.5	--	--	--
MONTH	24.0	17.0	20.0	27.5	20.0	24.0	24.5	19.0	22.5	21.5	17.0	19.0
YEAR	27.5	.0	11.5									

CONNECTICUT RIVER BASIN

171

01185500 WEST BRANCH FARMINGTON RIVER NEAR NEW BOSTON, MASS.

LOCATION.--Lat 42°04'45", long 73°04'24", Berkshire County, Hydrologic Unit 01080207, on left bank 5 ft downstream from highway bridge, 0.3 mi downstream from Clam River, 1 mi south of New Boston, and at mile 65.0.

DRAINAGE AREA.--91.7 mi²

PERIOD OF RECORD.--May 1913 to current year. Prior to October 1948, published as Farmington River near New Boston.

REVISED RECORDS.--WSP 641: 1924(M). WSP 781: 1928(M). WSP 1231: 1914. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 758.21 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter period, which are poor. Flow regulated by Otis Reservoir 7.0 mi upstream on Fall River (Reservoirs in Connecticut River basin). High flow slightly affected by retarding reservoirs since 1966. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--73 years, 182 ft³/s, 26.95 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,300 ft³/s Aug. 19, 1955, gage height, 14.06 ft, from rating curve extended above 9,600 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 2.4 ft³/s Aug. 20, 21, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,600 ft³/s Jan. 27; maximum gage height, 7.49 ft Jan. 26, ice jam; minimum daily discharge, 14 ft³/s Sept. 18-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238	281	207	e82	307	e100	356	83	34	39	239	21
2	206	277	460	e80	225	e95	278	69	34	324	228	20
3	304	273	360	e100	191	e90	244	61	34	343	186	19
4	492	271	271	e130	167	e86	215	56	31	214	133	21
5	526	450	228	e115	166	83	196	56	85	157	93	23
6	447	474	209	e105	154	83	193	58	854	137	74	31
7	263	412	199	e90	e140	82	233	74	937	98	67	27
8	217	370	e190	e86	e130	e77	233	87	580	59	73	24
9	168	338	e225	e85	e120	e74	221	80	351	46	71	21
10	228	322	219	e95	e115	e80	190	70	227	38	67	19
11	276	341	190	e80	e115	e100	170	62	196	31	63	18
12	181	410	240	e74	e110	e120	156	56	424	85	53	19
13	186	453	248	e70	e105	e140	143	51	544	153	44	19
14	169	305	192	e66	e105	e200	130	46	273	169	38	17
15	108	336	e160	e60	e100	e1000	120	43	168	133	33	15
16	97	255	e170	e56	e100	829	118	43	126	76	34	17
17	84	556	e150	e56	e100	670	116	73	245	58	92	17
18	77	502	e130	e60	e110	589	103	62	167	49	386	14
19	223	457	e120	e75	e120	927	94	51	154	43	244	14
20	225	494	e115	e200	e150	1080	89	46	155	38	91	14
21	93	464	e115	e260	189	675	102	64	136	33	69	14
22	84	426	e115	e230	301	564	150	104	106	29	64	15
23	83	369	e120	e210	205	476	159	184	67	28	52	22
24	82	283	e125	e190	166	386	195	138	60	25	44	32
25	97	236	e120	e170	141	354	168	112	53	23	35	26
26	255	219	e115	e1200	e120	423	144	84	48	59	29	23
27	317	244	e110	e1200	e115	514	130	68	45	88	29	24
28	264	268	e100	e850	e110	509	118	55	47	71	30	22
29	298	234	e96	611	---	440	105	44	70	64	27	21
30	292	211	e92	479	---	397	93	37	48	323	25	22
31	286	---	e86	381	---	371	---	34	---	319	22	---
TOTAL	6866	10531	5477	7546	4177	11614	4962	2151	6299	3352	2735	611
MEAN	221	351	177	243	149	375	165	69.4	210	108	88.2	20.4
MAX	526	556	460	1200	307	1080	356	184	937	343	386	32
MIN	77	211	86	56	100	74	89	34	31	23	22	14
MEAN+	179	278	177	245	154	439	197	76.4	234	107	86.8	18.9
CFSM+	1.95	3.03	1.93	2.67	1.68	4.79	2.15	.83	2.55	1.17	.95	.21
IN.+	2.24	3.38	2.22	3.08	1.75	5.52	2.39	.96	2.84	1.34	1.09	.23

CAL YR 1985 TOTAL 49092 MEAN 134 MAX 1600 MIN 24 MEAN+ 134 CFSM+ 1.46 IN.+ 19.89
WTR YR 1986 TOTAL 66321 MEAN 182 MAX 1500 MIN 14 MEAN+ 183 CFSM+ 2.00 IN.+ 27.05

e Estimated

+ Adjusted for change in contents in Otis Reservoir.

Reservoirs in Connecticut River basin

- 01127850; 01128000. FIRST CONNECTICUT AND SECOND CONNECTICUT LAKES on Connecticut River are operated as a unit for storage of water for power and are used for recreation. The downstream order and usable capacity of each are as follows: Second Lake, 12 mi northeast of Pittsburg, N. H., 506,000,000 ft³; First Lake, 5.6 mi northeast of Pittsburg, N. H., 3,330,000,000 ft³. Records provided by New England Power Co.
01129000. LAKE FRANCIS on Connecticut River at Pittsburg, N. H., completed in March 1940, used for storage of water for power and for recreation, has usable capacity of 4,326,000,000 ft³. Records provided by New Hampshire Water Resources Board.
- 01132000; 01132500. MOORE AND COMERFORD RESERVOIRS on Connecticut River are operated as a unit for storage of water for hydroelectric power development and are used for recreation. The downstream order and usable capacity of each are as follows: Moore Reservoir, 4.5 mi northwest of Littleton, N. H., filled in April 1956, 4,970,000,000 ft³; Comerford Reservoir, 5 mi northeast of Monroe, N. H., completed in 1930, 1,279,000,000 ft³. Records provided by New England Power Co.
01141000. UNION VILLAGE RESERVOIR on Ompompanoosuc River, 0.3 mi north of Union Village, Vt., completed in 1949 for flood control, has usable capacity of 1,660,000,000 ft³. Records provided by U. S. Army Corps of Engineers.
- 01148000; 01150000. LAKES AND PONDS IN MASCOMA RIVER BASIN are operated as a unit for storage of water for power and are used for recreation. The reservoirs and usable capacity of each are as follows: 01148000 Goose Pond, 5.2 mi northeast of Mascoma, N. H., 509,000,000 ft³; Grafton Pond, 8.5 mi southeast of Mascoma, 144,000,000 ft³; Crystal Lake, 5.8 mi southeast of Mascoma, 75,000,000 ft³; 01150000 Mascoma Lake at Mascoma, 337,000,000 ft³; total usable capacity of the four reservoirs, 1,060,000,000 ft³. Records provided by New Hampshire Water Resources Board.
01151400. NORTH HARTLAND RESERVOIR on Ottauquechee River at North Hartland, Vt., completed in 1961, used for flood control and recreation, has usable capacity of 3,110,000,000 ft³. Records provided by U. S. Army Corps of Engineers.
01152000. SUNAPEE LAKE on Sugar River at Sunapee, N. H., used for recreation and storage of water for power, has usable capacity of 862,000,000 ft³. Records provided by New Hampshire Water Resources Board.
01152900. NORTH SPRINGFIELD RESERVOIR on Black River at North Springfield, Vt., completed in 1960, used for flood control and recreation, has usable capacity of 2,230,000,000 ft³. Records provided by U. S. Army Corps of Engineers.
01155400. BALL MOUNTAIN RESERVOIR on West River, 2 mi north of Jamaica, Vt., completed in 1961, used for food control and recreation, has usable capacity of 2,380,000,000 ft³. Records provided by U. S. Army Corps of Engineers.
01155900. TOWNSHEND RESERVOIR on West River, 1.8 mi northwest of Townshend, Vt., completed in 1961, used for flood control and recreation, has usable capacity of 1,460,000,000 ft³. Records provided by U. S. Army Corps of Engineers.
01157500. SURRY MOUNTAIN LAKE on Ashuelot River, 4.5 mi north of Keene, N. H., completed in 1942, used for flood control and recreation, has usable capacity of 1,420,000,000 ft³. Records provided by U. S. Army Corps of Engineers.
01158550. OTTER BROOK LAKE on Otter Brook, 2.5 mi northeast of Keene, N. H., completed in 1958, used for flood control and recreation, has usable capacity of 798,000,000 ft³. Records provided by U. S. Army Corps of Engineers.
01163500. BIRCH HILL RESERVOIR on Millers River, 1 mi east of South Royalston, Mass., completed in 1941 for flood control, has usable capacity of 2,180,000,000 ft³. Records provided by U.S. Army Corps of Engineers.
01164500. TULLY RESERVOIR on East Branch Tully River, 3.5 mi north of Athol, Mass., completed in 1948 for flood control, has usable capacity of 958,000,000 ft³. Records provided by U.S. Army Corps of Engineers.
- 01167490; 01168000. SOMERSET AND HARRIMAN RESERVOIRS in Deerfield River basin are operated as a unit for storage of water for hydroelectric power development and are used for recreation. The downstream order and usable capacity of each are as follows: Somerset Reservoir on East Branch Deerfield River, 2.5 mi northeast of Somerset, Vt., completed in 1913, 2,500,000,000 ft³; Harriman Reservoir on Deerfield River at Davis Bridge, Vt., completed in 1924, 5,060,000,000 ft³. Records provided by New England Power Co.
01172400. BARRE FALLS RESERVOIR on Ware River, 4 mi east of Barre, Mass., completed in 1958 for flood control, has usable capacity of 1,050,000,000 ft³. Records provided by U.S. Army Corps of Engineers.
01175000. QUABBIN RESERVOIR on Swift River, 3.2 mi east of Belchertown, Mass., completed in August 1939 for storage of water for municipal supply, has usable capacity of 53,800,000,000 ft³. Records provided by Water Division, Metropolitan District Commission.
01176410. CONANT BROOK RESERVOIR in Chicopee River basin, 1.5 mi southeast of South Monson, Mass., completed in September 1966 for flood control, has usable capacity of 163,000,000 ft³. Records provided by U.S. Army Corps of Engineers.
01176500. LUDLOW RESERVOIR in Chicopee River basin, 3.2 mi northwest of Three Rivers, Mass., completed in 1875 for storage of water for municipal supply, has usable capacity of 201,000,000 ft³. Records provided by Board of Water Commissioners, Springfield, Mass.
01179000. KNIGHTVILLE RESERVOIR on Westfield River, 4 mi north of Huntington, Mass., completed in 1941 for flood control, has usable capacity of 2,130,000,000 ft³. Records provided by U.S. Army Corps of Engineers.
01180450. LITTLEVILLE LAKE on Middle Branch Westfield River, 2 mi north of Huntington, Mass., completed in 1965, used for flood control, water supply, and recreation, has usable capacity of 1,410,000,000 ft³. Records provided by U.S. Army Corps of Engineers.
- 01181900; 01182500. BORDEN BROOK AND COBBLE MOUNTAIN RESERVOIRS in Little River basin are operated as a unit for storage of water for municipal supply and for hydroelectric power development. The downstream order and usable capacity of each are as follows: Borden Brook Reservoir on Borden Brook, 3.5 mi south of Blandford, Mass., completed in 1909, 344,000,000 ft³; Cobble Mountain Reservoir on Little River, 6.5 mi west of Westfield, Mass., completed in 1931, 3,050,000,000 ft³. Records provided by Board of Water Commissioners, Springfield, Mass.
01185000. OTIS RESERVOIR in Farmington River basin, 3 mi southeast of Otis, Mass., completed in 1865, used for storage of water for power and for recreation, has usable capacity of 780,000,000 ft³. Records provided by Massachusetts Department of Natural Resources, Division of Forests and Parks.

Reservoirs in Connecticut River basin--Continued

MONTHEND USABLE CONTENTS, IN MILLIONS OF CUBIC FEET, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	First and Second Connecticut Lakes	Lake Francis	Moore and Comerford Reservoirs	Union Village Reservoirs	Lakes and Ponds in Mascoma River basin	North Hartland Reservoir
Sept. 30, 1985.....	2532.8	3382.6	6665.8	1.7	1023.0	151.1
Oct. 31.....	2229.6	3354.4	5546.5	1.9	773.2	127.0
Nov. 30.....	2349.4	3714.4	5767.3	16.7	867.5	125.0
Dec. 31.....	1431.2	2580.2	4900.4	18.6	573.4	118.0
Jan. 31, 1986.....	1455.2	2034.8	5932.8	150.3	722.1	132.0
Feb. 28.....	1003.5	1334.6	5840.6	19.5	701.9	122.0
Mar. 31.....	1383.5	1563.5	3257.5	71.8	1013.3	302.4
Apr. 30.....	2797.6	2759.0	6099.6	4.4	1080.6	118.0
May 31.....	3455.8	3124.1	5924.0	3.7	1105.3	121.0
June 30.....	3426.5	3334.4	5977.9	3.4	1109.3	119.0
July 31.....	3182.9	3230.7	5705.4	3.4	1076.4	125.0
Aug. 31.....	3145.7	3334.4	5974.6	2.0	1067.6	123.0
Sept. 30.....	2702.1	3660.4	5876.6	2.2	1040.0	112.0

	Sunapee Lake	North Springfield Reservoir	Ball Mountain Reservoir	Townshend Reservoir	Surry Mountain Lake	Otter Brook Lake
Sept. 30, 1985.....	507	20.8	206.4	126	75.6	38.2
Oct. 31.....	340	24.7	28.0	38.0	79.5	37.6
Nov. 30.....	391	26.2	24.6	40.4	92.8	39.0
Dec. 31.....	289	22.5	28.0	38.0	82.0	39.0
Jan. 31, 1986.....	440	30.5	279.7	44.4	369.1	161.6
Feb. 28.....	320	23.3	41.8	37.2	69.3	35.1
Mar. 31.....	544	191.7	202.6	139.0	376.0	111.2
Apr. 30.....	610	29.1	273.6	38.0	68.1	35.1
May 31.....	653	26.2	95.0	35.8	62.2	37.9
June 30.....	607	24.7	99.3	35.8	64.5	37.6
July 31.....	624	29.8	109.3	38.6	282.0	194.8
Aug. 31.....	551	24.0	97.1	35.5	63.4	37.6
Sept. 30.....	461	24.0	168.6	37.6	53.2	37.6

	Birch Hill Reservoir	Tully Lake	Somerset and Harriman Reservoir	Barre Falls Reservoir	Quabbin+ Reservoir	Conant Brook Reservoir
Sept. 30, 1985.....	7.5	27.8	5843.7	3.9	42020	0.1
Oct. 31.....	2.7	21.0	5750.0	2.6	40916	.1
Nov. 30.....	4.8	23.6	6358.5	23.7	41840	.1
Dec. 31.....	2.8	25.4	4897.6	26.8	41507	.1
Jan. 31, 1986.....	414.0	187.2	3877.9	65.9	42462	.1
Feb. 28.....	5.1	25.4	2668.6	20.0	43488	.1
Mar. 31.....	171.8	120.6	5256.8	43.6	45910	.1
Apr. 30.....	4.5	65.3	6559.0	3.7	46170	.1
May 31.....	2.5	64.0	6749.6	3.1	45406	0
June 30.....	2.8	64.0	6816.0	2.6	45722	.1
July 31.....	8.0	78.5	6860.0	2.9	44825	.1
Aug. 31.....	2.7	71.8	6116.2	2.2	43741	0
Sept. 30.....	2.8	73.1	5666.1	2.2	42001	0

	Ludlow Reservoir	Knightville Reservoir	Littleville Lake	Borden Brook and Cobble Mountain Reservoirs	Otis Reservoir
Sept. 30, 1985.....	170.4	72.4	499.0	2105.6	657.3
Oct. 31.....	190.4	.6	419.8	2186.7	542.2
Nov. 30.....	181.1	4.6	427.6	2498.6	352.0
Dec. 31.....	181.1	16.6	421.1	2607.7	352.0
Jan. 31, 1986.....	183.0	24.0	432.8	2839.5	355.1
Feb. 28.....	186.6	15.8	422.4	2693.5	367.4
Mar. 31.....	186.6	150.9	576.0	2931.9	538.7
Apr. 30.....	186.6	1.3	422.4	2851.5	619.5
May 31.....	186.6	.5	418.5	2741.5	638.2
June 30.....	186.6	.4	417.2	2948.7	699.5
July 31.....	170.4	66.7	439.3	2839.5	695.7
Aug. 31.....	159.7	.7	417.2	2597.3	691.8
Sept. 30.....	147.6	.1	417.2	2445.5	688.0

+ Affected by diversion from Ware River and diversion to Wachusett Reservoir and Chicopee Valley aqueduct.
 e Estimated.

HOUSATONIC RIVER BASIN

01197000 EAST BRANCH HOUSATONIC RIVER AT COLTSVILLE, MASS.

LOCATION.--Lat 42°28'10", long 73°11'49", Berkshire County, Hydrologic Unit 01100005, on right bank 40 ft downstream from Hubbard Avenue Bridge at Coltsville, 1.2 mi upstream from Unkamet Brook, and 2 mi northeast of Pittsfield.

DRAINAGE AREA.--57.6 mi².

PERIOD OF RECORD.--Discharge: March 1936 to current year. Prior to October 1945, published as Housatonic River at Coltsville.
Water-quality records: Water years 1963-65.

REVISED RECORDS.--WSP 851: 1936(M). WDR MA-RI-82-1: 1976-77, 1979-80. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 993.49 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by powerplants upstream and, since 1949, by Cleveland Brook Reservoir, usable capacity, 214,000,000 ft³, 5.4 mi upstream; regulation greater prior to 1955. Diversion upstream from Cleveland Brook Reservoir for municipal supply of Pittsfield since May 1950. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--50 years, 105 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft³/s Sept. 21, 1938, gage height, 10.80 ft, from rating curve extended above 2,300 ft³/s on basis of computation of peak flow over dam; minimum daily, 4.4 ft³/s Aug. 15, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1755, that of Sept. 21, 1938.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Mar. 20	0345	*982	*4.37				

Minimum daily discharge, 17 ft³/s May 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	28	81	52	102	52	291	46	30	24	246	e26
2	42	60	210	47	100	49	235	46	41	65	278	e25
3	40	63	208	63	99	51	194	43	36	111	176	e25
4	64	63	113	85	95	51	152	39	32	58	109	e26
5	75	110	93	77	96	52	127	38	30	37	81	e28
6	80	161	91	62	81	51	125	38	204	44	69	e33
7	57	112	82	47	63	48	192	40	337	41	89	e30
8	44	71	78	40	64	39	224	42	194	33	143	e27
9	41	57	78	46	57	42	151	41	143	28	123	e26
10	37	50	77	47	60	46	121	35	77	30	81	e25
11	34	67	78	44	59	66	97	39	61	25	87	e22
12	30	106	125	41	55	91	113	32	99	26	64	e20
13	33	140	123	45	53	104	104	32	142	105	43	e19
14	42	118	101	42	52	190	71	30	94	228	37	e18
15	50	188	78	34	51	651	75	28	58	148	34	e20
16	90	114	81	38	47	510	66	27	45	78	64	25
17	89	143	78	40	48	427	65	44	81	44	e55	23
18	47	158	67	44	52	350	e59	47	72	38	e75	22
19	43	130	57	55	58	536	e54	34	49	32	e89	22
20	55	114	56	171	59	788	e52	30	116	28	e60	22
21	45	123	60	222	84	366	e76	35	89	26	e41	26
22	47	105	58	154	135	238	e91	43	54	23	e37	28
23	48	115	59	129	131	204	e79	60	45	21	e35	47
24	46	111	63	102	99	206	e79	86	40	19	e33	61
25	45	98	64	75	73	192	e72	70	37	20	e31	41
26	37	94	e56	310	58	275	e64	46	33	22	e34	31
27	31	104	56	771	56	459	e56	41	30	26	e54	26
28	33	114	55	363	56	400	e54	32	28	49	e38	23
29	31	97	52	201	---	348	50	30	26	163	e31	26
30	30	84	52	146	---	379	47	28	25	546	e29	29
31	29	---	48	118	---	391	---	17	---	331	e28	---
TOTAL	1481	3098	2578	3711	2043	7652	3236	1239	2348	2469	2394	822
MEAN	47.8	103	83.2	120	73.0	247	108	40.0	78.3	79.6	77.2	27.4
MAX	90	188	210	771	135	788	291	86	337	546	278	61
MIN	29	28	48	34	47	39	47	17	25	19	28	18

CAL YR 1985 TOTAL 22722 MEAN 62.3 MAX 583 MIN 9.3
WTR YR 1986 TOTAL 33071 MEAN 90.6 MAX 788 MIN 17

e Estimated

HOUSATONIC RIVER BASIN

175

01197500 HOUSATONIC RIVER NEAR GREAT BARRINGTON, MASS.

LOCATION.--Lat 42°13'55", long 73°21'19", Berkshire County, Hydrologic Unit 01100005, on left bank at upstream side of highway bridge at Van Deusenville, 0.5 mi upstream from Williams River, and 2 mi north of Great Barrington.

DRAINAGE AREA.--282 mi².

PERIOD OF RECORD.--Discharge: May 1913 to current year.

Water-quality records: Water years 1957-59, 1963-64, 1971, 1979-80.

REVISED RECORDS.--WSP 415: 1913-14. WSP 781: 1928(M). WSP 1051: 1928, 1933. WSP 1301: 1914-15(M), 1917-27(M), 1929-31(M). WDR MA-RI-83-1: 1980(P), 1982(P). WDR MA-RI-84-1: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 683.04 ft above 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. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--73 years, 525 ft³/s, 25.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s Jan. 1, 1949, gage height, 12.08 ft, from rating curve extended above 6,400 ft³/s on basis of computations of flow over dams at gage heights 11.72 ft and 12.08 ft; minimum daily, 1.0 ft³/s Oct. 18, 1914.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 16	0330	*3,170	*6.47	Mar. 21	0015	2,770	6.02

Minimum daily discharge, 129 ft³/s Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	494	227	541	293	e730	387	1130	337	286	221	1360	183
2	323	216	684	e260	701	368	988	325	325	403	1120	172
3	265	223	933	307	672	356	888	313	313	676	940	171
4	312	225	744	e390	617	363	790	301	272	522	707	172
5	358	277	643	360	581	366	679	291	259	366	532	174
6	400	450	594	e320	559	369	600	284	724	316	433	213
7	355	459	578	e270	507	366	649	305	1290	295	402	206
8	349	377	548	e270	490	e305	714	315	1260	258	623	189
9	327	299	528	e290	e460	322	684	308	960	224	659	178
10	309	260	513	287	e445	322	599	293	731	197	548	168
11	291	281	499	269	443	379	545	280	584	180	490	164
12	265	356	598	261	e425	497	485	274	578	198	476	152
13	257	512	648	252	e405	533	454	267	739	309	393	154
14	280	501	609	e235	e400	721	421	259	703	513	336	159
15	275	613	517	e225	e390	2570	382	253	560	570	300	153
16	333	623	479	e215	e390	2940	375	247	454	432	317	131
17	392	757	462	e225	389	2220	370	320	547	324	415	142
18	358	903	e435	247	404	1820	350	415	526	268	542	151
19	344	786	e385	256	462	1780	326	409	441	237	504	129
20	403	665	e350	434	494	2540	313	266	477	216	496	150
21	379	574	361	754	539	2500	306	239	582	193	389	144
22	355	522	e345	675	838	1830	404	280	482	177	332	129
23	334	533	360	571	781	1420	433	402	397	163	294	176
24	319	512	362	e445	667	1230	441	544	351	156	271	260
25	321	475	e370	e390	575	1120	426	505	322	152	266	271
26	307	478	e320	928	e465	1090	390	414	292	150	235	232
27	282	566	e310	2130	e425	1250	369	337	270	151	245	201
28	258	634	e290	1970	e400	1410	342	300	261	170	281	182
29	247	643	e300	e1500	---	1320	328	261	262	234	252	174
30	240	579	e305	e1100	---	1230	387	236	239	971	222	176
31	233	---	e290	e860	---	1190	---	219	---	1550	200	---
TOTAL	9965	14526	14901	16989	14654	35114	15568	9799	15487	10792	14580	5256
MEAN	321	484	481	548	523	1133	519	316	516	348	470	175
MAX	494	903	933	2130	838	2940	1130	544	1290	1550	1360	271
MIN	233	216	290	215	389	305	306	219	239	150	200	129
CFSM	1.14	1.72	1.70	1.94	1.86	4.02	1.84	1.12	1.83	1.23	1.67	.62
IN.	1.31	1.92	1.97	2.24	1.93	4.63	2.05	1.29	2.04	1.42	1.92	.69

CAL YR 1985 TOTAL 118724 MEAN 325 MAX 1710 MIN 72 CFSM 1.15 IN. 15.66
WTR YR 1986 TOTAL 177631 MEAN 487 MAX 2940 MIN 129 CFSM 1.73 IN. 23.43

e Estimated

HUDSON RIVER BASIN

01331500 HOOSIC RIVER AT ADAMS, MASS.

LOCATION.--Lat 42°36'40", long 73°07'28", Berkshire County, Hydrologic Unit 02020003, on left bank at Adams, 500 ft downstream from Dry Brook, and 0.4 mi upstream from Pecks Brook.

DRAINAGE AREA.--46.7 mi².

PERIOD OF RECORD.--Discharge: October 1931 to current year.
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: 1971-72. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 828.01 ft above 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.--No estimated daily discharges. 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. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--55 years 89.6 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft³/s Sept. 21, 1938, gage height, 9.25 ft, site and datum then in use, from rating curve extended above 1,100 ft³/s on basis of computation of peak flow over dam; minimum daily, 8.0 ft³/s Aug. 31, Sept. 1, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 15	0515	998	7.99	Mar. 19	1645	*1,060	*8.07

Minimum discharge, 23 ft³/s July 23; minimum daily, 24 ft³/s July 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	31	125	46	140	46	241	60	37	37	122	32
2	33	33	249	46	146	44	207	60	38	94	189	32
3	32	33	176	57	142	44	178	56	33	83	123	30
4	46	31	81	67	134	44	157	53	29	62	90	30
5	58	103	69	58	135	45	139	52	29	51	76	33
6	59	111	70	56	131	43	134	50	141	47	68	42
7	40	76	63	49	122	42	201	53	252	44	155	36
8	34	65	61	44	120	41	203	58	169	38	248	34
9	34	57	58	46	118	42	163	51	175	35	179	32
10	32	54	54	47	118	45	145	46	110	33	133	30
11	28	93	53	45	115	73	131	44	98	30	207	30
12	26	141	103	43	90	87	120	41	144	33	140	31
13	37	178	73	43	46	81	110	40	171	69	110	31
14	43	164	66	41	43	188	99	39	124	80	94	28
15	57	249	54	36	43	735	92	38	93	62	85	27
16	65	154	58	35	42	395	89	38	84	56	120	27
17	46	230	58	37	41	321	85	50	103	48	103	27
18	40	222	52	42	46	320	76	46	73	44	98	27
19	48	186	47	54	58	683	70	41	60	40	94	27
20	52	178	48	182	49	594	68	40	218	37	86	29
21	44	175	51	153	97	309	81	50	143	36	80	37
22	39	156	50	103	172	256	115	62	94	33	66	33
23	35	161	50	91	92	236	89	79	81	28	37	66
24	36	145	53	66	65	228	93	68	73	26	38	84
25	49	131	57	62	57	204	95	63	65	26	34	48
26	47	126	50	354	49	266	86	53	56	24	32	40
27	42	150	50	593	48	351	81	47	52	39	73	38
28	38	151	51	262	47	301	73	43	49	39	50	36
29	33	135	46	184	---	308	68	39	43	86	38	36
30	32	127	47	166	---	351	64	37	40	201	34	36
31	32	---	46	150	---	313	---	35	---	137	33	---
TOTAL	1274	3846	2169	3258	2506	7036	3553	1532	2877	1698	3035	1069
MEAN	41.1	128	70.0	105	89.5	227	118	49.4	95.9	54.8	97.9	35.6
MAX	65	249	249	593	172	735	241	79	252	201	248	84
MIN	26	31	46	35	41	41	64	35	29	24	32	27

CAL YR 1985 TOTAL 23437 MEAN 64.2 MAX 598 MIN 16
WTR YR 1986 TOTAL 33853 MEAN 92.7 MAX 735 MIN 24

01332000 NORTH BRANCH HOOSIC RIVER AT NORTH ADAMS, MASS.

LOCATION.--Lat 42°42'08", long 73°05'37", Berkshire County, Hydrologic Unit 02020003, on left bank at North Adams, 0.4 mi downstream from Hudson Brook, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--40.9 mi².

PERIOD OF RECORD.--Discharge: June 1931 to current year.
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WSP 781: 1933(M). WSP 801: 1928(M). WDR MA-NH-RI-VT-73-1: 1971. WDR-MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control at present site. Datum of gage is 820.46 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 23, 1938, at site 100 ft upstream at same datum. July 9, 1959, to July 29, 1960, nonrecording gage at site 500 ft upstream at datum about 4.6 ft lower.

REMARKS.--Records good except those for winter period, which are poor. Infrequent diurnal fluctuation at low flow by mill upstream; more frequent fluctuation prior to 1948. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--55 years 96.3 ft³/s, 31.97 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,950 ft³/s Sept. 21, 1938, gage height, 12.05 ft, from floodmarks, by computation of peak flow over dam; maximum gage height, 12.24 ft Aug. 10, 1976; minimum discharge, 1.7 ft³/s July 30, 1965; minimum daily, 3.1 ft³/s July 30, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 15	0300	*1,960	*8.83	Sept. 23	1515	1,840	8.73
Mar. 19	1815	1,850	8.74				

Minimum discharge, 16 ft³/s July 26; minimum daily, 18 ft³/s July 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	36	75	e29	92	45	371	51	39	37	84	32
2	47	35	289	e28	e84	41	289	52	118	148	126	28
3	43	33	173	e32	e78	41	207	47	66	112	81	26
4	50	32	118	e34	e72	40	166	46	45	94	59	27
5	101	117	99	e31	e66	42	141	48	38	69	45	33
6	113	189	92	e29	e62	40	127	47	77	57	41	53
7	73	149	81	e28	e58	37	215	46	109	44	102	36
8	63	111	76	e28	e55	34	230	46	111	34	152	30
9	52	90	71	e27	e52	40	174	48	121	27	150	25
10	45	87	65	e27	e50	39	147	40	73	24	116	22
11	42	163	64	e25	e48	68	126	36	68	21	174	20
12	37	234	91	e25	e46	75	110	33	200	27	101	21
13	59	275	79	e24	e45	63	102	31	242	82	76	36
14	65	251	72	e22	e43	318	98	30	143	143	56	23
15	70	376	58	e22	e41	1270	90	28	93	72	47	19
16	90	189	59	e22	39	477	83	26	75	64	119	25
17	65	285	53	e22	38	339	77	29	127	52	115	26
18	55	261	46	e25	40	310	70	26	81	42	124	21
19	108	209	43	e32	50	1020	64	22	62	31	101	19
20	115	191	50	e170	43	872	60	20	400	32	76	22
21	82	142	48	168	96	316	67	48	180	54	62	74
22	73	121	45	105	189	215	109	88	102	33	53	48
23	69	116	44	84	87	180	83	109	86	25	45	534
24	57	104	42	57	67	163	79	106	71	21	78	312
25	72	90	40	58	59	150	74	80	59	18	57	139
26	62	83	33	340	48	288	71	58	48	18	43	99
27	53	103	36	685	49	493	66	45	41	26	94	83
28	47	104	e36	251	48	412	60	36	36	21	75	70
29	43	87	e35	147	---	464	56	29	29	167	54	64
30	40	78	e34	119	---	585	54	24	39	171	44	62
31	38	---	e31	101	---	557	---	22	---	110	37	---
TOTAL	1985	4341	2178	2797	1745	9034	3666	1397	2979	1876	2587	2029
MEAN	64.0	145	70.3	90.2	62.3	291	122	45.1	99.3	60.5	83.5	67.6
MAX	115	376	289	685	189	1270	371	109	400	171	174	534
MIN	37	32	31	22	38	34	54	20	29	18	37	19
CFSM	1.57	3.54	1.72	2.21	1.52	7.13	2.99	1.10	2.43	1.48	2.04	1.65
IN.	1.81	3.95	1.98	2.54	1.59	8.22	3.33	1.27	2.71	1.71	2.35	1.85

CAL YR 1985	TOTAL	25757.8	MEAN	70.6	MAX	544	MIN	8.5	CFSM	1.73	IN.	23.43
WTR YR 1986	TOTAL	36614	MEAN	100	MAX	1270	MIN	18	CFSM	2.45	IN.	33.30

e Estimated

01332500 HOOSIC RIVER NEAR WILLIAMSTOWN, MASS.

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

DRAINAGE AREA.--126 mi².

