

# CALENDAR FOR WATER YEAR 2001

2000

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

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2001

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

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

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

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U.S. Department of the Interior  
U.S. Geological Survey

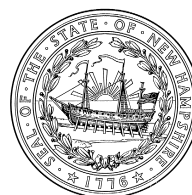
# Water Resources Data New Hampshire and Vermont Water Year 2001

By M.F. Coakley, S.L. Ward, G.S. Hilgendorf, and R.G. Kiah

Water-Data Report NH-VT-01-1



Prepared in cooperation with the  
States of New Hampshire and Vermont and with other agencies



**U.S. DEPARTMENT OF THE INTERIOR**

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**U.S. GEOLOGICAL SURVEY**

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## PREFACE

This volume of the annual hydrologic data report of New Hampshire and Vermont 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.

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 U.S. Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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14. SUBJECT TERMS <b>*New Hampshire, *Vermont, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water levels and analyses</b>		15. NUMBER OF PAGES <b>216</b>	16. PRICE CODE
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# CONTENTS

	Page
List of surface-water and water-quality stations, in downstream order, for which records are published in this volume .....	vii
List of ground-water wells, by county, for which records are published in this volume .....	x
List of discontinued surface-water discharge stations .....	xii
List of discontinued surface-water-quality network stations .....	xv
Introduction .....	1
Cooperation .....	4
Summary of hydrologic conditions .....	4
Streamflow .....	4
Floods and droughts .....	6
Reservoir storage .....	6
Ground-water levels .....	6
Special networks and programs .....	8
National Water-Quality Assessment (NAWQA) Program .....	8
Explanation of the records .....	9
Station identification numbers .....	9
Downstream order system .....	9
Latitude-longitude system .....	9
Records of stage and water discharge .....	10
Data collection and computation .....	10
Data presentation .....	11
Station manuscript .....	12
Data table of daily mean values .....	13
Statistics of monthly mean data .....	13
Summary statistics .....	13
Identifying estimated daily discharge .....	15
Accuracy of the records .....	15
Other records available .....	15
Records of surface-water quality .....	15
Classification of records .....	15
Arrangement of records .....	16
Onsite measurements and sample collection .....	16
Water temperature .....	16
Laboratory measurements .....	16
Data presentation .....	17
Remark codes .....	17
Records of ground-water levels .....	17
Data collection and computation .....	18
Data presentation .....	18
Records of ground-water quality .....	18
Access to USGS water data .....	21
Definition of terms .....	22
Techniques of Water-Resources Investigations of the U.S. Geological Survey .....	35
Remark codes .....	39
Station records, surface water .....	40
Surface-water-discharge and surface-water-quality records .....	40
Discharge at partial-record stations and miscellaneous sites .....	131
Crest-stage partial-record stations .....	131
Miscellaneous sites .....	141
Miscellaneous surface-water quality data for sites in New Hampshire .....	144
Miscellaneous ground-water quality data for wells in New Hampshire .....	145

## CONTENTS--Continued

	Page
Station records, ground water .....	150
Ground-water levels in New Hampshire.....	150
Ground-water levels in Vermont.....	177
Index .....	189

## ILLUSTRATIONS

Figure	1. Map showing location of surface-water data-collection sites .....	2
	2. Map showing location of ground-water data-collection sites .....	3
	3. Comparison of mean discharge at two long-term index gaging stations during the 2000 water year with median discharge for period 1971-2000.....	5
	4. Map showing location of surface- and ground-water quality data-collection sites in New Hampshire for the National Water-Quality Assessment (NAWQA) Program .....	8
	5. System for numbering wells and miscellaneous sites .....	10

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

NOTE: Data for miscellaneous sites for both surface-water discharge and quality are published in separate sections of the data report. See references at the end of this list for page numbers for these sections.

[Letters after station name designate type of data collected: (d) discharge; (c) chemical; (b) biological; (s) sediment, (e) elevation, gage heights, or contents]

	Station number	Page
<b><u>NORTH ATLANTIC SLOPE BASINS</u></b>		
<b><u>ANDROSCOGGIN RIVER BASIN</u></b>		
Umbagog Lake (head of Androscoggin River):		
Magalloway River:		
Diamond River near Wentworth Location, NH (d).....	01052500.....	40
Androscoggin River:		
Androscoggin River at Errol, NH (d) .....	01053500.....	41
Androscoggin River near Gorham, NH (d) .....	01054000.....	42
<b><u>SACO RIVER BASIN</u></b>		
Saco River:		
Ellis River near Jackson, NH (d) .....	01064300.....	43
Saco River near Conway, NH (d) .....	01064500.....	44
Bearcamp River at South Tamworth, NH (d) .....	01064801.....	45
<b><u>PISCATAQUA RIVER BASIN</u></b>		
Salmon Falls River (head of Piscataqua River) at Milton, NH (d).....	01072100.....	46
Piscataqua River:		
Cocheco River near Rochester, NH (d) .....	01072800.....	47
Oyster River near Durham, NH (d) .....	01073000.....	48
Lamprey River near Newmarket, NH (d).....	01073500.....	49
Exeter River at Haigh Road, near Brentwood, NH (d).....	01073587.....	50
<b><u>MERRIMACK RIVER BASIN</u></b>		
Pemigewasset River (head of Merrimack River):		
East Branch Pemigewasset River at Lincoln, NH (d).....	01074520.....	51
Baker River:		
Pemigewasset River at Plymouth, NH (d).....	01076500.....	52
Smith River near Bristol, NH (d).....	01078000.....	53
Lake Winnepesaukee:		
Poorfarm Brook at Ellacoya State Park near Gilford, NH (d) .....	01079602.....	54
Shannon Brook near Moultonborough, NH (d) .....	01079900.....	55
Lake Winnepesaukee at Weirs Beach, NH (e) .....	01080000.....	56
Lake Winnepesaukee Outlet at Lakeport, NH (d).....	01080500.....	57
Winnepesaukee River at Tilton, NH (d).....	01081000.....	58
Merrimack River:		
Contoocook River:		
West Branch Warner River near Bradford, NH (d).....	01085800.....	59
Soucook River at Pembroke Road near Concord, NH (d) .....	01089100.....	60
Merrimack River near Goffs Falls, below Manchester, NH (d).....	01092000.....	61
Souhegan River:		
Stony Brook:		
Stony Brook tributary near Temple, NH (d).....	01093800.....	62
Beaver Brook at North Pelham, NH (d) .....	010965852.....	63
Spicket River, at Island Pond Road, at North Salem, NH (d).....	01100505.....	64



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

	Station number	Page
<b><u>NORTH ATLANTIC SLOPE BASINS--Continued</u></b>		
<b><u>CONNECTICUT RIVER BASIN</u></b>		
Connecticut River:		
Connecticut River below Indian Stream, near Pittsburg, NH (d) .....	01129200.....	65
Mohawk River near Colebrook, NH (d) .....	01129440.....	68
Connecticut River at North Stratford, NH (d) .....	01129500.....	69
Upper Ammonoosuc River near Groveton, NH (d) .....	01130000.....	72
Connecticut River near Dalton, NH (d) .....	01131500.....	73
Passumpsic River:		
East Branch Passumpsic River at East Haven, VT (d) .....	01133000.....	74
Moose River at Victory, VT (d).....	01134500.....	75
Sleepers River:		
Pope Brook (site W-3) near North Danville, VT (d).....	01135150.....	76
Sleepers River (site W-5) near St. Johnsbury, VT (d) .....	01135300.....	77
Passumpsic River at Passumpsic, VT (d) .....	01135500.....	78
Ammonoosuc River at Bethlehem Junction, NH (d).....	01137500.....	79
Connecticut River at Wells River, VT (d) .....	01138500.....	80
Wells River at Wells River, VT (d).....	01139000.....	81
Waits River:		
East Orange Branch at East Orange, VT (d) .....	01139800.....	82
White River:		
Third Branch White River:		
Ayers Brook at Randolph, VT (d) .....	01142500.....	83
White River at West Hartford, VT (d) .....	01144000.....	84
Connecticut River at West Lebanon, NH (d) .....	01144500.....	85
Mascoma River at Mascoma, NH (d) .....	01150500.....	86
Ottauquechee River:		
Ottauquechee River near West Bridgewater, VT (d).....	01150900.....	87
Ottauquechee River at North Hartland, VT (d).....	01151500.....	88
Sugar River at West Claremont, NH (d) .....	01152500.....	89
Williams River near Rockingham, VT (d) .....	01153550.....	90
Connecticut River at North Walpole, NH (d) .....	01154500.....	91
West River:		
West River at Jamaica, VT (d).....	01155500.....	92
Ashuelot River:		
Ashuelot River below Surry Mountain Dam near Keene, NH (d).....	01158000.....	93
Otter Brook below Otter Brook Dam near Keene, NH (d) .....	01158600.....	94
Ashuelot River at West Swanzey, NH (d).....	01160350.....	95
Ashuelot River at Hinsdale, NH (d).....	01161000.....	96
<b><u>HUDSON RIVER BASIN</u></b>		
Hudson River:		
Hoosic River:		
Walloomsac River near North Bennington, VT (d).....	01334000.....	97

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

	Station number	Page
<b><u>NORTH ATLANTIC SLOPE BASINS--Continued</u></b>		
<b><u>ST. LAWRENCE RIVER BASIN</u></b>		
St. Lawrence River:		
Lake Champlain (head of Richelieu River):		
Poultney River below Fair Haven, VT (d) .....	04280000.....	98
Mettawee River near Pawlet, VT (d) .....	04280350.....	99
Otter Creek:		
Otter Creek at Center Rutland, VT (d).....	04282000.....	100
Otter Creek at Middlebury, VT (d) .....	04282500.....	101
New Haven River at Brooksville near Middlebury, VT (d) .....	04282525.....	102
Little Otter Creek at Ferrisburg, VT (d) .....	04282650.....	103
Lewis Creek near North Ferrisburg, VT (d).....	04282780.....	104
LaPlatte River at Shelburne Falls, VT (d) .....	04282795.....	105
Englesby Brook at Burlington, VT (d) .....	04282815.....	106
Winooski River:		
North Branch Winooski River at Wrightsville, VT (d) .....	04285500.....	113
Reservoirs in Winooski River Basin above Montpelier, VT .....		114
Winooski River at Montpelier, VT (d).....	04286000.....	115
Dog River at Northfield Falls, VT (d) .....	04287000.....	116
Mad River near Moretown, VT (d).....	04288000.....	117
Waterbury Reservoir (head of Little River) near Waterbury, VT (e) .....	04288500.....	118
Little River near Waterbury, VT (d).....	04289000.....	119
Winooski River near Essex Junction, VT (d).....	04290500.....	120
Lamoille River:		
Lamoille River at Johnson, VT (d) .....	04292000.....	121
Lamoille River at East Georgia, VT (d) .....	04292500.....	122
Missisquoi River:		
Missisquoi River near North Troy, VT (d).....	04293000.....	123
Missisquoi River near East Berkshire, VT (d) .....	04293500.....	124
Missisquoi River at Swanton, VT (d) .....	04294000.....	125
Lake Champlain at Burlington, VT (e).....	04294500.....	126
Richelieu River (Lake Champlain) at Rouses Point, NY (e).....	04295000.....	127
St. Francis River:		
Lake Memphremagog (head of Magog River) at Newport, VT (e) .....	04295500.....	128
Black River at Coventry, VT (d) .....	04296000.....	129
Clyde River at Newport, VT (d) .....	04296500.....	130

**GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS  
ARE PUBLISHED IN THIS VOLUME**

**NEW HAMPSHIRE**

	Page
<b><u>BELKNAP COUNTY</u></b>	
Barnstead well BAW 10 .....	150
<b><u>CARROLL COUNTY</u></b>	
Albany well ADW 14 .....	151
Albany well ADW 15 .....	152
Ossipee well OXW 38 .....	153
<b><u>CHESHIRE COUNTY</u></b>	
Keene well KEW 2 .....	154
<b><u>COOS COUNTY</u></b>	
Colebrook well CTW 73 .....	155
Errol well ETW 1 .....	156
Lancaster well LCW 1 .....	157
Shelburne well SJW 2 .....	158
<b><u>GRAFTON COUNTY</u></b>	
Campton well CBW 34 .....	159
Enfield well ENW 30 .....	160
Lisbon well LLW 19 .....	161
<b><u>HILLSBOROUGH COUNTY</u></b>	
Greenfield well GSW 75 .....	162
Milford well MOW 36 .....	163
Nashua well NAW 218 .....	164
<b><u>MERRIMACK COUNTY</u></b>	
Concord well CVW 2 .....	165
Concord well CVW 4 .....	166
Franklin well FKW 1 .....	167
Hooksett well HTW 5 .....	168
New London well NLW 1 .....	169
Warner well WCW 1 .....	170
<b><u>ROCKINGHAM COUNTY</u></b>	
Deerfield well DDW 46 .....	171
<b><u>STRAFFORD COUNTY</u></b>	
Lee well LIW 1 .....	172
New Durham well NFW 53 .....	173
<b><u>SULLIVAN COUNTY</u></b>	
Newport well NPW 3 .....	174
Newport well NPW 6 .....	175

**VERMONT**

<b><u>BENNINGTON COUNTY</u></b>	
North Pownal well PQW 1 .....	176
<b><u>CHITTENDEN COUNTY</u></b>	
Milton well MJW 3 .....	177
<b><u>ESSEX COUNTY</u></b>	
Brighton well BIW 1 .....	178

**GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS  
ARE PUBLISHED IN THIS VOLUME**

**VERMONT--Continued**

	Page
<b><u>FRANKLIN COUNTY</u></b>	
East Berkshire well BKW 1.....	179
<b><u>LAMOILLE COUNTY</u></b>	
Morrisville well MPW 1.....	180
<b><u>ORANGE COUNTY</u></b>	
West Fairlee well WOW 1.....	181
<b><u>ORLEANS COUNTY</u></b>	
Glover well GLW 1.....	182
<b><u>RUTLAND COUNTY</u></b>	
Pittsford well PFW 8.....	183
<b><u>WASHINGTON COUNTY</u></b>	
Waitsfield well WAW 2.....	184
<b><u>WINDSOR COUNTY</u></b>	
Chester well CKW 1.....	185
Hartland well HLW 54.....	186
Rochester well RJW 1.....	187

## WATER RESOURCES DATA FOR NEW HAMPSHIRE AND VERMONT

## DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

The following continuous-record streamflow stations in New Hampshire and Vermont have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (\*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.