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 616.11 ft above 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. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--46 years 272 ft³/s, 29.32 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s Dec. 31, 1948, gage height, 14.85 ft, former site and datum, from rating curve extended above 4,300 ft³/s on basis of contracted-opening measurement of peak flow; minimum, 5.8 ft³/s Aug. 30, 31, Oct. 26, 1940; minimum daily, 24 ft³/s Sept. 9, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 15	0445	*3,440	*8.98	Mar. 19	2230	3,400	8.95

Minimum discharge, 79 ft³/s July 26-28; minimum daily, 79 ft³/s July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	110	e330	e115	303	e135	792	174	132	123	330	106
2	131	112	e760	e110	e280	e130	656	171	236	327	252	102
3	125	109	e490	e120	e260	e130	528	159	160	300	445	101
4	146	109	e280	e130	e240	e125	454	154	129	240	280	95
5	227	305	e240	e115	e230	e130	397	154	111	180	212	105
6	253	426	e230	e115	e220	e125	373	154	287	163	166	142
7	174	327	e200	e110	e220	e115	575	162	534	143	343	123
8	151	258	e190	e105	e210	e110	619	170	388	122	543	112
9	136	217	e180	e105	e210	e120	484	161	412	110	493	104
10	126	210	e170	e105	e200	e130	422	146	264	106	341	99
11	116	e375	e170	e100	e200	e210	371	137	218	102	459	95
12	108	e540	e290	e100	e180	e240	342	127	439	97	312	96
13	141	e640	e230	e96	e130	e220	309	124	566	95	231	104
14	163	e600	e210	e92	e125	806	298	112	379	187	200	96
15	188	e900	e180	e88	e125	2610	274	112	269	307	188	85
16	238	e480	e200	e85	e120	1220	250	112	230	203	317	87
17	176	e730	e190	e90	e120	962	236	123	329	186	367	92
18	152	e680	e174	e100	e130	905	217	127	226	151	357	89
19	215	e560	123	e130	e160	2020	204	111	184	141	288	89
20	239	e520	129	508	e140	2110	195	106	811	117	235	95
21	188	e440	133	475	e290	897	211	157	462	108	205	158
22	173	e390	e135	307	527	674	322	217	282	135	190	131
23	160	e390	e130	270	e270	586	242	252	244	111	143	659
24	147	e350	e125	200	e200	557	239	233	213	96	180	505
25	176	e320	e120	189	e170	489	240	207	189	82	150	258
26	159	e300	e105	981	e145	710	217	169	168	81	133	199
27	148	e360	e125	1750	e145	1120	213	148	150	79	236	177
28	131	e360	e130	762	e140	942	194	130	141	87	196	155
29	119	e310	e130	489	---	986	188	121	127	106	152	151
30	115	e290	e125	396	---	1180	181	106	125	255	133	150
31	112	---	e120	349	---	1100	---	103	---	531	122	---
TOTAL	4984	11718	6344	8687	5690	21794	10243	4639	8405	5071	8199	4560
MEAN	161	391	205	280	203	703	341	150	280	164	264	152
MAX	253	900	760	1750	527	2610	792	252	811	531	543	659
MIN	108	109	105	85	120	110	181	103	111	79	122	85
CFSM	1.28	3.10	1.62	2.22	1.61	5.58	2.71	1.19	2.22	1.30	2.10	1.21
IN.	1.47	3.46	1.87	2.56	1.68	6.43	3.02	1.37	2.48	1.50	2.42	1.35

CAL YR 1985 TOTAL 72431 MEAN 198 MAX 1570 MIN 45 CFSM 1.57 IN. 21.38
WTR YR 1986 TOTAL 100334 MEAN 275 MAX 2610 MIN 79 CFSM 2.18 IN. 29.62

e Estimated

01333000 GREEN RIVER AT WILLIAMSTOWN, MASS.

LOCATION.--Lat 42°42'32", long 73°11'50", Berkshire County, Hydrologic Unit 02020003, on left bank 0.1 mi upstream from bridge on State Highway 2 at Williamstown and 0.8 mi upstream from mouth.

DRAINAGE AREA.--42.6 mi².

PERIOD OF RECORD.--Discharge: September 1949 to current year.
Water-quality records: Water years 1967-69.

REVISED RECORDS.--WDR MA-RI-84-1: 1977-78(P), 1979, 1980-83(P).

GAGE.--Water-stage recorder. Elevation of gage is 615 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Slight diurnal fluctuation at times caused by mill upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--37 years 82.4 ft³/s, 26.27 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,060 ft³/s Dec. 31, 1973, gage height, 5.68 ft in gage well, from rating curve extended above 750 ft³/s on basis of slope-area measurement 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 ft³/s Sept. 20, 22, 24, 25, 1964.

EXTREMES OUTSIDED PERIOD OF RECORD.--Flood of Dec. 31, 1948, reached a stage of about 7.5 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 850 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 15	0115	*2,110	*5.02	Aug. 17	1815	1,010	3.83
Mar. 19	1700	1,090	3.93				

Minimum discharge, 13 ft³/s July 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	24	84	e36	e98	e46	160	58	34	33	36	26
2	28	23	201	e34	e90	e45	144	60	50	83	77	25
3	26	23	144	e39	e80	e44	128	54	32	56	41	24
4	27	23	119	e42	e73	e44	120	51	28	46	34	23
5	54	46	110	e36	e66	e45	111	50	27	41	28	26
6	48	53	102	e34	e63	e42	114	47	69	37	26	30
7	37	49	89	e33	e60	e39	146	51	116	34	42	24
8	32	47	82	e32	e57	e36	134	49	102	30	69	22
9	29	42	76	e32	e55	e40	124	46	102	27	70	20
10	27	43	70	e31	e53	e45	119	43	74	25	50	18
11	25	73	70	e31	e51	e76	112	42	67	23	75	18
12	23	101	101	e30	e50	e84	102	40	92	29	48	19
13	28	120	78	e29	e48	e72	91	38	102	44	42	20
14	27	138	75	e28	e47	e480	83	35	83	38	37	16
15	37	198	64	e26	46	1050	78	33	68	31	34	15
16	43	138	63	e26	e46	421	78	33	62	31	57	18
17	34	220	61	e26	e45	345	74	37	81	25	173	16
18	32	179	53	e28	e47	302	68	33	59	24	101	15
19	39	154	e46	e37	56	664	63	29	52	22	78	14
20	39	141	e48	e180	50	541	61	27	185	23	64	17
21	36	120	e51	145	e120	310	73	35	116	23	54	19
22	34	113	e50	114	133	239	87	47	93	19	49	16
23	32	106	e49	97	85	198	78	60	83	18	44	43
24	31	92	e47	71	e70	171	77	49	71	16	47	34
25	35	80	e45	65	e59	150	76	46	62	15	38	24
26	32	76	e42	408	e52	169	75	40	54	15	33	21
27	30	102	e41	492	e50	210	71	36	49	32	57	20
28	28	95	e41	218	e48	200	68	33	46	19	39	19
29	27	84	e40	e145	---	192	65	30	41	36	33	19
30	26	79	e39	e120	---	209	61	27	36	50	30	19
31	25	---	e37	e105	---	191	---	26	---	35	28	---
TOTAL	1002	2782	2218	2770	1798	6700	2841	1285	2136	980	1634	640
MEAN	32.3	92.7	71.5	89.4	64.2	216	94.7	41.5	71.2	31.6	52.7	21.3
MAX	54	220	201	492	133	1050	160	60	185	83	173	43
MIN	23	23	37	26	45	36	61	26	27	15	26	14
CFSM	.76	2.18	1.68	2.10	1.51	5.07	2.22	.97	1.67	.74	1.24	.50
IN.	.87	2.43	1.94	2.42	1.57	5.85	2.48	1.12	1.87	.86	1.43	.56

CAL YR 1985	TOTAL	19779.5	MEAN 54.2	MAX 706	MIN 7.7	CFSM 1.27	IN. 17.27
WTR YR 1986	TOTAL	26786	MEAN 73.4	MAX 1050	MIN 14	CFSM 1.72	IN. 23.39

e Estimated

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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

Records collected at partial-record stations or miscellaneous sites are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage partial record stations. The second is a table of discharge measurements made at miscellaneous sites. There were no low-flow partial-record stations operated during the year.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record station during water year 1986

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis- charge (ft ³ /s)
Blackstone River Basin							
01109480	Kettle Brook Diversion Weir at Auburn, Mass.	Lat 42°13'06", long 71°49'40", Worcester County, on right bank behind MacKensie Machinery Co., on State Highway 12, 1.8 mi north of Massachusetts Turnpike overpass.	-	1979-86	6- 7-86	488.03	3481

a Does not include unknown amount of bypass flow. Peak discharge may have been higher about Mar. 15, gage vandalized.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*).

Discharge measurements made at miscellaneous sites during water year 1986

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Merrimack River Basin						
01096535 Beaver Brook	Stony Brook	Lat 42°31'00", long 71°31'24", Middlesex County, 0.7 mi upstream of State Highway 2 Bridge, 1.6 mi southwest of Littleton, Mass.	4.13	-	6-10-86 6-17-86	5.4 3.7
01096536 Beaver Brook	do	Lat 42°31'32", long 71°31'08", Middlesex County, upstream of State Highway 2 Bridge, 1 mi southwest of Littleton, Mass.	5.63	-	6-16-86 6-18-86	8.3 5.3
01096603 Assabet River	Concord River	Lat 42°16'46", long 71°38'19", Worcester County, 1400 ft upstream of State Highway 9 Bridge, 1.5 mi northwest of West Borough, Mass.	-	-	5-13-86 8- 5-86	6.2 3.0
01096608 Assabet River	do	Lat 42°17'16", long 71°38'35", Worcester County, at Town Line, 2,000 ft down- stream from State Highway 9 Bridge, 2.0 mi northwest of Westborough, Mass.	-	-	5-13-86 8-06-86	7.3 4.4
01096630 Assabet River	do	Lat 42°10'16", long 71°37'44", Worcester County, upstream side School Street Bridge, 1.3 mi southeast of Northborough, Mass.	-	-	5-14-86 8-06-86	22 14
Neponset River Basin						
01104800 Neponset River	Dorchester Bay (Atlantic Ocean)	Lat 42°05'08", long 71°15'25", Norfolk County, at North Street, 1.5 mi north of Foxborough, Mass.	1.92	1967	5-15-86 7-21-86	.71 2.0
01104820 Neponset River	do	Lat 42°07'28", long 71°15'10", Norfolk County, at bridge on South Street, 1.5 mi north of South Walpole, Mass.	7.62	1967, 1985	5-15-86 7-21-86	4.4 3.0
01104825 School Meadow Brook	Neponset River	Lat 42°06'33", long 71°14'34", Norfolk County, at outlet of Ganawatte Pond, at Pine Street, 2.4 mi south of Walpole, Mass.	.91	-	5-15-86 7-21-86	.83 .37
01104830 School Meadow Brook	do	Lat 42°07'32", long 71°14'47", Norfolk County, at bridge on Washington Street, 1.5 mi south of Walpole, Mass.	2.80	1967, 1985	5-15-86 7-21-86	.88 .66
01104843 Neponset River	Dorchester Bay (Atlantic Ocean)	Lat 42°08'47", long 71°15'21", Norfolk County, at Elm Street, in Walpole, Mass.	11.9	-	5-15-86 5-19-86 7-22-86	5.4 4.7 4.8
001104844 Mill Brook	Mine Brook	Lat 42°12'32", long 71°16'03", Norfolk County, at Draper Road, 26 mi south of Dover, Mass.	.57	-	4-22-86 7-22-86	.91 .41
01104845 Mill Brook	do	Lat 42°11'57", long 71°16'30", Norfolk County, at Main Street (State Highway 109), 1.7 mi northeast of Medfield, Mass.	1.52	-	4-22-86 7-22-86	2.2 .99
01104846 Mill Brook	do	Lat 42°11'08", long 71°16'57", Norfolk County, at inlet to Jewells Pond, at Foundry Street, 1.25 mi east of Medfield, Mass.	3.31	-	4-22-86 5-19-86 7-22-86	5.4 3.1 2.2
01104847 Mine Brook	Neponset River	Lat 42°10'58", long 71°16'58", Norfolk County, at bridge on Phillip Street, 1.2 mi east of Medfield, Mass.	3.54	1968, 1985	4-22-86 5-14-86 5-19-86 7-22-86	5.4 3.5 3.0 1.9

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Neponset River Basin--Continued						
01104850 Mine Brook	Neponset River	Lat 42°09'14", long 71°15'52", Norfolk County, at inlet to Turner Pond, 0.8 mi northwest of Walpole, Mass.	5.98	1968, 1985	4-22-86 5-14-86 5-19-86 7-22-86	7.2 3.9 3.4 4.0
01104860 Spring Brook	do	Lat 42°08'47", long 71°14'59", Norfolk County, 200 ft downstream from Memorial Pond outlet, at Walpole, Mass.	1.84	1967, 1985	5-14-86 5-19-86 7-22-86	2.8 3.0 1.6
01104870 Neponset River	Dorchester Bay (Atlantic Ocean)	Lat 42°09'14", long 71°14'56", Norfolk County, at bridge on State Highway 1A, 500 ft downstream from Stetson Pond outlet, and 0.6 mi north of Walpole, Mass.	23.4	1985	10-31-85 5-15-86 5-19-86 7-11-86 7-23-86	8.6 9.6 8.5 15 8.7
01104883 Neponset River	do	Lat 42°09'33", long 71°14'06", Norfolk County, at bridge on Plimpton Street, .1 mi northeast of Walpole, Mass.	24.8	1985	5-15-86 5-19-86 7-11-86 7-23-86	12 12 20 14
01104898 Mill Brook	Hawes Brook	Lat 42°12'52", long 71°14'40", Norfolk County, at Hartford Street, 1.15 mi west of Westwood, Mass.	.91	-	5-21-86 7-22-86	.33 .41
01104903 Mill Brook	do	Lat 42°11'36", long 71°14'17", Norfolk County, at Tamarack, 2.3 mi southwest of Westwood, Mass.	2.13	-	10-31-85 5-21-86	.59 1.1
01104910 Bubbling Brook	do	Lat 42°12'04", long 71°15'01", Norfolk County, at North Street, 1.5 mi southwest of Westwood, Mass.	.21	1967	10-31-85 5-21-86 7-22-86	.05 .10 .09
01104915 Bubbling Brook tributary	Bubbling Brook	Lat 42°11'30", long 71°14'59", Norfolk County, at North Street, 3 mi north of Walpole, Mass.	.75	1967	10-31-85 5-21-86 7-22-86	.14 .36 .17
01104916 Bubbling Brook	Hawes Brook	Lat 42°11'19", long 71°14'32", Norfolk County, 100 ft above inlet to Pettee Pond, 2 mi southwest of Westwood, Mass.	1.38	1967	10-31-85 5-21-86 7-22-86	.20 .44 .35
01104960 Germany Brook	do	Lat 42°11'04", long 71°13'29", Norfolk County, 100 ft above culvert on Nichols Street, 1.3 mi west of Norwood, Mass.	2.36	1967	10-31-85 5-21-86 7-23-86	.49 .69 .61
01104970 Hawes Brook	Neponset River Basin	Lat 42°10'47", long 71°13'16", Norfolk County, at U.S. Highway 1A, 1.45 mi southwest of Norwood, Mass.	8.25	-	10-31-85 8-15-86	.55 3.9
01104980 Hawes Brook	do	Lat 42°10'26", long 71°12'31", Norfolk County at Washington Street, at Norwood, Mass.	8.65	1967	10-31-85 8-14-86	.50 4.0
01105095 Traphole Brook	do	Lat 42°09'27", long 71°12'34", Norfolk County, at Coney Street, 2.05 mi east of Walpole, Mass.	2.83	-	5-15-86 7-11-86 7-23-86	1.9 1.6 1.3
01105100 Traphole Brook	do	Lat 42°09'36", long 71°11'47", Norfolk County, at Sumner Street, 2.25 mi south of Norwood, Mass.	3.39	1967	7-11-86 7-23-86 8-14-86	2.3 2.0 3.0
01105148 Neponset River tributary No. 2	do	Lat 42°08'05", long 71°11'01", Norfolk County, at Maskwonicut Street, 0.9 mi north of Sharon, Mass.	.12	-	8-14-86	.02
01105150 Neponset River tributary	do	Lat 42°08'52", long 71°10'48", Norfolk County, at Edge Hill Road, 1.75 mi north of Sharon, Mass.	.38	1967	8-14-86	.24
01105200 Massapoag Brook	East Branch Neponset River	Lat 42°06'53", long 71°10'19", Norfolk County at Ames Street, at Sharon, Mass.	4.25	1967	5-19-86 7-24-86	3.3 7.7

See footnotes at end of table.

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Neponset River Basin--Continued						
01105220 Massapoag Brook	East Branch Neponset River	Lat 42°07'16", long 71°09'50", Norfolk County, at Billings Street, 0.8 mi east of Sharon, Mass.	4.96	-	5-19-86 7-24-86	2.7 7.6
01105250 Massapoag Brook	do	Lat 42°08'12", long 72°09'59", Norfolk County at State Highway 27, 1 mi northeast of Sharon, Mass.	6.32	1967	5-19-86 7-29-86	3.9 8.6
01105253 Beaver Brook	Massapoag Brook	Lat 42°07'38", long 71°10'58", Norfolk County, at bridge on State Highway 27, 500 ft north of the Sharon railroad station, at Sharon, Mass.	1.90	1985	5-20-86	1.6
01105255 Beaver Brook	do	Lat 42°07'59", long 71°10'41", Norfolk County, at Maskwonicut Street, 0.75 mi north of Sharon, Mass.	2.45	1968, 1985	5-20-86 7-24-86	2.8 1.8
01105270 Massapoag Brook	East Branch Neponset River	Lat 42°08'58", long 71°09'00", Norfolk County, at Walnut Street, 0.7 mi south of Canton, Mass.	10.4	-	5-19-86 7-24-86	3.6 4.9
01105290 Steep Hill Brook	do	Lat 42°07'52", long 71°08'23", Norfolk County, at the outlet of Pinewood Pond, at Lakewood Drive, 2 mi west of Stoughton, Mass.	.08	-	7-24-86	.33
01105300 Steep Hill Brook	do	Lat 42°08'39", long 71°08'14", Norfolk County at Bailey Street, 1 mi southeast of Canton, Mass.	6.66	1967	7-24-86	8.6
01105340 Beaver Meadow Brook	do	Lat 42°08'36", long 71°05'44", Norfolk County, at York Street, 1.3 mi north of Stoughton, Mass.	.21	-	7-24-86	0
01105350 Beaver Meadow Brook	do	Lat 42°08'59", long 71°07'36", Norfolk County, at Pleasant Street, 1 mi east of Canton, Mass.	2.45	1967	5-20-86 7-24-86	1.8 1.1
01105395 Pequid Brook	do	Lat 42°10'37", long 71°05'47", Norfolk County, at York Street, 2.8 mi northwest of Canton, Mass.	2.1	-	5-20-86 7-24-86	1.1 .46
01105400 Pequid Brook	do	Lat 42°10'29", long 71°06'45", Norfolk County at State Highway 138, 2 mi northeast of Canton, Mass.	4.54	1967	5-20-86 7-24-86	2.3 1.6
01105450 Pequid Brook	do	Lat 42°10'03", long 71°08'04", Norfolk County, at Pleasant Street, 1 mi northeast of Canton, Mass.	6.24	1967	5-20-86 7-29-86	1.8 1.8
01105515 Neponset River	Dorchester Bay (Atlantic Ocean)	Lat 42°10'42", long 71°10'02", Norfolk County, at Interstate Highway 95, 1,400 ft north of Interchange 11, at Canton, Mass.	78.3	-	10-31-85 7- 1-86 8-14-86	15 53 71
01105520 Purgatory Brook	Neponset River	Lat 42°13'15", long 71°12'07", Norfolk County, at Gay Street, 1.1 mi west of Westwood, Mass.	.94	-	10-31-85 7- 1-86 8-14-86	0 .16 .23
01105525 Purgatory Brook	do	Lat 42°12'54", long 71°11'24", Norfolk County, at U.S. Highway 1A, at Islington, Mass.	1.24	-	10-31-85 7-25-86 8-14-86	.27 .32 .57
01105530 Purgatory Brook	do	Lat 42°12'33", long 71°11'06", Norfolk County, at U.S. Highway 1, 1.5 mi northeast of Norwood, Mass.	2.91	1967	10-31-85 8-14-86	.71 1.2
01105532 Purgatory Brook	do	Lat 42°12'23", long 71°10'57", Norfolk County, 0.2 mi downstream of U.S. Highway 1, 1.2 mi northeast of Norwood, Mass.	3.26	-	7- 1-86 8-14-86	1.2 1.6
01105551 Neponset River	Dorchester Bay (Atlantic Ocean)	Lat 42°11'49", long 71°09'19", Norfolk County, at Dedham Street, 3 mi north of Canton, Mass.	82.1	1967	10-31-85 7- 1-86 7-25-86 8-14-86	19 56 35 77

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Neponset River Basin--Continued						
01105552 Pecunit Brook	Neponset River	Lat 42°11'21", long 71°08'40", Norfolk County, at Elm Street, 2 mi north of Canton, Mass.	.79	1967	10-31-85 5-16-86 7- 1-86 7-25-86 8-14-86	0 .08 .09 .03 .18
01105554 Ponkapog Brook	do	Lat 42°12'12", long 71°08'09", Norfolk County, at Elm Street, 3 mi north of Canton, Mass.	3.78	1967	10-31-85 5-16-86 7- 1-86 7-25-86 8-14-86	2.0 2.3 3.4 2.0 4.2
01105555 Neponset River	Dorchester Bay (Atlantic Ocean)	Lat 42°14'04", long 71°07'23", Norfolk County, at Neponset Valley Parkway, 3 mi southwest of Milton, Mass.	93.2	1967	10-31-85 7- 1-86 7-25-86 8-14-86	22 59 38 82
Jones River Basin						
01105865 Jones River	Massachusetts Bay	Lat 41°59'46", long 70°45'41", Plymouth County, 30 ft upstream from confluence with cranberry bog, 1.6 mi west of Kingston, Mass.	16.2	-	5-23-86	28
011058726 Smelt Brook	Jones River	Lat 41°58'15" long 70°43'29", Plymouth County, at culvert on Raboth Road, 1.9 mi south of Kingston, Mass.	.59	-	7-1-86	*.17
011058728 Smelt Brook	do	Lat 41°58'38" long 70°42'48", Plymouth County, at culvert on Cranberry Road, 1.7 mi southeast of Kingston, Mass.	.91	-	7-1-86	*.42
Coastal Basins of Buzzards Bay						
01105873 Stone Pond outlet	Plymouth Bay (Cape Cod Bay)	Lat 41°58'44", long 70°41'04", Plymouth County, at culvert on Hedges Road, 400 ft upstream from mouth, 0.9 mi north of North Plymouth, Mass.	-	-	7-21-86	^a 1.4
Town Brook Basin						
011058737 Town Brook	Plymouth Bay (Cape Cod Bay)	Lat 41°56'34", long 70°40'44", Plymouth County, 0.2 mi downstream from outlet of Billington Sea, 1.1 mi southwest of Plymouth, Mass.	-	-	7-22-86	10
01105874 Town Brook	do	Lat 41°57'22", long 70°39'44", Plymouth County, at mouth, at Plymouth, Mass.	9.04	1969-71	7-21-86 7-22-86	15 15
Coastal Basins of Buzzards Bay						
01105875 Unnamed Brook	Plymouth Bay (Cape Cod Bay)	Lat 41°56'58", long 70°39'12", Plymouth County, at culvert on State Highway 3A, at Holmes Point, 0.7 mi southeast of Plymouth, Mass.	-	-	7-21-86	1.1
Eel River Basin						
011058758 Eel River	Plymouth Bay (Cape Cod Bay)	Lat 41°55'30", long 70°37'11", Plymouth County, at culvert on Sandwich Road, 3.1 mi southeast of Plymouth, Mass.	-	-	7-22-86	15

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

185

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Eel River Basin--Continued						
011058759 Eel River tributary	Plymouth Bay (Cape Cod Bay)	Lat 41°55'33", long 70°36'50", Plymouth County, at culvert on Clifford Road, 3.3 mi southeast of Plymouth, Mass.	-	-	7-22-86	7.9
01105876 Eel River	do	Lat 41°56'30", long 70°37'23", Plymouth County, at culvert on State Highway 3A, 2.9 mi southeast of Plymouth, Mass.	14.7	1969-70+	7-21-86	23
Beaver Dam Brook Basin						
01105878 Beaver Dam Brook	Plymouth Bay (Cape Cod Bay)	Lat 41°55'43", long 70°33'20", Plymouth County, at culvert 800 ft above mouth at White Horse Beach, Plymouth, Mass.	5.52	1969-71	7-21-86 7-22-86	13 12
Indian Brook Basin						
011058785 Indian Brook	Plymouth Bay (Cape Cod Bay)	Lat 41°53'31", long 70°32'08", Plymouth County, at culvert Seaview Drive, 200 ft above mouth at Manomet Beach, Plymouth, Mass.	-	-	7-21-86	1.2
Coastal Basins of Buzzards Bay						
011058787 Savery Pond outlet	Plymouth Bay (Cape Cod Bay)	Lat 41°50'40", long 70°32'34", Plymouth County, at culvert on State Highway 3A, at Ellenville, Mass.	-	-	7- 8-86	0
Herring River Basin						
011058825 Herring River	Plymouth Bay (Cape Cod Canal)	Lat 41°48'45", long 70°34'11", Plymouth County, at culvert at inlet to Great Herring Pond, 0.7 mi west of Cedarville, Mass.	-	-	7-22-86	10
011058827 Herring River	do	Lat 41°47'10", long 70°33'54", Barnstable County, at culvert 200 ft downstream from outlet of Great Herring Pond, 0.7 mi north of Bournedale, Mass.	-	-	7-21-86 7-22-86	7.3 7.1
01105883 Herring River	do	Lat 41°46'21", long 70°33'46", Barnstable County, at mouth, at Bournedale, Mass.	7.74	1969-71	7-21-86	6.4
011058835 Mare Pond outlet	Buttermilk Bay (Buzzards Bay)	Lat 41°45'56", long 70°37'13", Barnstable County, at culvert on private road, 0.2 mi above mouth, 1.2 mi northwest of Buzzards Bay, Mass.	-	-	7-21-86	.80
Red Brook Basin						
01105886 Red Brook	Buttermilk Bay (Buzzards Bay)	Lat 41°45'48", long 70°37'59", Plymouth County, at culvert on Red Brook Rd, 1.5 mi northwest of Buzzards Bay, Mass.	9.84	1969-71	7-21-86	6.1
Gibbs Brook Basin						
01105887 Gibbs Brook	Onset Bay (Buzzards Bay)	Lat 41°45'25", long 70°39'16", Plymouth County, at culvert on State Highway 6, 1.1 mi west of East Wareham, Mass.	-	-	7-21-86	4.5

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Coastal Basins of Buzzards Bay						
011058878 Little Long Pond outlet	Long Pond	Lat 41°51'57", long 70°36'36", Plymouth County, at culvert 400 ft downstream from outlet of Little Long Pond, 3.8 mi northwest of Ellisville, Mass.	-	-	7-21-86	4.5
Wareham River Basin						
01105888 Agawam River	Wareham River	Lat 41°50'44", long 70°37'12", Plymouth County, at culvert 600 ft downstream from outlet of Halfway Pond, 4 mi west of Ellisville, Mass.	6.71	1969-71	7-21-86	12
01105890 Agawam River	Wareham River	Lat 41°45'40", long 70°40'40", Plymouth County, at culvert 800 ft downstream from outlet of Mill Pond, at East Wareham, Mass.	17.1	1969-71	7-21-86	34
01105892 Wankinco River	do	Lat 41°45'58", long 70°43'20", Plymouth County, 1,000 ft downstream from outlet of Parker Mills Pond, at Wareham, Mass.	20.5	1969-71	7-21-86	19
Weweantic River Basin						
01105895 Weweantic River	Buzzards Bay	Lat 41°46'12", long 70°45'18", Plymouth County, at culvert on Squire Island Road, at South Wareham, Mass.	56.1	1969-71+	7-21-86 7-22-86	81 12
Westport River Basin						
01106000 Adamsville Brook	Westport River	Lat 41°33'30", long 71°07'47", Newport County, on right bank 0.2 mi upstream from milldam at Adamsville, R.I., and 0.7 mi upstream from mouth.	8.01	1941-78+	9-15-86	.80
Taunton River Basin						
01108400 Mill River	Taunton River	Lat 41°55'23", long 71°06'23", Plymouth County, at bridge on Whittenton Street, 0.5 mi west of Whittenton, Mass.	41.1	-	4- 7-86 4- 9-86 5-19-86 5-20-86 8-14-86 9-16-86	51 53 23 6.7 107 32
01109087 Assonet River	do	Lat 41°47'57", long 71°03'37", Plymouth County, at bridge on Locust Street, 0.5 mi northwest of Assonet, Mass.	20.7	-	8-12-86 9-16-86	12 4.4
Cole River Basin						
01109135 Cole River	Mount Hope Bay (Narragansett Bay)	Lat 41°46'30", long 71°11'57", Bristol County, at bridge on Hortonville Road, 0.1 mi southeast of Hortonville, Mass.	7.80	-	8-12-86 9-16-86	4.1 .81
Palmer River Basin						
01109220 Palmer River	Warren River (Narragansett Bay)	Lat 41°48'33", long 71°16'42", Bristol County, at bridge on Reed Street, 0.4 mi north of South Rehobath, Mass.	30.9	-	8-12-86 9-17-86	40 5.1

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

187

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Palmer River Basin						
01109225 Rocky Run	Palmer River	Lat 41°46'52", long 71°15'03", Bristol County, at bridge on Davis Street, 2.2 mi southeast of South Rehobath, Mass.	7.37	1972-74++ 1979-81++ 1983++	8-14-86 9-16-86	2.9 .57
Runnins River Basin						
01109280 Runnins River	Barrington River, (Narragansett Bay)	Lat 41°48'59", long 71°20'10", Bristol County, at bridge on Fall River Avenue, 0.5 mi north of Seekonk, Mass.	5.92	-	8-12-86 9-15-86	4.6 .30
Blackstone River Basin						
01109440 Kettle Brook	Middle River	Lat 42°12'55", long 71°50'22", Worcester County, at bridge on Rockland Street, 0.2 mi northeast of Stoneville, Mass.	18.3	1985	8-15-86	2.6
01109445 Dark Brook	Kettle Brook	Lat 42°11'26", long 71°50'33", Worcester County, 100 ft downstream from bridge on Water Street, 0.5 mi southwest of Auburn, Mass.	1.0	-	8-15-86	.50
01109446 Unnamed tributary	Dark Brook	Lat 42°11'24", long 71°50'47", Worcester County, 100 ft upstream from bridge on Sharon Street, 0.6 mi southwest of Auburn, Mass.	.62	-	8-15-86	.17
01109448 Dark Brook	Kettle Brook	Lat 42°11'45", long 71°50'33", Worcester County, 50 ft downstream from bridge on Church Street, 0.3 mi west of Auburn, Mass.	2.04	-	8-15-86	.50
01109450 Dark Brook	do	Lat 42°12'03", long 71°50'23", Worcester County, 100 ft upstream from culvert at South Bridge Street entrance to Auburn Mall near Sears, 0.4 mi northeast of Auburn, Mass.	2.32	-	8-15-86	.60
01109452 Stone Brook	Ramshorn Brook	Lat 42°10'01", long 71°50'04", Worcester County, 100 ft downstream of bridge on South Street, 2.0 mi south of Auburn, Mass.	.37	-	6-18-86 7- 8-86 7-23-86 8-14-86 9- 2-86	.91 .25 .09 .15 .06
01109453 Stone Brook	Ramshorn Brook	Lat 42°10'29", long 71°49'57", Worcester County, 50 ft downstream of railroad bridge 1.4 mi south of Auburn, Mass.	.68	-	7- 8-86 9- 9-86	.44 .12
01109454 Unnamed tributary	Stone Brook	Lat 42°10'37", long 71°49'52", Worcester County, 50 ft downstream of railroad bridge, 1.3 mi south of Auburn, Mass.	.20	-	7- 8-86 9- 9-86	.14 .02
01109455 Unnamed tributary	do	Lat 42°11'03", long 71°49'38", Worcester County, at culvert under railroad, 0.9 mi south of Auburn, Mass.	.15	-	7- 8-86 9- 9-86	0 0
01109456 Stone Brook	Ramshorn Brook	Lat 42°11'08", long 71°49'24", Worcester County, 30 ft upstream of bridge on Elm Street, 0.9 mi southeast of Auburn, Mass.	1.89	-	6-18-86 7- 8-86 7-23-86 8-14-86 9- 9-86	3.9 1.3 .66 .50 .35
01109458 Ramshorn Brook	Dark Brook	Lat 42°11'43", long 71°49'28", Worcester County, 50 ft downstream from bridge at U.S. Highway 20, 0.6 mi east of Auburn, Mass.	7.45	-	8-15-86	6.0
01109460 Dark Brook	Kettle Brook	Lat 42°12'20", long 71°50'06", Worcester County, at bridge on State Highway 12, at Auburn, Mass.	11.1	1978-79, 1985	7- 8-86 7-23-86 8-14-86 8-15-86 9-11-86	6.6 7.1 7.0 7.4 7.2