## Discontinued surface-water discharge stations

Station Name	Station Number	Drainage Area (mi <sup>2</sup> )	Period of Record (water years)
<b>SACO RIVER BASIN</b>			
Lucy Brook near North Conway, NH	01064400	4.68	1964-92
Cold Brook at South Tamworth, NH	01064800	5.41	1963-73
Ossipee River at Effingham Falls, NH	01065000	330	1942-90
<b>PISCATAQUA RIVER BASIN</b>			
Mohawk Brook near Center Strafford, NH	01072850	8.87	1964-77
Coheco River at Dover, NH	01072880	173	1992-96
Dudley Brook near Exeter, NH	01073600	4.97	1962-85
<b>MERRIMACK RIVER BASIN</b>			
Pemigewasset River at North Woodstock, NH	01074000	28.6	1911-12
East Branch Pemigewasset River near Lincoln, NH	01074500	104	1928-53
Pemigewasset River at Woodstock, NH	01075000*	193	1940-77
Baker River at Wentworth, NH	01075500	58.8	1940-52
Stevens Brook near Wentworth, NH	01075800	2.94	1963-98
Baker River near Rumney, NH	01076000*	143	1929-77
Squam River at Ashland, NH	01077000	57.6	1939-95
Poorfarm Brook near Gilford, NH	01079600	5.0	1978-80
Merrimack River at Franklin Junction, NH	01081500*	1,507	1903-78
Contoocook River at Peterborough, NH	01082000*	68.1	1945-77
Nubanusit Brook near Peterborough, NH	01083000*	46.9	1921-31 1945-89
Contoocook River near Elmwood, NH	01083500	168	1917-24
North Branch Contoocook River near Antrim, NH	01084000	54.8	1924-70
Beards Brook near Hillsboro, NH	01084500	55.4	1945-70
Contoocook River near Henniker, NH	01085000*	368	1940-77
Contoocook River below Hopkinton Dam at West Hopkinton, NH	01085500*	427	1903-07, 1963-89
Warner River at Davisville, NH	01086000	146	1940-78
Blackwater River near Webster, NH	01087000*	129	1918-20, 1927-89
Contoocook River at Penacook, NH	01088000	766	1929-77
Merrimack River at Garvins Falls, NH	01088500	2,427	1904-15
Soucook River near Concord, NH	01089000	76.8	1952-87
Suncook River at North Chichester, NH	01089500	157	1918-27, 1928-70
Suncook River at East Pembroke, NH	01090000	270	1904-05
Merrimack River at Manchester, NH	01090500	2,854	1924-50
Piscataquog River below Everett Dam near East Weare, NH	01090800*	63.1	1963-89
South Branch Piscataquog River near Goffstown, NH	01091000	104	1940-78
Piscataquog River near Goffstown, NH	01091500*	202	1940-78
Sucker Brook at Auburn, NH	01093000	27.8	1938-70
Souhegan River at Merrimack, NH	01094000*	171	1909-76

## DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

## Discontinued surface-water discharge stations--Continued

Station Name	Station Number	Drainage Area (mi <sup>2</sup> )	Period of Record (water years)
<b>CONNECTICUT RIVER BASIN</b>			
Big Brook near Pittsburg, NH	01127880	6.36	1963-85
Connecticut River at First Connecticut Lake near Pittsburg, NH	01128500	83	1917-90
Halls Stream near East Hereford, Quebec, Canada	01129300	85	1963-92
Passumpsic River at Pierces's Mill near St. Johnsbury, VT	01133500	237	1909-19
Kirby Brook at Concord, VT	01134800	8.05	1963-74
Moose River at St. Johnsbury, VT	01135000	128	1928-83
Stevens River at West Barnet, VT	01136000	22.2	1939-45
Ammonoosuc River at Bretton Woods, NH	01136500	a34	1903-07
Ammonoosuc River near Bath, NH	01138000	395	1935-80
Connecticut River at South Newbury, VT	01139500	2,825	1918-50
South Branch Waits River near Bradford, VT	01140000	42.7	1940-51
Connecticut River at Orford, NH	01140500	3,100	1900-21
Ompompanoosuc River at Union Village, VT	01141500*	130	1940-89
Mink Brook near Etna, NH	01141800	4.60	1962-98
White River near Bethel, VT	01142000	241	1931-55
Mascoma River at West Canaan, NH	01145000*	80.5	1939-78
Kent Brook near Shelburne, VT	01150800	3.31	1964-74
Ottauquechee River at Woodstock, VT	01151000	126	1928-30
Black River at Covered Bridge at Weathersfield, VT	01152800	114	1976-82
Black River at North Springfield, VT	01153000*	158	1929-89
Williams River at Brockways Mills, VT	01153500	103	1940-84
Saxtons River at Saxtons River, VT	01154000	72.2	1940-82
Cold River at Drewsville, NH	01155000	82.7	1940-78
Sacketts Brook near Putney, VT	01155200	10.0	1963-74
Flood Brook near Londonderry, VT	01155300	9.25	1963-74
West River at Newfane, VT	01156000	308	1919-23, 1928-89
Connecticut River at Vernon, VT	01156500	6,266	1936, 1938 1944-73
Ashuelot River near Gilsum, NH	01157000	71.1	1922-80
Otter Brook near Keene, NH	01158500	42.3	1924-58
Pratt Brook at Chesham, NH	01159000	11.2	1919-21
Minnewawa Brook at Marlborough, NH	01159500	31.7	1919-22
South Branch Ashuelot River at Webb near Marlborough, NH	01160000	36.0	1920-78
Beaver Brook at Wilmington, VT	01167800	6.38	1963-77
<b>HUDSON RIVER BASIN</b>			
Batten Kill at Arlington, VT	01329000	152	1929-84
<b>ST. LAWRENCE RIVER BASIN</b>			
Mettawee River Tributary near Pawlet, VT	04280300	2.95	1963-74
East Creek near Rutland, VT	04281000	a47	1911-13
East Creek at Rutland, VT	04281500	51.1	1940-77
Lewis Creek Tributary at Starksboro, VT	04282700	5.31	1963-74

**WATER RESOURCES DATA FOR NEW HAMPSHIRE AND VERMONT**  
**DISCONTINUED SURFACE-WATER DISCHARGE STATIONS**

**Discontinued surface-water discharge stations--Continued**

Station Name	Station Number	Drainage Area (mi <sup>2</sup> )	Period of Record (water years)
<b>ST. LAWRENCE RIVER BASIN--continued</b>			
Mollys Brook near Marshfield, VT	04283000	a24	1920-23
Jail Branch at East Barre, VT	04284000	38.9	1920-23, 1933-92
Dog River at Northfield, VT	04286500	a52	1909-20, 1928-34
Sunny Brook near Montpelier, VT	04287300	2.31	1963-74
Winooski River at Richmond, VT	04289500	985	1903-07, 1910
Green River at Garfield, VT	04291000	a18	1915-21, 1922-32
Lamoille River at Cadys Falls, VT	04291500	268	1913-23
Stony Brook near Eden, VT	04292100	4.21	1963-74
Stone Bridge Brook near Georgia Plains, VT	04292700	8.45	1963-74, 1991-2000
Brownington Branch near Evansville, VT	04296200	2.15	1963-74

a approximately.

## DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

The following continuous-record surface-water-quality stations have been discontinued. Daily records of water temperature (wt), specific conductance (sc), and dissolved oxygen (do), were collected and published for the period of record shown for each station.

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

Station Name	Station Number	Drainage Area (mi <sup>2</sup> )	Type of Record	Period of Record (water years)
Merrimack River at Concord, NH	01088400	2300	sc,wt	1980-1982
Connecticut River at Wells River, VT	01138500	2644	sc,wt	1980-1982
Connecticut River at N. Walpole, NH	01154500	5493	sc,wt	1981
Connecticut River at Walpole, NH	01155050	5612	sc,wt	1975-1980
West River at Newfane, VT	01156000	308	wt	1960-1965
South Branch Ashuelot River at Webb, near Marlborough, NH	01160000	36.0	wt, sc	1954-1978
Beaver Brook at Wilmington, VT	01167800	6.38	wt,sc	1972-1977
Winooski River above Chase Mill at Burlington, VT	04290550	--	wt,sc,do	1979-1981
Winooski River below Chase Mill at Burlington, VT	04290560	--	wt,sc,do	1979-1982
Black River at Coventry, VT	04296000	122	wt,sc	1978-1981
Clyde River at Newport, VT	04296500	142	wt,sc	1975-1978



# Water Resources Data for New Hampshire and Vermont, 2001

By M.F. Coakley, S.L. Ward, G.S. Hilgendorf, *and* R.G. Kiah

## 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 New Hampshire and Vermont 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 U.S. Geological Survey, the data are published annually in this report series entitled "Water Resources Data-New Hampshire and Vermont."

This report series includes records of stage, discharge, and water quality of streams; contents of lakes and reservoirs; and water levels of ground-water wells. This volume contains records for water discharge at 75 gaging stations; stage records for 5 lakes; month end contents for 2 lakes and reservoirs; and water levels at 38 observation wells. Also included are data for 43 crest-stage partial record 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 under miscellaneous discharge measurements and under Supplemental National Water-quality Assessment Data for Gaging Stations in New Hampshire and Vermont. 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 New Hampshire and Vermont.

This series of annual reports for New Hampshire and Vermont began with the 1961 water year with a report that contained only data relating to the quantities of surface water and published as "Water Resources data for Massachusetts, New Hampshire, Rhode Island, and Vermont." 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 New Hampshire and Vermont 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, Branch of Information Services, Federal Center, Box 25286, Denver, Colorado 80225.