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Blackstone River Basin--Continued						
01109485 Kettle Brook	Middle River	Lat 42°13'23", long 71°49'28", Worcester County, at downstream end of culvert on Sword Street, 1.1 mi northeast of Stoneville, Mass.	30.4	-	8-15-86	8.8
01109495 Unnamed tributary	Kettle Brook	Lat 42°13'37", long 71°50'08", Worcester County, 50 ft upstream from bridge at Woodland Street, 1.0 mi north of Stoneville, Mass.	.31	-	8-15-86	.07
01109500 Kettle Brook	do	Lat 42°13'55", long 71°50'07", Worcester County, 75 ft downstream from bridge on Webster Street, 1.0 mi upstream from Beaver Brook, in Worcester, Mass.	31.6	1923-78+, 1979-81++, 1985	8-15-86	9.7
01109920 Seawall Brook	Lake Quinsigamond	Lat 42°19'02", long 71°44'39", Worcester County, at bridge on Mill Road, 2.1 mi northwest of Shrewsbury, 0.7 mi east of Morningdale, Mass.	3.47	-	9- 9-86	1.4
01109922 Unnamed tributary	Seawall Brook	Lat 42°18'51", long 71°44'37", Worcester County, 30 ft upstream from culvert on Seawall St, 1.9 mi northwest of Shrewsbury, Mass	.24	-	9- 9-86	.03
01109925 Seawall Brook	Lake Quinsigamond	Lat 42°18'29", long 71°45'01", Worcester County, 20 ft upstream from bridge on Seawall Street, 0.4 mi upstream from Lake Quinsigamond, 0.6 mi southeast of Morningdale, Mass.	4.33	-	9- 9-86	1.9
01109930 Seawall Brook	do	Lat 42°18'10", long 71°45'08", Worcester County, at bridge on Seawall Street, 100 ft upstream from Lake Quinsigamond, 0.9 mi southeast of Morningdale, Mass.	4.48	-	9- 9-86	1.4
01109934 Poor Farm Brook	do	Lat 42°18'12", long 71°45'47", Worcester County, 50 ft upstream from bridge on State Highway 70, 0.7 mi south of Morningdale, Mass.	3.57	-	9- 9-86	.38
01109936 Poor Farm Brook	Lake Quinsigamond	Lat 42°18'03", long 71°45'34", Worcester County, 0.2 mi upstream from Lake Quinsigamond, 1.0 mi south of Morningdale, Mass.	3.72	-	9- 9-86	0
01109950 West Brook	do	Lat 42°17'29", long 71°44'23", Worcester County, at bridge on Main Street, 1.3 mi west of Shrewsbury, Mass.	2.08	-	9- 9-86	.27
01110500 Blackstone River	Narragansett Bay (Atlantic Ocean)	Lat 42°09'13", long 71°39'09", Worcester County, 100 ft downstream from Sutton Street Bridge, at Northbridge, Mass.	139	1940-77+, 1978-85	10-21-85 11-20-85 1-17-86 1-27-86 1-28-86 2-13-86 3- 6-86 4- 9-86 4-17-86 5-21-86 6-18-86 7- 9-86 7-25-86	139 429 195 2,250 1,170 208 270 283 214 213 370 170 159
01111148 West River	Blackstone River	Lat 42°10'02", long 71°37'40", Worcester County, 100 ft upstream from bridge on Main Street, 1.5 mi northeast of Northbridge, Mass.	13.2	-	9- 4-86	2.0
01111150 West River	do	Lat 42°05'25", long 71°38'11", Worcester County, at bridge on Pleasant Street, 0.9 mi south of West Upton, Mass.	14.7	1978, 1985	9- 4-86	2.2
01111155 West River	do	Lat 42°08'59", long 71°36'58", Worcester County, 150 ft upstream from bridge on West River Road, 1.3 mi south of West Upton, Mass.	15.1	-	9- 4-86	3.0

See footnotes at end of table.

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Blackstone River Basin--Continued						
01111170 Center Brook	West River	Lat 42°09'35", long 71°36'23", Worcester County, at bridge on Mendon Street, 1.0 mi south of Upton, Mass.	6.03	1978-79, 1985	9- 4-86	1.5
01111172 Unnamed tributary	Center Brook	Lat 42°09'26", long 71°36'34", Worcester County, 50 ft downstream from culvert on West River Road, 0.8 mi southeast of West Upton, Mass.	.40	-	9- 4-86	.10
01111180 West River	Blackstone River	Lat 42°07'39", long 71°36'27", Worcester County, 50 ft upstream from destroyed bridge on Hill Street, 3.2 mi south of Upton, Mass.	23.7	-	6-23-86 7- 9-86 7-24-86 9- 4-86 9-11-86	29 14 9.2 6.1 4.4
01111184 Taft Pond Brook	West River	Lat 42°08'17", long 71°35'48", Worcester County, 20 ft upstream from bridge on Hill Street, 100 ft downstream from Taft Pond, 2.5 mi southeast of Upton, Mass.	.95	-	9- 9-86	.08
01111186 Taft Pond Brook	do	Lat 42°07'39", long 71°36'15", Worcester County, 20 ft downstream from culvert on Hill Street, 0.8 mi downstream from Taft Pond, 3.2 mi south of Upton, Mass.	1.49	-	9- 9-86	0.16
01112100 Mill River	Blackstone River	Lat 42°09'12", long 71°33'50", Worcester County, at bridge on State Highway 140, 2.4 mi northwest of Milford, Mass.	6.63	1978, 1985	6-24-86 7- 9-86 8- 6-86 9- 5-86	8.8 5.7 3.0 1.1
01112105 Unnamed tributary	Blackstone River	Lat 42°09'08", long 71°33'54", Worcester County, 50 ft upstream from bridge 200 ft south of State Highway 140, 100 ft upstream from Mill River, 2.4 mi southeast of Upton, Mass.	1.50	-	6-24-86 9- 5-86	1.1 .08
01112160 Mill River	do	Lat 42°07'28", long 71°32'22", Worcester County, at bridge on State Highway 16, 0.8 mi northeast of Spindleville, Mass.	10.8	-	9- 5-86	1.3
01112170 Mill River	do	Lat 42°06'52", long 71°31'50", Worcester County, 50 ft downstream from bridge on Mill Street, at Spindleville, Mass	11.6	-	6-24-86 9- 2-86 9- 5-86	16 2.4 2.4
01112180 Mill River	do	Lat 42°05'58", long 71°31'02", Worcester County, 30 ft upstream from bridge on Hartford Avenue, 1.2 mi southeast of Spindleville, Mass.	12.6	-	9- 5-86	3.3
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, Mass.	6.23	1978, 1985	8- 6-86 9- 5-86	1.2 1.1
01112200 Mill River	Blackstone River	Lat 42°05'35", long 71°31'07", Worcester County, at bridge on Bellingham Road, 1.0 mi southwest of South Milford, and 2.3 mi west of Bellingham, Mass.	19.1	1978-79, 1985	8- 6-86 9- 5-86	7.2 4.5
01112205 Unnamed tributary	Mill River	Lat 42°06'06", long 71°30'38", Worcester County, at bridge on Hartford Avenue, 0.4 mi west of south Milford, Mass.	.20	-	9- 5-86	.12
01112210 Unnamed tributary	do	Lat 42°05'28", long 71°30'46", Worcester County, at bridge on Bellingham Road, 0.9 mi southwest of south Milford, Mass.	.65	-	8- 7-86 9- 5-86	.33 .41
01112220 Unnamed tributary	do	Lat 42°04'40", long 71°30'26", Worcester County, at culvert on Thayer Road, 1.7 mi south of South Milford, Mass.	.48	-	9- 5-86	0
01112230 Round Meadow Brook	do	Lat 42°04'07", long 71°31'30", Worcester County, 200 ft downstream from bridge on Providence Street, 3.1 mi southeast of Mendon, Mass.	1.06	-	8- 7-86	.07

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Blackstone River Basin--Continued						
01112235 Unnamed tributary	Mill River	Lat 42°03'57", long 71°31'30", Worcester County, at bridge on Providence Street, 3.2 mi southeast of Mendon, Mass.	.30	-	8- 7-86 9- 5-86	.07 .12
01112240 Mill River	Blackstone River	Lat 42°03'52", long 71°31'10", Worcester County, at bridge on Town Line Road, 3.4 mi sotheast of Mendon, Mass.	23.8	-	6-24-86 7-10-86 7-24-86 8- 6-86 9- 5-86 9-11-86	28 15 7.7 10 6.2 10
01112250 Mill River	do	Lat 42°02'55", long 71°31'15", Worcester County, at bridge on Elm Street, 2.2 mi northeast of Blackstone, Mass.	25.3	q1978, 1985	9-11-86	12
01112270 Unnamed tributary	Silver Lake	Lat 42°04'37", long 71°27'41", Worcester County, 400 ft downstream from Curtis Pond, 0.9 mi southeast of Bellingham, Mass.	.07	-	9- 2-86	0
01112274 Unnamed tributary	do	Lat 42°03'40", long 71°28'08", Norfolk County, at bridge on Silver Lake Road, 50 ft downstream from Crystal Lake, and 1.7 mi south of Bellingham, Mass.	.88	-	9- 2-86	.29
01112275 Peters River	Blackstone River	Lat 42°03'29", long 71°28'04", Norfolk County, 30 ft downstream from bridge on Cross Street, 200 ft downstream from Silver Lake, and 2.0 mi south of Bellingham, Mass.	1.71	-	9- 2-86	.71
01112278 Unnamed tributary	Peters River	Lat 42°03'20", long 71°27'19", Norfolk County, at bridge on Maple Street, 1.8 mi southeast of Bellingham, Mass.	1.27	-	9- 2-86	.62
01112280 Unnamed tributary	do	Lat 42°03'32", long 71°27'43", Norfolk County, 30 ft upstream from bridge on Lake Street, 2.0 mi southeast of Bellingham, Mass.	1.48	-	9- 2-86	.60
01112282 Unnamed tributary	Peters River	Lat 42°04'11", long 71°27'19", Norfolk County, 50 ft upstream from culvert on Maple Street, 1.5 mi southeast of Bellingham, Mass.	.25	-	9- 2-86	.07
01112284 Unnamed tributary	do	Lat 42°03'33", long 71°27'46", Norfolk County, at bridge on Cross Street, 2.0 mi southeast of Bellingham, Mass.	.43	-	9- 2-86 10-17-86	.11 .13
01112286 Unnamed tributary	do	Lat 42°03'12", long 71°27'47", Norfolk County, 50 ft downstream from culvert on Lake Street, 2.3 mi southeast of Bellingham, Mass.	.06	-	9- 2-86	.01
01112288 Peters River	Blackstone River	Lat 42°02'49", long 71°28'10", Norfolk County, at bridge on Park Street, 2.7 mi south of Bellingham, Mass.	4.6	-	5- 1-86 7-10-86 7-23-86 9- 2-86 9-10-86 9-17-86	5.6 2.6 2.0 .89 .90 7.5
01112289 Unnamed tributary	Peters River	Lat 42°02'31", long 71°28'25", Norfolk County, 50 ft downstream from culvert on unnamed road, 1.4 mi northeast of Crooks Corner, Mass.	.07	-	5- 2-86 9-10-86	1.3 .03
01112290 Peters River	Blackstone River	Lat 42°02'00", long 71°28'20", Norfolk County, 0.3 mi downstream from bridge on Pulaski Boulevard, 200 ft upstream from outlet of Jenks Reservoir, and 1.0 mi northeast of Crooks Corner, Mass.	5.32	-	5- 2-86 9-10-86	5.8 1.9
01112292 Jenks Reservoir outlet	Peters River	Lat 42°01'56", long 71°28'20", Norfolk County, 30 ft downstream from Jenks Reservoir, 1.0 mi northeast of Crooks Corner, Mass.	.83	-	5- 2-86 9-10-86	.70 .11

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

191

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Blackstone River Basin--Continued						
01112300 Bungay Brook	Peters River	Lat 42°01'34", long 07°27'24", Norfolk County, at culvert on Wrentham Street, 3.5 mi west of Sheldonville, Mass.	2.62	1965	5- 2-86 9-10-86	1.8 .53
01112320 Bungay Brook	do	Lat 42°01'28", long 71°27'54", Norfolk County, 50 ft downstream from bridge on Wrentham Road, 1.2 mi east of Crooks Corner, Mass.	2.88	-	5- 2-86 9-10-86	2.4 .74
01112350 Bungay Brook	do	Lat 42°01'34", long 71°28'53", Norfolk County, 50 ft downstream from bridge on Wrentham Road, 0.4 mi east of Crooks Corner, Mass.	3.91	1978	5- 1-86 9-10-86	3.5 .95
01112365 Arnolds Brook	do	Lat 42°01'37", long 71°29'10", Norfolk County, 20 ft downstream from bridge on Pine Grove Avenue, 0.2 mi northeast of Crooks Corner, Mass.	1.40	-	5- 1-86 9-10-86	.95 .25
01112380 Peters River	Blackstone River	Lat 41°55'43", long 71°22'23", Norfolk County, at bridge on State Highway 126, at Crooks Corner, Mass.	11.8	1978-79	5- 1-86 7-10-86 7-23-86 9-10-86	10 5.9 2.9 3.1
01113650 Blackstone River	Providence River (Narragansett Bay)	Lat 41°54'40", long 71°24'12", Providence County, at bridge on Lonsdale Avenue, at Lonsdale, R.I.	441	-	8-14-86 9-17-86	409 227
01113655 Burnt Swamp Brook	Abbott Run	Lat 42°02'20", long 71°22'48", Norfolk County, 100 ft downstream from bridge on State Highway 121, 0.5 mi northeast of Sheldonville, Mass.	1.26	-	6-19-86 9-11-86	1.6 .06
01113658 Unnamed tributary	Burnt Swamp Brook	Lat 42°02'15", long 71°23'02", Norfolk County, at culvert on State Highway 121, 0.3 mi northeast of Sheldonville, Mass.	.16	-	6-19-86 9-11-86	.40 0
01113660 Burnt Swamp Brook	Abbott Run	Lat 42°01'48", long 71°22'52", Norfolk County, at bridge on Hancock Street, 0.5 mi southeast of Sheldonville, Mass.	1.80	-	6-19-86 7-10-86 7-23-86 8-14-86 9-11-86	2.5 .50 .20 1.0 .17
01113662 Burnt Swamp Brook	do	Lat 42°01'32", long 71°23'10", Norfolk County, at bridge on Burnt Swamp Brook Road, 0.6 mi south of Sheldonville, Mass.	2.30	-	9-11-86	.19
01113664 Unnamed tributary	Burnt Swamp Brook	Lat 42°02'00", long 71°23'24", Norfolk County, at bridge on State Highway 121, 0.1 mi west of Sheldonville, Mass.	.45	-	6-19-86 9-11-86	.68 .02
01113666 Unnamed tributary	do	Lat 42°01'16", long 71°23'12", Norfolk County, downstream from culvert on Burnt Swamp Brook Road, 0.9 mi south of Sheldonville, Mass.	1.03	-	6-19-86 9-11-86	.16 .01
01113669 Unnamed tributary	do	Lat 42°00'50", long 71°23'22", Providence County, 100 ft upstream from Brown Road, and 1.4 mi south of Sheldonville, Mass.	.02	-	9-11-86	.01
01113670 Burnt Swamp Brook	Abbott Run	Lat 42°00'49", long 71°23'23", Providence County, 100 ft upstream from Brown Road, and 1.4 mi south of Sheldonville, Mass.	4.62	-	6-19-86 7-10-86 7-23-86 8-14-86 9-11-86	5.7 1.5 .72 4.1 .76
01113897 Blackstone River	Providence River (Narragansett Bay)	Lat 41°53'09", long 71°22'53", Providence County, at bridge on Cross Street at Central Falls, R.I.	-	-	4- 3-86 4- 9-86	997 969

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Woonasquatucket River Basin						
01115010 Woonasqua- tucket River	Providence River (Narragansett Bay)	Lat 41°49'20", long 71°26'25", Providence County, at bridge on Valley Street, 1.2 mi west of Providence, R.I.	47.8	-	4- 9-86 5-20-86 8-13-86 9-17-86	74 29 105 29
Old Mill Creek Basin						
01116635 Old Mill Creek	Narragansett Bay (Atlantic Ocean)	Lat 41°42'43", long 71°22'33", Kent County, at bridge on Tidewater Road, 1.1 mi north of Warwick, R.I.	5.40	-	8-13-86 9-15-86	8.0 4.6
Maskerchugg River Basin						
01116750 Maskerchugg River	Greenwich Bay (Narragansett Bay)	Lat 41°39'00", long 71°27'30", Kent County, at bridge on Boston Post Road, 0.5 mi south of East Greenwich, R.I.	5.87	-	8-13-86 9-15-86	2.1 .58
Annaquatucket River Basin						
01117100 Annaquatucket River	Narragansett Bay (Atlantic Ocean)	Lat 41°33'25", long 71°27'54", Washington County, at bridge on Tower Hill Road, 0.25 mi northeast of Belleville, R.I.	6.50	1962-64+	8-13-86 9-15-86	16 8.6
Thames River Basin						
01125000 French River	Quinebaug River	Lat 42°03'03", long 71°53'08", Worcester County, on right bank in Dudley, 50 ft upstream from Pleasant Street Bridge at Webster, 1.1 mi upstream from Potash Brook, in Dudley, Mass.	85.3	1949-81+, 1982-85	2-26-86	167
Connecticut River Basin						
01163050 Otter River	Millers River	Lat 42°34'29", long 72°01'22", Worcester County, at bridge on Town Road, 3,900 ft downstream from Gardner sewage treatment plant, 1.2 mi west of Gardner, Mass.	-	-	7-21-86 7-22-86	42 26
01163150 Otter River	do	Lat 42°35'02", long 72°02'33", Worcester County, at Boston and Maine Railroad Bridge, 2.4 mi west of Gardner, Mass.	-	-	7-22-86 7-23-86	27 17
01172690 Natty Pond Brook	Canesto Brook	Lat 42°29'24", long 71°01'30", Worcester County, 2,200 ft downstream from bridge on New Templeton Road, 1.4 mi northwest west of Hubbardston, Mass.	-	1985	6-26-86 6-27-86	2.2 2.1
01172700 Natty Pond Brook	do	Lat 42°28'41", long 72°01'26", Worcester County, at bridge on Williamsville Road, 0.9 mi west of Hubbardston, Mass.	2.99	1960, 1984-85	11- 6-85 3-26-86 5-15-86 5-20-86 7-24-86 8-15-86	12 11 3.1 2.7 1.5 1.2
01172730 Natty Pond Brook	do	Lat 42°28'05", long 71°01'25", Worcester County, 800 ft downstream from bridge on Parson Road, 0.9 mi southwest of Hubbardston, Mass.	3.98	1985	5-20-86 7-24-86 8-15-86 9- 5-86 9- 5-86 9-30-86	1.2 1.4 .70 .51 .41 .25

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

193

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Connecticut River Basin--Continued						
01172750 Natty Pond Brook	Canesto Brook	Lat 42°27'52", long 72°00'49", Worcester County, at dirt road crossing, 770 ft west of Barre Road, and 0.8 mi south of Hubbardston, Mass.	4.23	1985	3-19-86 4-23-86 5-15-86 5-15-86 5-20-86 5-23-86 6- 9-86 7-24-86 8-15-86 9- 5-86 9-19-86 9-30-86	27 7.9 1.1 1.5 1.6 4.4 26 2.1 1.0 .72 .30 .27
01172770 Natty Pond Brook	do	Lat 42°27'29", long 72°01'07", Worcester County, 5,000 ft upstream from bridge on Hale Road, 1.3 mi southwest of Hubbardston, Mass.	-	1985	5-20-86	1.7
01178245 Swift River	Westfield River	Lat 42°30'08", long 72°51'00", Franklin County, at culvert on State Highway 116, at Spruce Corner, Mass.	11.0	1984-85	9-16-85	*6.3
01183130 Dickinson Brook	Munn Brook	Lat 42°04'11", long 72°50'53", Hampden County, at culvert on State Highway 57, 0.7 mi east of Granville, Mass.	6.29	1984-85	8-25-86	*2.8
01183290 Powdermill Brook	Westfield River	Lat 42°09'45", long 72°45'49", Hampden County, at culvert on Russellville Road, 2.9 mi north of Westfield, Mass.	2.50	1984-85	8-25-86	*.43
01183302 Arm Brook	Powdermill Brook	Lat 42°08'38", long 72°44'22", Hampden County, at culvert on Lockhouse Road, at Westfield, Mass.	4.43	1957-58, 1984-85	8-25-86	*.97
01183315 Pond Brook	Powdermill Brook	Lat 42°09'27", long 72°42'01", Hampden County, at culvert below pond outlet adjacent to Owen District Road, at East Mountain Country Club, 3.5 mi northeast of Westfield, Mass.	-	-	5- 7-86 5-19-86 5-20-86	1.0 1.7 .28
01183316 Pond Brook tributary	Pond Brook	Lat 42°09'26", long 72°42'30", Hampden County, 50 ft north of municipal well 8 off Owen District Road, at East Mountain Country Club, 3.5 mi northeast of Westfield, Mass.	-	-	5- 7-86 5-19-86 5-20-86	1.8 1.4 1.4
01183317 Pond Brook	Powdermill Brook	Lat 42°09'22", long 72°42'25", Hampden County, 80 ft east of gate to municipal wells 7 and 8 on Owen District Road at East Mountain Country Club, 3.5 mi northeast of Westfield, Mass.	-	-	5- 7-86 5-19-86 5-20-86	2.8 5.7 1.6
01183318 Pond Brook	do	Lat 42°09'03", long 72°42'38", Hampden County, 200 ft north of road to gravel pit off Owen District Road, near East Mountain Country Club, 3.5 mi northeast of Westfield, Mass.	-	-	5- 7-86 5-19-86 5-20-86	4.4 7.6 2.9
01183365 Johnson Brook	Great Brook	Lat 42°02'24", long 72°47'07", Hampden County, at culvert on U.S. Highway 02, 1.5 mi north of Congamond, Mass.	3.67	1967, 1984-85	8-25-86	*.75
01183375 Great Brook	Westfield River	Lat 42°03'08", long 72°46'03", Hampden County, at culvert on Sheep Pasture Road, at Southwick, Mass.	12.1	1967, 1984-85	8-25-86	*1.5
01184750 Thomas Brook	West Branch Farmington River	Lat 42°14'49", long 73°06'46", Berkshire County, at culvert on Werden Cross Road, 1.1 mi north of North Otis, Mass.	7.03	1984-85	8-26-86	*2.3
01185130 Miner Brook	do	Lat 42°09'11", long 73°04'29", Berkshire County, at culvert on State Highway 8, 2.9 mi south of Otis, Mass.	1.53	1984-85	8-26-86	*.42

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1986--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
Connecticut River Basin--Continued						
01185450 Clam River	West Branch Farmington River	Lat 42°06'05", long 73°05'48", Berkshire County, at bridge on Beech Plain Road at intersection with State Highway 57, 1.2 mi northwest of New Boston, Mass.	28.9	1965, 1984-85	8-26-86	*12
01185550 Thorp Brook	do	Lat 42°03'51, long 73°03'55, Berkshire County, at culvert on State Highway 8, 2.1 mi south of New Boston, Mass.	2.62	1984-85	8-26-86	*.98
01185600 Slocum Brook	do	Lat 42°02'45", long 73°01'36", Hampden County, at culvert on dirt road, just off New Colebrook River Road, at the entrance to Camp Kinderland, 2.6 mi south of Tolland Center, Mass.	2.66	1984-85	8-26-86	*1.2
01186300 Sandy Brook	Still River	Lat 42°02'37", long 73°08'13", Berkshire County, at culvert on New Marlborough Road, 0.1 mi north of Connecticut State line, and 4.6 mi south of Sandisfield, Mass.	9.85	1984-85	8-26-86	*4.4
01187280 Halfway Brook	Hubbard River	Lat 42°03'00", long 72°58'16", Hampden County, at culvert on West Hartland Road, in Granville State Forest, 2.3 mi southwest of West Granville, Mass.	1.05	1984-85	8-26-86	*.49

† Operated as a continuous-record gaging station.

†† Operated as a low-flow partial-record station.

a excludes 1.70 ft³/s diverted thru factory.

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

195

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
MERRIMACK RIVER BASIN									
01094400 NORTH NASHUA RIVER AT FITCHBURG, MASS.									
OCT 1985					APR 1986				
15...	0910	73	196	14.0	11...	0835	160	148	8.5
DEC					JUL				
04...	1615	157	138	3.0	08...	0905	51	250	23.0
FEB 1986					AUG				
27...	1130	86	174	0.0	20...	1240	163	123	22.0
01094500 NORTH NASHUA RIVER NEAR LEOMINSTER, MASS.									
OCT 1985					APR 1986				
15...	1230	118	240	16.0	10...	0835	236	182	7.0
NOV					MAY				
27...	0830	248	360	4.0	22...	0730	179	180	18.5
JAN 1986					JUL				
16...	0800	68	270	0.0	10...	0810	80	310	19.0
FEB					AUG				
27...	0845	174	220	--	29...	0840	94	230	14.0
01096000 SQUANNAHOOK RIVER NEAR WEST GROTON, MASS.									
OCT 1985					MAY 1986				
03...	1345	23	115	15.5	23...	0915	76	122	19.0
DEC					JUL				
04...	1235	152	92	1.5	08...	1337	49	113	22.5
MAR 1986					AUG				
03...	1315	83	104	1.0	21...	1352	126	80	20.0
APR									
14...	1515	103	100	10.0					
01096500 NASHUA RIVER AT EAST PEPPERELL, MASS.									
OCT 1985					MAY 1986				
03...	1230	257	168	17.0	22...	1230	244	210	22.0
DEC					JUL				
04...	1120	955	175	--	07...	1340	254	157	--
FEB 1986					AUG				
27...	1235	766	153	1.0	21...	1235	648	125	22.5
APR									
08...	1030	864	157	9.0					
01097000 ASSABET RIVER AT MAYNARD, MASS.									
OCT 1985					APR 1986				
10...	0845	153	190	16.0	11...	1225	173	200	9.5
DEC					MAY				
02...	1315	293	220	3.5	22...	1510	118	260	--
JAN 1986					JUL				
17...	1210	87	270	0.5	11...	1345	83	220	25.0
FEB					AUG				
24...	0715	394	230	0.0	27...	1440	96	240	21.0
01097300 NASHOBA BROOK NEAR ACTON, MASS.									
OCT 1985					APR 1986				
10...	1400	14	193	16.0	10...	1305	28	166	9.0
NOV					MAY				
27...	1230	26	182	1.5	22...	1120	7.9	200	18.5
JAN 1986					JUL				
16...	1350	8.6	220	0.0	10...	1215	7.2	230	19.5
FEB					AUG				
24...	1245	49	173	0.0	27...	1045	4.8	240	17.0
01098530 SUDBURY RIVER AT SAXONVILLE, MASS.									
OCT 1985					APR 1986				
07...	1210	117	245	17.5	11...	0750	237	230	9.5
DEC					MAY				
02...	0755	308	230	5.0	23...	1320	63	260	20.0
JAN 1986					JUL				
17...	0845	79	250	0.0	11...	0940	103	240	22.5
FEB					AUG				
27...	1315	255	280	--	28...	1505	90	230	20.5
01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK, AT LOWELL, MASS.									
OCT 1985					APR 1986				
08...	0940	668	230	14.5	14...	1145	790	190	12.0
NOV					JUL				
27...	1300	971	200	4.5	03...	1300	625	205	22.0
MAR 1986					AUG				
03...	1100	817	250	0.5	21...	1058	344	225	23.0

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (um/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (um/cm)	TEMPER- ATURE WATER (DEG C)
MERRIMACK RIVER BASIN--Continued									
01100000 MERRIMACK RIVER BELOW CONCORD RIVER AT LOWELL, MASS.									
OCT 1985					APR 1986				
08...	1235	7450	193	15.0	08...	0935	16600	182	9.5
NOV					JUL				
27...	1005	9670	250	4.5	03...	0925	4030	200	20.0
MAR 1986					AUG				
04...	0930	9470	240	1.0	21...	1005	6920	200	23.0
01100600 SHAWSHOEN RIVER NEAR WILMINGTON, MASS.									
OCT 1985					APR 1986				
11...	0820	28	280	13.5	14...	1235	47	250	14.0
DEC					MAY				
03...	1340	119	400	2.5	28...	0725	24	310	18.5
JAN 1986					JUL				
14...	1205	23	190	0.0	14...	0740	38	250	16.0
MAR					AUG				
04...	0930	45	340	--	26...	1400	23	300	19.0
PARKER RIVER BASIN									
01101000 PARKER RIVER AT BYFIELD, MASS.									
OCT 1985					APR 1986				
16...	0850	19	142	16.0	15...	0950	42	138	10.5
DEC					MAY				
04...	1020	63	135	0.0	29...	0900	16	165	19.0
JAN 1986					JUL				
13...	0835	16	98	0.0	15...	1120	28	147	17.5
MAR					AUG				
03...	0930	42	152	1.0	25...	1435	3.8	195	18.5
IPSWICH RIVER BASIN									
01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MASS.									
OCT 1985					APR 1986				
16...	1308	24	197	16.0	15...	1435	58	200	12.0
DEC					MAY				
05...	0745	85	220	0.0	28...	1200	21	205	19.5
JAN 1986					JUL				
13...	1245	36	97	0.5	14...	1145	58	176	16.5
MAR					AUG				
03...	1345	72	240	0.0	26...	1045	13	220	18.5
01102000 IPSWICH RIVER NEAR IPSWICH, MASS.									
OCT 1985					APR 1986				
16...	1115	71	192	13.5	15...	1255	213	180	12.0
DEC					MAY				
04...	1425	216	185	0.0	28...	1530	72	200	21.0
JAN 1986					JUL				
13...	1035	109	170	0.0	14...	1420	128	180	17.0
MAR					AUG				
03...	1045	227	210	0.0	26...	0705	46	210	18.5
MYSTIC RIVER BASIN									
01102500 ABERJONA RIVER AT WINCHESTER, MASS.									
OCT 1985					APR 1986				
08...	1420	28	400	17.0	14...	1005	22	510	10.5
DEC					MAY				
03...	1115	56	600	3.0	27...	1120	12	530	17.0
JAN 1986					JUL				
14...	0940	10	640	0.0	07...	1310	22	440	21.0
FEB					AUG				
28...	1115	26	560	0.0	28...	0750	9.5	510	19.0
CHARLES RIVER BASIN									
01104000 MOTHER BROOK AT DEDHAM, MASS.									
OCT 1985					MAY 1986				
07...	0920	1.5	350	15.5	08...	1353	20	220	13.0
DEC					JUN				
19...	1400	85	210	--	23...	1410	56	185	16.0
FEB 1986					AUG				
14...	1500	66	240	2.0	26...	1539	21	200	21.0
MAR									
19...	1255	350	146	6.0					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