WATER RESOURCES DATA FOR NEW HAMPSHIRE AND VERMONT, 2001

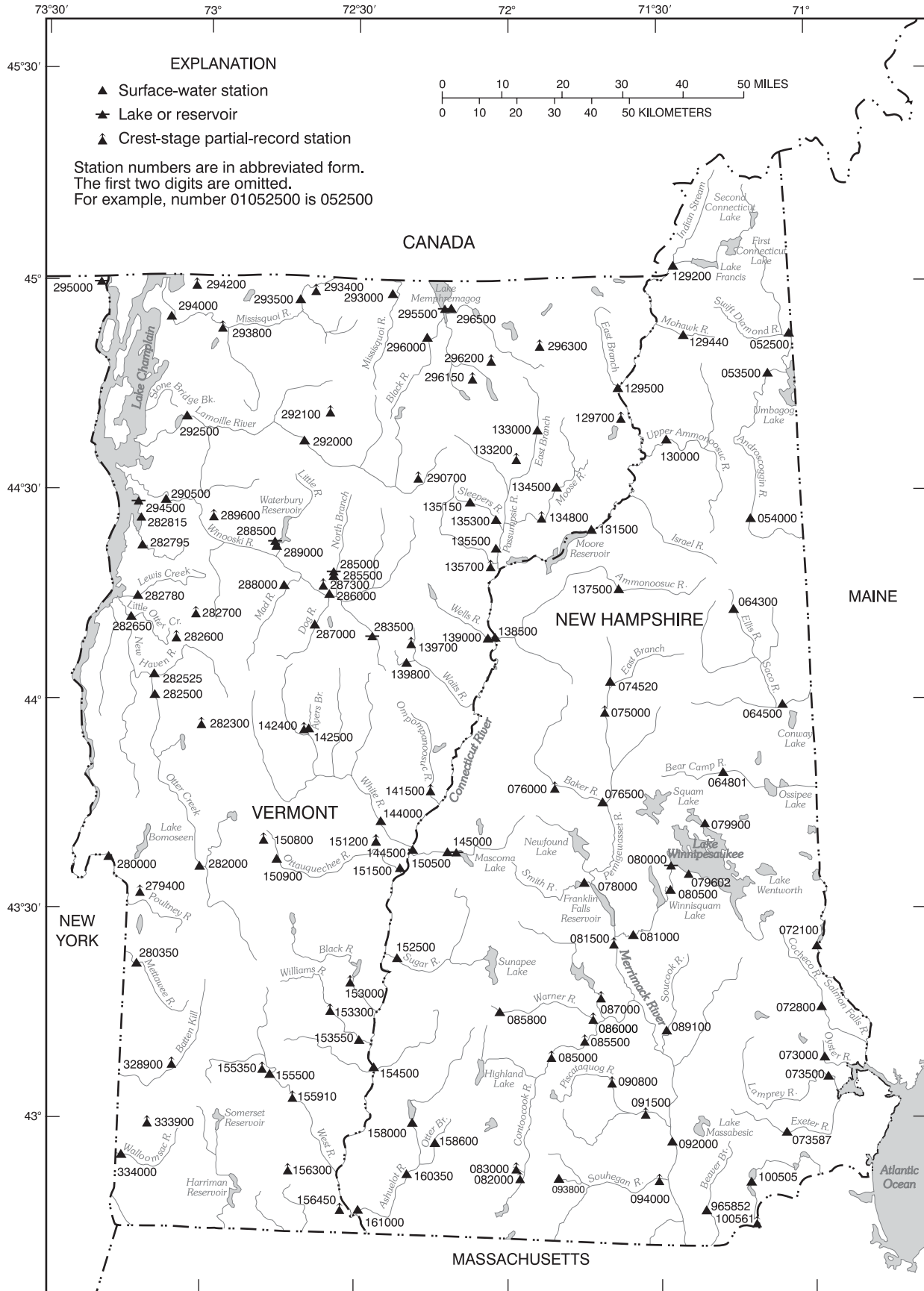


Figure 1. Location of surface-water data-collection sites.

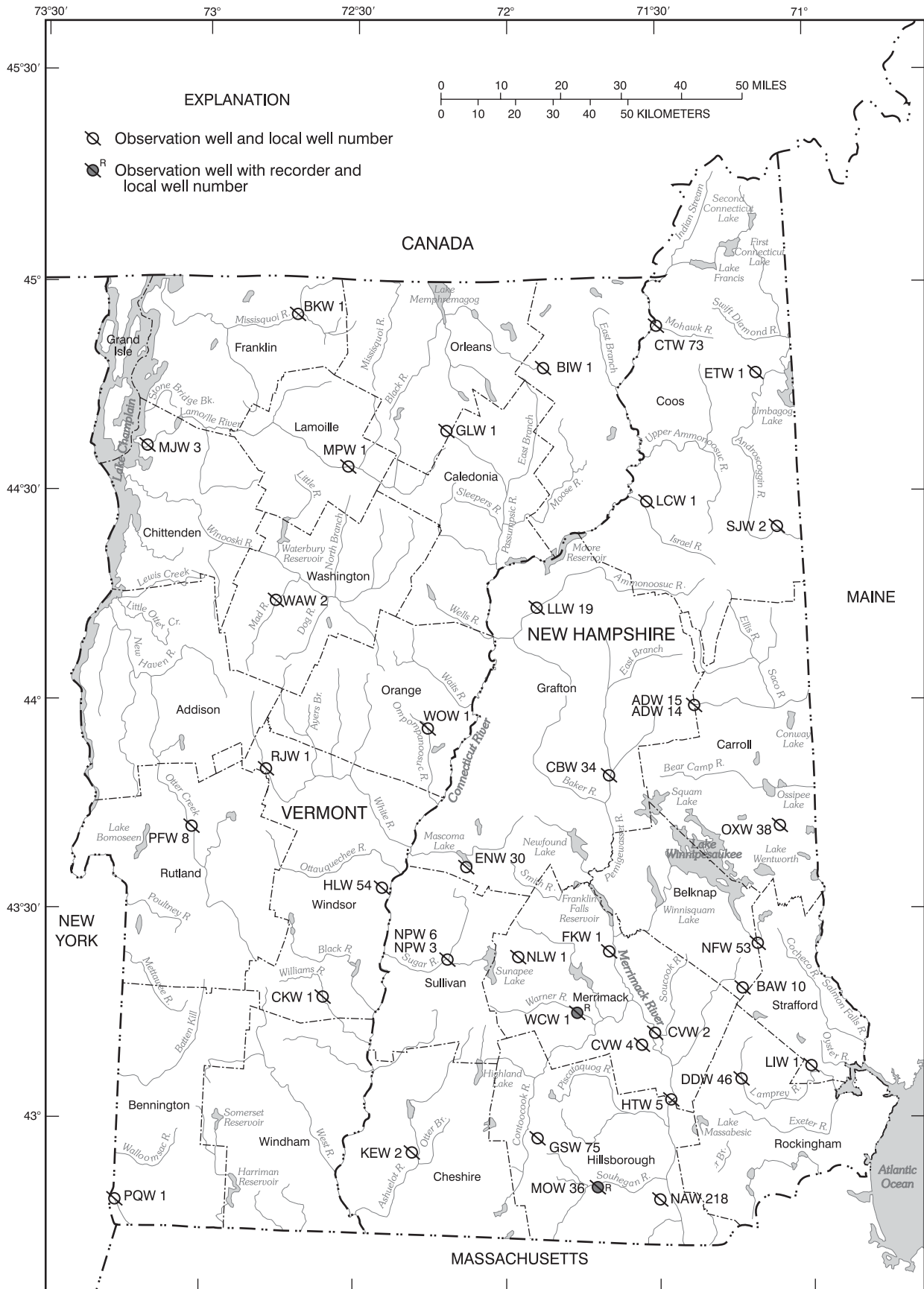


Figure 2. Location of ground-water data-collection sites.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official 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 NH-VT-01-1." 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. Real-time and historical data from the surface-water network, as well as information about individual sites, are available through the world wide web at:

[http://nh.water.usgs.gov/rt-cgi/gen\\_tbl\\_pg](http://nh.water.usgs.gov/rt-cgi/gen_tbl_pg)

<http://waterdata.usgs.gov/nwis-w/US/>

Additional information, including current prices, for ordering specific reports may be obtained from the District Office at the address given on the back of the title page or by telephone (603) 226-7800.

## COOPERATION

The U.S. Geological Survey and organizations of the States of New Hampshire and Vermont have had cooperative agreements for the systematic collection of surface-water records since the early 1900's, and for groundwater records since the mid 60's. Organizations that assisted in collecting the data in this report through cooperative agreements with the U.S. Geological Survey are:

New Hampshire Department of Environmental Services,  
George Dana Bisbee, Assistant Commissioner

Vermont Department of Environmental Conservation,  
Christopher Recchia, Commissioner

City of Keene,  
John A. MacLean, City Manager

City of Rochester,  
Gary Stenhouse, City Manager

Assistance in the form of funds or services was provided by the Corps of Engineers, U.S. Army, in the collection of records for 20 gaging stations published in this report. Organizations supplying data are acknowledged in the station descriptions.

The following organizations contributed funds and services through the requirements of the Federal Energy Regulatory Commission:

Green Mountain Power Company

Citizens Utilities Company

On waters adjacent to the international boundary, certain gaging stations are maintained by the United States (or Canada) under agreement with Canada (or the United States), and the records are obtained and compiled in a manner equally acceptable to both countries. These stations are designated as "international gaging stations."

## SUMMARY OF HYDROLOGIC CONDITIONS

### Streamflow

Runoff for the 2001 water year was in the below-normal range to the lower part of the normal range throughout New Hampshire and Vermont, (below normal refers to the lower quartile of record, above normal refers to the upper quartile of record, and normal refers to the two middle quartiles). The basis of the above-normal, normal, and below-normal ranges is a 30-year reference period (October 1971 through September 2000). Annual runoff was in the below-normal range for 35 streamflow gaging sites with long-term records and in the lower part of the normal range at 17 sites.

The 2001 monthly and annual mean discharges and the monthly and annual median discharges for the reference period of 1971-2000 are shown in figure 3 for stations on the Pemigewasset River at Plymouth, New Hampshire, and Dog River at Northfield Falls, Vermont. These stations recorded 2001 water-year runoff of 80 and 82 percent of median respectively (compared to 112 and 128 percent a year ago for each site) and were used with other stations as indicators of monthly runoff across both states. The following table is a summary of mean runoff for a number of sites using the 30-year reference period (October 1971 through September 2000).

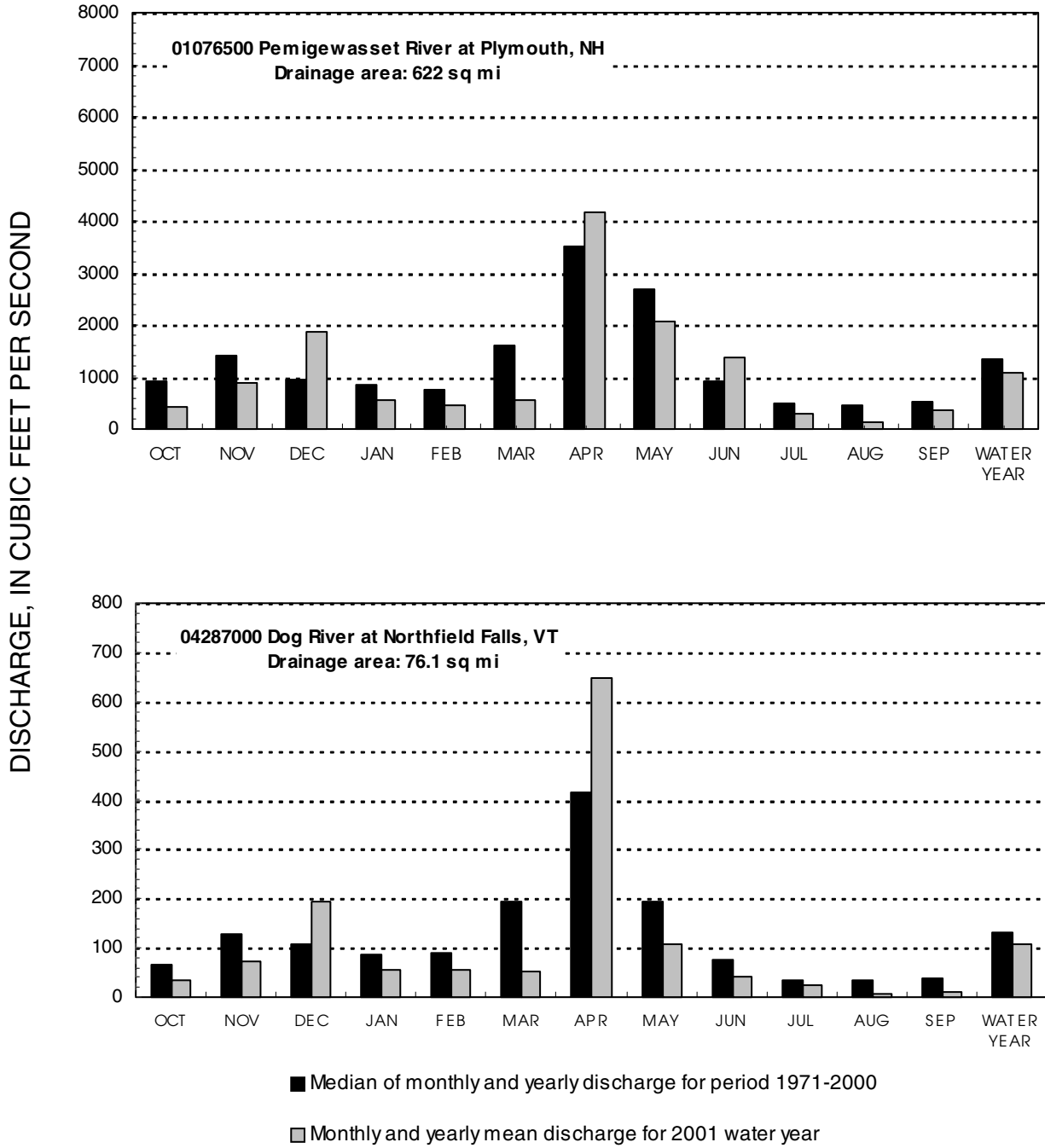


Figure 3. Comparison of discharge at two long-term index gaging stations during the 2001 water year with median discharge for period 1971-2000.