197

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
CHARLES RIVER BASIN--Continued									
01104200 CHARLES RIVER AT WELLESLEY, MASS.									
OCT 1985					MAY 1986				
09...	1130	120	250	15.5	12...	1051	110	240	14.0
DEC					JUN				
20...	1350	188	250	2.0	27...	1342	209	220	24.0
FEB 1986					AUG				
05...	0830	465	144	0.0	11...	1210	94	240	27.0
01104500 CHARLES RIVER AT WALTHAM, MASS.									
OCT 1985					APR 1986				
08...	1205	183	240	16.0	14...	0750	236	230	10.0
DEC					MAY				
03...	0815	364	310	3.0	27...	0725	165	270	18.0
JAN 1986					JUL				
14...	0735	123	110	0.0	11...	0700	174	230	23.0
FEB					AUG				
28...	0730	446	210	0.0	28...	1210	104	250	20.5
NEPONSET RIVER BASIN									
01105000 NEPONSET RIVER AT NORWOOD, MASS.									
OCT 1985					APR 1986				
24...	1500	8.9	325	13.0	28...	0829	51	220	12.0
DEC					JUN				
19...	0940	44	225	2.0	27...	1040	18	205	19.0
FEB 1986					AUG				
18...	1400	100	440	0.0	12...	1327	7.3	220	24.0
01105500 EAST BRANCH NEPONSET RIVER AT CANTON, MASS.									
DEC 1985					MAY 1986				
18...	1400	33	128	2.0	09...	1320	26	210	12.0
FEB 1986					JUN				
14...	1230	34	170	0.0	27...	0831	24	210	19.0
MAR					AUG				
27...	0800	34	200	--	13...	1613	24	179	23.0
WEYMOUTH FORE RIVER BASIN									
01105585 TOWN BROOK AT QUINCY, MASS.									
OCT 1985					MAY 1986				
24...	1230	1.8	670	14.0	05...	0850	5.6	730	12.0
DEC					JUN				
11...	1130	3.3	850	8.0	23...	0900	6.5	660	17.0
FEB 1986					AUG				
04...	0840	11	630	4.0	25...	0843	2.8	600	17.0
MAR									
17...	0840	8.0	890	5.0					
WEYMOUTH BACK RIVER BASIN									
01105600 OLD SWAMP RIVER NEAR SOUTH WEYMOUTH, MASS.									
OCT 1985					MAR 1986				
24...	1000	1.9	230	9.0	17...	1115	21	193	5.0
DEC					MAY				
11...	1300	4.6	200	7.0	05...	1110	4.1	250	9.5
JAN 1986					JUN				
27...	1030	99	88	4.0	23...	1206	3.0	280	17.0
FEB					AUG				
04...	1215	12	158	3.0	25...	1135	3.3	250	19.0
NORTH RIVER BASIN									
01105730 INDIAN HEAD RIVER AT HANOVER, MASS.									
OCT 1985					MAY 1986				
28...	1320	13	255	11.0	05...	1335	30	230	13.0
DEC					JUN				
12...	0915	52	160	4.0	24...	0909	30	230	20.0
FEB 1986					AUG				
06...	1515	105	210	2.0	20...	1048	33	220	20.0
MAR									
19...	0830	106	195	6.0					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
JONES RIVER BASIN									
01105870 JONES RIVER AT KINGSTON, MASS.									
OCT 1985					MAY 1986				
29...	1430	17	100	9.0	06...	0940	25	93	12.0
DEC					JUN				
12...	1300	27	50	4.0	24...	1125	42	91	20.0
FEB 1986					AUG				
05...	1500	61	63	3.0	20...	1318	107	80	23.0
MAR									
20...	0919	62	82	4.0					
HERRING RIVER BASIN									
01105880 HERRING RIVER AT NORTH HARWICH, MASS.									
OCT 1985					JUN 1986				
29...	1130	2.3	92	9.0	24...	1520	3.0	95	19.0
DEC					AUG				
13...	0810	4.8	90	4.0	21...	0718	7.3	90	20.0
MAR 1986					27...	1233	6.5	98	19.0
20...	1250	13	86	6.0					
MAY									
06...	1250	10	89	15.0					
TAUNTON RIVER BASIN									
01108000 TAUNTON RIVER NEAR BRIDGEWATER, MASS.									
DEC 1985					MAY 1986				
16...	1000	387	125	2.0	07...	0901	240	195	14.0
FEB 1986					JUN				
20...	1000	1060	167	0.0	26...	0830	177	225	18.0
MAR					AUG				
25...	0830	566	160	--	26...	0900	284	--	19.0
01108500 WADING RIVER AT WEST MANSFIELD, MASS.									
DEC 1985					MAY 1986				
18...	0955	18	225	1.0	09...	0905	13	220	10.0
FEB 1986					JUN				
14...	0903	26	250	0.0	26...	1442	13	250	20.0
MAR					AUG				
21...	0848	57	210	2.0	21...	1348	35	250	21.0
01109000 WADING RIVER NEAR NORTON, MASS.									
OCT 1985					MAY 1986				
25...	1045	18	210	13.0	09...	1057	34	205	11.0
DEC					JUN				
17...	1420	67	85	2.0	26...	1241	34	210	19.0
FEB 1986					AUG				
20...	1200	61	185	--	21...	1109	105	156	21.0
MAR									
21...	1215	152	175	2.0					
01109060 THREEMILE RIVER AT NORTH DIGHTON, MASS.									
OCT 1985					MAY 1986				
30...	1410	40	210	9.0	08...	0908	80	200	14.0
DEC					JUN				
17...	1027	137	74	2.0	25...	1149	82	210	20.0
FEB 1986					AUG				
20...	1200	166	105	0.0	22...	0915	215	152	20.0
01109070 SEGREGANSET RIVER NEAR DIGHTON, MASS.									
OCT 1985					MAY 1986				
30...	1030	3.5	89	6.0	08...	1103	8.4	76	13.0
DEC					JUN				
16...	1440	27	37	1.0	25...	0858	2.9	80	18.0
FEB 1986					AUG				
20...	1200	22	60	0.0	26...	1325	3.5	84	19.0

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

199

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
BLACKSTONE RIVER BASIN									
01110000 QUINSIGAMOND RIVER AT NORTH GRAFTON, MASS.									
OCT 1985					APR 1986				
31...	1405	11	290	9.0	09...	1600	45	300	10.0
NOV					MAY				
26...	1425	46	270	3.0	21...	1015	15	330	22.5
JAN 1986					JUL				
22...	1255	40	250	2.5	09...	2000	28	290	27.0
FEB					AUG				
26...	1505	55	260	--	29...	1205	12	270	18.5
01111200 WEST RIVER BELOW WEST HILL DAM, NEAR UXBRIDGE, MASS.									
NOV 1985					MAY 1986				
26...	0920	87	107	3.0	20...	0735	17	175	20.0
JAN 1986					JUL				
21...	1015	64	127	0.0	09...	0830	23	144	23.0
FEB					SEP				
26...	0800	84	139	0.0	03...	0845	7.3	210	17.0
APR									
09...	0805	49	128	8.0					
PAWCATUCK RIVER BASIN									
01117468 BEAVER RIVER NEAR USQUEPAUG, R.I.									
APR 1986									
07...	1052	31	50	10.0					
01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, R.I.									
OCT 1985									
29...	0830	114	77	8.5					
THAMES RIVER BASIN									
01123360 QUINEBAUG RIVER BELOW EAST BRIMFIELD DAM AT FISKDALE, MASS.									
OCT 1985					APR 1986				
02...	1210	132	83	18.0	15...	0915	99	74	12.5
DEC					MAY				
02...	1510	471	74	4.5	19...	1340	52	88	24.0
JAN 1986					JUN				
06...	1400	149	--	0.0	30...	0850	66	77	21.0
FEB					AUG				
24...	1200	203	18	0.5	18...	1235	44	87	23.5
01123600 QUINEBAUG RIVER BELOW WESTVILLE DAM NEAR SOUTHBRIDGE, MASS.									
OCT 1985					APR 1986				
02...	0910	154	101	18.0	15...	1155	137	104	12.0
DEC					MAY				
02...	1350	432	99	5.0	19...	1055	69	123	21.0
JAN 1986					JUN				
06...	1545	193	--	0.5	30...	1205	88	111	22.5
FEB					AUG				
24...	1345	312	73	0.5	18...	1440	97	145	22.0
01124350 FRENCH RIVER BELOW HODGES VILLAGE DAM AT HODGES VILLAGE, MASS.									
OCT 1985					APR 1986				
01...	1000	101	100	16.5	08...	1500	76	110	8.5
NOV					MAY				
25...	1050	77	110	4.0	19...	1430	16	137	19.5
JAN 1986					JUL				
21...	1520	84	120	1.0	08...	1500	25	117	26.0
FEB					SEP				
25...	1300	81	147	1.0	02...	1330	6.9	146	17.5
01124500 LITTLE RIVER NEAR OXFORD, MASS.									
OCT 1985					APR 1986				
01...	1200	44	--	18.5	08...	0955	54	85	9.5
NOV					MAY				
25...	1510	76	94	5.0	19...	1100	19	100	20.0
JAN 1986					JUL				
22...	0800	67	116	3.0	08...	1150	29	90	24.0
FEB					SEP				
25...	1040	77	110	2.5	02...	1015	12	106	18.0

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
CONNECTICUT RIVER BASIN									
01162000 MILLERS RIVER NEAR WINCHENDON, MASS.									
OCT 1985					APR 1986				
04...	1105	50	70	13.5	09...	1700	236	53	7.5
DEC					MAY				
05...	1445	131	67	1.0	21...	1418	36	75	21.5
JAN 1986									
08...	1340	93	--	0.0					
01162500 PRIEST BROOK NEAR WINCHENDON, MASS.									
OCT 1985					MAY 1986				
04...	0925	7.0	44	13.0	21...	1200	7.6	49	20.0
DEC					JUL				
05...	1155	38	60	1.0	02...	0900	7.6	52	18.5
FEB 1986					AUG				
26...	1225	31	50	0.0	19...	0940	21	34	19.5
APR									
09...	1515	55	44	7.0					
01163200 OTTER RIVER AT OTTER RIVER, MASS.									
OCT 1985					APR 1986				
04...	1300	58	145	14.5	10...	1050	71	134	8.0
DEC					MAY				
05...	1605	81	175	1.5	20...	1450	19	205	21.5
JAN 1986					JUL				
07...	1420	56	142	0.0	02...	1330	38	200	22.5
FEB					AUG				
26...	1500	69	168	0.0	19...	1404	87	118	21.0
01164000 MILLERS RIVER AT SOUTH ROYALSTON, MASS.									
OCT 1985					APR 1986				
07...	1455	343	124	13.5	09...	1045	652	125	8.0
DEC					MAY				
05...	1105	372	130	1.0	21...	0930	106	176	20.5
JAN 1986					JUL				
08...	0930	230	--	0.0	01...	1540	112	143	23.0
MAR					AUG				
04...	1325	250	126	1.0	19...	0835	417	79	20.5
01165000 EAST BRANCH TULLY RIVER NEAR ATHOL, MASS.									
DEC 1985					JUN 1986				
17...	1335	36	42	1.5	26...	1635	29	41	19.0
FEB 1986					AUG				
03...	1200	176	39	1.0	18...	1115	97	42	22.0
MAR					SEP				
24...	1050	544	--	1.0	23...	0915	16	42	--
MAY									
06...	1010	41	42	15.0					
01166105 WHETSTONE BROOK AT DEPOT RD AT WENDELL DEPOT, MASS.									
DEC 1985					JUN 1986				
19...	1105	7.1	24	0.0	20...	1245	17	23	--
JAN 1986					AUG				
31...	1015	22	26	0.0	08...	1010	3.1	24	17.0
MAR					SEP				
19...	1600	100	23	1.0	22...	1050	2.2	22	11.0
MAY									
02...	0900	5.8	23	9.0					
01166500 MILLERS RIVER AT ERVING, MASS.									
DEC 1985					JUN 1986				
17...	1010	532	122	0.0	26...	1310	386	98	19.0
JAN 1986					AUG				
31...	1000	1810	58	0.0	15...	1035	848	95	21.0
MAR					SEP				
21...	0950	3220	53	0.0	23...	0750	153	192	15.0
MAY									
02...	0805	449	104	14.0					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

201

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
CONNECTICUT RIVER BASIN--Continued									
01168151 DEERFIELD RIVER NEAR ROWE, MASS.									
DEC 1985					JUN 1986				
11...	0905	1010	39	4.0	19...	0845	1150	40	16.0
JAN 1986					AUG				
30...	0955	1000	39	2.5	13...	0800	1150	38	19.0
MAR					SEP				
19...	0810	1170	42	5.0	17...	0950	1140	38	20.0
APR									
29...	1000	80	40	12.0					
01168500 DEERFIELD RIVER AT CHARLEMONT, MASS.									
DEC 1985					JUN 1986				
11...	1005	1230	44	4.0	18...	1505	1110	45	16.0
JAN 1986					AUG				
30...	1355	1290	48	3.0	20...	0805	1160	44	19.5
MAR					SEP				
19...	0930	2230	51	3.0	17...	1045	142	51	15.0
APR									
30...	1005	242	52	14.0					
01169000 NORTH RIVER AT SHATTUCKVILLE, MASS.									
DEC 1985					JUN 1986				
11...	1100	160	103	3.0	23...	1250	121	119	18.0
JAN 1986					AUG				
30...	1510	271	88	0.0	07...	1125	61	144	19.0
MAR					SEP				
20...	0855	1930	52	1.0	18...	1410	29	167	15.0
MAY									
01...	1030	100	124	13.0					
01169900 SOUTH RIVER NEAR CONWAY, MASS.									
DEC 1985					JUN 1986				
12...	0800	81	141	2.0	26...	1045	20	146	15.0
JAN 1986					AUG				
29...	1306	102	103	0.0	06...	1605	44	132	20.0
MAR					SEP				
20...	1345	215	84	2.0	17...	1400	9.7	170	14.0
MAY									
01...	1515	29	132	14.0					
01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MASS.									
DEC 1985					APR 1986				
17...	0830	1320	97	1.0	30...	1400	565	113	18.0
JAN 1986					JUN				
29...	1515	2340	83	1.0	26...	1030	1700	72	17.0
MAR					AUG				
24...	1600	2500	82	4.0	15...	0750	583	91	18.0
01170100 GREEN RIVER NEAR COLRAIN, MASS.									
DEC 1985					JUN 1986				
11...	1425	72	--	2.0	19...	1610	56	79	17.0
JAN 1986					AUG				
30...	0815	147	--	0.0	07...	0850	35	86	18.0
MAR					SEP				
20...	0755	521	47	1.0	18...	1115	14	93	10.0
MAY									
01...	0740	57	82	11.0					
01170500 CONNECTICUT RIVER AT MONTAGUE CITY, MASS.									
DEC 1985					AUG 1986				
16...	1620	13100	101	0.5	07...	1700	21000	94	22.0
MAR 1986					SEP				
19...	1410	41300	86	1.0	18...	1035	9470	116	18.0
JUN									
20...	1135	14900	87	18.0					
01171300 FORT RIVER NEAR AMHERST, MASS.									
NOV 1985					JUN 1986				
13...	0835	115	76	7.0	05...	1320	16	100	18.0
JAN 1986					JUL				
07...	1530	59	25	0.0	23...	1120	11	116	22.0
FEB					SEP				
24...	1145	104	62	2.0	11...	1334	11	113	17.0
APR									
16...	0734	39	80	9.5					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
CONNECTICUT RIVER BASIN--Continued									
01171500 MILL RIVER AT NORTHAMPTON, MASS.									
NOV 1985					JUN 1986				
18...	1410	212	82	6.0	05...	0830	27	140	16.0
JAN 1986					JUL				
08...	1240	72	91	0.0	23...	1505	21	140	21.0
FEB					SEP				
24...	1455	130	87	1.0	11...	1624	16	138	19.0
APR									
15...	1630	83	77	12.0					
01172500 WARE RIVER NEAR BARRE, MASS.									
OCT 1985					APR 1986				
07...	1245	206	52	12.0	11...	1130	121	53	7.5
DEC					JUL				
03...	1340	170	52	11.5	01...	1210	25	57	19.5
JAN 1986					AUG				
07...	1120	84	--	0.0	20...	1045	55	51	20.5
01173500 WARE RIVER AT GIBBS CROSSING, MASS.									
NOV 1985					JUN 1986				
12...	1500	459	65	7.0	03...	0957	182	75	17.0
JAN 1986					JUL				
06...	1416	360	62	0.0	21...	1414	134	75	--
FEB					22...	0819	128	75	22.0
25...	1340	412	66	1.0	SEP				
APR					11...	1052	37	86	17.0
18...	0942	3210	69	9.0					
01174500 EAST BRANCH SWIFT RIVER NEAR HARDWICK, MASS.									
OCT 1985					APR 1986				
07...	1015	115	48	16.0	15...	1520	58	38	14.5
DEC					MAY				
03...	1155	130	54	3.0	20...	0930	36	47	18.5
JAN 1986					JUL				
07...	0900	62	--	0.0	01...	0925	21	46	22.0
FEB					AUG				
25...	1515	85	52	0.0	20...	0940	15	47	24.0
01174600 CADWELL CREEK NEAR PELHAM, MASS.									
NOV 1985					JUN 1986				
15...	1220	2.0	75	7.0	04...	1353	0.14	55	20.0
JAN 1986					JUL				
07...	1130	0.71	36	0.0	22...	1317	0.07	55	22.0
FEB					SEP				
25...	1640	1.3	1	2.0	16...	1431	0.03	52	13.5
APR									
17...	1406	0.44	53	15.5					
01174900 CADWELL CREEK NEAR BELCHERTOWN, MASS.									
NOV 1985					JUN 1986				
15...	0925	11	38	6.5	04...	0904	0.81	39	11.0
JAN 1986					JUL				
07...	0900	3.2	35	0.0	22...	1430	0.66	35	17.0
FEB					SEP				
25...	0935	5.7	20	0.0	16...	1227	0.63	33	11.0
APR									
17...	1530	3.4	33	10.0					
01175500 SWIFT RIVER AT WEST WARE, MASS.									
NOV 1985					JUN 1986				
13...	1230	111	40	12.5	03...	1440	91	42	17.0
JAN 1986					JUL				
07...	1410	111	27	--	22...	1050	108	41	16.0
FEB					SEP				
25...	1530	53	30	2.0	11...	1000	115	45	17.0
APR									
18...	0735	15	50	6.5					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

203

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
CONNECTICUT RIVER BASIN--Continued									
01175670 SEVENMILE RIVER NEAR SPENCER, MASS.									
OCT 1985					MAY 1986				
01...	1520	16	50	18.0	19...	1555	8.0	48	25.5
JAN 1986					JUN				
06...	1110	16	--	0.0	30...	1600	5.0	53	23.0
FEB					AUG				
25...	0905	18	19	--	18...	1555	3.4	60	21.0
APR									
08...	1450	20	47	9.0					
01176000 QUABOAG RIVER AT WEST BRIMFIELD, MASS.									
NOV 1985					JUN 1986				
12...	1215	352	80	7.5	02...	0840	182	82	21.0
JAN 1986					JUL				
06...	0957	297	87	0.5	21...	1130	102	103	24.5
FEB					SEP				
26...	0928	206	101	0.0	10...	1020	51	137	11.5
APR									
18...	1258	204	95	14.5					
01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MASS.									
NOV 1985					JUN 1986				
14...	1400	1060	80	9.0	10...	0810	2050	75	17.0
JAN 1986					JUL				
10...	0810	730	--	1.0	25...	1440	312	100	26.0
MAR					SEP				
03...	1043	241	94	2.0	18...	1130	231	118	17.0
APR									
14...	1625	587	89	9.5					
01179500 WESTFIELD RIVER AT KNIGHTVILLE, MASS.									
NOV 1985					JUN 1986				
18...	1225	1110	53	4.5	06...	0906	318	65	17.0
JAN 1986					JUL				
09...	1500	117	67	0.5	24...	0838	62	86	20.0
FEB					SEP				
27...	1545	155	72	0.0	12...	0639	47	83	18.0
APR									
15...	1501	344	62	12.0					
01180500 MIDDLE BRANCH WESTFIELD RIVER AT GOSS HEIGHTS, MASS.									
NOV 1985					JUN 1986				
19...	1415	307	55	7.0	09...	1633	404	79	21.0
JAN 1986					JUL				
14...	1015	387	52	6.0	24...	1329	17	56	27.0
FEB					SEP				
27...	1634	86	56	1.0	12...	0745	12	51	--
APR									
15...	1118	186	47	8.0					
01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MASS.									
NOV 1985					JUN 1986				
20...	0915	408	66	--	09...	1338	236	79	18.0
JAN 1986					JUL				
09...	0946	138	87	0.5	24...	1522	27	115	26.0
FEB					SEP				
28...	1130	132	89	1.0	12...	1043	109	26	19.0
APR									
15...	0818	146	78	6.0					
01183500 WESTFIELD RIVER NEAR WESTFIELD, MASS.									
NOV 1985					JUN 1986				
20...	1020	2090	70	9.0	10...	1515	2830	63	19.0
JAN 1986					JUL				
14...	1330	950	102	0.0	25...	1335	660	140	24.0
FEB					SEP				
28...	1440	569	108	2.5	12...	1440	217	150	19.0
APR					16...	1430	155	128	16.0
14...	1035	1590	80	8.0					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (ft ³ /s)	SPE- CIFIC CON- DUCT- ANCE (μm/cm)	TEMPER- ATURE WATER (DEG C)
CONNECTICUT RIVER BASIN--Continued									
01185500 WEST BRANCH FARMINGTON RIVER NEAR NEW BOSTON, MASS.									
NOV 1985					JUN 1986				
01...	1030	269	--	9.0	09...	1315	319	--	18.0
JAN 1986					JUL				
06...	1415	117	--	0.0	25...	1100	24	--	24.0
MAR					AUG				
28...	1040	479	--	5.0	26...	1140	29	96	17.0
APR					SEP				
29...	1500	108	--	18.0	18...	1215	15	--	13.5
HOUSATONIC RIVER BASIN									
01197000 EAST BRANCH HOUSATONIC RIVER AT COLTSVILLE, MASS.									
DEC 1985					JUN 1986				
18...	1355	69	210	2.0	16...	1505	44	260	21.0
JAN 1986					AUG				
28...	1255	330	108	0.0	05...	1215	79	180	20.0
MAR					SEP				
17...	1545	450	114	3.0	15...	1505	23	330	15.0
APR									
28...	1400	54	220	16.0					
HUDSON RIVER BASIN									
01331500 HOOSIC RIVER AT ADAMS, MASS.									
DEC 1985					JUN 1986				
18...	1205	50	220	0.5	17...	0825	111	162	16.0
JAN 1986					AUG				
28...	0835	271	174	0.0	05...	1515	72	189	--
MAR					SEP				
18...	0825	286	167	2.0	16...	0830	24	230	12.5
APR									
28...	1615	68	173	16.0					
01332000 NORTH BRANCH HOOSIC RIVER AT NORTH ADAMS, MASS.									
DEC 1985					JUN 1986				
18...	1000	54	78	0.0	17...	1105	140	49	14.0
JAN 1986					AUG				
29...	0915	136	55	0.0	06...	1305	40	80	19.0
MAR					SEP				
18...	1100	264	55	2.0	16...	1030	24	105	11.0
APR									
29...	1550	59	72	18.0					
01332500 HOOSIC RIVER NEAR WILLIAMSTOWN, MASS.									
DEC 1985					JUN 1986				
18...	0920	173	275	0.0	18...	1325	223	158	17.0
JAN 1986					AUG				
29...	0815	487	169	0.0	06...	0955	147	160	20.0
MAR					SEP				
18...	1615	868	167	5.0	16...	1610	79	245	15.0
APR									
29...	1455	182	215	17.0					
01333000 GREEN RIVER AT WILLIAMSTOWN, MASS.									
DEC 1985					JUN 1986				
17...	1620	60	187	0.0	17...	1310	76	158	17.0
JAN 1986					AUG				
29...	1450	408	142	2.0	06...	1045	26	205	19.0
MAR					SEP				
18...	1240	262	102	4.0	16...	1300	21	220	12.5
APR									
29...	1630	64	155	18.0					

BARNSTABLE COUNTY

413956070164301. Barnstable well A1W 230.

LOCATION.--Lat 41°39'56", long 70°16'43", Hydrologic Unit 01090002, 50 ft west of Mary Dunn Road at Hyannis Airport and 0.3 mi north of intersection of Willow Street and State Highway 28 in Barnstable.
Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 35.8 ft, screened 32.8 to 35.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 43.23 ft above 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, 21.05 ft below land-surface datum, May 12, 1973; lowest measured, 26.22 ft below land-surface datum, Oct. 25, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	24.06	DEC 23	24.43	FEB 23	23.94	APR 24	23.65	JUN 26	24.53	AUG 27	25.00
NOV 20	24.39	JAN 21	24.56	MAR 21	23.35	MAY 26	24.17	JUL 24	24.76	SEP 22	25.30

414154070165001. Barnstable well A1W 247.

LOCATION.--Lat 41°41'54", long 70°16'50", Hydrologic Unit 01090002, 30 ft east of Mary Dunn Road and 0.2 mi south of State Highway 6A in Barnstable.
Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 52 ft, screened 49 to 52 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 44.52 ft above 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, 20.97 ft below land-surface datum, May 25, 1973; lowest measured, 28.64 ft below land-surface datum, Oct. 25, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	24.57	DEC 23	24.91	FEB 25	24.62	APR 25	24.08	JUN 26	24.44	AUG 20	24.85
NOV 21	24.83	JAN 22	25.04	MAR 21	24.33	MAY 21	24.20	JUL 24	24.62	SEP 22	25.16

414129070361401. Bourne well BHW 198.

LOCATION.--Lat 41°41'29", long 70°36'14", 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.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 55.56 ft above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 5.0 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, 30.31 ft below land-surface datum, Apr. 26, 1984; lowest measured, 36.17 ft below land-surface datum, Oct. 25, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	32.15	JAN 21	33.10	APR 28	32.46	JUN 25	33.28	SEP 22	33.93
NOV 20	32.90	FEB 25	32.29	MAY 05	32.57	JUL 23	33.54		
DEC 23	33.08	MAR 21	32.13	20	32.84	AUG 21	33.73		

GROUND-WATER LEVELS IN MASSACHUSETTS

BARNSTABLE COUNTY--Continued

414518070020301. Brewster well BMW 21.

LOCATION.--Lat 41°45'18", long 70°02'03", Hydrologic Unit 01090002, about 50 ft north of Nook Road, 0.1 mi south of Cliff Pond, 0.3 mi east of Silas Road, and at Nickerson State Park in Brewster.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.5 in, depth 25 ft, screened 22 to 25 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 36.97 ft above 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, 13.34 ft below land-surface datum, Oct. 25, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	10.48	JAN 28	10.88	APR 25	10.71	JUL 28	11.10	SEP 25	11.54
NOV 21	10.65	FEB 25	10.86	MAY 21	10.86	AUG 20	11.22		
DEC 20	10.81	MAR 24	10.74	JUN 26	11.04	SEP 23	11.49		

414630070014901. Brewster well BMW 22.

LOCATION.--Lat 41°46'30", long 70°01'49", Hydrologic Unit 01090002, 50 ft east of entrance to Nickerson State Park and 50 ft south of State Highway 6A in Brewster.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 52 ft, screened 49 to 52 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 50.45 ft above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.50 ft below land-surface datum, Apr. 25, 1984; lowest measured, 33.60 ft below land-surface datum, Jan. 31, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	31.12	DEC 20	31.59	FEB 25	31.64	APR 25	31.14	JUN 26	31.63	AUG 20	31.99
NOV 21	31.43	JAN 28	31.78	MAR 24	31.35	MAY 21	31.40	JUL 28	31.80	SEP 23	32.10

414100070011101. Chatham well CGW 138.

LOCATION.--Lat 41°41'00", long 70°01'11", Hydrologic Unit 01090002, 50 ft east of State Highway 137 and 300 ft north of State Highway 28 in Chatham.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 44 ft, screened 41 to 44 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 35.28 ft above 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, 26.22 ft below land-surface datum, Jan. 31, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	24.65	DEC 23	24.83	FEB 25	24.72	APR 25	24.13	JUN 26	24.57	AUG 26	24.41
NOV 21	24.81	JAN 22	24.92	MAR 25	24.28	MAY 22	24.36	JUL 24	24.80	SEP 24	24.84

BARNSTABLE COUNTY--Continued

413525070291904. Mashpee well MIW 29.

LOCATION.--Lat 41°35'25", long 70°29'19", Hydrologic Unit 01090002, 20 ft west of dirt road, 0.8 mi north of intersection of Great Hay Road and dirt road which is 0.12 mi northeast of intersection of Red Brook Road and Great Hay Road in Mashpee.

Owner: Town of Mashpee.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Hydraulic-rotary drilled observation water-table well, diameter 2.0 in, depth 40.0 ft, screened 37.0 to 40.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 15.78 above 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, 5.71 ft below land-surface datum, Apr. 25 1983; lowest measured, 10.03 ft below land-surface datum, Oct. 24, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, FEBRUARY 1976 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 04, 1976	7.29	OCT 25, 1978	8.37	APR 23, 1981	8.26	AUG 24, 1983	8.48
24	7.32	FEB 23, 1979	7.56	JUN 23	8.14	OCT 28	9.21
MAR 23	7.38	APR 24	7.34	AUG 24	9.01	FEB 21, 1985	9.54
APR 27	7.84	JUN 26	7.40	OCT 23	9.61	APR 25	9.34
MAY 26	8.26	AUG 24	8.63	DEC 28	9.24	JUN 25	9.23
JUL 02	8.67	OCT 24	9.41	FEB 19, 1982	8.03	AUG 21	9.50
29	9.09	DEC 27	9.54	APR 22	8.08	OCT 21	8.63
AUG 25	9.37	FEB 22, 1980	9.41	JUL 06	8.12	DEC 30	9.08
SEP 28	9.77	APR 24	8.49	AUG 26	8.89	FEB 25, 1986	8.63
OCT 27	9.83	JUN 23	8.88	OCT 28	9.17	APR 28	8.41
NOV 30	9.99	AUG 25	9.64	DEC 21	8.99	JUN 25	8.96
APR 06, 1977	7.81	OCT 24	10.03	FEB 21, 1983	8.31	JUL 24	9.15
JUL 07	6.64	DEC 20	9.69	APR 25	5.71	AUG 21	8.84
AUG 29, 1978	7.37	FEB 20, 1981	9.55	JUN 24	6.99	SEP 22	9.10

414418070241601. Sandwich well SDW 252.

LOCATION.--Lat 41°44'18", long 70°24'16", Hydrologic Unit 01090002, 0.5 mi north of State Highway 6A and 15 ft east of Private Road in Sandwich.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 57 ft, screened 55 to 57 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 53.47 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	47.59	DEC 23	47.69	FEB 23	47.42	APR 24	47.10	JUN 25	47.24	AUG 21	47.42
NOV 20	47.50	JAN 21	47.65	MAR 21	47.34	MAY 22	47.18	JUL 23	47.32	SEP 22	47.59

414124070265901. Sandwich well SDW 253.

LOCATION.--Lat 41°41'24", long 70°26'59", Hydrologic Unit 01090002, 800 ft west of Stowe Road and 50 ft south of Farmersville Road in Sandwich.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 70 ft, screened 67 to 70 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 111.20 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	50.21	JAN 21	50.53	APR 24	50.93	JUN 25	50.55	SEP 22	51.09
NOV 20	50.30	FEB 23	50.39	MAY 06	50.27	JUL 23	50.68		
DEC 23	50.43	MAR 25	50.26	22	50.42	AUG 21	50.80		

BARNSTABLE COUNTY--Continued

420239070062001. Truro well TSW 1.

LOCATION.--Lat 42°02'39", long 70°06'20", Hydrologic Unit 01090002, near old pumping station about 200 ft north of State Highway 6A and 1.2 mi northwest of North Truro.

Owner: Town of Provincetown.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in, depth 68 ft, cased to 68 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 16.80 ft above 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, 12.1 ft below land-surface datum, Sept. 11, 1954.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	10.77	DEC 20	10.72	FEB 24	10.53	APR 25	10.45	JUN 24	10.62	AUG 20	10.82
NOV 22	10.72	JAN 28	10.79	MAR 24	10.80	MAY 21	10.65	JUL 28	10.84	SEP 23	10.89

420206070045901. Truro well TSW 89.

LOCATION.--Lat 42°02'06", long 70°04'59", Hydrologic Unit 01090002, 300 ft west of U.S. Highway 6 and 50 ft north of Highland Road in Truro.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 27.7 ft, screened 24.7 to 27.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 16.60 ft above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.7 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	12.06	DEC 20	12.08	FEB 24	12.05	APR 25	11.86	JUN 24	12.07	AUG 20	12.24
NOV 22	12.08	JAN 28	12.31	MAR 24	11.89	MAY 21	11.92	JUL 28	12.23	SEP 23	12.35

415353069585401. Wellfleet well WNW 17.

LOCATION.--Lat 41°53'53", long 69°58'54", Hydrologic Unit 01090002, about 150 ft east of old pumping station and 45 ft west of road to the public beach at Cape Cod National Seashore in Wellfleet.

Owner: Cape Cod National Seashore.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in, depth 42 ft, screen information not available.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 19.10 ft above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.13 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.27 ft below land-surface datum, June 27, 1967; lowest measured, 12.75 ft below land-surface datum, Jan. 31, 1967.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	9.39	DEC 20	10.07	FEB 24	10.38	APR 25	9.77	JUN 24	10.33	AUG 20	10.90
NOV 22	9.75	JAN 28	10.37	MAR 24	9.96	MAY 21	10.02	JUL 28	10.67	SEP 23	11.16

BERKSHIRE COUNTY

423503073075401. Cheshire well CJW 2.

LOCATION.--Lat 42°35'03", long 73°07'54", Hydrologic Unit 02020003, at intersection of Wells and Jenks Roads 2.3 mi northeast of Cheshire.

Owner: John Jayko.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 22 ft, cased with stone to 22 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,210 ft, above National Geodetic Vertical Datum of 1929. Measuring point: Inside rim of concrete well top, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.09 ft below land-surface datum, Jan. 19, 1952; lowest measured, 14.03 ft below land-surface datum, Nov. 20, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	6.96	DEC 21	4.19	FEB 22	7.75	APR 21	3.48	JUN 23	3.82	AUG 21	3.55
NOV 21	2.78	JAN 23	6.54	MAR 21	4.01	MAY 22	6.12	JUL 22	5.67	SEP 26	6.48

421316073212801. Great Barrington well GMW 2.

LOCATION.--Lat 42°13'16", long 73°21'28", Hydrologic Unit 01100005, 30 ft west of State Highway 41 and 1.5 mi north of intersection of State Highway 41 and U.S. Highway 7 in Great Barrington.

Owner: Mr. Jacobson.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in, depth 15 ft, cased with stone to 15 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 732 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of stone curbing, east side of well 0.33 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.42	DEC 21	10.68	FEB 22	9.12	APR 21	9.80	JUN 23	10.62	AUG 21	7.36
NOV 21	10.28	JAN 23	11.10	MAR 21	7.37	MAY 22	11.50	JUL 22	11.61	SEP 25	12.58

420912073043001. Otis well OTW 7.

LOCATION.--Lat 42°09'12", long 73°04'30", Hydrologic Unit 01080207, about 400 ft south of Hawley Road and 15 ft west of State Highway 8 in Otis.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 17.5 ft, screened 15.5 to 17.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,145 ft above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 3.5 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	8.24	DEC 21	8.14	FEB 22	8.09	APR 21	8.17	JUN 23	7.88	AUG 21	8.74
NOV 21	7.30	JAN 23	8.55	MAR 21	6.27	MAY 22	8.84	JUL 22	8.62	SEP 25	9.64

GROUND-WATER LEVELS IN MASSACHUSETTS

BERKSHIRE COUNTY--Continued

422745073112001. Pittsfield well PTW 51.

LOCATION.--Lat 42°27'45", long 73°11'20", Hydrologic Unit 01100005, 30 ft east of Hubbard Ave. and about 100 ft north of Barton Brook in Pittsfield.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 ft, depth 31.5 ft, screened 26.5 to 31.5 ft.

Prior to July 1986, augered observation water-table well, diameter 1.25 in depth 31.5 ft, screened 29.5 to 31.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Digital recorder (60-min punch) July 1986 to current year.

DATUM.--Elevation of land-surface datum is 1,050 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.83 ft above land-surface datum; prior to July 1986, top of casing, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--August 1963 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.30 ft below land-surface datum, Apr. 25, 1969; lowest measured, 27.57 ft below land-surface datum, Dec. 11, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	17.15	16.98
2	m20.98	---	---	---	---	---	---	---	---	---	17.00	17.10
3	---	---	---	---	---	---	---	---	---	---	16.88	17.23
4	---	---	---	---	---	---	---	---	---	---	16.78	17.36
5	---	---	---	---	---	---	---	---	---	---	16.73	17.47
6	---	---	---	---	---	---	---	---	---	---	16.63	17.56
7	---	---	---	---	---	---	---	---	---	---	16.57	17.66
8	---	---	---	m16.03	---	---	---	---	---	---	16.50	17.75
9	---	---	---	---	---	---	---	---	---	---	16.45	17.81
10	---	---	---	---	---	---	---	---	---	---	16.43	17.90
11	---	---	---	---	---	---	---	---	---	---	16.39	18.05
12	---	---	---	---	---	---	---	---	---	---	16.38	18.15
13	---	---	---	---	---	---	---	---	---	---	16.38	18.26
14	---	---	---	---	---	---	---	---	---	---	16.38	18.37
15	---	---	---	---	---	---	---	---	---	---	16.41	18.46
16	---	---	---	---	---	---	---	---	m16.27	---	16.41	18.54
17	---	---	---	---	---	m14.95	---	---	---	---	16.37	18.63
18	---	---	m15.60	---	---	---	---	---	---	m17.04	16.35	18.72
19	---	---	---	---	---	---	---	---	---	17.05	16.33	18.80
20	---	---	---	---	---	---	---	---	---	17.08	16.34	18.92
21	---	m15.99	m15.58	---	---	m14.57	m15.07	---	---	17.13	16.36	18.94
22	m18.34	---	---	---	m15.20	---	---	m16.10	---	17.24	16.37	19.01
23	---	---	---	m16.11	---	---	---	---	m16.48	17.35	16.40	19.02
24	---	---	---	---	---	---	---	---	---	17.46	16.42	18.87
25	---	---	---	---	---	---	---	---	---	17.56	16.49	18.88
26	---	---	---	---	---	---	---	---	---	17.66	16.57	19.04
27	---	---	---	---	---	---	---	---	---	17.72	16.61	19.16
28	---	---	---	m15.62	---	---	m15.25	---	---	17.78	16.63	19.26
29	m17.67	---	---	---	---	---	---	---	---	17.83	16.69	19.36
30	---	---	---	---	---	---	---	---	---	17.59	16.76	19.44
31	---	---	---	---	---	---	---	---	---	17.33	16.83	---
MEAN	---	---	---	---	---	---	---	---	---	---	16.5	18.4
LOW	---	---	---	---	---	---	---	---	---	---	17.15	19.44
HIGH	---	---	---	---	---	---	---	---	---	---	16.33	16.98

m Measured

420351073193601. Sheffield well SJW 59.

LOCATION.--Lat 42°03'51", long 73°19'36", Hydrologic Unit 01100005, about 200 ft east of U.S. Highway 7 and 30 ft north of Hewins Road in Sheffield.

Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 ft, depth 24 ft, screened 22 to 24 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 680 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.70 ft above land-surface datum.

PERIOD OF RECORD.--November 1963 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.19 ft below land-surface datum, Mar. 28, 1978; lowest measured, 19.69 ft below land-surface datum, Jan. 25, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	15.75	DEC 21	15.43	FEB 22	14.98	APR 21	13.44	JUN 23	13.62
NOV 21	15.89	JAN 23	15.25	MAR 21	13.34	MAY 22	13.88	JUL 22	13.61

BRISTOL COUNTY

415447071155301. Attleboro well ATW 83.

LOCATION.--Lat 41°54'47", long 71°15'53", Hydrologic Unit 01090004, about 150 ft north of parking lot and 200 ft west of dirt road at Bristol County Nursing Home in Attleboro.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 20.6 ft, screened 18.6 to 20.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 145 ft above 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, 5.23 ft below land-surface datum, Aug. 26, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.23	DEC 23	3.85	FEB 24	3.37	APR 23	3.93	JUN 23	3.84	AUG 21	3.60
NOV 24	3.56	JAN 21	3.80	MAR 24	3.49	MAY 23	3.94	JUL 24	4.20	SEP 22	4.20

414705071045301. Freetown well F3W 23.

LOCATION.--Lat 41°47'05", long 71°04'53", Hydrologic Unit 01090004, about 300 ft west of State Highway 24 and 200 ft north of State Highway 79 in Freetown.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 42 ft, screened 40 to 42 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 38 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	14.00	DEC 23	13.65	FEB 24	13.13	APR 23	13.62	JUN 23	13.76	SEP 04	14.24
NOV 24	13.60	JAN 21	13.90	MAR 24	13.44	MAY 23	13.80	JUL 24	13.97	22	14.42

414025070572801. New Bedford well NGW 116.

LOCATION.--Lat 41°40'25", long 70°57'28", Hydrologic Unit 01090002, New Bedford Municipal Airport, 30 ft east of control tower building in New Bedford.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 27.3 ft, screened 25.3 to 27.3 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 65 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.40	DEC 23	4.20	FEB 24	3.66	APR 23	4.12	JUN 23	4.08	AUG 21	3.92
NOV 24	3.70	JAN 21	3.47	MAR 24	3.93	MAY 23	3.89	JUL 24	4.26	SEP 22	4.49

GROUND-WATER LEVELS IN MASSACHUSETTS

BRISTOL COUNTY--Continued

415812071111101. Norton well N4W 37.

LOCATION.--Lat 41°58'12", long 71°11'11", Hydrologic Unit 01090004, at Wheaton College, 250 ft 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 19.4 ft, screened 17.4 to 19.4 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 105 ft above 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, 11.24 ft below land-surface datum, Oct. 23, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	8.92	DEC 23	6.76	FEB 24	5.83	APR 23	7.57	JUN 23	7.78	AUG 21	5.39
NOV 24	5.86	JAN 21	7.46	MAR 24	5.61	MAY 23	8.52	JUL 24	8.50	SEP 22	8.00

414714071175901. Seekonk well SHW 275.

LOCATION.--Lat 41°47'14", long 71°17'59", Hydrologic Unit 01090004, middle of median strip of Interstate Highway 195 and 1.1 mi west of Palmer River in Seekonk.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 14.4 ft, screened 12.4 to 14.4 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 21 ft above 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, 5.18 ft below land-surface datum, Mar. 22, 1984; lowest measured, 8.02 ft below land-surface datum, Sept. 26, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	6.50	DEC 23	6.01	FEB 24	5.39	APR 23	6.17	JUN 23	6.21	AUG 21	6.13
NOV 24	5.64	JAN 21	5.68	MAR 24	5.70	MAY 23	6.10	JUL 24	6.06	SEP 22	6.78

414420071084401. Somerset well SPW 161.

LOCATION.--Lat 41°44'20", long 71°08'44", Hydrologic Unit 01090004, 110 ft east of Riverside Avenue and 335 ft south of the Johnson Street and Riverside Avenue intersection in Somerset.

Owner: Montaup Electric.

AQUIFER.--Sandstone interbedded with shale and conglomerate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 3 in, depth 1,500 ft, cased to 26 ft, open hole.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 40 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.0 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.87 ft below land-surface datum, Jan. 29, 1979; lowest measured, 22.09 ft below land-surface datum, Oct. 23, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	16.74	DEC 23	14.06	FEB 24	11.45	APR 23	14.73	JUN 23	16.35	AUG 21	16.68
NOV 24	15.48	JAN 21	15.12	MAR 24	12.36	MAY 23	16.38	JUL 24	11.70		

BRISTOL COUNTY--Continued

415454071061801. Taunton well TAW 258.

LOCATION.--Lat 41°54'54", long 71°06'18", Hydrologic Unit 01090004, 420 ft northwest of Danforth Street and 520 ft southwest of Chester Street in Taunton.

Owner: Joseph Mozzone.

AQUIFER.--Sandstone interbedded with shale and conglomerate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 3.0 in, depth 1,006.0 ft, cased to 10.0 ft, open hole.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 60 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.0 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.10 ft below land-surface datum, Jan. 27, 1978; lowest measured, 15.85 ft below land-surface datum, Sept. 26, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	14.44	DEC 23	12.62	FEB 24	11.46	APR 23	12.55	JUN 23	12.84	AUG 21	13.10
NOV 24	12.53	JAN 21	12.87	MAR 24	11.53	MAY 23	13.20	JUL 24	13.70	SEP 22	13.94

415457071060101. Taunton well TAW 337.

LOCATION.--Lat 41°54'57", long 71°06'01", Hydrologic Unit 01090004, Taunton State Hospital, about 200 ft west of Mill River and about 300 ft east of Danforth Street in Taunton.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 20 ft, screened 18 to 20 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 50 ft above 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, 10.85 ft below land-surface datum, Sept. 27, 1984.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	9.95	DEC 23	9.11	FEB 24	8.12	APR 23	9.05	JUN 23	8.96	AUG 21	8.77
NOV 24	8.86	JAN 21	9.25	MAR 24	8.25	MAY 23	9.47	JUL 24	9.55	SEP 22	9.62

DUKES COUNTY

412346070353403. Edgartown well ENW 52.

LOCATION.--Lat 41°23'46", long 70°35'34", 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 64.02 ft, screened 61.02 to 64.02 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

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, 14.17 ft below land-surface datum, July 28, 1979; lowest measured, 20.51 ft below land-surface datum, Feb. 26, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	18.48	DEC 22	19.04	FEB 24	19.24	APR 25	18.10	JUN 26	18.52	AUG 21	18.53
NOV 29	18.83	JAN 25	19.37	MAR 26	18.80	MAY 26	18.26	JUL 27	18.66	SEP 26	18.24

GROUND-WATER LEVELS IN MASSACHUSETTS

ESSEX COUNTY

423734071080901. Andover well AJW 26.

LOCATION.--Lat 42°37'34", long 71°08'09", Hydrologic Unit 01070002, 90 ft north of Ballardvale Road and 30 ft west of Sunset Rock Road in Andover.

Owner: Harry K. Jenkins.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 25 in, depth 15 ft, cased with stone to 15 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 189 ft above National Geodetic Vertical Datum of 1929. Measuring point:

Upper edge of brick lip in corner of opening, 2.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.47 ft below land-surface datum, Mar. 26, 1969; lowest measured, 13.44 ft below land-surface datum, Nov. 21, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	12.80	DEC 22	10.50	FEB 25	11.36	APR 24	12.81	JUN 24	10.41	AUG 21	12.65
NOV 26	9.78	JAN 22	12.60	MAR 25	9.71	MAY 27	12.57	JUL 25	12.57	SEP 22	12.70

423641071102501. Andover well AJW 462.

LOCATION.--Lat 42°36'41", long 71°10'25", Hydrologic Unit 01070002, about 1,200 ft south of Shawsheen River, and 30 ft west of Interstate Highway 93 in Andover.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 32.5 ft, screened 30.5 to 32.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 110 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--November 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.72 ft below land-surface datum, June 20, 1984; lowest measured, 15.80 ft below land-surface datum, Oct. 23, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	14.32	DEC 22	13.89	FEB 25	13.89	APR 24	14.09	JUN 24	13.69	AUG 21	14.50
NOV 26	13.70	JAN 22	14.12	MAR 25	13.50	MAY 27	14.40	JUL 25	14.33	SEP 22	14.97

424322070592401. Georgetown well GCW 168.

LOCATION.--Lat 42°43'22", long 70°59'24", Hydrologic Unit 01090001, 18 ft south of State Highway 133 and 25 ft east of Winter Street at Murca Park in Georgetown.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 21 ft, screened 19 to 21 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 80 ft above 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, 2.42 ft below land-surface datum, Mar. 27, 1969; lowest measured, 6.65 ft below land-surface datum, Sept. 22, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	4.91	DEC 22	4.40	FEB 25	4.01	APR 24	4.04	JUN 24	3.91	AUG 21	5.15
NOV 26	4.14	JAN 22	4.40	MAR 25	3.78	MAY 27	4.69	JUL 25	4.70	SEP 22	5.57

ESSEX COUNTY--Continued

424841071004101. Haverhill well HLW 23.

LOCATION.--Lat 42°48'41", long 71°00'41", Hydrologic Unit 01070002, about 50 ft north of Amesbury Line Road and 0.9 mi south of State Highway 110 in Haverhill.

Owner: Mrs. Benjamin Hamm.

AQUIFER.--Glacial sand of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 12 in, depth 15.1 ft, cased with tile to 15.1 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Continuous graphic recorder October 1960 to September 1982, digital recorder (60-minute punch) October 1984 to current year.

DATUM.--Elevation of land-surface datum is 105 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of hole in base of wooden recorder shelter, 1.09 ft above land-surface datum.

PERIOD OF RECORD.--October 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.80 ft below land-surface datum, Mar. 23, 1983; lowest recorded, 15.02 ft below land-surface datum, Feb. 2, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.56	13.32	12.19	11.97	11.65	11.70	11.15	11.20	11.92	11.45	12.30	13.23
2	13.55	13.33	12.17	12.00	11.65	11.74	11.15	11.16	11.92	11.46	12.33	13.25
3	13.57	13.35	12.16	12.01	11.68	11.78	11.16	11.15	11.89	11.39	12.35	13.28
4	13.58	13.36	12.13	12.03	11.71	11.81	11.17	11.15	11.92	11.40	12.38	13.31
5	13.58	13.37	12.09	12.03	11.73	11.81	11.18	11.14	11.94	11.43	12.42	13.33
6	13.51	13.25	12.03	12.05	11.78	11.79	11.19	11.16	11.92	11.46	12.45	13.35
7	13.40	13.11	11.98	12.08	11.81	11.78	11.19	11.17	11.81	11.48	12.48	13.38
8	13.30	12.99	11.94	12.11	11.84	11.82	11.17	11.20	11.68	11.51	12.51	13.40
9	13.21	12.89	11.91	12.13	11.88	11.85	11.17	11.24	11.55	11.54	12.54	13.43
10	13.15	12.82	11.90	12.15	11.91	11.88	11.17	11.26	11.45	11.57	12.57	13.45
11	13.12	12.78	11.88	12.18	11.94	11.90	11.18	11.29	11.38	11.61	12.60	13.47
12	13.10	12.76	11.86	12.20	11.97	11.90	11.19	11.31	11.35	11.65	12.64	13.50
13	13.09	12.73	11.86	12.22	12.01	11.88	11.20	11.33	11.32	11.68	12.68	13.52
14	13.09	12.72	11.84	12.25	12.04	11.78	11.21	11.36	11.29	11.70	12.71	13.53
15	13.09	12.70	11.83	12.28	12.06	11.41	11.22	11.39	11.28	11.73	12.74	13.54
16	13.09	12.68	11.82	12.30	12.10	10.95	11.22	11.42	11.27	11.76	12.77	13.55
17	13.11	12.65	11.82	12.33	12.13	10.78	11.23	11.44	11.25	11.80	12.81	13.56
18	13.12	12.58	11.81	12.35	12.16	10.74	11.24	11.47	11.24	11.83	12.84	13.57
19	13.12	12.49	11.83	12.37	12.18	10.73	11.25	11.50	11.24	11.86	12.87	13.58
20	13.14	12.39	11.83	12.24	12.21	10.78	11.26	11.53	11.24	11.89	12.90	13.60
21	13.16	12.32	11.82	12.05	12.22	10.84	11.26	11.56	11.22	11.93	12.93	13.61
22	13.17	12.28	11.82	11.95	12.07	10.88	11.27	11.60	11.20	11.97	12.96	13.63
23	13.19	12.24	11.82	11.92	11.83	10.91	11.30	11.63	11.20	12.00	12.98	13.64
24	13.20	12.22	11.82	11.92	11.69	10.95	11.30	11.66	11.22	12.04	13.01	13.62
25	13.21	12.21	11.82	11.93	11.64	11.00	11.31	11.69	11.26	12.08	13.04	13.61
26	13.23	12.20	11.84	11.93	11.62	11.03	11.31	11.72	11.30	12.12	13.08	13.62
27	13.24	12.19	11.86	11.86	11.62	11.06	11.31	11.75	11.33	12.15	13.10	13.64
28	13.26	12.19	11.88	11.74	11.66	11.09	11.29	11.78	11.34	12.18	13.13	13.65
29	13.28	12.19	11.90	11.69	---	11.11	11.27	11.82	11.37	12.21	13.15	13.66
30	13.29	12.19	11.92	11.66	---	11.13	11.24	11.84	11.41	12.24	13.17	13.67
31	13.30	---	11.95	11.64	---	11.14	---	11.88	---	12.27	13.20	---
MEAN	13.3	12.7	11.9	12.1	11.9	11.4	11.2	11.4	11.5	11.8	12.8	13.5
LOW	13.58	13.37	12.19	12.37	12.22	11.90	11.31	11.88	11.94	12.27	13.20	13.67
HIGH	13.09	12.19	11.81	11.64	11.62	10.73	11.15	11.14	11.20	11.39	12.30	13.23

WTR YR 1986 HIGH 10.73 MAR 19 LOW 13.68 SEPT 30

GROUND-WATER LEVELS IN MASSACHUSETTS

ESSEX COUNTY--Continued

424520070562401. Newbury well NIW 27.

LOCATION.--Lat 42°45'20", long 70°56'24", Hydrologic Unit 01090001, about 300 ft east of Interstate Highway 95 and 100 ft north of Central Street in Newbury.

Owner: Mrs. George Brown.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 31 in, depth 19.8 ft, cased with tile to 19.8 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Continuous graphic recorder January 1967 to September 1982, digital recorder (60-minute punch) October 1984 to current year.

DATUM.--Elevation of land-surface datum is 55 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of hole in base of wooden recorder shelter, 1.95 ft above land-surface datum. Prior to October 1978, 2.0 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.15 ft below land-surface datum, Mar. 25, 1969; lowest, 12.68 ft below land-surface datum, Nov. 24, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.42	7.28	5.04	5.91	6.01	6.55	5.07	5.01	7.07	5.07	6.76	8.93
2	7.41	7.33	4.76	6.02	6.07	6.57	5.07	5.04	7.01	5.06	6.84	8.98
3	7.45	7.39	4.51	6.08	6.14	6.58	5.12	5.12	6.97	4.79	6.91	9.04
4	7.43	7.44	4.57	6.10	6.22	---	5.18	5.19	6.97	4.73	6.98	9.10
5	7.24	7.38	4.63	6.13	6.24	---	5.22	5.24	6.99	4.72	7.07	9.14
6	6.57	6.37	4.68	6.16	6.31	---	5.27	5.30	6.47	4.73	7.16	9.18
7	5.94	5.64	4.74	6.25	6.38	---	5.28	5.35	4.97	4.78	7.24	9.23
8	5.81	5.46	4.78	6.32	6.44	---	5.28	5.41	4.33	4.86	7.30	9.30
9	5.86	5.45	4.84	6.39	6.50	---	5.25	5.49	4.39	4.94	7.38	9.36
10	5.94	5.47	4.89	6.44	6.58	---	5.24	5.56	4.51	5.04	7.46	9.41
11	6.06	5.52	4.93	6.53	6.64	---	5.23	5.62	4.57	5.13	---	9.46
12	6.18	5.52	4.95	6.60	6.69	---	5.25	5.68	4.50	5.21	---	9.50
13	6.27	5.38	4.97	6.65	6.77	---	5.31	5.76	4.18	5.26	---	9.56
14	6.34	5.31	4.86	6.71	6.85	---	5.38	5.85	4.08	5.28	---	9.62
15	6.40	5.18	4.82	6.82	6.91	---	5.42	5.92	4.15	5.34	---	9.68
16	6.45	5.07	4.86	6.92	6.99	---	5.46	5.99	4.23	5.42	---	9.72
17	6.56	4.85	4.90	7.00	7.07	---	5.51	6.04	4.28	5.49	---	9.75
18	6.65	4.64	4.95	7.07	7.12	---	5.59	6.11	4.37	5.58	---	9.79
19	6.68	4.68	5.01	7.13	7.13	---	5.65	6.19	4.45	5.66	---	9.82
20	6.71	4.73	5.06	6.51	7.15	---	5.69	6.28	4.42	5.74	---	9.86
21	6.76	4.81	5.11	6.24	7.12	---	5.74	6.36	4.21	5.83	m 8.28	9.90
22	6.80	4.87	5.17	6.36	6.56	---	5.80	6.42	4.24	5.95	---	9.92
23	6.85	4.87	5.22	6.51	6.13	---	5.85	6.48	4.31	6.06	---	9.93
24	6.90	4.89	5.28	6.66	6.14	---	5.73	6.55	4.42	6.16	---	9.85
25	6.92	4.94	5.34	6.78	6.17	5.30	5.57	6.61	4.55	6.26	---	9.79
26	6.97	4.98	5.42	6.79	6.23	5.30	5.40	6.67	4.67	6.36	8.59	9.80
27	7.01	4.99	5.49	5.98	6.34	5.30	5.22	6.74	4.76	6.45	8.65	9.82
28	7.06	5.00	5.58	5.40	6.45	5.26	5.05	6.80	4.82	6.51	8.68	9.85
29	7.13	5.02	5.66	5.55	---	5.13	4.99	6.87	4.89	6.59	8.75	9.88
30	7.19	5.04	5.74	5.75	---	5.07	4.99	6.94	4.98	6.66	8.81	9.91
31	7.24	---	5.83	5.89	---	5.05	---	7.02	---	6.71	8.87	---
MEAN	6.72	5.52	5.05	6.38	6.55	---	5.36	5.99	4.96	5.56	---	9.57
LOW	7.45	7.44	5.83	7.13	7.15	---	5.85	7.02	7.07	6.71	---	9.93
HIGH	5.81	4.64	4.51	5.40	6.01	---	4.99	5.01	4.08	4.72	---	8.93

WTR YR 1986 HIGH 4.08 JUNE 14 LOW 9.94 SEPT 23

m Measured

ESSEX COUNTY--Continued

425103070513401. Salisbury well SEW 9.

LOCATION.--Lat 42°51'03", long 70°51'34", Hydrologic Unit 01070002, at intersection of Gerrish and Seabrook Roads 0.6 mi north of Salisbury.

Owner: Eugene G. Polsum.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 11 ft, cased with tile to 11 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 35 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top inside lip of tile casing, 1.60 ft above land-surface datum.

PERIOD OF RECORD.--August 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.90 ft below land-surface datum, Mar. 23, 1983; lowest measured, 8.37 ft below land-surface datum, Sept. 22, 1983.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	5.22	DEC 22	4.81	FEB 25	4.16	APR 24	4.28	JUN 24	4.58	AUG 21	6.37
NOV 26	4.35	JAN 22	4.48	MAR 25	4.16	MAY 27	5.16	JUL 25	5.73	SEP 22	7.09

423845070542501. Topsfield well TQW 1.

LOCATION.--Lat 42°38'45", long 70°54'25", Hydrologic Unit 01090001, 0.7 mi south of Ipswich Road and 120 ft west of Hamilton Road in Topsfield.

Owner: Mr. Sullivan.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 22.0 ft, cased with stone to 22.0 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 130 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	14.14	DEC 22	8.97	FEB 25	9.31	APR 24	10.50	JUN 24	9.77	AUG 21	12.95
NOV 26	11.11	JAN 22	10.40	MAR 25	8.38	MAY 27	11.26	JUL 25	11.94	SEP 22	14.28

423505070491702. Wenham well WPW 76.

LOCATION.--Lat 42°35'05", long 70°49'17", Hydrologic Unit 01090001, 45 ft west of State Highway 128 and 120 ft of Grapevine Road in Wenham.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 22.0 ft, screened 20.0 to 22.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 60 ft above 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, 4.36 ft below land-surface datum, Sept. 28, 1971.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	2.90	DEC 22	1.87	FEB 25	1.58	APR 24	2.52	JUN 24	2.40	AUG 21	3.02
NOV 26	1.61	JAN 22	1.79	MAR 25	2.01	MAY 27	2.83	JUL 25	2.83	SEP 22	3.35

GROUND-WATER LEVELS IN MASSACHUSETTS

FRANKLIN COUNTY

423809072435601. Colrain well CSW 8.

LOCATION.--Lat 42°38'09", long 72°43'56", Hydrologic Unit 01080203, 15 ft east of State Highway 112 and 100 ft north of North River Bridge in Colrain.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 32.3 ft, screened 30.3 to 32.3 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 460 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.5 ft above land-surface datum.

REMARKS.--Water levels affected by North River.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.62 ft below land-surface datum, Apr. 24, 1969; lowest measured, 23.48 ft below land-surface datum, Jan. 31, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	21.45	DEC 21	18.30	FEB 22	18.27	APR 21	17.39	JUN 23	19.25	AUG 21	20.55
NOV 21	20.54	JAN 23	18.88	MAR 21	16.54	MAY 22	18.68	JUL 22	20.00	SEP 26	21.28

423310072355801. Deerfield well DFW 44.

LOCATION.--Lat 42°33'10", long 72°35'58", Hydrologic Unit 01080203, 1.2 mi south of Deerfield River Bridge and 15 ft east of U.S. Highway 5 in Deerfield.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 27.6 ft, screened 25.6 to 27.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 140 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	3.09	DEC 22	2.86	FEB 23	2.60	APR 22	2.89	JUN 21	2.63	AUG 22	2.79
NOV 22	2.65	JAN 24	2.82	MAR 22	2.49	MAY 23	2.84	JUL 21	2.95	SEP 26	3.05

423305072320301. Montague well MSW 5.

LOCATION.--Lat 42°33'05", long 72°32'03", Hydrologic Unit 01080201, about 15 ft west of Montague Road, 0.2 mi north of Old Northfield Road, and 1.0 mi north of Montague.

Owner: Thomas C. Kurtyka.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in, depth 12 ft, screened 9 to 12 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 240 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.75 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.41 ft below land-surface datum, Feb. 26, 1976; lowest measured, 8.00 ft below land-surface datum, Dec. 28, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	4.41	DEC 22	3.29	FEB 23	2.76	APR 22	2.56	JUN 21	3.34	AUG 22	3.05
NOV 22	3.14	JAN 24	2.29	MAR 22	2.05	MAY 23	3.55	JUL 21	4.13	SEP 26	4.52

FRANKLIN COUNTY--Continued

422607072324401. Sunderland well S6W 7.

LOCATION.--Lat 42°26'07", long 72°32'44", Hydrologic Unit 01080201, about 100 ft east of State Highway 116 and 30 ft north of Russellville Brook in Sunderland.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in, depth 54 ft, cased to 54 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 210 ft above 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, 6.85 ft below land-surface datum, Apr. 25, 1973; lowest measured, 23.26 ft below land-surface datum, Feb. 24, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	21.96	DEC 22	22.04	FEB 23	16.56	APR 22	11.25	JUN 21	12.83	AUG 22	12.68
NOV 22	21.57	JAN 24	21.83	MAR 22	9.89	MAY 23	13.33	JUL 21	14.66	SEP 26	13.87

HAMPDEN COUNTY

421012072324501. Chicopee well CMW 95.

LOCATION.--Lat 42°10'12", long 72°32'45", Hydrologic Unit 01080204, in Chicopee Memorial State Park, 100 ft east of check-in house on north side of road in Chicopee.

Owner: Commonwealth of Massachusetts.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in PVC, depth 34.0 ft, screened 30.0 to 34.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 200 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--August 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.40 ft below land-surface datum, Aug. 21, 1984; lowest measured, 22.60 ft below land-surface datum, Nov. 22, 1985.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, AUGUST 1984 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 21, 1984	19.40	MAR 21, 1985	22.00	OCT 23, 1985	22.50	MAY 23, 1986	21.59
SEP 21	21.12	APR 23	22.02	NOV 22	22.60	JUN 23	21.23
OCT 21	21.14	MAY 22	22.12	DEC 21	21.89	JUL 22	21.45
NOV 25	21.14	JUN 21	22.22	JAN 23, 1986	22.10	AUG 22	21.89
DEC 21	21.35	JUL 21	22.24	FEB 23	21.28	SEP 24	22.38
JAN 25, 1985	21.63	AUG 23	22.28	MAR 21	20.87		
FEB 22	21.84	SEP 22	22.35	APR 21	21.20		

420357072511601. Granville well GLW 5.

LOCATION.--Lat 42°03'57", long 72°51'16", Hydrologic Unit 01080206, near Granville Public School, 275 ft south of State Highway 57 and 0.2 mi west of Sodom Street in Granville.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 67.7 ft, screened 65.7 to 67.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 675 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	35.02	DEC 21	34.00	FEB 22	33.43	APR 21	33.05	JUN 23	33.29	AUG 21	33.67
NOV 21	34.80	JAN 23	34.07	MAR 21	32.64	MAY 22	33.48	JUL 22	33.64	SEP 25	34.23

GROUND-WATER LEVELS IN MASSACHUSETTS

HAMPDEN COUNTY--Continued

420259072581701. Granville well GLW 6.

LOCATION.--Lat 42°02'59", long 72°58'17", Hydrologic Unit 01080207, at Granville State Forest, 20 ft west of West Hartland Road and 0.9 mi north of state boundary in Granville.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 20.8 ft, screened 18.8 to 20.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,160 ft above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 2.5 ft above land-surface datum.