Station No.	Mean runoff in 2001 water year		
	Mean ft <sup>3</sup> /s	Percent of median	Range
01054000	2,064	82	below-normal
01064500	716	72	below-normal
01073500	245	85	below-normal
01076500	1,090	80	below-normal
01078000	122	82	below-normal
01092000	4,580	85	below-normal
01138500	4,325	84	below-normal
01152500	403	96	normal
01154500	8,335	84	below-normal
01161000	676	88	normal
01334000	197	87	below-normal
04282500	987	91	normal
04287000	108	82	below-normal
04292500	1,080	81	below-normal
04293500	799	82	below-normal
04296000	183	92	normal

Additional statistics for each gaging station in this report are provided in the tables of daily mean discharges. Monthly flow hydrographs from the network are also available through the world wide web at:

<http://nh.water.usgs.gov/WaterData/curr.htm>

<http://vt.water.usgs.gov/WaterData/curr.htm>

### Floods and Droughts

Flooding occurred on December 17-18, 2000, across central to southern Vermont. Rainfall amounts across the area ranged from 2 to 4 inches with some locally higher amounts. The combination of excessive rainfall, snowmelt, and frozen ground lead to significant runoff. In the St. Lawrence River Basin, the Mettawee River gage near Pawlet, Vermont recorded a new maximum discharge of 7,080 ft<sup>3</sup>/s on December 17. On the basis of 17 years of record, this flow was greater than a 25-year but less than a 50-year flood. The Poultney River gage below Fair Haven, Vermont also recorded flows

greater than a 25-year but less than a 50-year flood during this December event.

Annual peak discharges at streamflow gaging stations were recorded during the months of December and April across the two States. The recurrence intervals of annual peak discharges at most gaging stations were less than 5 years (peaks having a 1 in 5 chance of being equaled or exceeded in any given year) and ranged from less than a 2-year to greater than a 25-year recurrence interval throughout the water year.

Minimum streamflows occurred during the late summer months of August and September 2001. During these months, runoff generally declined to about 99-percent flow duration (percent of time daily flows will be equaled or exceeded) across both States. As a result, record low monthly streamflows for the period of record occurred during August for all months at the following sites: Ammonoosuc River at Bethlehem Junction, New Hampshire, Wells River at Wells River, Vermont, Mad River near Moretown, Vermont, Lamoille River at Johnson, Vermont, and Lamoille River at East Georgia, Vermont.

### Reservoir Storage

The total combined usable storage of 5 major reservoirs in both States is 22,436 million cubic feet. At the beginning of the water year, the actual usable storage from these reservoirs was 15,388 million cubic feet or 69 percent of capacity. Average reservoir storage remained at 66 percent of capacity through December, then followed a steady seasonal decline to a minimum capacity for the water year of 39 percent by the end of March. Average reservoir storage then increased to a maximum average capacity of 90 percent for the water year by the end of May and finally declined seasonally to a capacity of 63 percent at the end of September, which is a combined usable storage of 14,123 million cubic feet.

### Ground-Water Levels

The ground-water observation-well network consisted of 26 wells in New Hampshire, and 2 wells in Vermont, during the first half of the 2001 water year. Funding for the remaining network of 10 Vermont wells, which was discontinued at the end of the 1995 water year, was reestablished in the

summer of 2001. Most observation wells are of small diameter and located in sandy material.

The monthly conditions summarized below are based on levels from observation wells across New Hampshire through April 2001 and throughout both New Hampshire and Vermont from May through September 2001. The terms used below are defined as follows; **below-normal** refers to the lower quartile of ranked, monthly ground-water level readings, **above-normal** refers to the upper quartile, and **normal** refers to the two middle quartiles.

Ground-water conditions in New Hampshire were generally in the **normal** range from October through December 2000, and from April through July 2001. Conditions during January through March and August through September were predominantly **below-normal** with some new period of record extremes as noted below.

Listed below are the monthly ground-water conditions, summarized by general trends and exceptions.

**October** Ground-water levels in New Hampshire were **normal** or **above-normal** in the Merrimack and lower Connecticut River basins, respectively, and **below-normal** in the upper Connecticut and Androscoggin River basins.

**November** Ground-water levels were **normal** throughout the Connecticut and Merrimack River basins and **below-normal** in eastern parts of New Hampshire including the Androscoggin, Saco, and Piscataqua River basins.

**December** Ground-water levels were in the **normal** range, except for parts of western New Hampshire including the Ammonoosuc, Pemigewasset, Sugar, Cold, and Ashuelot River basins, which were in the above **normal** range.

**January** Ground-water levels were in the **below-normal** range, except for central and southern New Hampshire including the Ashuelot and Merrimack River basins, which were in the **normal** range.

**February** Ground-water levels were in the **below-normal** range, except for central and southern New Hampshire including the Ashuelot and Merrimack River basins, which were in the **normal** range.

**March** Ground-water levels were in the **below-normal** range, except for the southern third of the State, which was in the **normal** range, and except for the seacoast region in extreme southeastern New Hampshire, which was in the **above-normal** range.

**April** Ground-water levels were in the **normal** range, except for the middle and lower Connecticut River basins and the part of southern New Hampshire bordering Massachusetts, which were in the **above-normal** range, and except for the northern-most part of the State (Androscoggin and upper Connecticut River basins), which were in the **below-normal** range.

**May** Ground-water levels were in the **normal** range throughout the two-State area, except for eastern parts of New Hampshire within the Androscoggin and Saco River basins and the Otter Creek basin of Vermont, which were in the **below-normal** range.

**June** Ground-water levels were in the **normal** range throughout the two-State area, except for northern New Hampshire north of the White Mountains and parts of Chittenden, Addison, and Bennington Counties of western Vermont, which were in the **below-normal** range.

**July** Ground-water levels were in the **normal** range throughout the two-State area, except for northern New Hampshire north of the Lakes Region, which was in the **below-normal** range and Orleans, Franklin, and Rutland Counties of Vermont, which were in the **above-normal** range.

**August** Ground-water levels were in the **below-normal** range throughout central and northern parts of the two-State area. Ground-water levels were in the **normal** range south of the Lakes Region in New Hampshire and south of the area extending from Springfield to Bennington in Vermont.

**September** Ground-water levels were **below-normal** except for Hillsborough County, New Hampshire, which remained in the **normal** range. In Vermont, ground-water levels were mostly **below-normal** except for parts of the Otter Creek, Williams, Winooski, Black, and lower Lamoille River basins.

The following long-term observation wells, consisting of wells dating back into the 1960s, recorded new extreme low water levels for the period of record during the 2001 water year.

Concord, NH (CVW 2) in February

Lancaster, NH (LCW 1) in September

Morrisville, VT (MPW 1) in September

Hydrographs for each of the ground-water-station records contained in this report provide additional information on water-level trends. Monthly conditions data from the network are also available through the world wide web at:

<http://nh.water.usgs.gov/WaterData/curr.htm>

## SPECIAL NETWORKS AND PROGRAMS

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

Assessment activities are being conducted in 51 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

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

The New England Coastal Basins (NECB) NAWQA study unit encompasses 23,000 square miles

in western and central Maine, eastern New Hampshire, eastern Massachusetts, most of Rhode Island, and a small part of eastern Connecticut. In WY 2001, the NECB NAWQA study collected water samples from 1 stream site and 7 ground water wells (fig. 4). Data from these sites are presented in the Miscellaneous Surface-Water Quality and Miscellaneous Ground-Water Quality sections of this report.

Additional information about the NAWQA Program can be found at:

<http://water.usgs.gov/nawqa/>

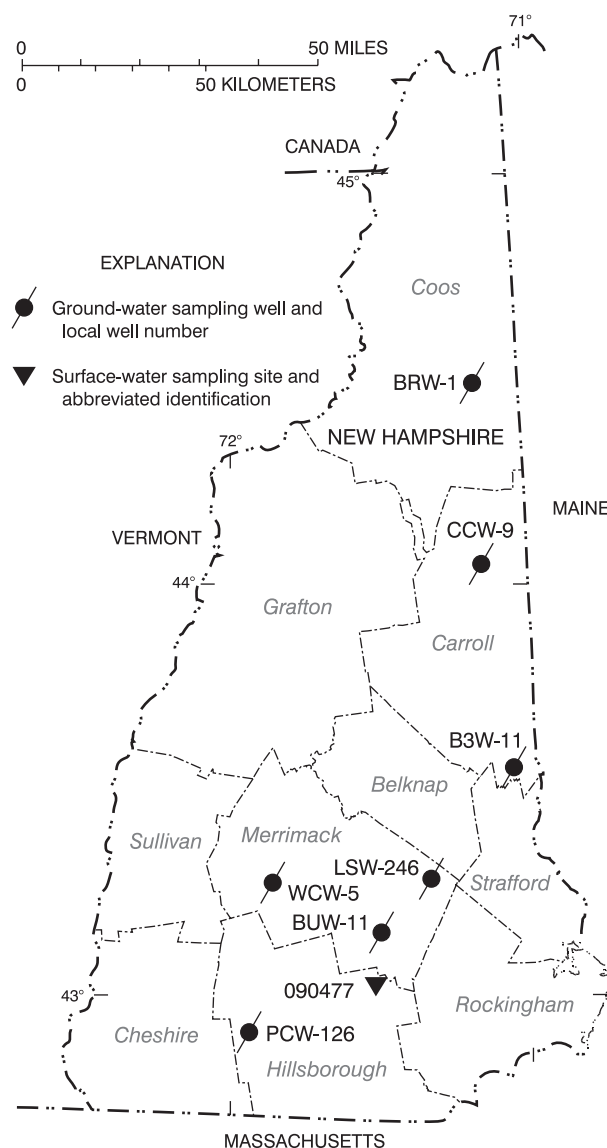


Figure 4. Location of surface- and ground-water quality data-collection sites for the National Water Quality Assessment (NAWQA) program.



## EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 2001 water year that began October 1, 2000, and ended September 30, 2001. 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, 2, and 4. 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 streamgage or well, in this report is assigned a unique identification number. 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 U.S. Geological 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 01076500, “01” is the Part number for “North Atlantic Slope Basins” and “076500” 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 5.)

A local well number 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.

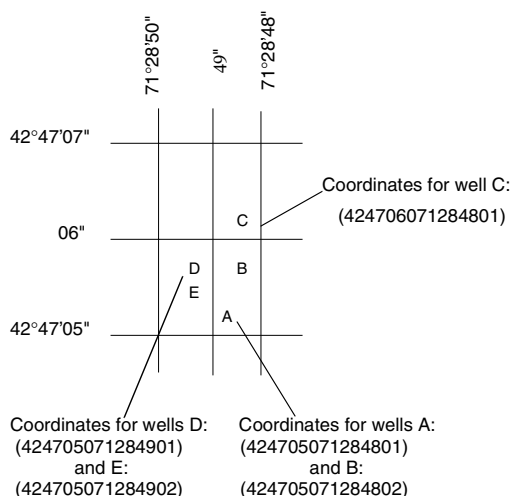


Figure 5. System for numbering wells and miscellaneous sites (latitude and longitude).

### Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time.

They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements with/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. Location of all complete-record stations for which data are given in this report are shown in figure 1. Some streamflow data from the network, as well as information for

individual sites, are available through the world wide web at:

<http://nh.water.usgs.gov/WaterData/WaterDataPage.htm>

### 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 digital recorders that punch stage values on paper tapes at selected time intervals or with electronic data loggers which collect, store, and transmit data via satellite. Measurements of discharge are made with current meters using methods adopted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, Water-Supply Paper 2175, and the U.S. Geological Survey Techniques of Water-Resources Investigations (TWRI's), Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for standards (ISO).

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

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

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

At some gaging stations, acoustic velocity meter (AVM) systems are used to compute discharge. The AVM system measures the stream's velocity at one or more paths in the cross section. Coefficients are developed to relate this path velocity to the mean velocity in the cross section. Because the AVM sensors are fixed in position, the adjustment coefficients generally vary with stage. Cross-sectional area curves are developed to relate stage, recorded as noted above, to cross section area. Discharge is computed by multiplying path velocity by the appropriate stage related coefficient and area.

In computing records of lake or reservoir contents, it is necessary to have available 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 are determined. If the stage-content relation changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relation. 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 relations much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, comparison with other station records from the same or nearby basins, and regression analysis. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

### **Data Presentation**

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

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of

discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

#### **Station Manuscript**

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

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

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

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

**REVISED RECORDS.**--Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision

did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

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

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

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

#### **EXTREMES OUTSIDE PERIOD OF**

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

**REVISIONS.**--If errors in published water-quality records are discovered after publication, appropriate updates are made in the U.S. Geological Survey's distributed data system, NWIS, and subsequently to its web-based National data system, NWISWeb [<http://water.usgs.gov/nwis/nwis>]. 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 NWIS or NWISWeb to ensure the most recent updates. Updates to NWISWeb are currently made on an annual basis.

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

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

#### **Data Table of Daily Mean Values**

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

#### **Statistics of Monthly Mean Data**

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS \_ - \_, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

#### **Summary Statistics**

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

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the

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

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

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

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

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

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

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

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

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

**INSTANTANEOUS PEAK FLOW.**--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base

discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

**INSTANTANEOUS PEAK STAGE.**--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

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

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

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

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

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

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

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

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

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

partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

### Identifying Estimated Daily Discharge

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

### Accuracy of the Records

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

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

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

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square

mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

### Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the District Office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the New Hampshire-Vermont District Office at the address given on the back of the title page or by telephone (603) 226-7800.

### 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 recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. In this report, continuing-record stations where data are collected on a continuous basis are referred to as **continuous-recording stations**. 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 miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

### **Onsite Measurements and Sample Collection**

In obtaining water-quality data, a major concern is to assure that the data obtained represent the in-situ quality of the water. To do this, certain measurements, such as water temperature, pH, alkalinity, dissolved oxygen, and specific conductance need to be made on-site 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 on-site 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. A1, A3, and A4; Book 9, Chap. A1-A9. These references

are listed in the PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS section of this report. These methods are consistent with ASTM standards and generally follow ISO standards.

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 Water-Quality Assessment Program are usually 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.

Water-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.

### **Water Temperature**

Water temperatures are measured at all water-quality stations. 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, both mean, maximum, and minimum temperatures for each day are published.

### **Laboratory Measurements**

Samples are analyzed locally for specific conductance, dissolved oxygen, pH, and temperature. All other samples were analyzed in the Geological Survey laboratory in Lakewood, Colorado. Methods used to analyze sediment samples and to compute sediment records are described in the TWRI Book 5, Chapter C1. Methods used by the U.S. Geological



Survey laboratories are given in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

### 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, and extremes for parameters currently measured daily. Tables of water-quality data, including 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, and dissolved oxygen data from water-quality monitor recorders 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 continuing-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 daily record are given for the parameters individually.

**INSTRUMENTATION.**--Information on instrumentation is given only if a water-quality monitor, or temperature recording device is in operation at a station.

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

**EXTREMES.**--Maximums and minimums are given only for parameters measured daily or more frequently. Extremes are provided for both the period of daily record and for the current water year. If a value from a miscellaneous measurement from outside the period of daily record has higher maximum or lower minimum, that value is reported in a descriptive heading for extremes outside the period of daily record.

**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 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	<i>Estimated value.</i>
>	<i>Actual value is known to be greater than the value shown.</i>
<	<i>Actual value is known to be less than the value shown.</i>
M	<i>Presence verified; not quantified.</i>

### Records of Ground-Water Levels

The national network of observation wells is intended to provide a sampling and historical record of ground-water level changes in the most important aquifers. Locations of observation wells from this network in New Hampshire and Vermont are shown

in figure 2. Water levels measured from these 28 network wells are included in this report. Information about the availability of data in the water-level database may be obtained from the Chief, New Hampshire-Vermont District (see address on back of title page).

### 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 municipality in which each well is located.

Water-level records are obtained from direct measurements with a steel or electric tape or from a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum. 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.

Water levels are reported to as many significant figures as can be justified by the local conditions. Accordingly, most measurements are reported to a hundredth of a foot, but one is given to five-hundredths of a foot.

### Data Presentation

Each well record consists of three parts, the station description, the data table of water levels observed during the water year, and the hydrograph showing water level fluctuations during the most recent ten-year period. Hydrographs are based on end-of-month measurements or continuous data record (where available). 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); 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 method of construction, use, diameter, depth and additional information such as casing breaks, collapsed screen, and other changes since construction.

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

**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 U.S. 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.

### Records of Ground-Water Quality

Water samples were collected from 7 public-supply gravel-packed wells between October 2000 and September 2001 in the New Hampshire part of the New England Coastal Basins NAWQA study. Only one sample was collected from each well. These samples were collected as part of the NAWQA program to determine the occurrence and distribution of selected constituents in the ground waters of stratified-drift aquifer systems and analyzed for major ions, nutrients, trace elements, radon gas, radionuclides, 48 pesticide compounds, and 86 volatile organic compounds (VOCs).

Sampling protocols were followed to obtain and evaluate accurate water-quality data (Koterba and others, 1995). Untreated water samples were collected using a sample line connected to a faucet either at the well head (where available) or at a nearby pumphouse. Water-quality samples were processed in the field and then shipped to the USGS National Water-Quality Laboratory in Lakewood, Colorado for analysis. Samples were analyzed locally (in the field) for alkalinity, specific conductance, dissolved oxygen, pH, temperature, ferrous iron, and sulfide.

**Analyses of pesticides in surface-water and ground-water samples (schedule 2001)**

Selected ground-water samples from the New England Coastal Basins NAWQA study were analyzed for pesticides on schedule 2001 during the 2001 water year. Sampling sites are shown in figure 4. This table lists the pesticides on the schedule, the unit of measure (micrograms per liter, µg/L), the U.S. Geological Survey National Water Information System parameter code, and the laboratory reporting level. **Only pesticides measured at or above the minimum reporting level for one or more samples are listed in the water-quality tables.**

**SCHEDULE DESCRIPTION.**--Pesticides in filtered water extracted on C-18 Solid Phase Extraction (SPE) cartridge and analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).

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

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

**PCODE.**--The USGS/EPA parameter code.

**COMPOUND NAME.**--IUPAC nomenclature.

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

**LRL.**--Laboratory reporting level.

PCode	Compound name (Common name)	LRL (µg/L)
82660	2,6-Diethylaniline	0.002
49260	Acetochlor (Harness Plus, Surpass)	0.004
46342	Alachlor (Lasso, Bullet)	0.002
39632	Atrazine (Atrax, Atrid)	0.007
04040	Atrazine, Deethyl- (Metabolite of Atrazine)	0.006
82686	Azinphos, Methyl- (Guthion, Gusathion)	0.050
82673	Benfluralin (Benefin, Balan)	0.010
04028	Butylate (Genate Plus, Suntan+)	0.002
82680	Carbaryl (Sevin, Denapan)	0.041
82674	Carbofuran (Furandan, Curaterr)	0.020
38933	Chlorpyrifos (Brodan, Dursban)	0.005
04041	Cyanazine (Bledex, Fortrol)	0.018
82682	DCPA (Dacthal, Chlorthal-dimethyl)	0.003
34653	DDE, p,p'	0.003
39572	Diazinon (Basudin, Diazatol)	0.005
39381	Dieldrin (Panoram D-31, Octalox)	0.005
82660	Diethylaniline (Metabolite of Alachlor)	0.002
82677	Disulfoton (Disyston, Frumin AL)	0.021
82668	EPTC (Eptam, Farmarox)	0.002
82663	Ethalfuralin (Sonalan, Curbit)	0.009
82672	Ethoprop (Mocap, Ethoprophos)	0.005
04095	Fonofos (Dyfonate, Capfos)	0.003
34253	HCH,alpha- (alpha-BHC, alpha-lindane)	0.005
39341	HCH,gamma- (Lindane, gamma-BHC)	0.004
82666	Linuron (Lorex, Linex)	0.035
39532	Malathion	0.027
39415	Metolachlor (Dual, Pennant)	0.013
82630	Metribuzin (Lexon, Sencor)	0.006
82671	Molinate (Ordram)	0.002
82684	Napropamide (Devrinol)	0.007
39542	Parathion, Ethyl- (Roethyl-P, Alkron)	0.007
82667	Parathion, Methyl- (Pennacp-M)	0.006
82669	Pebulate (Tillam, PEBL)	0.002
82683	Pendimethalin (Prowl, Stomp, Pre-M)	0.010
82687	Permethrin,cis- (Ambush, Astro)	0.006
82664	Phorate (Thimet, Granutox)	0.011
04037	Prometon (Pramitol, Princep)	0.015
82676	Pronamide (Kerb) (Propyzamid)	0.004
04024	Propachlor (Ramrod, Satecid)	0.010
82679	Propanil (Stampede, Stam)	0.011
82685	Propargite (Omite, Alkyl sulfite)	0.023
04035	Simazine (Princep, Caliber 91)	0.011
82670	Tebuthiuron (Spike, Tebusan)	0.016
82665	Terbacil (Sinbar)	0.034
82675	Terbufos (Counter, Contraven)	0.017
82681	Thiobencarb (Bolero, Saturn)	0.005
82678	Triallate (Avadex BW, Far-Go)	0.002
82661	Trifluralin (Treflan, Gowan)	0.009

**Analyses of volatile organic compounds in ground-water samples (schedule 2020/2021)**

Selected ground-water samples from the NECB NAWQA study were analyzed for volatile organic compounds (VOCs) in 2001. The National Water Quality Lab (NWQL) created a method for accurate determination of VOCs in water in the nanogram per liter range, schedules 2020/2021. The method is described in USGS Open-File Report 97-829 (Connor and others, 1998). Minor improvements to instrument operating conditions permits a data reporting strategy for measuring detected compounds extrapolated at less than the lowest calibration standard or measured at less than the reporting limit.

This table lists the volatile organic compounds on the schedule, the unit of measure (micrograms per liter ( $\mu\text{g/L}$ ), the U.S. Geological Survey National Water Information System parameter code, the Union of Pure and Applied Chemistry (IUPAC) compound name, and the National Water Quality Laboratory compound name. Positive detections measured at less than the LRL are reported as estimated concentrations (E) to alert the data user to decreased confidence in accurate quantitation. Values for analytes in the 2020/2021 schedules are preceded by an "E" in the following situations:

1. When the calculated concentration is less than the lowest calibration standard. The analyte meets all identification criteria to be positively identified, but the amount detected is below where it can be reliably quantified.

2. If a sample is diluted for any reason. The method reporting level is multiplied by the dilution factor to obtain the adjusted method reporting level. Values below the lowest calibration standard, multiplied by the dilution factor are qualified with an "E". For example, a value of 0.19 in a 1:2 dilution is reported as E0.1.

3. If the set spike has recoveries out of the specified range (60-140 percent).

4. If the analyte is also detected in the set blank. If the value in the sample is less than five times the blank value and greater than the blank value plus the long term method detection limit, the value is preceded by an "E" to indicate that the analyte is positively identified but not positively quantified because the analyte was also detected in the blank.

Connor, B.F., Rose, D.L., Noriega, M.C., Murtagh, L.K., and Abney, S.R., 1998, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of 86 volatile organic compounds in water by gas chromatography/mass spectrometry, including detections less than reporting limits: U.S. Geological Survey Open-File Report 97-829, 78 p.

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

**SAMPLE REQUIREMENTS.**--Water collected in vials placed in stainless steel VOC sampler. Hydrochloric acid is used for preservation. Chilled at 4°C (packed in ice).