REMARKS.--Water levels affected by Halfway Brook.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.49 ft below land-surface datum, Apr. 26, 1972; lowest measured, 8.42 ft below land-surface datum, Aug. 25, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	5.16	DEC 21	4.41	FEB 22	3.77	APR 21	4.39	JUN 23	4.79	AUG 21	5.69
NOV 21	3.29	JAN 23	4.75	MAR 21	3.10	MAY 22	6.06	JUL 22	6.60	SEP 25	7.38

420646072420101. Westfield well WVW 62.

LOCATION.--Lat 42°06'46", long 72°42'01", Hydrologic Unit 01080206, at Western Massachusetts Hospital about 200 ft east of East Mountain Road and 0.4 mi north of U.S. Highway 20 in Westfield.

Owner: Commonwealth of Massachusetts.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in, depth 25 ft, casing information not available.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 210 ft above 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, Mar. 21, 1985.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	10.42	DEC 21	6.66	FEB 22	6.38	APR 21	7.65	JUN 23	7.14	AUG 21	8.13
NOV 21	7.52	JAN 23	7.09	MAR 21	6.09	MAY 22	10.01	JUL 22	7.68	SEP 24	8.97

420905072254001. Wilbraham well XJW 55.

LOCATION.--Lat 42°09'05", long 72°25'40", Hydrologic Unit 01080204, 45 ft south of U.S. Highway 20 and 0.1 mi west of North Main Street in Wilbraham.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 62.5 ft, screened 60.5 to 62.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 255 ft above 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, 30.56 ft below land-surface datum, Mar. 28, 1979; lowest measured, 45.44 ft below land-surface datum, Jan. 24, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	41.89	DEC 22	39.80	FEB 23	37.43	APR 22	37.42	JUN 23	36.24	AUG 22	40.50
NOV 22	41.83	JAN 23	40.34	MAR 22	36.00	MAY 23	39.53	JUL 23	38.10	SEP 24	42.47

HAMPSHIRE COUNTY

421355072322001. Granby well GWK 68.

LOCATION.--Lat 42°13'55", long 72°32'20", Hydrologic Unit 01080201, about 15 ft east of Morgan Street, 0.3 mi south of East Street, and 2.0 mi southwest of Granby.

Owner: Holyoke Water Power Co.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in, depth 18 ft, screened 16 to 18 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 239.17 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	8.57	DEC 21	7.24	FEB 23	6.64	APR 21	6.93	JUN 23	7.14	AUG 22	8.75
NOV 22	7.67	JAN 23	7.39	MAR 21	5.99	MAY 23	7.70	JUL 23	8.11	SEP 24	9.67

421627072201701. Ware well WEW 43.

LOCATION.--Lat 42°16'27", long 72°20'17", Hydrologic Unit 01080204, 30 ft north of State Highway 9 and 200 ft east of Swift River in Ware.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 27.2 ft, screened 25.2 to 27.2 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 380 ft above 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, 5.17 ft below land-surface datum, June 22, 1984; lowest measured, 10.34 ft below land-surface datum, Jan. 26, 1971.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	8.77	DEC 22	9.10	FEB 23	9.13	APR 22	8.99	JUN 21	9.10	AUG 22	9.45
NOV 22	9.00	JAN 24	9.32	MAR 22	8.82	MAY 23	9.34	JUL 23	9.31	SEP 24	9.39

MIDDLESEX COUNTY

422812071244401. Acton well ACW 158.

LOCATION.--Lat 42°28'12", long 71°24'44", Hydrologic Unit 01070005, 30 ft north of State Highway 2 and 150 ft east of Wetherbee Street in Acton.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 33.8 ft, screened 31.8 to 33.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 153 ft above 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, 15.37 ft below land-surface datum, Apr. 21, 1983; lowest measured, 21.86 ft below land-surface datum, Jan. 26, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	19.94	DEC 24	18.25	FEB 24	18.60	APR 22	18.35	JUN 26	19.05	AUG 21	19.44
NOV 21	19.36	JAN 21	18.64	MAR 24	18.08	MAY 21	18.85	JUL 22	19.19	SEP 24	19.92

GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY--Continued

423349071134101. Billerica well BCW 363.

LOCATION.--Lat 42°33'49", long 71°13'41", Hydrologic Unit 01070002, 20 ft south of Baldwin Road and 50 ft west of Westminster Road in Billerica.

Owner: Robert M. Young.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 15.5 ft, cased with stone to 15.5 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 166 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of hole in wooden cover, 2.35 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.13 ft below land-surface datum, Mar. 22, 1984; lowest measured, 13.11 ft below land-surface datum, Oct. 27, 1978.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	9.31	DEC 26	6.35	FEB 24	5.64	APR 22	5.84	JUN 26	5.90	AUG 21	8.28
NOV 21	6.17	JAN 21	6.91	MAR 24	4.41	MAY 21	6.82	JUL 22	7.02	SEP 24	10.00

423845071231401. Chelmsford well CHW 68.

LOCATION.--Lat 42°38'45", long 71°23'14", Hydrologic Unit 01070002, 1,300 ft north of intersection of Wharton Lane and the B and M Railroad, 400 ft east of Middlesex Street, and 0.5 mi north of Vinal Square in North Chelmsford.

Owner: Wellman Realty Company.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in, depth 50 ft, cased to 50 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 100.83 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of hole in cap on casing, 1.40 ft below land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.04 ft below land-surface datum; Mar. 23, 1983; lowest measured, 12.24 ft below land-surface datum, Sept. 28, 1957.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	7.68	DEC 26	8.06	FEB 24	7.50	APR 22	7.19	JUN 26	8.25	AUG 21	5.59
NOV 21	6.36	JAN 21	8.05	MAR 24	6.22	MAY 21	8.66	JUL 22	8.55	SEP 24	9.61

423546071190702. Chelmsford well CHW 385.

LOCATION.--Lat 42°35'46", long 71°19'07", Hydrologic Unit 01070002, 15 ft east of U.S. Highway 3 and 0.4 mi north of State Highway 129 in Chelmsford.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 42.8 ft, screened 40.8 to 42.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 123.30 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.83 ft below land-surface datum, June 25, 1982; lowest measured, 19.04 ft below land-surface datum, Nov. 21, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	16.59	DEC 26	16.32	FEB 24	16.20	APR 22	16.26	JUN 26	16.05	AUG 21	16.54
NOV 21	15.92	JAN 21	16.46	MAR 24	15.79	MAY 21	16.60	JUL 22	16.28	SEP 24	17.04

MIDDLESEX COUNTY--Continued

422637071202701. Concord well CTW 165.

LOCATION.--Lat 42°26'37", long 71°20'27", Hydrologic Unit 01070005, 30 ft south of State Highway 2 and 0.1 mi west of State Highway 126 in Concord.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 66.7 ft, screened 64.7 to 66.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 201.12 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.0 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	42.26	DEC 24	42.74	FEB 24	42.80	APR 22	41.92	JUN 26	41.72	AUG 21	41.86
NOV 21	42.49	JAN 21	42.96	MAR 24	42.47	MAY 21	41.79	JUL 22	41.77	SEP 24	42.35

422650071214402. Concord well CTW 167.

LOCATION.--Lat 42°26'50", long 71°21'44", Hydrologic Unit 01070005, 10 ft south of State Highway 2 and 10 ft west of Sudbury Road in Concord.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 24.8 ft, screened 21.8 to 24.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 135 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.30 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.47 ft below land-surface datum, Apr. 21, 1984; lowest measured, 10.59 ft below land-surface datum, Sept. 27, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	7.91	DEC 24	7.02	FEB 24	7.10	APR 22	6.88	JUN 26	7.10	AUG 21	7.51
NOV 21	7.08	JAN 21	7.44	MAR 24	6.20	MAY 21	7.42	JUL 22	7.50	SEP 24	8.33

422627071154002. Lexington well LTW 104.

LOCATION.--Lat 42°26'27", long 71°15'40", Hydrologic Unit 01090001, at The Commonwealth of Massachusetts Department of Public Works maintenance depot, 0.2 mi west of State Highway 128 and 500 ft south of State Highway 2A in Lexington.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 20.7 ft, screened 18.7 to 20.7 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 180 ft above 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, 1.22 ft below land-surface datum, Mar. 20, 1984; lowest measured, 4.35 ft below land-surface datum, Aug. 26, 1975.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	2.82	DEC 24	2.53	FEB 24	2.00	APR 22	2.58	JUN 26	2.69	AUG 21	2.92
NOV 21	2.26	JAN 21	2.46	MAR 24	2.05	MAY 21	2.82	JUL 22	2.92	SEP 24	3.15

GROUND-WATER LEVELS IN MASSACHUSETTS

MIDDLESEX COUNTY--Continued

424055071435301. Townsend well TRW 13.

LOCATION.--Lat 42°40'55", long 71°43'53", Hydrologic Unit 01070004, 15 ft south of Dudley Road and 15 ft north of Turnpike Road in Townsend.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 32.9 ft, screened 30.9 to 32.9 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 313 ft above 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, 9.65 ft below land-surface datum, Apr. 22, 1983; lowest measured, 17.41 ft below land-surface datum, Jan. 26, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	15.70	DEC 26	15.11	FEB 24	14.20	APR 22	12.93	JUN 26	13.00	AUG 21	13.27
NOV 21	15.65	JAN 21	14.99	MAR 24	13.49	MAY 21	13.10	JUL 22	13.41	SEP 24	13.61

423115071032001. Wakefield well WAW 38.

LOCATION.--Lat 42°31'15", long 71°03'20", Hydrologic Unit 01090001, 75 ft north of State Highway 128 and 0.4 mi southeast of Saugus River in Wakefield.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 25.5 ft, screened 23.5 to 25.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 80 ft above 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, 4.51 ft below land-surface datum, Mar. 27, 1969; lowest measured, 9.99 ft below land-surface datum, Sept. 22, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	7.64	DEC 24	6.71	FEB 24	6.20	APR 22	6.85	JUN 26	6.91	AUG 21	7.78
NOV 21	6.38	JAN 21	6.84	MAR 24	6.08	MAY 21	7.29	JUL 22	7.21	SEP 24	8.59

421852071220501. Wayland well WKW 2.

LOCATION.--Lat 42°18'52", long 71°22'05", Hydrologic Unit 01070005, 0.25 mi west of State Highway 27 and 100 ft south of State Highway 30, at Cochituate State Park in Wayland.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 33.0 ft, screened 31.0 to 33.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 157.75 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.0 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.96 ft below land-surface datum, Mar. 27, 1972; lowest measured, 17.47 ft below land-surface datum, Jan. 22, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	16.83	DEC 24	16.24	FEB 24	16.10	APR 22	16.07	JUN 26	15.71	AUG 21	16.36
NOV 21	16.49	JAN 21	16.55	MAR 24	15.54	MAY 21	16.40	JUL 22	16.02	SEP 24	16.85

MIDDLESEX COUNTY--Continued

423401071093801. Wilmington well XMW 78.

LOCATION.--Lat 42°34'01", long 71°09'38", Hydrologic Unit 01090001, at Whitefield Public School in Wilmington, about 30 ft west of State Highway 62, and 0.3 mi north of Concord Street.

Owner: Town of Wilmington.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 42 in, depth 12 ft, cased with stone to 12 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. Continuous graphic recorder March 1958 to September 1982, digital recorder (60-minute punch) October 1984 to current year.

DATUM.--Elevation of land-surface datum is 95 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of hole in base of wooden recorder shelter, 0.33 ft above land-surface datum.

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 measured, 4.44 ft below land-surface datum, Mar. 23, 1983; lowest measured, 11.27 ft below land-surface datum, Oct. 30, 1957.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.68	8.82	7.16	7.82	7.55	7.85	7.13	7.76	8.37	7.93	8.29	8.68
2	8.69	8.83	7.09	7.86	7.54	7.87	7.15	7.77	8.40	7.68	8.30	8.70
3	8.71	8.85	7.09	7.78	7.58	7.90	7.20	7.80	8.42	7.66	8.26	8.73
4	8.73	8.86	7.07	7.79	7.60	7.93	7.22	7.82	8.44	7.65	8.33	8.75
5	8.62	8.61	7.05	7.84	7.61	7.89	7.26	7.84	8.45	7.66	8.37	8.76
6	8.51	8.25	7.05	7.89	7.67	7.86	7.28	7.86	8.33	7.67	8.39	8.79
7	8.52	8.24	7.10	7.93	7.70	7.87	7.29	7.88	8.11	7.69	8.29	8.81
8	8.52	8.12	7.14	7.97	7.73	7.94	7.29	7.90	8.03	7.72	8.22	8.83
9	8.50	8.01	7.19	8.00	7.77	7.97	7.32	7.93	7.98	7.76	8.25	8.85
10	8.49	7.91	7.24	8.03	7.80	7.99	7.34	7.96	7.93	7.82	8.26	8.88
11	8.49	7.83	7.27	8.06	7.83	7.97	7.38	7.98	7.89	7.88	8.26	8.90
12	8.50	7.75	7.30	8.08	7.86	7.96	7.41	8.01	7.84	7.92	8.29	8.92
13	8.51	7.64	7.32	8.11	7.90	7.95	7.45	8.04	7.74	7.93	8.33	8.94
14	8.52	7.56	7.27	8.14	7.93	7.69	7.48	8.07	7.70	7.75	8.36	8.96
15	8.54	7.47	7.30	8.17	7.96	7.05	7.52	8.10	7.66	7.82	8.40	8.99
16	8.56	7.39	7.30	8.20	7.99	7.13	7.55	8.13	7.63	7.85	8.42	8.96
17	8.59	7.27	7.32	8.22	8.02	7.10	7.58	8.15	7.60	7.87	8.44	9.00
18	8.61	7.15	7.35	8.24	8.03	7.07	7.61	8.17	7.60	7.91	8.45	9.02
19	8.62	7.05	7.39	8.21	7.99	7.02	7.65	8.20	7.59	7.95	8.45	9.03
20	8.64	6.96	7.41	7.94	8.00	7.00	7.67	8.23	7.58	7.98	8.47	9.05
21	8.66	6.92	7.43	7.99	7.90	6.99	7.70	8.25	7.57	8.01	8.48	9.07
22	8.68	6.89	7.46	8.02	7.62	6.98	7.73	8.26	7.58	8.05	8.49	9.08
23	8.70	6.90	7.49	8.06	7.68	6.97	7.75	8.28	7.58	8.08	8.51	9.07
24	8.71	6.92	7.52	8.10	7.72	7.00	7.78	8.29	7.62	8.11	8.52	9.05
25	8.70	6.97	7.56	8.13	7.73	7.04	7.79	8.31	7.67	8.14	8.54	9.08
26	8.73	6.98	7.60	8.02	7.75	7.05	7.79	8.32	7.73	8.16	8.56	9.09
27	8.74	7.02	7.63	7.43	7.78	7.08	7.77	8.34	7.76	8.16	8.57	9.10
28	8.76	7.07	7.67	7.61	7.82	7.09	7.75	8.35	7.80	8.17	8.59	9.12
29	8.78	7.12	7.70	7.58	---	7.08	7.75	8.37	7.84	8.21	8.62	9.12
30	8.79	7.15	7.75	7.55	---	7.08	7.76	8.39	7.89	8.23	8.64	9.13
31	8.80	---	7.78	7.54	---	7.11	---	8.41	---	8.26	8.66	---
MEAN	8.63	7.62	7.35	7.95	7.79	7.43	7.51	8.10	7.88	7.93	8.42	8.95
LOW	8.80	8.86	7.78	8.24	8.03	7.99	7.79	8.41	8.45	8.26	8.66	9.13
HIGH	8.49	6.89	7.05	7.43	7.54	6.97	7.13	7.76	7.57	7.65	8.22	8.68

WTR YR 1986 HIGH 6.70 MAR 15 LOW 9.14 SEPT 30

422819071065701. Winchester well XOW 14.

LOCATION.--Lat 42°28'19", long 71°06'57", Hydrologic Unit 01090001, at 220 Forest Street and 100 ft north of Forest Street in Winchester.

Owner: J. E. Sharkey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in, depth 17.0 ft, cased with stone to 17.0 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 116.29 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	11.39	DEC 24	9.31	FEB 24	8.80	APR 22	10.63	JUN 26	9.68	AUG 21	12.75
NOV 21	6.74	JAN 21	11.10	MAR 24	7.74	MAY 21	11.50	JUL 22	11.12	SEP 24	13.75

GROUND-WATER LEVELS IN MASSACHUSETTS

NANTUCKET COUNTY

411555070021901. Nantucket well NBW 228.

LOCATION.--Lat 41°15'55", long 70°02'19", Hydrologic Unit 01090002, 165 ft south of Milestone Road and 300 ft east of Madequecham Valley Brook in Nantucket.

Owner: Nantucket Conservation Foundation.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 35.6 ft, screened 32.6 to 35.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 39 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.7 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.45 ft below land-surface datum, Apr. 21, 1978; lowest measured, 27.90 ft below land-surface datum, Feb. 23, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	25.67	DEC 24	26.39	FEB 24	27.07	APR 25	27.00	JUN 24	26.82	AUG 22	26.66
NOV 24	26.05	JAN 26	26.78	MAR 23	27.19	MAY 23	26.86	JUL 24	26.76	SEP 25	26.28

NORFOLK COUNTY

421250071090901. Dedham well DDW 231.

LOCATION.--Lat 42°12'50", long 71°09'09", Hydrologic Unit 01090001, 50 ft south of State Highway 128 and 0.3 mi west of University Avenue in Dedham.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 21.9 ft, screened 19.9 to 21.9 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 65 ft above 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, 13.81 ft below land-surface datum, Sept. 27, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	10.80	DEC 23	5.65	FEB 24	4.76	APR 23	6.81	JUN 23	5.48	AUG 25	9.29
NOV 24	5.75	JAN 21	7.03	MAR 24	4.55	MAY 23	8.19	JUL 24	8.35	SEP 24	11.02

421435071165701. Dover well DVW 10.

LOCATION.--Lat 42°14'35", long 71°16'57", Hydrologic Unit 01090001, at Dover Public School about 400 ft southwest of and about 400 ft west of Center Street in Dover.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 54 ft, screened 52 to 54 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 160 ft above 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, 30.25 ft below land-surface datum, Feb. 20, 1970; lowest measured, 36.87 ft below land-surface datum, Jan. 21, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	34.93	DEC 23	34.05	FEB 24	33.45	APR 23	32.72	JUN 23	32.48	AUG 25	33.29
NOV 24	34.70	JAN 21	33.86	MAR 24	32.72	MAY 23	33.25	JUL 24	32.76	SEP 24	33.85

NORFOLK COUNTY--Continued

420432071151201. Foxborough well FXW 3.

LOCATION.--Lat 42°04'32", long 71°15'12", Hydrologic Unit 01090004, at Foxborough State Hospital, near railroad tracks, 100 ft east of driveway, and 250 ft north of Chestnut Street in Foxborough.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 32 ft, screened 30 to 32 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 290 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	20.66	DEC 23	19.54	FEB 24	18.78	APR 23	18.96	JUN 23	18.58	AUG 25	19.26
NOV 24	19.85	JAN 21	19.69	MAR 24	18.58	MAY 23	19.28	JUL 24	19.10	SEP 24	19.83

420545071174001. Norfolk well NNW 27.

LOCATION.--Lat 42°05'45", long 71°17'40", Hydrologic Unit 01090001, 15 ft northwest of State Highway 1A and 0.1 mi northeast of Valley Street in Norfolk.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 18.4 ft, screened 16.4 to 18.4 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 160 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.7 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.73 ft below land-surface datum, Sept. 26, 1975; lowest measured, 7.97 ft below land-surface datum, Sept. 24, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	7.81	DEC 23	7.08	FEB 24	6.56	APR 23	7.08	JUN 23	6.74	AUG 25	7.02
NOV 24	6.90	JAN 21	7.15	MAR 24	6.60	MAY 23	7.33	JUL 24	7.44	SEP 24	7.65

420954070564501. Weymouth well XGW 2.

LOCATION.--Lat 42°09'54", long 70°56'45", Hydrologic Unit 01090001, 40 ft south of main gate guard house at U.S. Naval Air Station at Weymouth.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 30 ft, screened 28 to 30 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 180 ft above 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, 5.25 ft below land-surface datum, Jan. 28, 1970; lowest measured, 22.63 ft below land-surface datum, Nov. 21, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	20.69	DEC 23	15.76	FEB 24	10.01	APR 23	11.39	JUN 23	10.65	AUG 21	15.02
NOV 25	18.31	JAN 21	15.52	MAR 24	9.39	MAY 23	12.49	JUL 24	13.43	SEP 22	16.20

GROUND-WATER LEVELS IN MASSACHUSETTS

NORFOLK COUNTY--Continued

421147070571901. Weymouth well XGW 3.

LOCATION.--Lat 42°11'47", long 70°57'19", Hydrologic Unit 01090001, about 100 ft east of State Highway 18 and about 600 ft off State Highway 3 in Weymouth.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 22.3 ft, screened 20.3 to 22.3 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 90 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	6.94	DEC 23	5.39	FEB 24	4.45	APR 23	5.15	JUN 23	4.87	AUG 21	5.00
NOV 25	4.96	JAN 21	5.08	MAR 24	4.80	MAY 23	4.33	JUL 24	5.81	SEP 22	7.50

421120070562801. Weymouth well XGW 4.

LOCATION.--Lat 42°11'20", long 70°56'28", Hydrologic Unit 01090001, at median strip of State Highway 3 and 0.8 mi south of State Highway 18 in Weymouth.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 22.6 ft, screened 20.6 to 22.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 90 ft above 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, 4.75 ft below land-surface datum, Mar. 29, 1983; lowest measured, 10.45 ft below land-surface datum, Sept. 27, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	7.88	DEC 23	7.04	FEB 24	5.80	APR 23	7.01	JUN 23	6.47	AUG 21	6.55
NOV 25	6.50	JAN 21	6.66	MAR 24	6.15	MAY 23	7.18	JUL 24	7.39	SEP 22	7.77

PLYMOUTH COUNTY

420321070433502. Duxbury well D4W 79.

LOCATION.--Lat 42°03'21", long 70°43'35", Hydrologic Unit 01090002, 30 ft west of State Highway 3 and about 300 ft north of State Highway 14 in Duxbury.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and silty clay of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 23.5 ft, screened 21.5 to 23.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 55 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.10 ft below land-surface datum, Jan. 26, 1978; lowest measured, 10.68 ft below land-surface datum, Sept. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	8.88	DEC 23	8.33	FEB 24	7.58	APR 23	8.33	JUN 23	8.42	AUG 21	8.41
NOV 25	8.31	JAN 21	7.67	MAR 24	7.95	MAY 23	8.44	JUL 24	8.97	SEP 22	9.07

PLYMOUTH COUNTY--Continued

420317070432901. Duxbury well D4W 80.

LOCATION.--Lat 42°03'17", long 70°43'29", Hydrologic Unit 01090002, 78 ft south of State Highway 14 and 250 ft east of State Highway 3 in Duxbury.

Owner: The Commonwealth of Massachusetts Department of Public Works.

AQUIFER.--Bedrock.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6.0 in, depth 181 ft, cased to 59 ft, open hole. INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 65 ft above 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, 19.53 ft below land-surface datum, Jan. 26, 1978; lowest measured, 24.02 ft below land-surface datum, Sept. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	22.36	DEC 23	21.81	FEB 24	21.17	APR 23	21.86	JUN 23	21.90	AUG 21	22.06
NOV 25	21.98	JAN 21	20.88	MAR 24	21.50	MAY 23	22.01	JUL 24	22.41	SEP 22	22.53

420056070575701. East Bridgewater well EBW 30.

LOCATION.--Lat 42°00'56", long 70°57'57", Hydrologic Unit 01090004, about 100 ft north of State Highway 106 and 800 ft west of State Highway 18 in East Bridgewater.

Owner: East Bridgewater Medical Center.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in, depth 24 ft, cased with stone to 24 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 85 ft above 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, 2.40 ft below land-surface datum, Mar. 27, 1969; lowest measured, 17.83 ft below land-surface datum, Dec. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	14.72	DEC 23	10.19	FEB 24	5.99	APR 23	7.57	JUN 23	8.88	AUG 25	7.55
NOV 24	12.90	JAN 21	10.91	MAR 24	5.37	MAY 23	8.93	JUL 24	10.21	SEP 24	10.39

415820070522801. Halifax well HBW 97.

LOCATION.--Lat 41°58'20", long 70°52'28", Hydrologic Unit 01090004, 1,950 ft west of South Street and 130 ft south of River Street in Halifax.

Owner: Richard W. Green.

AQUIFER.--Sandstone interbedded with shale and conglomerate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 3.0 in, depth 945 ft, cased to 90 ft, open hole. INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 35 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.30 ft below land-surface datum, Jan. 26, 1978; lowest measured, 5.82 ft below land-surface datum, Oct. 24, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	4.40	DEC 23	3.90	FEB 24	3.17	APR 23	3.69	JUN 23	3.80	AUG 25	3.89
NOV 25	3.88	JAN 21	3.52	MAR 24	3.32	MAY 23	3.88	JUL 24	4.52	SEP 24	4.44

GROUND-WATER LEVELS IN MASSACHUSETTS

PLYMOUTH COUNTY--Continued

420353070520301. Hanson well HGW 76.

LOCATION.--Lat 42°03'53", long 70°52'03", Hydrologic Unit 01090002, 100 ft south of State Highway 14 and 150 ft west of town hall in Hanson.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 26.6 ft, screened 24.6 to 26.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 71 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	5.08	DEC 23	4.96	FEB 24	4.07	APR 23	4.72	JUN 23	4.69	AUG 21	4.50
NOV 25	4.50	JAN 21	4.42	MAR 24	4.31	MAY 23	4.75	JUL 24	5.10	SEP 22	5.22

415228070554601. Lakeville well LKW 14.

LOCATION.--Lat 41°52'28", long 70°55'46", Hydrologic Unit 01090004, 30 ft west of parking lot at Lakeville State Hospital in Lakeville.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 41 ft, screened 39 to 41 ft.

INSTRUMENTATION.--Monthly or more frequent measurements with chalked tape by observer. Digital recorder (60-min punch) July 1986 to current year.

DATUM.--Elevation of land-surface datum is 105 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.28 ft below land-surface datum, Mar. 29, 1983; lowest measured, 23.59 ft below land-surface datum, Oct. 26, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	m19.32	---	---	---	---	---	---	---	---	---	18.85
2	---	---	m18.80	---	---	---	m14.97	---	---	---	---	18.88
3	---	---	---	---	---	---	---	---	---	---	---	18.90
4	---	---	---	---	---	---	---	---	---	---	---	18.92
5	---	---	---	---	---	m15.50	---	m15.70	---	---	---	18.94
6	---	---	---	---	m16.50	---	---	---	---	---	---	18.96
7	---	---	---	m18.32	---	---	---	---	---	---	---	18.98
8	---	m19.50	---	---	---	---	---	m15.85	---	---	---	19.02
9	m18.78	---	---	---	---	---	---	---	---	---	---	19.05
10	---	---	---	---	---	---	---	---	---	---	---	19.09
11	---	---	---	---	---	---	m15.20	---	---	---	---	19.11
12	---	---	---	---	---	m15.45	---	---	---	---	---	19.13
13	---	---	---	---	m16.25	---	---	---	---	---	---	19.15
14	---	---	---	---	---	---	---	---	---	---	---	19.18
15	---	---	---	---	---	---	---	---	---	---	---	19.23
16	m19.03	---	---	m17.72	---	---	---	---	---	---	---	19.25
17	---	---	---	---	---	---	---	---	---	---	---	19.30
18	---	m19.42	---	---	---	---	m15.40	---	---	17.39	---	19.34
19	---	---	---	---	---	---	---	---	---	17.44	---	19.37
20	---	---	---	---	m15.95	m15.27	---	---	---	17.45	---	19.40
21	---	---	---	m18.08	---	---	---	---	---	17.49	m18.65	19.42
22	m19.15	---	---	m17.96	---	---	---	---	---	17.56	---	19.44
23	---	---	m18.20	---	---	---	m15.59	---	m16.52	17.60	---	19.46
24	m19.25	m19.15	---	---	---	m15.15	---	---	---	17.64	---	19.48
25	---	m19.10	---	---	m15.72	---	m15.62	---	---	---	---	19.51
26	---	---	---	---	m15.75	---	---	---	---	---	---	19.53
27	---	---	---	---	---	---	---	---	---	---	---	19.57
28	---	---	---	---	---	m15.05	---	---	---	---	---	19.60
29	---	---	---	---	---	---	---	---	---	---	---	19.64
30	---	---	---	---	---	---	---	m16.25	---	---	18.79	19.66
31	---	---	---	m17.08	---	---	---	---	---	---	18.82	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	19.2
LOW	---	---	---	---	---	---	---	---	---	---	---	19.66
HIGH	---	---	---	---	---	---	---	---	---	---	---	18.85

m Measured

PLYMOUTH COUNTY--Continued

415433070583302. Middleborough well MTW 82.

LOCATION.--Lat 41°54'33", long 70°58'33", Hydrologic Unit 01090004, 15 ft southeast of southbound side of State Highway 25 and 435 ft southeast of Puddingshear Brook in Middleborough.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 26.5 ft, screened 24.5 to 26.5 ft. INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 45 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	14.30	DEC 23	8.95	FEB 24	4.58	APR 23	7.44	JUN 23	9.92	AUG 25	13.69
NOV 24	12.68	JAN 21	9.08	MAR 24	5.13	MAY 23	10.22	JUL 24	12.46	SEP 22	14.30

415453070434901. Plymouth well PWW 22.

LOCATION.--Lat 41°54'53", long 70°43'49", Hydrologic Unit 01090004, 10 ft from northeast corner of main building at Plymouth Airport.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1.25 in, depth 42 ft, screened 40 to 42 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	25.44	DEC 23	25.85	FEB 24	24.39	APR 23	24.09	JUN 23	24.57	AUG 21	24.95
NOV 24	25.75	JAN 21	25.70	MAR 24	24.14	MAY 23	24.48	JUL 24	24.70	SEP 22	25.39

414518070435701. Wareham well WFW 51.

LOCATION.--Lat 41°45'18", long 70°43'57", Hydrologic Unit 01090002, 50 ft east of U.S. Highway 6 and 100 ft north of Exxon service station in Wareham.

Owner: Thomas B. Rogers.

AQUIFER.--Glacial outwash of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 9.65 ft, cased with tile to 9.65 ft, open end. Prior to September 1980, well depth was 12.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 21 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of tile casing, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--July 1959 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.34 ft below land-surface datum, Jan. 26, 1978; lowest measured, 10.98 ft below land-surface datum, Dec. 28, 1965; well found dry several months in water years 1980-84.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
		DEC 23	8.23	FEB 24	7.94	APR 23	7.20	JUN 23	7.90	AUG 21	8.64
		JAN 21	8.09	MAR 24	6.77	MAY 23	7.65	JUL 24	8.39	SEP 22	9.18

GROUND-WATER LEVELS IN MASSACHUSETTS

SUFFOLK COUNTY

422133071033801. Boston well BGW 925.

LOCATION.--Lat 42°21'33", long 71°03'38", Hydrologic Unit 01090001, in basement room at Scollay Building, intersection of Court and Tremont Streets in Boston.
 Owner: United States Trust.

AQUIFER.--Cambridge slate of Carboniferous age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8.0 in, depth 624 ft, cased to 90 ft, open hole.
 INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 35 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 15 ft below land-surface datum.

REMARKS.--Water levels affected by tide and barometric pressure.