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

**PCODE.**--The EPA/USGS parameter code.

**COMPOUND NAME.**--IUPAC nomenclature.

**COMMON NAME.**--NWQL nomenclature.

**LRL.**--Laboratory reporting level.

PCode	Compound name	Common name	LRL (µg/L)	PCode	Compound name	Common name	LRL (µg/L)
77353	(1,1-Dimethylethyl) benzene	<i>tert</i> -butylbenzene	0.06	34413	Bromomethane	Methyl bromide	0.26
77223	(1-Methylethyl) benzene	Isopropylbenzene	0.032	77041	Carbon disulfide	Carbon Disulfide	0.07
77350	(1-Methylpropyl) benzene	<i>sec</i> -butylbenzene	0.032	34301	Chlorobenzene	Chlorobenzene	0.028
34396	1,1,1,2,2,2-Hexachloroethane	Hexachloroethane	0.19	34311	Chloroethane	Chloroethane	0.12
77562	1,1,1,2-Tetrachloroethane	1,1,2-tetrachloroethane	0.03	39175	Chloroethene	Vinyl Chloride	0.11
34506	1,1,1-Trichloroethane	1,1,1-trichloroethane	0.032	34418	Chloromethane	Methyl chloride	0.25
34516	1,1,2,2-Tetrachloroethane	1,1,2,2-tetrachloroethane	0.09	77093	<i>cis</i> -1,2-Dichloroethene	<i>cis</i> -1,2-dichloroethene	0.038
77652	1,1,2-Trichloro-1,2,2-trifluoroethane	Freon-113	0.06	34704	<i>cis</i> -1,3-Dichloropropene	<i>cis</i> -1,3-dichloropropene	0.09
34511	1,1,2-Trichloroethane	1,1,2-trichloroethane	0.06	32105	Dibromochloromethane	Dibromochloromethane	0.18
34496	1,1-Dichloroethane	1,1-dichloroethane	0.035	30217	Dibromomethane	Dibromomethane	0.05
34501	1,1-Dichloroethene	1,1-dichloroethene	0.04	34668	Dichlorodifluoromethane	Dichlorodifluoromethane	0.27
77168	1,1-Dichloropropene	1,1-dichloropropene	0.026	34423	Dichloromethane	Methylene Chloride	0.16
49999	1,2,3,4-Tetramethylbenzene	Preh-nitene	0.23	81576	Diethyl ether	Diethyl ether	0.17
50000	1,2,3,5-Tetramethylbenzene	Isodurence	0.20	81577	Di isopropyl	Ether	0.10
77613	1,2,3-Trichlorobenzene	1,2,3-trichlorobenzene	0.27	77128	Ethylbenzene	Styrene	0.042
77443	1,2,3-Trichloropropane	1,2,3-trichloropropane	0.16	73570	Ethyl methacrylate	Ethyl Methacrylate	0.18
77221	1,2,3-Trimethylbenzene	1,2,3-trimethylbenzene	0.12	50004	Ethyl <i>tert</i> -butyl ether	Ethyl- <i>t</i> -butyl ether (ETBE)	0.054
34551	1,2,4-Trichlorobenzene	1,2,4-trichlorobenzene	0.19	34371	Ethylbenzene	Ethylbenzene	0.03
77222	1,2,4-Trimethylbenzene	1,2,4-trimethylbenzene	0.056	39702	Hexachlorobutadiene	Hexachlorobutadiene	0.14
82625	1,2-Dibromo-3-chloropropane	1,2-dibromo-3-chloropropane (DBCP)	0.21	77424	Iodomethane	Methyl iodide	0.12
77651	1,2-Dibromoethane	1,2-dibromoethane	0.036	49991	Methyl acrylate	Methyl Acrylate	1.40
34536	1,2-Dichlorobenzene	1,2-dichlorobenzene	0.048	81593	Methyl acrylonitrile	Methyl Acrylonitrile	0.60
32103	1,2-Dichloroethane	1,2-dichloroethane	0.13	81597	Methyl methacrylate	Methyl Methacrylate	0.35
34541	1,2-Dichloropropane	1,2-dichloropropane	0.028	78032	Methyl <i>tert</i> -butyl ether	Methyl- <i>t</i> -butyl ether (MTBE)	0.17
77135	1,2-Dimethylbenzene	<i>o</i> -xylene	0.038	34010	Methylbenzene	Toluene	0.05
85795	1,3 & 1,4-Dimethylbenzene	<i>m</i> & <i>p</i> -xylene	0.06	77342	<i>n</i> -Butylbenzene	<i>n</i> -butylbenzene	0.19
77226	1,3,5-Trimethylbenzene	1,3,5-trimethylbenzene	0.044	77224	<i>n</i> -Propylbenzene	<i>n</i> -propylbenzene	0.042
34566	1,3-Dichlorobenzene	1,3-dichlorobenzene	0.030	34696	Naphthalene	Naphthalene	0.25
77173	1,3-Dichloropropane	1,3-dichloropropane	0.12	50005	<i>tert</i> -Amyl methyl ether	<i>tert</i> -amyl methyl ether (TAME)	0.11
34571	1,4-Dichlorobenzene	1,4-dichlorobenzene	0.05	34475	Tetrachloroethene	Tetrachloroethene	0.10
77275	1-Chloro-2-methylbenzene	2-chlorotoluene	0.026	32102	Tetrachloromethane	Carbon tetrachloride	0.06
77277	1-Chloro-4-methylbenzene	4-chlorotoluene	0.06	81607	Tetrahydrofuran	Tetrahydrofuran	2.20
77356	1-Isopropyl-4-methylbenzene	<i>p</i> -Isopropyltoluene	0.07	34546	<i>trans</i> -1,2-Dichloroethene	<i>trans</i> -1,2-dichloroethene	0.032
77170	2,2-Dichloropropane	2,2-dichloropropane	0.05	34699	<i>trans</i> -1,3-Dichloropropene	<i>trans</i> -1,3-dichloropropene	0.09
81595	2-Butanone	Methyl-ethyl ketone	1.60	73547	<i>trans</i> -1,4-Dichloro-2-butene	<i>trans</i> -1,4-dichloro-2-butene	0.70
77220	2-Ethyltoluene	2-ethyl toluene	0.06	32104	Tribromomethane	Bromoform	0.06
77103	2-Hexanone	2-hexanone	0.70	39180	Trichloroethene	Trichloroethene	0.038
34215	Acrylonitrile	2-Propenenitrile	1.20	34488	Trichlorofluoromethane	Trichlorofluoromethane	0.09
78109	3-Chloro-1-propene	3-chloro-1-propene	0.07	32106	Trichloromethane	Chloroform	0.024
78133	4-Methyl-2-pentanone	Methyl isobutyl ketone	0.37				
81552	Acetone	Acetone	7.00				
34030	Benzene	Benzene	0.035				
81555	Bromobenzene	Bromobenzene	0.036				
77297	Bromochloromethane	Bromochloromethane	0.044				
32101	Bromodichloromethane	Bromodichloromethane	0.048				
50002	Bromoethene	Vinyl Bromide	0.10				

## ACCESS TO USGS WATER DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the

U.S. Geological Survey's program of releasing water data to the public, a large-scale computerized system was developed for the storage and retrieval of water data collected through its activities. The National Water Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. As of December 1996, WATSTORE was retired. It has been replaced by National Water Information System (NWIS) and incorporates many of the features of WATSTORE. The historic daily-mean and peak-flow discharge data (final) from NWIS can be accessed through the world wide web (www) via the address:

<http://water.usgs.gov>

Provisional current (monthly) conditions and real time (telemetry) information for New Hampshire and Vermont can be obtained at the following www addresses:

<http://nh.water.usgs.gov>

<http://vt.water.usgs.gov>

[http://nh.water.usgs.gov/rt-cgi/gen\\_tbl\\_pg](http://nh.water.usgs.gov/rt-cgi/gen_tbl_pg)

<http://nh.water.usgs.gov/WaterData/curr.htm>

Information about the availability of other provisional, specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (See address on the back of the title page.)

## DEFINITION OF TERMS

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

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

**Acre-foot** (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored,

equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also "Annual runoff")

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

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

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

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

**Annual 7-day minimum** is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 to September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

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

**Artificial substrate** is a device that is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is 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. (See also "Substrate")

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

**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.

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

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

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

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

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

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

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

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

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

**Blue-green algae** (*Cyanophyta*) are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

**Bottom material** (See "Bed material")

**Cells/volume** refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

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

$$\text{sphere } 4/3 \pi r^3 \quad \text{cone } 1/3 \pi r^2 h \quad \text{cylinder } \pi r^2 h.$$

pi is the ratio of the circumference to the diameter of a circle; pi = 3.14159...

From cell volume, total algal biomass expressed as biovolume ( $\mu\text{m}^3/\text{mL}$ ) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes over all species.

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

**Chemical oxygen demand (COD)** is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

***Clostridium perfringens* (*C. perfringens*)** is a spore-forming bacterium that is common in the feces of

human and other warm-blooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

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

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

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

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

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

**Control** designates a feature in the channel downstream from a gaging station that physically influences the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

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

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

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

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

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

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

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

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

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

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

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

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



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

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

**Dissolved-solids concentration** in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the “residue-on-evaporation” method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L CaCO<sub>3</sub>) can be converted to carbonate concentration by multiplying by 0.60.

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

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

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

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

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

**Dry mass** refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged.

This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also “Ash mass,” “Biomass,” and “Wet mass”)

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

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

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

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

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

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

**Extractable organic halides (EOX)** are organic compounds that contain halogen atoms such as chlorine. These

organic compounds are semi-volatile and extractable by ethyl acetate from air-dried streambed sediments. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediments.

**Fecal coliform bacteria** 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 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

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

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

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

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

**Gage height** (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height is often used interchangeably with the more general term

"stage," although gage height is more appropriate when used in reference to a reading on a gage.

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

**Gaging station** is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

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

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

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

**Hardness** of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate (CaCO<sub>3</sub>).

**High tide** is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day.

See NOAA web site:

<http://www.co-ops.nos.noaa.gov/tideglos.html>

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

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

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

**Horizontal datum** (See "Datum")

**Hydrologic benchmark station** is one that provides hydrologic data for a basin in which the hydrologic regimen

will likely be governed solely by natural conditions. Data collected at a benchmark station may be used to separate effects of natural from human-induced changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped benchmark basin.

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

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

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

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

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

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

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

$$I = I_0 e^{-\lambda L},$$

where  $I_0$  is the source light intensity,  $I$  is the light intensity at length  $L$  (in meters) from the source,  $\lambda$  is the

light-attenuation coefficient, and  $e$  is the base of the natural logarithm. The light attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_0}.$$

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

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

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

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

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

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

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

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

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

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

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

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

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

**Micrograms per gram (UG/G,  $\mu\text{g/g}$ )** 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 kilogram (UG/KG,  $\mu\text{g/kg}$ )** is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

**Micrograms per liter (UG/L,  $\mu\text{g/L}$ )** is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

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

**Milligrams per liter (MG/L,  $\text{mg/L}$ )** is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment

also is expressed in  $\text{mg/L}$  and is based on the mass of dry sediment per liter of water-sediment mixture.

**Minimum Reporting Level (MRL)** is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method (Timme, 1995).

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

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

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

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

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

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

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

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

**North American Vertical Datum of 1988 (NAVD 1988)** is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the U.S. This datum was estab-

lished in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and U.S. first-order terrestrial leveling networks.

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

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

**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. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

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

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

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

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

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

**Particle size** is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, Sedigraph) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

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

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

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

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

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

**Percent shading** is determined by using a clinometer to estimate left and right bank shading. The values are added together and divided by 180 to determine percent shading relative to a horizontal surface.

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

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

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

**pH** of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

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

**Picocurie** (PC, pCi) is one trillionth ( $1 \times 10^{-12}$ ) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields  $3.7 \times 10^{10}$  radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

**Plankton** is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL of sample).

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

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

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

**Primary productivity (carbon method)** is expressed as milligrams of carbon per area per unit time

[mg C/(m<sup>2</sup>/time)] for periphyton and macrophytes or per volume [mg C/(m<sup>3</sup>/time)] for phytoplankton. Carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

**Primary productivity (oxygen method)** is expressed as milligrams of oxygen per area per unit time [mg O/(m<sup>2</sup>/time)] for periphyton and macrophytes or per volume [mg O/(m<sup>3</sup>/time)] for phytoplankton. Oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

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

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

**Recurrence interval**, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or non-exceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most

of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day 10-year low flow ( $7Q_{10}$ ) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the non-exceedances of the  $7Q_{10}$  occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the  $7Q_{10}$ .

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

**Return period** (See “Recurrence interval”)

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

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

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

**Sediment** is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as “fluvial sediment.” Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

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

**Sodium adsorption ratio (SAR)** is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

**Specific electrical conductance (conductivity)** is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

**Stage** (See “Gage height”)

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

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

**Substrate** is the physical surface upon which an organism lives.

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

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

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

**Surficial bed material** is the upper surface (0.1 to 0.2 ft) of the bed material such as that material which 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 operationally defined as the material retained on a 0.45-micrometer filter.

**Suspended, recoverable** is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by directly analyzing the suspended material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

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

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

**Suspended-sediment discharge** (tons/day) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in

units of tons per day as follows: concentration (mg/L) x discharge (ft<sup>3</sup>/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

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

**Suspended, total** is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by directly analyzing parts of the suspended material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

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

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

**Taxa richness** is the total number of distinct species or groups and usually decreases with pollution. (See also "Percent Shading")

**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:	<i>Hexagenia</i>
Species:	<i>Hexagenia limbata</i>



**Temperature preferences:**

Cold – preferred water temperature for the species is less than 20 °C or spawning temperature preference less than 16 °C and native distribution is considered to be predominantly north of 45° N. latitude.

Warm – preferred water temperatures for the species is greater than 20 °C or spawning temperature preference greater than 16 °C and native distribution is considered to be predominantly south of 45° N. latitude.

Cool – intermediate between cold and warm water temperature preferences.

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

**Time-weighted average** is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

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

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

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

**Total coliform bacteria** are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that fer-

ment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

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

**Total in bottom material** is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as “total in bottom material.”

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

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

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

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

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

**Total sediment load** or total load is the sediment in transport as bedload and suspended-sediment load. The term

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

**Trophic group:**

**Filter feeder** – diet composed of suspended plant and/or animal material.

**Herbivore** – diet composed predominantly of plant material.

**Invertivore** – diet composed predominantly of invertebrates.

**Omnivore** – diet composed of at least 25-percent plant and 25-percent animal material.

**Piscivore** – diet composed predominantly of fish.

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

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

**Vertical datum** (See “Datum”)

**Volatile organic compounds (VOCs)** are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and pro-

duced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

**Water table** is the level in the saturated zone at which the pressure is equal to the atmospheric pressure.

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

**Water year** in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2001, is called the “2001 water year.”

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

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

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

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

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

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

## TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be made in the form of a check or money order payable to the "U.S. Geological Survey." Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

### Book 1. Collection of Water Data by Direct Measurement

#### Section D. Water Quality

- 1-D1. *Water temperature—influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

### Book 2. Collection of Environmental Data

#### Section D. Surface Geophysical Methods

- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

#### Section E. Subsurface Geophysical Methods

- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

#### Section F. Drilling and Sampling Methods

- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 p.

### Book 3. Applications of Hydraulics

#### Section A. Surface-Water Techniques

- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI book 3, chap. A4. 1967. 44 p.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.
- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and

- C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.
- Section B. Ground-Water Techniques*
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.
- 3-B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.
- Section C. Sedimentation and Erosion Techniques*
- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.
- Book 4. Hydrologic Analysis and Interpretation**
- Section A. Statistical Analysis*
- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.
- Section B. Surface Water*
- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

*Section D. Interrelated Phases of the Hydrologic Cycle*

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

**Book 5. Laboratory Analysis***Section A. Water Analysis*

- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 p.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greenson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

*Section C. Sediment Analysis*

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

**Book 6. Modeling Techniques***Section A. Ground Water*

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 p.

- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS–TWRI book 6, chap. A5, 1993. 243 p.
- 6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A5, 1996. 125 p.

**Book 7. Automated Data Processing and Computations***Section C. Computer Programs*

- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

**Book 8. Instrumentation***Section A. Instruments for Measurement of Water Level*

- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

*Section B. Instruments for Measurement of Discharge*

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

**Book 9. Handbooks for Water-Resources Investigations**

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

- 9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.
- 9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.
- 9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.
- 9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.
- 9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.
- 9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.
- 9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.

## SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

### Remark Codes

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

PRINT 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).
V	Analyte was detected in both the environmental sample and the associated blanks.
&	Biological organism estimated as dominant.

### Dissolved Trace-Element Concentrations

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

### Change in National Trends Network Procedures

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

ANDROSCOGGIN RIVER BASIN

01052500 DIAMOND RIVER NEAR WENTWORTH LOCATION, NH

LOCATION (Revised).--Lat 44°52'39", long 71°03'28", Coos County, Hydrologic Unit 01040001, on left bank, 0.8 mi downstream of confluence of Swift Diamond River and Dead Diamond River, 0.8 mi upstream from mouth, 1.3 mi north of Wentworth Location, and 7.7 mi northeast of Errol.

DRAINAGE AREA.--152 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR ME-81-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,259.48 ft above sea level.

REMARKS.--Records good except for periods of estimated daily discharges, which are fair. Satellite gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft<sup>3</sup>/s, March 31, 1998, gage height, 12.11 ft, from rating curve extended above 7,500 ft<sup>3</sup>/s; maximum gage height, 12.23 ft, February 21, 1981 (ice jam); minimum discharge, 6.8 ft<sup>3</sup>/s, August 27, 28, 1949, September 1, 1952, gage height, 0.81 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,600 ft<sup>3</sup>/s and maximum (\*):

Table with 8 columns: Date, Time, Discharge (ft<sup>3</sup>/s), Gage height (ft), Date, Time, Discharge (ft<sup>3</sup>/s), Gage height (ft). Rows include data for April 1915 and May 2 1845.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001 DAILY MEAN VALUES

Large table with 13 columns: DAY, OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP. Rows include daily mean values from day 1 to 31, and summary statistics (TOTAL, MEAN, MAX, MIN, CFSM, IN).

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2001, BY WATER YEAR (WY)

Table with 13 columns: MEAN, MAX, (WY), MIN, (WY). Rows show monthly mean statistics for water years 1941-2001.

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1941 - 2001

Table with 4 columns: 2000 CALENDAR YEAR, 2001 WATER YEAR, WATER YEARS 1941 - 2001. Rows include annual total, annual mean, highest/lowest annual mean, highest/lowest daily mean, annual seven-day minimum, maximum peak flow/stage, annual runoff (CFSM/inches), and 10/50/90 percent exceedances.

a Also occurred on September 20. e Estimated.



01053500 ANDROSCOGGIN RIVER AT ERROL, NH

**LOCATION.**--Lat 44°46'57", long 71°07'46", Coos County, Hydrologic Unit 01040001, on right bank, 0.4 mi downstream from Errol Dam, 0.4 mi northeast of Errol, and 0.6 mi upstream from Clear Stream.

**DRAINAGE AREA.**--1,046 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: January 1905 to current year. November and December 1912, monthly discharges only, published in WSP 1301. Prior to 1922, published as "at Errol Dam." Records for water years 1923-44 have not been published but are available in the files of the U.S. Geological Survey.

**PERIOD OF PRECIPITATION RECORD.**--October 1998 to current year.

**REVISED RECORDS.**--WRD ME-81-1: Drainage area. WDR ME-97-1: 1906-43(M), 1978-84(M).

**GAGE.**--Water-stage recorder. Datum of gage is 1,227.30 ft above sea level. Prior to December 8, 1943, nonrecording gage at Errol Dam at datum 5.0 ft higher.

**REMARKS.**--No estimated daily discharges. Records good. Flow regulated by Rangeley, Mooselookmeguntic, Richardson, Azischohos, and Umbagog Lakes, combined usable capacity, 28 billion ft<sup>3</sup>, with final regulation at Errol Dam, 0.4 mi upstream. Satellite gage-height telemeter at station.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 16,500 ft<sup>3</sup>/s, May 22, 1969, gage height, 9.40 ft; minimum daily discharge, leakage only at various times when gates in dam were closed in water years 1918, 1919, 1923, 1924, 1928, and 1941.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 9,000 ft<sup>3</sup>/s, April 25, gage height, 6.99 ft; minimum daily discharge, 815 ft<sup>3</sup>/s, April 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1380	1280	1160	1140	1500	1800	1310	4340	1310	1530	1650	1310
2	1380	1280	1240	1210	1500	1800	1310	4400	1460	1470	1450	1310
3	1370	1280	1260	1250	1500	1800	1310	4520	1760	1470	1460	1310
4	1380	1310	1260	1250	1500	1800	1310	4590	2270	1470	1460	1300
5	1380	1340	1330	1280	1500	1800	1310	4590	2580	1470	1460	1310
6	1260	1150	1240	1300	1500	1800	1310	4520	2690	1470	1460	1310
7	1180	977	1170	1300	1500	1800	1310	3170	1860	1480	1460	1310
8	1250	1030	1210	1300	1500	1930	1310	1920	1240	1470	1460	1310
9	1280	1140	1230	1300	1500	2000	1310	1510	1210	1470	1460	1310
10	1280	1080	1230	1300	1500	2000	1310	1150	1270	1470	1460	1310
11	1280	976	1190	1320	1500	2000	1310	1390	1270	1400	1460	1310
12	1280	938	1140	1350	1500	2000	1310	1090	1270	1360	1460	1310
13	1280	956	1130	1350	1500	2000	1150	1050	1270	1420	1460	1310
14	1280	1040	1130	1350	1510	2000	934	1050	1270	1460	1460	1310
15	1280	986	1100	1440	1510	2000	815	1120	1310	1460	1450	1310
16	1340	947	1100	1500	1690	2100	816	1290	1350	1460	1450	1310
17	1380	947	1130	1310	1810	2160	825	1290	1340	1460	1450	1310
18	1380	1010	2310	1350	1810	2160	830	1260	1340	1410	1450	1310
19	1380	1050	1530	1500	1810	2160	830	1260	1400	1390	1450	1310
20	1320	1170	1140	1500	1810	2160	1080	1260	1440	1460	1450	1310
21	1280	1250	1330	1500	1810	2160	1240	1260	1440	1460	1460	1310
22	1330	1250	1380	1500	1810	2020	1760	1250	1440	1460	1360	1310
23	1390	1250	1410	1500	1810	1930	3410	1180	1440	1460	1310	1310
24	1380	1320	1440	1500	1800	1920	6020	1240	1440	1460	1310	1310
25	1380	1360	1440	1500	1800	1970	8040	1240	1440	1400	1310	1310
26	1380	1360	1420	1500	1810	1940	8540	1290	1440	1360	1310	1310
27	1380	1360	1380	1500	1810	1530	7160	1330	1440	1380	1310	1310
28	1380	1300	1290	1500	1800	1200	5790	1290	1440	1420	1310	1310
29	1380	1200	1180	1500	---	1270	5250	1060	1510	1460	1310	1310
30	1380	1160	1140	1500	---	1310	4720	1180	1540	1460	1310	1310
31	1320	---	1140	1500	---	1310	---	1280	---	1510	1310	---
TOTAL	41320	34697	39780	43100	45900	57830	74930	60370	45480	44880	43930	39290
MEAN	1333	1157	1283	1390	1639	1865	2498	1947	1516	1448	1417	1310
MAX	1390	1360	2310	1500	1810	2160	8540	4590	2690	1530	1650	1310
MIN	1180	938	1100	1140	1500	1200	815	1050	1210	1360	1310	1300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 2001, BY WATER YEAR (WY)

MEAN	1587	1548	1701	1791	1858	1861	2161	3098	2256	1779	1682	1686
MAX	3949	3745	4722	3589	3644	5454	4736	8192	7129	4621	2265	4738
(WY)	1955	1908	1974	1970	1996	1936	1913	1974	1917	1996	1990	1954
MIN	921	759	844	760	718	592	770	1027	763	808	840	902
(WY)	1922	1922	1909	1909	1911	1948	1940	1941	1911	1915	1915	1911

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1905 - 2001
ANNUAL TOTAL	834837	571507	
ANNUAL MEAN	2281	1566	1916
HIGHEST ANNUAL MEAN			3117
LOWEST ANNUAL MEAN			1046
HIGHEST DAILY MEAN	15000	May 12	16100
LOWEST DAILY MEAN	938	Nov 12	a .00
ANNUAL SEVEN-DAY MINIMUM	970	Nov 11	152
MAXIMUM PEAK FLOW			9000
MAXIMUM PEAK STAGE			6.99
10 PERCENT EXCEEDS	3950	1930	Apr 25
50 PERCENT EXCEEDS	1480	1360	16500
90 PERCENT EXCEEDS	1230	1150	9.40

a As explained under Extremes for Period of Record.

## ANDROSCOGGIN RIVER BASIN

## 01054000 ANDROSCOGGIN RIVER NEAR GORHAM, NH

**LOCATION.**--Lat 44°26'10", long 71°11'27", Coos County, Hydrologic Unit 01040001, on right bank at Pulsifer Rips, 2.2 mi downstream from Dead River, and 4.0 mi upstream from Gorham.

**DRAINAGE AREA.**--1,361 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1913 to current year. October 1922 to September 1928, monthly discharge only, published in WSP 1301. Discharges for water year 1918 not used in long-term statistics because of unknown discharge on December 25, 1917. Prior to October 1928, published as "at Berlin."

**REVISED RECORDS.**--WDR ME-81-1: Drainage area. WDR ME-97-1: 1913-28(M).

**GAGE.**--Water-stage recorder. Datum of gage is 832.88 ft above sea level. Prior to September 30, 1922, nonrecording gage showing head and tailwater elevations at site 3 mi upstream at different datum.