PERIOD OF RECORD.--February 1960 to current year. Water-level recorder October 1977 to September 1982. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 17.49 ft below measuring point, Jan. 22, 1985; lowest measured, 26.20 ft below measuring point, Oct. 7, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	17.96	DEC 24	21.37	FEB 25	22.78	APR 24	23.38	JUN 24	23.73	AUG 25	24.39
NOV 25	20.02	JAN 24	22.36	MAR 25	23.17	MAY 27	23.64	JUL 25	24.26	SEP 24	24.74

WORCESTER COUNTY

422058072085501. Hardwick well HHW 1.

LOCATION.--Lat 42°20'58", long 72°08'55", Hydrologic Unit 01080204, 30 ft southeast of State Highway 32 and 0.6 mi southwest of Hardwick Road in Hardwick.
 Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 33.2 ft, screened 31.2 to 33.2 ft.
 INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 580 ft above 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, 9.21 ft below land-surface datum, Apr. 21, 1983; lowest measured, 17.77 ft below land-surface datum, Nov. 22, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	15.60	DEC 23	14.47	FEB 21	14.06	APR 22	14.00	JUN 20	13.40	AUG 21	15.69
NOV 21	14.10	JAN 22	15.17	MAR 21	11.98	MAY 21	15.21	JUL 22	14.99	SEP 22	16.27

422020072145901. Hardwick well HHW 31.

LOCATION.--Lat 42° 20' 20", lat 72° 14' 59", Hydrologic Unit 01080204, 5 ft north of Patrill Hollow Road and approximately 250 ft west of Muddy Brook in Hardwick.
 Owner: Town of Hardwick.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 71.0 ft, screened 67.0 ft to 71.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 490 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--November 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.79 ft below land-surface datum, Mar. 22, 1986; lowest measured, 12.00 ft below land-surface datum, Nov. 25, 1984.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, NOVEMBER 1984 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25, 1984	12.00	AUG 23, 1985	11.62	JAN 24, 1986	11.22	JUN 21, 1986	11.10
DEC 22	11.84	SEP 22	11.44	FEB 23	10.96	JUL 23	11.32
JAN 25, 1985	11.99	OCT 23	11.47	MAR 22	10.79	AUG 22	11.48
APR 23	11.53	NOV 22	11.18	APR 22	10.97	SEP 24	11.58
MAY 22	11.20	DEC 22	11.09	MAY 22	11.20		

WORCESTER COUNTY--Continued

421837071380901. Northborough well NUW 38.

LOCATION.--Lat 42°18'37", long 71°38'09", Hydrologic Unit 01070005, 0.7 mi south of U.S. Highway 20 and about 400 ft west of School Street in Northborough.

Owner: Eric MacLean.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 14 ft, cased with concrete to 14 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 285 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of concrete casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--August 1962 to September, 1986, discontinued. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17. Records for October 1986 to February 1987 will not be published but are available in files of the U. S. Geological Survey.

REMARKS.--Topographic setting of well altered about October 1985.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.99 ft above land-surface datum, Feb. 21, 1986, affected by construction in the area; lowest measured, 13.30 ft below land-surface datum, Sept. 28, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	5.30	DEC 23	5.46	FEB 21	1.99	APR 22	5.27	JUN 20	4.04	AUG 21	5.43
NOV 21	5.06	JAN 22	0.29	MAR 21	3.38	MAY 21	5.75	JUL 22	5.17	SEP 22	6.05

420610071421401. Northbridge well NXW 1.

LOCATION.--Lat 42°06'10", long 71°42'14", Hydrologic Unit 01090003, about 100 ft northeast of the intersection of State Highway 146 and Main Street in Northbridge.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2 in, depth 12 ft, screened 10 to 12 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 370 ft above 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.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.88 ft below land-surface datum, Mar. 27, 1978; lowest measured, 5.13 ft below land-surface datum, July 22, 1985.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	4.96	DEC 23	4.65	FEB 21	4.64	APR 22	4.68	JUN 20	4.29	AUG 21	4.79
NOV 21	4.60	JAN 22	4.82	MAR 21	4.39	MAY 21	4.90	JUL 22	4.66	SEP 22	5.00

423441072170701. Orange well ORW 63.

LOCATION.--Lat 42°34'41", long 72°17'07", Hydrologic Unit 01080202, at Orange Airport, 100 ft along and 50 ft northwest of main entrance road to airport, off East River Street in Orange.

Owner: U. S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 20.6 ft, screened 18.6 to 20.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 530 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.4 ft above land-surface datum.

PERIOD OF RECORD.--January 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.73 ft below land-surface datum, Aug. 22, 1986; lowest measured, 8.14 ft below land-surface datum, Aug 23, 1985.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, JANUARY 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1985	7.85	JUN 21, 1985	8.13	DEC 22, 1985	7.47	MAY 23, 1986	7.83
FEB 22	8.12	AUG 23	8.14	JAN 24, 1986	7.94	JUN 21	7.19
MAR 22	7.27	SEP 22	8.05	FEB 23	7.92	JUL 21	7.15
APR 23	7.65	OCT 21	7.93	MAR 22	7.41	AUG 22	6.73
MAY 22	7.93	NOV 22	7.42	APR 22	7.44	SEP 24	8.08

GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY--Continued

422103072241102. Pelham well PDW 23.

LOCATION.--Lat 42°21'03", long 72°24'11", Hydrologic Unit 01080204, at Knight's Corner, 50 ft east of U.S. Highway 202 and 75 ft south of small pond in Pelham.

Owner: Massachusetts Department of Public Works.

AQUIFER.--Glacial sand and gravel of the Pleistocene age and bedrock.

WELL CHARACTERISTICS.--Air-percussion observation water-table well, diameter 6.0 in, depth 740 ft, cased to 740 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer. April 1986 to current year, continuous graphic recorder, data unpublished and available in U.S. Geological Survey files.

DATUM.--Elevation of land-surface datum is 939 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of hole in base of wooden recorder shelter, 1.6 ft above land-surface datum.

PERIOD OF RECORD.--August 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.43 ft below land-surface datum, Mar. 22, 1986; lowest measured, 13.66 ft below land-surface datum, Oct. 22, 1984.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, AUGUST 1984 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 22, 1984	13.17	APR 23, 1985	12.08	DEC 22, 1985	10.90	JUN 21, 1986	12.23
SEP 22	13.61	MAY 22	12.58	JAN 24, 1986	11.28	JUL 21	12.47
OCT 22	13.66	AUG 23	13.03	FEB 23	10.70	AUG 22	12.68
NOV 24	12.28	SEP 22	12.67	MAR 22	10.43	SEP 24	13.16
DEC 22	11.52	OCT 21	11.97	APR 22	11.47		
JAN 23, 1985	11.67	NOV 22	10.88	MAY 23	12.65		

422103072241103. Pelham well PDW 24.

LOCATION.--Lat 42°21'03", long 72°24'11", Hydrologic Unit 01080204, at Knight's Corner, 50 ft east of U.S. Highway 202 and 75 ft south of small pond in Pelham.

Owner: Massachusetts Department of Public Works.

AQUIFER.--Glacial sand and till of the Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, PVC, depth 25.0 ft, screened 21.0 to 25.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 940 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--August 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.74 ft below land-surface datum, Mar. 22, 1986; lowest water level measured, 6.62 ft below land-surface datum, Oct. 22, 1984.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, AUGUST 1984 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 22, 1984	5.00	APR 23, 1985	4.15	DEC 22, 1985	4.03	JUN 21, 1986	3.95
SEP 22	6.52	MAY 22	3.35	JAN 24, 1986	3.76	JUL 21	4.81
OCT 22	6.62	AUG 23	4.95	FEB 23	3.08	AUG 22	5.01
NOV 24	5.32	SEP 22	5.04	MAR 22	2.74	SEP 24	5.91
DEC 22	4.38	OCT 21	4.50	APR 22	3.81		
JAN 23, 1985	5.05	NOV 22	3.44	MAY 23	4.47		

WORCESTER COUNTY--Continued

422906072124301. Petersham well PHW 16.

LOCATION.--Lat 42°29'06", long 72°12'43", Hydrologic Unit 01080204, 0.6 mi east of West Street Cemetery, 500 ft south of West Street, and 100 ft west of access road in Petersham.

Owner: Mr. Berry.

AQUIFER.--Glacial sand and gravel of the Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in PVC, depth 39.0 ft, screened 29.0 to 39.0 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 790 ft above 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, 16.53 ft below land-surface datum, Oct. 24, 1984

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, JANUARY 1984 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 31, 1984	14.10	AUG 21, 1984	14.67	APR 30, 1985	13.39	OCT 28, 1985	13.90
FEB 27	7.93	28	14.84	MAY 07	13.62	NOV 22	12.99
MAR 28	10.25	SEP 04	14.77	28	13.15	DEC 22	13.31
APR 03	11.06	12	15.09	JUN 04	13.04	JAN 24, 1986	14.18
24	9.59	26	15.45	JUL 02	13.84	FEB 23	13.35
MAY 08	12.39	OCT 09	16.01	10	14.02	MAR 22	9.87
16	12.57	24	16.53	16	14.20	APR 22	13.33
22	12.81	NOV 13	16.23	23	14.37	MAY 23	14.29
JUN 05	4.71	20	15.93	30	14.40	JUN 21	13.52
12	9.04	DEC 20	14.86	AUG 02	13.63	JUL 23	14.52
19	11.62	JAN 29, 1985	13.56	08	14.76	AUG 22	14.92
JUL 03	13.77	FEB 05	13.74	20	14.90	SEP 24	15.39
09	14.10	14	13.92	27	14.77		
31	13.89	20	14.01	31	14.83		
AUG 14	14.47	APR 10	12.99	SEP 04	14.79		

422805071480801. Sterling well SYW 1.

LOCATION.--Lat 42°28'05", long 71°48'08", Hydrologic Unit 01070004, 45 ft northeast of Justice Hill Road and 0.8 mi west of South Nelson Road in Sterling.

Owner: N. Lanciani.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 15 ft, cased with stone to 15 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 710 ft above 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, 1.66 ft below land-surface datum, Mar. 26, 1969; dry, Nov. 28, 1964

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	4.11	DEC 23	3.23	FEB 21	3.11	APR 22	3.27	JUN 20	3.10	AUG 21	5.87
NOV 21	3.11	JAN 22	3.10	MAR 21	3.09	MAY 21	4.13	JUL 22	4.95	SEP 22	9.17

GROUND-WATER LEVELS IN MASSACHUSETTS

WORCESTER COUNTY--Continued

423717072043101. Templeton well TMW 3.

LOCATION.--Lat 42°37'17", long 72°04'31", Hydrologic Unit 01080202, 60 ft east of U.S. Highway 202 and 0.2 mi south of Winchendon town line in Templeton.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 14 ft, screened 12 to 14 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 900 ft above 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, 2.45 ft below land-surface datum, Mar. 21, 1986; lowest measured, 5.10 ft below land-surface datum, Sept. 29, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	3.72	DEC 23	3.66	FEB 21	3.67	APR 22	3.62	JUN 20	3.39	AUG 21	3.07
NOV 21	3.25	JAN 22	3.54	MAR 21	2.45	MAY 21	3.93	JUL 22	3.90	SEP 22	3.88

420314071514001. Webster well WLW 1.

LOCATION.--Lat 42°03'14", long. 71°51'40", Hydrologic Unit 01100001, 100 ft east of State Highway 52 and 100 ft south of Memorial Beach Drive in Webster.

Owner: Town of Webster.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in, depth 27.0 ft, cased to 27.0 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 500 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--September 1958 to November 1979, October 1981 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.28 ft below land-surface datum, Mar. 25, 1968; lowest measured, 17.90 ft below land-surface datum, Dec. 20, 1965; dry, Oct. 27, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	14.60	DEC 23	14.10	FEB 21	14.46	APR 22	14.62	JUN 20	13.14	AUG 21	15.06
NOV 21	13.82	JAN 22	15.04	MAR 21	14.32	MAY 21	15.30	JUL 22	14.52	SEP 22	15.65

421410072081301. West Brookfield well WUW 2.

LOCATION.--Lat 42°14'10", long 72°08'13", Hydrologic Unit 01080204, about 50 ft north of State Highway 9 and about 500 ft south of State Highway 67 in West Brookfield.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 43.0 ft, screened 40 to 43 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 630 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.0 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	19.15	DEC 23	18.85	MAR 21	18.42	MAY 21	19.03	JUL 22	18.23	SEP 22	18.48
NOV 21	19.05	JAN 22	18.91	APR 22	18.72	JUN 20	18.14	AUG 21	18.69		

WORCESTER COUNTY--Continued

421522072113401. West Brookfield well WUW 10.

LOCATION.--Lat 42°15'22", long 72°11'34", Hydrologic Unit 01080204, 15 ft east of Coy Hill Road and 1,850 ft south of State Highway 9 in West Brookfield.

Owner: The Commonwealth of Massachusetts Department of Public Works.

AQUIFER.--Brimfield schist.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2.5 in, depth 64.5 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 833.23 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.85 ft above land-surface datum.

PERIOD OF RECORD.--October 1970 to current year. Prior to October 1974, published in Massachusetts Hydrologic-Data Report No. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.57 ft below land-surface datum, Feb. 2, 1976; lowest measured, 12.36 ft below land-surface datum, Nov. 20, 1985.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	6.33	DEC 23	4.61	FEB 21	4.42	APR 22	4.60	JUN 20	4.06	AUG 21	9.47
NOV 21	4.35	JAN 22	4.91	MAR 21	2.17	MAY 21	6.51	JUL 22	7.48	SEP 22	10.94

423430072015201. Winchendon well XNW 13.

LOCATION.--Lat 42°42'04", long 72°01'52", Hydrologic Unit 01080202, about 50 ft east of Forristall Road, 0.2 mi north of Elmwood Road, and 1.6 mi northeast of Winchendon.

Owner: W. B. Hart.

AQUIFER.--Glacial till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 12 ft, cased with stone to 12 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 1,209.36 ft above 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, 13.36 ft below land-surface datum, Dec. 24, 1964.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	10.46	DEC 23	5.56	FEB 21	5.30	APR 22	4.60	JUN 26	9.68	AUG 21	6.55
NOV 21	5.52	JAN 22	5.19	MAR 21	2.98	MAY 21	5.96	JUL 22	7.47	SEP 22	9.03

421538071451301. Worcester well XSW 274.

LOCATION.--Lat 42°15'38", long 71°45'13", Hydrologic Unit 01090003, about 300 ft north of Hamilton Street and about 300 ft east of North Lake Avenue in Worcester.

Owner: U.S. Geological Survey.

AQUIFER.--Glacial sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 2.0 in, depth 54.6 ft, screened 52.6 to 54.6 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is 400 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft above land-surface datum.

REMARKS.--Water levels affected by Lake Quinsigamond.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.23 ft below land-surface datum, Mar. 27, 1972; lowest measured, 24.70 ft below land-surface datum, Oct. 26, 1983.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	23.96	DEC 23	23.85	FEB 21	23.81	APR 22	23.94	JUN 20	23.71	AUG 21	24.15
NOV 21	23.56	JAN 22	23.75	MAR 21	23.23	MAY 21	24.11	JUL 22	24.13	SEP 22	24.45

GROUND-WATER LEVELS IN RHODE ISLAND

KENT COUNTY

414022071332801. Coventry well COW 411.

LOCATION.--Lat 41°40'22", long 71°33'28", Hydrologic Unit 01090004, town of Coventry, about 75 ft west of house on Powhattan Avenue, 1.3 mi southeast of Washington.

Owner: Robert Card.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 26 ft, cased with concrete to 26 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 260 ft. Measuring point: Hole in top of concrete cover, 1.24 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.43 ft below land-surface datum, Apr. 23, 1983; lowest measured, 23.73 ft below land-surface datum, Jan. 29, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	22.46	DEC 21	21.25	FEB 25	20.89	APR 25	21.86	JUN 21	22.22	AUG 26	22.61
NOV 23	21.28	JAN 25	21.96	MAR 22	21.11	MAY 24	22.23	JUL 28	22.46	SEP 27	22.96

413907071465001. West Greenwich well WGW 181.

LOCATION.--Lat 41°39'07", long 71°46'50", Hydrologic Unit 01090005, town of West Greenwich, about 50 ft from southeast corner of a house 1.3 mi north of intersection of Hazard and Muddy Brook Roads, and 1.8 mi northwest of West Greenwich Center.

Owner: E. Lambert.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 18.5 ft, lined with stone to 18.5 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 380 ft. Measuring point: Edge of marble slab, 0.30 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	16.67	DEC 21	15.60	FEB 24	14.98	APR 25	15.90	JUN 21	16.09	AUG 26	16.04
NOV 23	15.12	JAN 25	15.88	MAR 22	14.31	MAY 24	16.32	JUL 28	16.36	SEP 27	16.46

PROVIDENCE COUNTY

415710071402201. Burrillville well BUW 187.

LOCATION.--Lat 41°57'10", long 71°40'22", Hydrologic Unit 01090003, town of Burrillville, 25 ft east of road and 75 ft southwest of a house 0.6 mi north of intersection of Harrisville and Lapham Farm Roads, and 0.9 mi south of Harrisville.

Owner: Brothers of the Sacred Heart.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 19.8 ft, lined with stone to 19.8 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 462 ft. Measuring point: Hole in marble slab, 0.36 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	16.83	DEC 21	14.96	FEB 24	14.52	APR 25	14.15	JUN 21	14.30	AUG 26	15.70
NOV 23	15.66	JAN 25	15.46	MAR 22	13.89	MAY 24	14.75	JUL 28	15.58	SEP 27	15.10

PROVIDENCE COUNTY--Continued

415626071254601. Cumberland well CUW 265.

LOCATION.--Lat 41°56'26", long 71°25'46", Hydrologic Unit 01090003, town of Cumberland, at 27 Scott Street, 900 ft northeast of intersection of Scott Street and Mendon Road in Ashton.

Owner: Francis J. Varone.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 20 ft, lined with stone to 20 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 130 ft. Measuring point: Hole in wooden cover, 0.06 ft above land-surface datum.

PERIOD OF RECORD.--August 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.20 ft below land-surface datum, Jan. 27, 1979; lowest measured, 17.20 ft below land-surface datum, Sept. 29, 1949.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	15.04	DEC 21	11.65	FEB 24	11.46	APR 25	12.73	JUN 21	11.60	AUG 26	12.03
NOV 23	11.13	JAN 25	12.18	MAR 22	11.06	MAY 24	12.88	JUL 28	13.77	SEP 27	14.09

415437071242201. Lincoln well LIW 84.

LOCATION.--Lat 41°54'37", long 71°24'22", Hydrologic Unit 01090003, town of Lincoln, at north side of Maplehurst Farms building, and 800 ft west of Blackstone River bridge in Lonsdale.

Owner: Maplehurst Farm, Inc.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 107 ft, cased to 107 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 60 ft. Measuring point: Inside lower lip of 8-in pipe, 3.32 ft above land-surface datum.

REMARKS.--Water level affected by Blackstone River floods.

PERIOD OF RECORD.--June 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.97 ft above land-surface datum, Jan. 28, 1976; lowest measured, 7.30 ft below land-surface datum, Aug. 24, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	5.84	DEC 21	4.84	FEB 24	3.93	APR 25	4.93	JUN 21	4.10	AUG 26	4.95
NOV 23	4.18	JAN 25	5.10	MAR 22	3.36	MAY 24	4.37	JUL 28	5.03	SEP 27	5.63

415948071325001. North Smithfield well NSW 21.

LOCATION.--Lat 41°59'48", long 71°32'50", Hydrologic Unit 01090003, 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: Thomas E. Esty.

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.

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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	10.13	DEC 21	7.68	FEB 24	6.66	APR 25	7.98	JUN 21	7.36	AUG 26	7.56
NOV 23	7.25	JAN 25	8.34	MAR 22	6.31	MAY 24	8.51	JUL 28	9.04	SEP 27	9.17

GROUND-WATER LEVELS IN RHODE ISLAND

PROVIDENCE COUNTY--Continued

415318071220401. Pawtucket well PAW 136.

LOCATION.--Lat 41°53'18", long 71°22'04", Hydrologic Unit 01090004, city of Pawtucket, at 314 Woodbine Street, and 1,500 ft northeast of intersection of Cottage Street and Central Avenue.

Owner: Greenhalgh Mills, Inc.

AQUIFER.--Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in, depth 43 ft, cased to about 40 ft, screened about 40 to 43 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 86 ft. Measuring point: Top of casing, 3.15 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.98 ft below land-surface datum, Apr. 23, 1983; lowest measured, 7.28 ft below land-surface datum, Jan. 29, 1966.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	6.24	DEC 21	5.67	FEB 24	4.91	APR 25	5.23	JUN 21	5.18	AUG 26	4.31
NOV 23	5.56	JAN 25	5.94	MAR 22	4.90	MAY 24	5.44	JUL 29	5.14	SEP 27	5.01

414746071255601. Providence well PRW 48.

LOCATION.--Lat 41°47'46", long 71°25'56", Hydrologic Unit 01090004, city of Providence, at 333 Adelaide Avenue, and 800 ft 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	4.95	DEC 21	4.43	FEB 25	4.32	APR 25	4.84	JUN 21	4.67	AUG 26	4.56
NOV 23	4.07	JAN 25	4.73	MAR 24	4.30	MAY 24	4.59	JUL 29	4.54	SEP 29	4.93

414939071260801. Providence well PRW 1051.

LOCATION.--Lat 41°49'39", long 71°26'08", Hydrologic Unit 01090004, city of Providence, at 10 Eagle Street, and 200 ft south of Valley and 300 ft east of Eagle Streets.

Owner: Licht Industries.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 10 in, depth 82 ft, cased to 82 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 10 ft. Measuring point: Floor of recorder shelter, 1.65 ft above land surface datum.

REMARKS.--Water level affected by pumping from one or more nearby wells. Since October 1971, reduced pumping has resulted in higher water levels.

PERIOD OF RECORD.--January 1948 to current year. January 1948 to March 1949, weekly water level measurements.

April 1949 to February 1976, continuous graphic recorder (published water levels were monthly lows). Since

April 1976, water levels measured near end of month.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, observed flowing at times in 1978-80; lowest measured, 16.10 ft below land-surface datum, Jan. 16, 1948.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	1.87	DEC 21	1.44	FEB 25	1.25	APR 25	1.53	JUN 21	1.49	AUG 27	1.42
NOV 23	1.40	JAN 25	1.65	MAR 22	1.34	MAY 24	1.56	JUL 29	1.48	SEP 27	1.72

WASHINGTON COUNTY

412214071394001. Charlestown well CHW 18.

LOCATION.--Lat 41°22'14", long 71°39'40", Hydrologic Unit 01090005, town of Charlestown, 1,900 ft southeast of U.S. Highway 1, at former U.S. Navy Auxiliary Air Station.

Owner: U.S. General Services Administration.

AQUIFER.--Sand and clay of Pleistocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 8 in, depth 32 ft, cased to 32 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 26 ft. Measuring point: Top of casing, at land-surface datum.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.09 ft below land-surface datum, Apr. 23, 1983; lowest measured, 21.63 ft below land-surface datum, Dec. 29, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	17.97	DEC 21	16.34	FEB 24	16.02	APR 25	17.03	JUN 21	18.50	AUG 26	16.94
NOV 23	16.25	JAN 25	17.63	MAR 22	15.63	MAY 24	18.05	JUL 28	18.65	SEP 27	18.46

413423071431901. Exeter well EXW 6.

LOCATION.--Lat 41°34'23", long 71°43'19", Hydrologic Unit 01090005, town of Exeter, in Arcadia State Forest, 150 ft 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 on east side of concrete cover, at land-surface datum.

REMARKS.--Water level affected by stage of nearby Wood River.

PERIOD OF RECORD.--December 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.34 ft 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	6.37	DEC 21	5.42	MAR 22	4.52	JUN 21	6.11	SEP 27	6.54
26	6.43	JAN 25	5.60	APR 25	5.37	JUL 28	6.30		
NOV 23	5.20	FEB 24	4.56	MAY 24	5.78	AUG 26	6.15		

413307071323601. Exeter well EXW 16.

LOCATION.--Lat 41°33'07", long 71°32'36", Hydrologic Unit 01090005, town of Exeter, about 25 ft southwest of fire station at Exeter State (Dr. Joseph H. Ladd) School.

Owner: State Dept. of Public Welfare.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 2.5 in, depth 27 ft, cased to 27 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 154.47 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.78 ft above land-surface datum.

REMARKS.--Nearby well either being pumped or pumped recently.

PERIOD OF RECORD.--July 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.98 ft below land-surface datum, May 21, 1983; lowest measured, 15.40 ft below land-surface datum, Oct. 30, 1957.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	11.01	DEC 21	9.56	FEB 24	8.85	APR 25	9.15	JUN 21	11.04	AUG 26	10.43
NOV 23	9.03	JAN 25	10.00	MAR 22	8.87	MAY 24	10.56	JUL 28	11.43	SEP 27	12.08

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

413358071433801. Exeter well EXW 475.

LOCATION.--Lat 41°33'58", long 71°43'38", Hydrologic Unit 01090005, town of Exeter, 70 ft 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.

DATUM.--Land-surface datum is 142.92 ft above National Geodetic Vertical Datum of 1929. Measuring point: floor of recorder shelter, 3.48 ft above land-surface datum.

PERIOD OF RECORD.--March 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.58 ft below land-surface datum, Apr. 28, 29, 1983; lowest, 16.74 ft below land-surface datum, Oct. 19, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
HIGH FOR DAY

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	15.37	DEC 05	14.07	FEB 10	13.56	APR 10	13.24	JUN 15	14.71	AUG 20	15.12
10	15.38	10	13.99	15	13.55	15	13.38	20	14.81	25	15.12
12	m15.42	15	13.93	20	13.56	20	13.49	21	m14.85	26	m15.16
15	15.43	20	13.94	24	m13.48	25	13.64	25	14.93	31	15.23
20	15.48	21	m13.95	25	13.46	30	13.72	30	15.04	SEP 05	15.30
26	m15.54	25	14.03	28	13.45	MAY 05	13.82	JUL 05	15.09	10	15.39
31	15.60	31	14.13	MAR 05	13.49	10	13.93	10	15.18	15	15.47
NOV 05	15.47	JAN 05	14.13	10	13.60	15	14.06	15	15.18	20	15.53
10	15.24	10	14.19	15	13.43	20	14.17	20	15.25	25	15.58
15	15.09	15	14.30	20	13.20	24	m14.27	28	m15.35	27	m15.61
20	14.68	20	14.30	22	m13.15	25	14.28	31	15.37	30	15.64
23	m14.54	25	14.36	25	13.11	31	14.42	AUG 05	15.41		
25	14.44	31	13.78	31	13.09	JUN 05	14.57	10	15.18		
30	14.24	FEB 05	13.61	APR 05	13.20	10	14.67	15	15.13		

WTR YR 1986 HIGH 13.08 MAR 27 LOW 15.65 SEP 30
m Measured

413148071281601. North Kingstown well NKW 255.

LOCATION.--Lat 41°31'48", long 71°28'16", 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: Carlton Cook.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 14 ft, cased with concrete to 14 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 50 ft. Measuring point: Top edge of casing on west rim of well, at land-surface datum.

PERIOD OF RECORD.--August 1954 to December 1963, January 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.81 ft 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	9.21	DEC 21	8.12	FEB 24	7.03	APR 25	7.20	JUN 21	8.55	AUG 26	8.88
NOV 23	7.53	JAN 25	8.40	MAR 22	7.11	MAY 24	8.49	JUL 28	8.98	SEP 27	9.59

WASHINGTON COUNTY--Continued

413308071280501. North Kingstown well NKW 450.

LOCATION.--Lat 41°33'08", long 71°28'05", Hydrologic Unit 01090004, town of North Kingstown, at 890 Tower Hill Road in Belleville, and 0.35 mi north of intersection of alternate U.S. Highway 1 and West Allenton Road.

Owner: Richard S. Bannister.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 17 ft, cased with concrete to 17 ft, open end.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 60 ft. Measuring point: Hole in top of wooden base, 2.80 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.32 ft below land-surface datum, Apr. 23, 1983; lowest measured, well dry several times in water years 1981-82, 1984.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	14.37	DEC 21	12.95	FEB 24	11.79	APR 25	12.61	JUN 21	13.62	AUG 26	14.29
NOV 23	13.22	JAN 25	13.30	MAR 22	11.78	MAY 24	13.14	JUL 28	14.26	SEP 27	14.63

412717071415301. Richmond well RIW 231.

LOCATION.--Lat 41°27'17", long 71°41'53", Hydrologic Unit 01090005, town of Richmond, about 50 ft west of Narragansett Trail, and 1.2 mi north of Wood River Junction.

Owner: N. D. MacLeod.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 29 ft, lined with stone to 29 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 84 ft. Measuring point: Hole in top of concrete cover, 0.06 ft above land-surface datum.

PERIOD OF RECORD.--May 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.38 ft below land-surface datum, May 21, 1983. Dry several times in water years 1965-67, 1977, 1981-82.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	25.88	DEC 21	24.88	FEB 24	24.23	APR 25	24.04	JUN 21	25.29	AUG 26	26.24
NOV 23	25.67	JAN 25	25.03	MAR 22	24.01	MAY 24	24.62	JUL 28	26.06	SEP 27	26.61

412932071374302. Richmond well RIW 417.

LOCATION.--Lat 41°29'32", long 71°37'43", 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.

DATUM.--Land-surface datum is 115.56 ft, above National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 0.65 ft above land-surface datum.

REMARKS.--Water level affected by stage of nearby Beaver River.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.08 ft below land-surface datum, Apr. 25, 1983; lowest, 8.02 ft below land-surface datum, Oct. 3, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
HIGH FOR DAY

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	6.40	DEC 05	5.94	FEB 05	6.12	APR 16	6.52	JUN 25	7.18	AUG 26	m7.07
10	6.54	10	6.07	10	6.20	20	6.60	30	7.21	31	7.11
15	6.63	15	6.13	15	6.31	25	m6.68	JUL 05	7.07	SEP 05	7.17
20	6.69	20	6.27	20	6.18	30	6.73	10	7.20	10	7.24
26	m6.80	21	m6.35	24	m6.05	MAY 05	6.73	15	6.95	15	7.30
31	6.86	25	6.45	25	6.05	24	m6.99	20	7.08	20	7.31
NOV 05	6.20	31	6.59	28	6.14	25	6.99	28	m7.09	25	7.35
10	6.26	JAN 05	6.46	MAR 05	6.20	31	7.08	31	7.05	27	m7.40
15	6.19	10	6.61	15	5.91	JUN 05	7.16	AUG 05	7.05	30	7.41
20	5.80	15	6.71	20	5.99	10	7.09	10	6.80		
23	m5.79	20	6.56	22	m6.11	15	7.00	15	7.00		
25	5.84	25	m6.71	25	6.16	20	7.13	20	6.98		
30	5.81	31	6.17	31	6.21	21	m7.16	25	7.02		

WTR YR 1986 HIGH 5.79 NOV 18, 23 LOW 7.41 SEP 30

m Measured

GROUND-WATER LEVELS IN RHODE ISLAND

WASHINGTON COUNTY--Continued

412844071422802. Richmond well RIW 600.

LOCATION.--Lat 41°28'44", long 71°42'28", Hydrologic Unit 01090005, town of Richmond, about 50 ft 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.

DATUM.--Land-surface datum is 100.17 ft, above National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 2.68 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.42 ft below land-surface datum, June 11, 1982; lowest, 35.94 ft below land-surface datum, Feb. 2, 1981.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
HIGH FOR DAY

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	33.46	DEC 25	33.46	MAR 22	m33.15	MAY 20	33.79	JUL 10	34.13	AUG 31	34.18
10	33.49	31	33.54	25	33.16	24	m33.81	15	34.12	SEP 05	34.22
15	33.55	JAN 05	33.54	31	33.16	25	33.81	20	34.12	10	34.27
20	33.60	10	33.58	APR 05	33.25	31	33.85	24	34.17	15	34.32
26	m33.68	15	33.64	10	33.26	JUN 05	33.91	28	m34.16	20	34.37
31	33.76	25	m33.70	15	33.34	10	33.90	31	34.08	25	34.41
NOV 05	33.69	FEB 24	m33.26	20	33.41	15	33.92	AUG 05	34.06	27	m34.44
10	33.61	28	33.23	25	m33.49	20	33.96	10	34.06	30	34.46
15	33.61	MAR 05	33.28	30	33.52	21	m33.99	15	34.07		
23	m33.38	10	33.35	MAY 05	33.58	25	34.03	20	34.10		
25	33.34	15	33.27	10	33.65	30	34.09	25	34.12		
DEC 21	m33.42	20	33.16	15	33.73	JUL 05	34.09	26	m34.14		

WTR YR 1986 HIGH 33.14 MAR 22 LOW 34.46 SEP 30

m Measured

412918071321001. South Kingstown well SNW 6.

LOCATION.--Lat 41°29'18", long 71°32'10", Hydrologic Unit 01090005, town of South Kingstown, at northwest corner of Mead Field at University of Rhode Island, and 0.9 mi 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.

DATUM.--Land-surface datum is 111.89 ft above National Geodetic Vertical Datum of 1929. Measuring point: Floor of recorder shelter, 0.57 ft above land-surface datum (since July 12, 1973).

RECORD OF PERIOD.--November to December 1947, February 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.91 ft below land-surface datum, Apr. 25, 26, 1983; lowest, 15.06 ft below land-surface datum, Dec. 29, 1965.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
HIGH FOR DAY

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05	11.84	DEC 05	11.10	FEB 25	10.55	APR 25	m11.47	JUN 21	m12.46	AUG 25	12.85
10	11.88	10	11.12	28	10.58	30	11.59	25	12.50	26	m12.88
15	12.01	15	11.17	MAR 05	10.75	MAY 05	11.74	30	12.59	31	12.95
20	12.44	20	11.27	10	10.89	10	11.89	JUL 05	12.61	SEP 05	13.03
26	m12.33	21	m11.27	15	10.76	15	12.04	10	12.65	10	13.12
31	12.38	25	11.34	20	10.62	20	12.19	15	12.61	15	13.23
NOV 05	12.38	31	11.51	22	m10.62	24	m12.25	20	12.68	20	13.33
10	12.15	JAN 05	11.48	25	10.64	25	12.25	28	m12.88	25	13.42
15	12.01	10	11.53	31	10.70	31	12.37	31	12.82	27	m13.43
20	11.53	15	11.67	APR 05	10.85	JUN 05	12.44	AUG 05	12.82	30	13.47
23	m11.43	20	11.76	10	10.95	10	12.52	10	12.82		
25	11.37	25	m11.77	15	11.11	15	12.43	15	12.83		
30	11.17	FEB 24	m10.56	20	11.27	20	12.44	20	12.89		

WTR YR 1986 HIGH 10.55 FEB 25 LOW 13.47 SEP 30

m Measured

WASHINGTON COUNTY--Continued

412923071361601. South Kingstown well SNW 515.

LOCATION.--Lat 41°29'23", long 71°36'16", Hydrologic Unit 01090005, town of South Kingstown, at Laurel Lane Golf Course, 2.7 mi west of West Kingston.

Owner: R. R. Holley.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in, depth 30 ft, lined with stone to 30 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Land-surface datum is 127.84 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of concrete casing on south rim of well, 2.11 ft above land-surface datum. Dec. 27, 1975, to Apr. 25, 1981, measuring point 1.61 ft lower.

PERIOD OF RECORD.--May 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.73 ft below land-surface datum, Apr. 23, 1983, Dry several times in water years 1978, 1980-85.240-241

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	27.37	DEC 21	26.29	FEB 24	26.05	APR 25	27.05	JUN 21	28.00	AUG 26	28.05
NOV 23	26.25	JAN 25	27.08	MAR 22	26.05	MAY 24	27.69	JUL 28	28.21	SEP 27	28.77

412154071462901. Westerly well WEW 522.

LOCATION.--Lat 41°21'54", long 71°46'29", Hydrologic Unit 01090005, town of Westerly, 350 ft northwest of intersection of Pound and Old Shore Roads and 1.0 mi north of Dunn Corner.

Owner: S. Panciera.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 30 in, depth 16 ft, lined with stone to 16 ft, shored.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 45 ft. Measuring point: Southwest corner of stone casing, 0.91 ft above land-surface datum.

PERIOD OF RECORD.--January 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.23 ft below land-surface datum, Apr. 23, 1983; lowest measured, 14.61 ft below land-surface datum, Sept. 24, 1980.

WATER LEVELS, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	12.20	DEC 21	11.45	FEB 24	11.02	APR 25	12.19	JUN 21	12.82	AUG 26	12.18
NOV 23	11.10	JAN 25	12.39	MAR 22	11.20	MAY 24	12.54	JUL 28	12.72	SEP 27	13.19

Aberjona River at Winchester, Mass.-----	46, 196	Charlemont, Mass., Deerfield River at-----	133, 201
Access to WATSTORE data-----	17	Charles River, at Dover, Mass.-----	47-49
Accuracy of the records, explanation of-----	12	at Waltham, Mass.-----	52, 197
Acre foot, definition of-----	17	at Wellesley, Mass.-----	51, 197
Acton, Mass., Nashoba Brook near-----	37, 195	Charles River basin,	
Adams, Mass., Hoosic River at-----	177, 204	gaging-station records in-----	47-52
Adenosine triphosphate, definition of-----	17	supplemental water-quality data for	
Algae, definition of-----	17	gaging stations in-----	196, 197
Algal growth potential, definition of-----	17	Chemical oxygen demand, definition of-----	18
Amherst, Mass., Fort River near-----	139, 201	Chicopee River at Indian Orchard, Mass.-----	157, 203
Annaquatucket River Basin, discharge		Chipuxet River at West Kingston, R.I.-----	98
measurements at miscellaneous sites in-----	192	Chlorophyll, definition of-----	19
Aquifer, definition of-----	17	Classification of records, explanation of-----	13
Arcadia, R.I., Wood River near-----	102	Cleveland Brook Reservoir, Mass., capacity of-----	174
Arrangement of records, explanation of-----	13	Clinton, Mass., Nashua River at-----	31
Artesian, definition of-----	18	Coastal Basins of Buzzards Bay, discharge	
Artificial substrate, definition of-----	23	measurements at miscellaneous sites in-----	184-186
Ash mass, definition of-----	18	Cobble Mountain Reservoir, Mass., contents of-----	172
Assabet River at Maynard, Mass.-----	36, 195	Cole River Basin, discharge measurements at	
Athol, Mass., East Branch Tully River near-----	129, 200	miscellaneous sites in-----	186
Auburn, Mass., Kettle Brook diversion weir at-----	180	Color unit, definition of-----	19
		Colrain, Mass., East Branch North River at-----	180
Bacteria, definition of-----	18	Green River near-----	137, 201
Ball Mountain Reservoir, Vt., contents of-----	173	Coltsville, Mass.,	
Barnstable County, ground-water levels in-----	205-208	East Branch Housatonic River at-----	174, 204
Barre, Mass., Ware River at intakes works, near		Comerford Reservoir, N.H., contents of-----	173
Ware River near-----	142, 202	Conant Brook Reservoir, Mass., contents of-----	173
Barre Falls Reservoir, Mass., contents of-----	173	Concord River below River Meadow Brook,-----	
Beaver Dam Brook Basin, discharge		at Lowell, Mass.-----	40, 195
measurements at miscellaneous sites in-----	185	Connecticut River, at Montague City, Mass.-----	138, 201
Beaver River near Usquepaug, R.I.-----	100, 199	at Thompsonville, Conn.-----	163-170
Bed load, definition of-----	22	below Holyoke Dam at Holyoke, Mass.-----	141
Bed load discharge, definition of-----	22	Connecticut River basin, discharge	
Bed material, definition of-----	18	measurements at miscellaneous sites in-----	192-194
Belchertown, Mass., Cadwell Creek near-----	153, 202	gaging-station records in-----	125-171
Berkshire County,		reservoirs in-----	172-173
ground-water levels in-----	209-210	supplemental water-quality data for	
Biochemical oxygen demand, definition of-----	18	gaging stations in-----	200-204
Biomass, definition of-----	18	Contents, definition of-----	19
Birch Hill Reservoir, Mass.,		Control, definition of-----	19
contents of-----	173	Control structure, definition of-----	19
Blackstone River, at Manville, R.I.-----	81-84	Conway, Mass., South River near-----	135, 201
at Millville, Mass.-----	68-73	Cooleyville, Mass., Dickey Brook near-----	148
at Woonsocket, R.I.-----	80	Dickey Brook tributary near-----	149
Blackstone River basin, crest-stage-----		Cooperation-----	4
partial-record station in-----	180	Cranston, R.I., Pawtuxet River at-----	88-92
discharge measurements at		Crystal Lake, N.H., capacity of-----	172
miscellaneous sites in-----	187-191	Cubic feet per second per square mile,	
gaging-station records in-----	66-84	definition of-----	19
supplemental water-quality data		Cubic foot per second, definition of-----	19
for gaging stations in-----	199		
Blue-green algae, definition of-----	21	Data collection and computation-----	9, 16
Borden Brook Reservoir, Mass., contents of-----	173	Data presentation-----	10, 15, 16
Bottom material, definition of-----	18	Dedham, Mass., Mother Brook at-----	50, 196
Branch River at Forestdale, R.I.-----	75-79	Deerfield River, at Charlemont, Mass.-----	133, 201
Bridgewater, Mass., Taunton River near-----	61, 198	near Rowe, Mass.-----	132, 201
Bristol County, ground-water levels in-----	211-213	near West Deerfield, Mass.-----	136, 201
Buffumville Lake, Mass., contents of-----	124	Definition of terms-----	17-25
Buzzards Bay, Coastal Basins of, discharge		Diatoms, definition of-----	21
measurements at miscellaneous sites in-----	184, 185	Dickey Brook near Cooleyville, Mass.-----	148
Byfield, Mass., Parker River at-----	43, 196	Dickey Brook tributary near Cooleyville, Mass.-----	150
		Dighton, Mass., Segreganset River near-----	65, 198
Cadwell Creek, near Belchertown, Mass.-----	153, 202	Discharge, definition of-----	19
near Pelham, Mass.-----	152, 202	Dissolved, definition of-----	19
Canton, Mass., East Branch Neponset River at-----	54, 197	Dissolved-solids concentration, definition of-----	19
Cells/volume, definition of-----	18	Dover, Mass., Charles River at-----	47-49
Centerdale, R.I., Woonasquatucket River at-----	86	Downstream order system, explanation of-----	8

- Drainage area, definition of----- 19
 Drainage basin, definition of----- 19
 Dry mass, definition of----- 18
 Dukes County, ground-water levels in----- 213
- East Brimfield Lake, Mass., contents of----- 124
 East Greenwich, R.I., Hunt River near----- 97
 East Pepperell, Mass., Nashua River at----- 33, 195
 Eel River Basin, discharge
 measurements at miscellaneous sites in----- 184, 185
 Erving, Mass., Millers River at----- 131, 200
 Essex County, ground-water levels in----- 214-217
 Explanation of the Records, explanation of----- 8
- Farmington River, West Branch,
 near New Boston, Mass.----- 171, 204
 Fecal coliform bacteria, definition of----- 18
 Fecal streptococcal bacteria, definition of----- 18
 First Connecticut Lake, N.H., contents of----- 173
 Fiskdale, Mass., Quinebaug River
 below East Brimfield Dam, at----- 117, 199
 Fitchburg, Mass., North Nashua River at----- 29, 195
 Flat River Reservoir, R.I., contents of----- 87
 Forestdale, R.I., Branch River at----- 75-79
 Fort River near Amherst, Mass.----- 139, 201
 Framingham Center, Mass., Sudbury River at----- 38
 Francis, Lake, N.H., contents of----- 173
 Franklin County, ground-water levels in----- 218-219
 French River, below Hodges Village Dam, at
 Hodges Village, Mass.----- 122, 199
- Gage height, definition of----- 19
 Gaging station number----- 8
 Gaging station, definition of----- 19
 Gibbs Brook Basin, discharge measurements at
 miscellaneous sites in----- 185
 Gibbs Crossing, Mass., Ware River at----- 146, 202
 Goose Pond, N.H., contents of----- 173
 Goss Heights, Mass.,
 Middle Branch Westfield River at----- 159, 203
 Grafton Pond, N.H., contents of----- 173
 Great Barrington, Mass., Housatonic River near----- 175
 Green algae, definition of----- 22
 Green River,
 (Connecticut River basin) near Colrain, Mass.-- 137, 201
 (Hudson River basin) at Williamstown, Mass.-- 179, 204
 Ground-water levels in Massachusetts----- 205
 in Rhode Island----- 238
 Ground-water level records, explanation of----- 16
- Hampden County, ground-water levels in----- 219, 220
 Hampshire County, ground-water levels in----- 221
 Hanover, Mass., Indian Head River at----- 57, 197
 Hardness, definition of----- 19
 Hardwick, Mass., East Branch Swift River near----- 147, 202
 Harriman Reservoir, Vt., contents of----- 173
 Harrisville, R.I., Nipmuc River near----- 75
 Herring River at North Harwich, Mass.----- 59, 198
 Herring River Basin, discharge measurements at
 miscellaneous sites in----- 185
 supplemental water-quality data
 for gaging station in----- 198
 Hodges Village, Mass., French River
 below Hodges Village Dam, at----- 122, 199
 Hodges Village Reservoir, Mass., contents of----- 124
 Holyoke, Mass., Connecticut River
 below Holyoke Dam at----- 141
- Hoosic River, at Adams, Mass.----- 177, 204
 near Williamstown, Mass.----- 178, 204
 North Branch, at North Adams, Mass.----- 177, 204
 Hope Valley, R.I., Wood River at----- 103-107
 Housatonic River, East Branch,
 at Coltsville, Mass.----- 174, 204
 near Great Barrington, Mass.----- 175
 Housatonic River basin,
 gaging-station records in----- 174-175
 supplemental water-quality data
 for gaging stations in----- 204
 Hubbardston, Mass., Natty Pond Brook near----- 144
 Natty Pond Brook Templeton Road (DS) near----- 143
 Hudson River basin, gaging-station records in----- 176-179
 supplemental water-quality data
 for gaging stations in----- 204
 Hunt River near East Greenwich, R.I.----- 97
 Huntington, Mass.,
 West Branch Westfield River at----- 160, 203
 Hydrologic conditions, summary of----- 4
 graphs of----- 5, 7
 Hydrologic Bench-Mark Network, definition of----- 20
 Hydrologic unit, definition of----- 20
- Identifying Estimated Daily Discharge----- 12
 Indian Brook Basin, discharge measurements at
 miscellaneous sites in----- 185
 Indian Head River at Hanover, Mass.----- 57, 197
 Indian Orchard, Mass., Chicopee River at----- 157, 203
 Instantaneous discharge, definition of----- 19
 Introduction----- 1
 Ipswich, Mass., Ipswich River near----- 45, 196
 Ipswich River, at South Middleton, Mass.----- 44, 196
 near Ipswich, Mass.----- 45, 196
 Ipswich River basin, gaging-station records in----- 44, 45
 supplemental water-quality data
 for gaging stations in----- 196
- Jones River at Kingston, Mass.----- 58, 198
 Jones River Basin, discharge measurements at
 miscellaneous sites in----- 184
 supplemental water-quality data
 for gaging station in----- 198
- Kent County, ground-water levels in----- 238
 Kettle Brook diversion weir at Auburn, Mass.----- 180
 Kingston, Mass., Jones River at----- 58, 198
 Knightville, Mass., Westfield River at----- 158, 203
 Knightville Reservoir, Mass., contents of----- 173
- Laboratory, measurements, explanation of----- 14
 Lakes and reservoirs:-----
 Ball Mountain Reservoir, Vt.----- 172, 173
 Barre Falls Reservoir, Mass.----- 172, 173
 Birch Hill Reservoir, Mass.----- 172, 173
 Borden Brook Reservoir, Mass.----- 172, 173
 Buffumville Lake, Mass.----- 124
 Cleveland Brook Reservoir, Mass., capacity of----- 174
 Cobble Mountain Reservoir, Mass.----- 172, 173
 Comerford Reservoir, N.H.----- 172, 173
 Conant Brook Reservoir, Mass.----- 172, 173
 Crystal Lake, N.H., capacity of----- 172, 173
 East Brimfield Lake, Mass.----- 124
 First Connecticut Lake, N.H.----- 172, 173
 Flat River Reservoir, R.I.----- 87
 Francis, Lake, N.H.----- 172, 173

Lakes and reservoirs: (Continued)

- Goose Pond, N.H. ----- 172, 173
 Grafton Pond, N.H. ----- 172, 173
 Harriman Reservoir, Vt. ----- 172, 173
 Hodges Village Reservoir, Mass. ----- 124
 Knightville Reservoir, Mass. ----- 172, 173
 Littleville Lake, Mass. ----- 172, 173
 Ludlow Reservoir, Mass. Lake, N.H. ----- 172, 173
 Mascoma Lake, N.H. ----- 172, 173
 Moore Reservoir, N.H. ----- 172, 173
 North Hartland Reservoir, Vt. ----- 172, 173
 North Springfield Reservoir, Vt. ----- 172, 173
 Otis Reservoir, Mass. ----- 172, 173
 Otter Brook Lake, N.H. ----- 172, 173
 Quabbin Reservoir, Mass. ----- 172, 173
 Scituate Reservoir, R.I. ----- 88
 Second Connecticut Lake, N.H. ----- 172, 173
 Somers Reservoir, Vt. ----- 172, 173
 Sunapee Lake, N.H. ----- 172, 173
 Surry Mountain Lake, N.H. ----- 172, 173
 Townshend Reservoir, Vt. ----- 172, 173
 Tully Reservoir, Mass. ----- 172, 173
 Union Village Reservoir, Vt. ----- 172, 173
 West Hill Reservoir, Mass. ----- 67
 Westville Lake, Mass. ----- 124
 Land-surface datum, definition of ----- 20
 Latitude-Longitude System, explanation of ----- 8
 Leominster, Mass., North Nashua River near ----- 30, 195
 Little River (Connecticut River basin) at outlet of
 Cobble Mountain Reservoir,
 near Westfield, Mass. ----- 161
 (Thames River basin), near Oxford, Mass. ----- 123, 199
 Littleville Lake, Mass., contents of ----- 173
 Lowell, Mass., Concord River below
 River Meadow Brook at ----- 40, 195
 Merrimack River above ----- 34
 Merrimack River below Concord River at ----- 41, 196
 Ludlow Reservoir, Mass., contents of ----- 173

 Manville, R.I., Blackstone River at ----- 81-84
 Mascoma River basin, lakes and ponds in,
 contents of ----- 173
 Maskerchugg River Basin, discharge
 measurements at miscellaneous sites in ----- 192
 Maynard, Mass., Assabet River at ----- 36, 195
 Mean concentration (sediment), definition of ----- 23
 Mean discharge, definition of ----- 19
 Measuring point, definition of ----- 20
 Merrimack River, above Lowell, Mass. ----- 34
 below Concord River, at Lowell, Mass. ----- 41, 196
 Merrimack River basin, discharge measurements
 at miscellaneous sites in ----- 181
 gaging-station records in ----- 29-42
 supplemental water-quality data
 for gaging stations in ----- 195, 196
 Metamorphic stage, definition of ----- 20
 Methylene blue active substances, definition of ----- 20
 Micrograms per gram, definition of ----- 20
 Micrograms per liter, definition of ----- 20
 Middlesex County, ground-water levels in ----- 221-225
 Mill River at Northampton, Mass. ----- 140, 202
 Millers River, at Erving, Mass. ----- 131, 200
 at South Royalston, Mass. ----- 128, 200
 near Winchendon, Mass. ----- 125, 200
 Milligrams of carbon, definition of ----- 18
 Milligrams of oxygen, definition of ----- 18
 Milligrams per liter, definition of ----- 16

 Millville, Mass., Blackstone River at ----- 68-83
 Montague City, Mass., Connecticut River at ----- 138, 201
 Moore Reservoir, N.H., contents of ----- 173
 Moshassuck River at Providence, R.I. ----- 86
 Mother Brook at Dedham, Mass. ----- 50, 196
 Mystic River basin, gaging station record in ----- 46
 supplemental water-quality data
 for gaging station in ----- 196

 Nantucket County, ground-water levels in ----- 226
 Nashoba Brook near Acton, Mass. ----- 37, 195
 Nashua River, at Clinton, Mass. ----- 31
 at East Pepperell, Mass. ----- 33, 195
 National Geodetic Vertical Datum of 1929
 (NGVD), definition of ----- 20
 National stream-quality accounting
 network station ----- 34, 47, 68,
 108, 163
 description of ----- 20
 explanation of ----- 6
 National Trends Network, definition of ----- 20
 Natty Pond Brook, near Hubbardston, Mass. ----- 144
 Templeton Road near Hubbardston, Mass. ----- 143
 Natural substrate, definition of ----- 23
 Neponset River, at Norwood, Mass. ----- 53, 197
 East Branch, at Canton, Mass. ----- 54, 197
 Neponset River Basin, discharge measurements
 at miscellaneous sites in ----- 181-184
 gaging-station records in ----- 53, 54
 supplemental water-quality data
 for gaging stations in ----- 197
 Networks, special, explanation of ----- 6
 New Boston, Mass., West Branch Farmington
 River near ----- 171, 204
 Nipmuc River near Harrisville, R.I. ----- 74
 Norfolk County, ground-water levels in ----- 226-228
 North Adams, Mass., North Branch Hoosic River
 at ----- 177, 204
 North Dighton, Mass., Threemile River at ----- 64, 198
 North Grafton, Mass., Quinsigamond River at ----- 66, 199
 North Hartland Reservoir, Vt., contents of ----- 173
 North Harwich, Mass., Herring River at ----- 59, 198
 North Nashua River, at Fitchburg, Mass. ----- 29, 195
 near Leominster, Mass. ----- 30, 195
 North River basin, gaging station record in ----- 57
 supplemental water-quality data
 for gaging station in ----- 197
 North River at Shattuckville, Mass. ----- 134, 201
 North Springfield Reservoir, Vt., contents of ----- 173
 Northampton, Mass., Mill River at ----- 140, 202
 Norton, Mass., Wading River near ----- 63, 198
 Norwood, Mass., Neponset River at ----- 53, 197
 Numbering system for wells, description of ----- 8

 Old Mill Creek Basin, discharge measurements
 at miscellaneous sites in ----- 192
 Old Swamp River near South Weymouth, Mass. ----- 56, 197
 On-site measurements and sample collection,
 explanation of ----- 13
 Order of listing stations ----- 8
 Organic mass, definition of ----- 18
 Organism count/volume, definition of ----- 21
 Other records available, explanation of ----- 13
 Otis Reservoir, Mass., contents of ----- 173
 Otter Brook Lake, N.H., contents of ----- 173
 Otter River at Otter River, Mass. ----- 127, 200
 Oxford, Mass., Little River near ----- 123, 199

- Palmer River Basin, discharge measurements
at miscellaneous sites in----- 186, 187
- Parameter code, definition of----- 21
- Parker River at Byfield, Mass.----- 43, 196
- Parker River basin, supplemental water-quality
data for gaging stations in----- 196
- Partial-record station, definition of----- 21
- Particle size, definition of----- 21
- Particle-size classification, definition of----- 21
- Pawcatuck River, at Westerly, R.I.----- 108-116
- at Wood River Junction, R.I.----- 101, 199
- Pawcatuck River basin, gaging-station
records in----- 98-108
- supplemental water-quality data for
gaging stations in----- 199
- Pawtuxet River, at Cranston, R.I.----- 88-92
- at Pawtuxet, R.I.----- 93-96
- South Branch, at Washington, R.I.----- 87
- Pawtuxet River basin, gaging-station records in----- 87-93
- Pelham, Mass., Cadwell Creek near----- 152, 202
- Percent composition, definition of----- 21
- Periphyton, definition of----- 21
- Pesticides, definition of----- 21
- Phytoplankton, definition of----- 21
- Picocurie, definition of----- 21
- Plankton, definition of----- 21
- Plymouth County, ground-water levels in----- 228-231
- Potowomut River basin, gaging-station record in----- 97
- Priest Brook near Winchendon, Mass.----- 126, 200
- Primary productivity, definition of----- 18
- Programs, special, explanation of----- 6
- Providence, R.I., Moshassuck River at----- 85
- Providence County, ground-water levels in----- 238-240
- Publications on techniques of
water-resources investigations----- 25
- Quabbin Reservoir, Mass., contents of----- 173
- Quaboag River at West Brimfield, Mass.----- 156, 203
- Quincy, Mass., Town Brook at----- 55, 197
- Quinebaug River, at Quinebaug, Conn.----- 119-121
- below East Brimfield Dam, at Fiskdale, Mass.----- 117, 199
- below Westville Dam, near Southbridge, Mass.----- 118, 199
- Quinsigamond River, at North Grafton, Mass.----- 66, 199
- Radiochemical program, description of----- 22
- Records of ground-water levels, explanation of----- 16
- Records of stage and water discharge, explanation----- 9
- Records of surface-water quality, explanation of----- 13
- Recoverable from bottom material, definition of----- 22
- Red Brook Basin, discharge measurements at
miscellaneous sites in----- 185
- Red Brook below Route 25 near Wareham, Mass.----- 54-56
- Remark codes----- 15, 28
- Reservoirs (see Lakes and reservoirs)
- Return period, definition of----- 22
- Rowe, Mass., Deerfield River near----- 132, 201
- Runnins River Basin, discharge measurements at
miscellaneous sites in----- 187
- Runoff in inches, definition of----- 22
- Saxonville, Mass., Sudbury River at----- 39, 195
- Scituate Reservoir, R.I.,
contents of and diversion from----- 88
- Second Connecticut Lake, N.H., contents of----- 173
- Sediment, definition of----- 22
- explanation of----- 14
- Segreganset River near Dighton, Mass.----- 65, 198
- 7-day 10-year low flow, definition of----- 23
- Sevenmile River near Spencer, Mass.----- 155, 203
- Shattuckville, Mass., North River at----- 134, 201
- Shawsheen River near Wilmington, Mass.----- 42, 196
- Sodium-adsorption-ratio, definition of----- 23
- Solute, definition of----- 23
- Somerset Reservoir, Vt., contents of----- 168
- South Middleton, Mass., Ipswich River at----- 44, 196
- South River near Conway, Mass.----- 135, 201
- South Royalston, Mass., Millers River at----- 128, 200
- South Weymouth, Mass., Old Swamp River near----- 56, 197
- Southbridge, Mass., Quinebaug River
below Westville Dam, near----- 118, 199
- Special networks and programs, explanation of----- 6
- Specific conductance, definition of----- 23
- Spencer, Mass., Sevenmile River near----- 155, 203
- Squannacook River, near West Groton, Mass.----- 32, 195
- Stage and water-discharge records,
explanation of----- 9
- Stage-discharge relation, definition of----- 23
- Station-identification numbers, explanation of----- 8
- Streamflow, definition of----- 23
- Streptococcal bacteria, definition of----- 18
- Substrate, definition of----- 23
- Sudbury River, at Framingham Center, Mass.----- 38
- at Saxonville, Mass.----- 39, 195
- Suffolk County, ground-water levels in----- 232
- Sunapee Lake, N.H., contents of----- 173
- Surface area, definition of----- 23
- Surficial bed material, definition of----- 23
- Surry Mountain Lake, N.H., contents of----- 173
- Suspended, definition of----- 23
- Suspended, recoverable, definition of----- 24
- Suspended sediment, definition of----- 23
- Suspended-sediment concentration, definition of----- 23
- Suspended-sediment discharge, definition of----- 23
- Suspended-sediment load, definition of----- 23
- Suspended, total, definition of----- 23
- Swift River, at West Ware, Mass.----- 154, 202
- East Branch, near Hardwick, Mass.----- 147, 202
- Taunton River near Bridgewater, Mass.----- 61, 198
- Taunton River basin, gaging-station records in --
discharge measurements at----- 61-65
- miscellaneous sites in----- 186
- supplemental water-quality data
for gaging stations in----- 198
- Taxonomy, definition of----- 24
- Techniques of water-resources investigations,
publications on----- 25
- Temperature, water, explanation of----- 14
- Terms, definition of----- 17
- Thames River basin,
discharge measurement at
miscellaneous site in----- 192
- gaging-station records in----- 117-123
- reservoirs in----- 124
- supplemental water-quality data
for gaging stations in----- 199
- Thermograph, definition of----- 24
- Thompsonville, Conn., Connecticut River at----- 163-170
- Threemile River at North Dighton, Mass.----- 64, 198
- Time-weighted average, definition of----- 24
- Tons per acre-foot, definition of----- 24
- Tons per day, definition of----- 24
- Total, definition of----- 24
- Total discharge, definition of----- 24

Total organism count, definition of-----	21	Weymouth Back River basin, (Continued)	
Total, recoverable, definition of-----	25	supplemental water-quality data for station in-----	197
Total coliform bacteria, definition of-----	18	Weymouth Fore River basin,	
Total sediment discharge, definition of-----	23	gaging-station record in-----	56
Total sediment load, definition of-----	23	supplemental water-quality data	
Town Brook at Quincy, Mass.-----	55, 197	for gaging station in-----	197
Town Brook Basin, discharge measurements at		Whetstone Brook at Depot Road	
miscellaneous sites in-----	184	at Wendell Depot, Mass.-----	130
Townshend Reservoir, Vt., contents of-----	173	Williamstown, Mass., Green River at-----	179, 204
Tritium Network, description of-----	25	Hoosic River near-----	178, 204
Tully Reservoir, Mass., contents of-----	173	Wilmington, Mass., Shawsheen River near-----	42, 196
Tully River, East Branch, near Athol, Mass.-----	129, 200	Winchendon, Mass., Millers River near-----	125, 200
Union Village Reservoir, Vt., contents of-----	173	Priest Brook near-----	126, 200
Usquepaug, R.I., Beaver River near-----	100, 199	Winchester, Mass., Aberjona River at-----	46, 196
Usquepaug River near-----	9	Wood River, at Hope Valley, R.I.-----	103-107
Uxbridge, Mass., West River		near Arcadia, R.I.-----	102
below West Hill Dam, near-----	67, 199	Wood River Junction, R.I., Pawcatuck River at-----	101, 199
Wachusett Brook near Sterling, Mass.-----	176	Woonasquatucket River at Centerdale, R.I.-----	86
Wading River, at West Mansfield, Mass.-----	62, 198	Woonasquatucket River Basin, discharge	
near Norton, Mass.-----	63, 198	measurements at miscellaneous sites in-----	192
Waltham, Mass., Charles River at-----	52, 197	Woonsocket, R.I., Blackstone River at-----	80
Ware River, at Gibbs Crossing, Mass.-----	146, 202	Worcester County, ground-water levels in-----	232-237
at intake works, near Barre, Mass.-----	145	WSP, definition of-----	25
near Barre, Mass.-----	142, 202	Zooplankton, definition of-----	22
Wareham, Mass., Red Brook			
below Route 25 near-----	60		
Wareham River Basin, discharge measurements			
at miscellaneous sites in-----	186		
Washington County, ground-water levels in-----	241-245		
Washington, R.I.,			
South Branch Pawtuxet River at-----	87		
Water-quality records, explanation of-----	13-15		
Water temperature, explanation of-----	14		
Water year, definition of-----	25		
WDR, definition of-----	25		
Weighted average, definition of-----	25		
Well number, explanation of-----	8		
Wellesley, Mass., Charles River at-----	51, 197		
Wendell Depot, Mass., Whetstone			
Brook at Depot Road at-----	130		
West Brimfield, Mass., Quaboag River at-----	156, 203		
West Deerfield, Mass., Deerfield River near-----	136, 201		
West Groton, Mass., Squannacook River near-----	32, 195		
West Hill Reservoir, Mass., contents of-----	67		
West Kingston, R.I., Chipuxet River at-----	98		
West Mansfield, Mass., Wading River at-----	62, 198		
West River, below West Hill Dam,			
near Uxbridge, Mass.-----	67, 199		
West Ware, Mass., Swift River at-----	154, 202		
Westerly, R.I., Pawcatuck River at-----	108-116		
Westfield, Mass., Little River at outlet of			
Cobble Mountain Reservoir, near-----	161		
Westfield River, near-----	162, 203		
Westfield River, at Knightville, Mass.-----	158, 203		
Middle Branch, at Goss Heights, Mass.-----	159, 203		
near Westfield, Mass.-----	162, 203		
West Branch, at Huntington, Mass.-----	160, 203		
Westport River Basin, discharge measurements			
at miscellaneous sites in-----	186		
Westville Lake, Mass., contents of-----	124		
Wet mass, definition of-----	18		
Weweantic River Basin, discharge measurements			
at miscellaneous sites in-----	186		
Weymouth Back River basin,			
gaging-station record in-----	57		

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

USGS LIBRARY - RESTON



3 1818 00451114 1

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
INT 413



U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
10 Causeway Street
Boston, MA 02222-1040

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300
SPECIAL 4TH CLASS BOOK RATE