**REMARKS.**--No estimated daily discharges. Records good. Flow regulated by Rangeley, Mooselookmeguntic, Richardson, Azischohos, and Umbagog Lakes. These reservoirs have a combined usable capacity of about 28.1 billion ft<sup>3</sup> with final regulation at Errol Dam 35 mi upstream. Diurnal fluctuations caused by power plant 0.8 mi upstream. Satellite gage-height telemeter at station.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 21,900 ft<sup>3</sup>/s, estimated, April 30, 1923; minimum daily discharge, leakage only, December 25, 1917, when gates in dam were closed.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 17,400 ft<sup>3</sup>/s, April 25, gage height, 9.47 ft; minimum daily discharge, 1,300 ft<sup>3</sup>/s, December 16.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1540	1630	1550	1490	1710	2010	1550	6940	1710	1680	1690	1450
2	1540	1570	1550	1450	1710	2010	1530	8020	1880	1620	1640	1440
3	1570	1560	1550	1530	1710	2010	1530	8110	3170	1570	1520	1410
4	1510	1560	1480	1550	1690	1980	1540	7750	3670	1590	1560	1400
5	1540	1790	1520	1530	1710	1990	1590	6860	3600	1590	1530	1370
6	1770	1990	1590	1610	1720	2010	1640	6000	3630	1540	1550	1360
7	1870	1650	1390	1620	1720	2000	1680	5210	2960	1560	1530	1350
8	1630	1460	1310	1590	1710	2030	1710	3490	1980	1560	1540	1370
9	1670	1510	1360	1600	1720	2190	1740	2530	1470	1660	1520	1380
10	1630	1560	1420	1560	1730	2220	1840	2080	1530	1630	1530	1370
11	1550	2150	1490	1540	1860	2220	2070	1660	1540	1770	1550	1380
12	1560	2110	1450	1590	1800	2230	2390	1820	1630	1800	1500	1380
13	1540	1650	1380	1560	1890	2240	2710	1980	1590	1660	1520	1360
14	1520	1550	1390	1620	1780	2230	2840	1770	1540	1690	1520	1360
15	1520	2080	1360	1620	1790	2230	2660	1600	1490	1700	1510	1330
16	1510	2020	1300	1750	1800	2270	2560	1670	1500	1720	1510	1370
17	1570	1640	1810	1720	2040	2430	2650	1780	1610	1720	1540	1380
18	1650	1540	5570	1430	2000	2480	2710	1690	1680	1720	1520	1370
19	1780	1520	4470	1700	2060	2430	2480	1940	1560	1570	1570	1370
20	1750	1490	2490	1750	2060	2370	2270	2110	1620	1550	1490	1380
21	1570	1580	2020	1730	2030	2420	2950	1840	1580	1620	1580	1420
22	1520	1620	2070	1710	1990	2450	5250	1710	1580	1580	1530	1410
23	1600	1580	1940	1710	2060	2260	9650	1570	1580	1540	1390	1410
24	1610	1510	1820	1710	2020	2210	12700	1540	1560	1610	1360	1390
25	1610	1610	1890	1720	2020	2230	16400	1530	1630	1690	1350	1430
26	1600	1640	1750	1710	2000	2230	13800	1510	1540	1550	1360	1590
27	1600	1760	1760	1710	2040	2030	11900	1590	1550	1450	1370	1520
28	1600	1830	1690	1700	2010	1450	9830	1710	1540	1500	1370	1440
29	1580	1710	1610	1690	---	1430	7930	1740	1510	1550	1400	1420
30	1600	1570	1490	1710	---	1550	7300	1660	1630	1550	1390	1380
31	1660	---	1490	1720	---	1570	---	1600	---	1580	1360	---
TOTAL	49770	50440	56960	50630	52380	65410	139400	93010	57060	50120	46300	41990
MEAN	1605	1681	1837	1633	1871	2110	4647	3000	1902	1617	1494	1400
MAX	1870	2150	5570	1750	2060	2480	16400	8110	3670	1800	1690	1590
MIN	1510	1460	1300	1430	1690	1430	1530	1510	1470	1450	1350	1330

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2001, BY WATER YEAR (WY)**

MEAN	2052	2103	2143	2150	2169	2508	3951	4277	2783	2084	1929	1977
MAX	4894	4292	5811	4044	4294	7684	6474	10050	10560	5840	2792	6387
(WY)	1955	1991	1974	1970	1996	1936	1976	1937	1917	1996	1990	1954
MIN	1374	1413	1257	1276	1299	1376	1755	1746	1545	1524	1462	1330
(WY)	1942	1922	1953	1953	1922	1922	1965	1941	1915	1980	1995	1995

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1914 - 2001
ANNUAL TOTAL	1055380	753470	
ANNUAL MEAN	2884	2064	2515
HIGHEST ANNUAL MEAN			4147
LOWEST ANNUAL MEAN			1689
HIGHEST DAILY MEAN	16200	May 12	20000
LOWEST DAILY MEAN	1300	Dec 16	795
ANNUAL SEVEN-DAY MINIMUM	1400	Dec 10	866
MAXIMUM PEAK FLOW		17400	21900
MAXIMUM PEAK STAGE		9.47	21900
10 PERCENT EXCEEDS	5210	Apr 25	3730
50 PERCENT EXCEEDS	1870		2010
90 PERCENT EXCEEDS	1510		1600

01064300 ELLIS RIVER NEAR JACKSON, NH

**LOCATION.**--Lat 44°13'08", long 71°14'59", Carroll County, Hydrologic Unit 01060002, in White Mountain National Forest, on right bank, 0.4 mi upstream from small left-bank tributary, 1.3 mi upstream from bridge on State Highway 16, and 6 mi northwest of Jackson.

**DRAINAGE AREA.**--10.9 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: December 1963 to current year.

**GAGE.**--Water-stage recorder. Elevation of gage is 1,500 ft above sea level, from topographic map. Prior to October 14, 1969, at site 0.3 mi downstream at different datum.

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

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2045	* 1,480	* 5.32	Sept. 25	1515	1,110	4.69

Minimum discharge, 5.3 ft<sup>3</sup>/s, September 9, 10, and 16-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e9.4	14	14	e14	8.8	7.8	7.0	194	27	12	8.3	8.8
2	e9.4	e16	e14	13	8.7	7.7	7.1	219	124	11	8.1	6.9
3	e9.1	18	e15	13	8.6	7.7	7.0	291	186	11	8.0	6.4
4	e9.1	21	e14	12	8.6	7.6	7.3	271	94	11	8.7	6.7
5	e10	37	e13	12	8.6	7.5	8.7	136	112	11	9.1	6.4
6	e21	25	e12	11	9.8	7.9	8.9	67	68	10	8.0	6.0
7	e14	22	e12	11	8.9	7.7	9.3	55	49	9.8	7.9	5.9
8	e13	24	e12	11	8.8	7.4	9.6	57	39	10	7.9	5.7
9	12	23	e11	11	8.9	7.5	11	65	33	9.8	8.8	5.6
10	12	37	e11	11	20	7.5	19	77	29	9.6	8.6	6.3
11	12	89	e12	11	e12	7.4	19	76	29	9.6	8.3	7.2
12	12	41	13	11	e9.9	7.3	31	93	35	10	8.2	5.9
13	12	27	e11	10	9.7	7.4	65	76	28	12	8.2	5.7
14	12	33	11	11	9.3	7.4	46	43	25	12	e7.8	5.7
15	12	52	9.8	10	9.2	7.4	30	36	23	13	e7.8	5.7
16	12	28	9.6	11	8.9	7.3	29	34	22	11	e7.3	5.6
17	12	23	e440	10	8.9	7.5	31	32	24	11	e7.6	5.5
18	20	20	242	10	8.6	7.5	28	31	21	11	e7.6	5.5
19	21	18	e58	10	8.5	7.4	22	38	19	10	e7.0	5.5
20	15	17	42	10	8.5	7.8	25	35	18	9.7	e7.2	7.5
21	13	16	e36	9.9	e8.5	8.1	43	33	17	9.5	e8.8	29
22	12	15	e33	9.8	e8.4	8.1	286	31	16	9.1	e8.5	11
23	12	e14	e30	9.7	8.2	7.8	242	29	18	8.7	e7.3	8.7
24	12	e14	e26	9.6	8.1	7.6	453	29	20	8.7	6.2	7.9
25	11	e19	e24	9.5	8.2	7.4	164	28	16	8.8	5.9	212
26	11	24	e22	9.2	8.2	7.3	71	26	15	9.1	5.9	59
27	11	26	e20	9.2	8.0	7.3	68	33	15	8.5	6.2	25
28	10	18	e18	9.0	8.0	7.3	66	48	14	8.1	6.1	25
29	10	16	e17	8.9	---	7.2	50	49	13	8.1	6.6	20
30	11	15	e16	8.9	---	7.4	58	33	12	8.5	6.0	16
31	14	---	e15	9.0	---	7.3	---	27	---	8.4	6.0	---
TOTAL	386.0	762	1233.4	325.7	258.8	233.5	1921.9	2292	1161	310.0	233.9	538.1
MEAN	12.5	25.4	39.8	10.5	9.24	7.53	64.1	73.9	38.7	10.0	7.55	17.9
MAX	21	89	440	14	20	8.1	453	291	186	13	9.1	212
MIN	9.1	14	9.6	8.9	8.0	7.2	7.0	26	12	8.1	5.9	5.5
CFSM	1.14	2.33	3.65	.96	.85	.69	5.88	6.78	3.55	.92	.69	1.65
IN.	1.32	2.60	4.21	1.11	.88	.80	6.56	7.82	3.96	1.06	.80	1.84

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001, BY WATER YEAR (WY)

	30.3	36.5	25.3	18.0	15.5	27.2	69.2	84.7	42.4	23.1	19.3	19.5
MEAN	30.3	36.5	25.3	18.0	15.5	27.2	69.2	84.7	42.4	23.1	19.3	19.5
MAX	80.9	90.1	104	57.6	109	75.6	150	159	123	60.5	62.5	65.0
(WY)	1996	1970	1974	1986	1981	1998	1987	1984	1998	1996	1990	1999
MIN	9.15	9.29	6.54	4.34	3.07	6.05	23.1	45.7	16.1	10.0	7.46	6.98
(WY)	1970	1979	1979	1977	1977	1969	1995	1993	1970	2001	1980	1978

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1964 - 2001

ANNUAL TOTAL	11744.0	9656.3	
ANNUAL MEAN	32.1	26.5	34.5
HIGHEST ANNUAL MEAN			53.0
LOWEST ANNUAL MEAN			21.6
HIGHEST DAILY MEAN	620	Apr 9	453
LOWEST DAILY MEAN	7.9	Sep 14	a 5.5
ANNUAL SEVEN-DAY MINIMUM	8.3	Sep 8	5.6
MAXIMUM PEAK FLOW			c 1480
MAXIMUM PEAK STAGE			5.32
INSTANTANEOUS LOW FLOW			f 5.3
ANNUAL RUNOFF (CFSM)	2.94	2.43	3.16
ANNUAL RUNOFF (INCHES)	40.08	32.96	42.96
10 PERCENT EXCEEDS	55	49	70
50 PERCENT EXCEEDS	17	11	18
90 PERCENT EXCEEDS	9.9	7.3	8.3

- a Also occurred on September 18, 19.
- b Also occurred on March 3, 4, 1980.
- c From rating curve extended above 390 ft<sup>3</sup>/s on basis of slope-area measurements at gage height 10.34 ft.
- d Gage height 10.34 ft from recorder, affected by drawdown; 18.9 ft from floodmarks, site and datum then in use.
- e Estimated.
- f Also occurred on September 10, 16-20.
- g Minimum not determined, occurred during ice effect in March 1980.

SACO RIVER BASIN

01064500 SACO RIVER NEAR CONWAY, NH

**LOCATION.**--Lat 43°59'27", long 71°05'29", Carroll County, Hydrologic Unit 01060002, on left bank, at Odell Falls, 1.8 mi downstream from Swift River and Conway.

**DRAINAGE AREA.**--385 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: August 1903 to December 1909, January 1910 to June 1912 (gage heights only), February 1929 to current year. Monthly discharge only for some periods, published in WSP 1301. Prior to 1912, published as "at Center Conway."

**REVISED RECORDS.**--WSP 1301: 1908-09. WDR ME-81-1: Drainage area. WRD ME-87-1: 1936 (M), 1951 (M), 1953 (M), 1960 (M), 1977 (M).

**GAGE.**--Water-stage recorder. Datum of gage is 418.19 ft above sea level. August 26, 1903, to June 30, 1912, nonrecording gage at site 0.8 mi downstream at different datum.

**REMARKS.**--Records good except those for periods of estimated daily discharges, which are fair. Satellite gage-height telemeter at station.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 47,200 ft<sup>3</sup>/s, March 27, 1953, gage height, 17.20 ft; maximum gage height, 19.03 ft, March 7, 1979, (ice jam); minimum discharge, 40 ft<sup>3</sup>/s, March 16, 1932, gage height, 1.61 ft.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 8,700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0545	* 20,300	* 10.93	Apr. 25	0100	14,000	9.45

Minimum discharge, 79 ft<sup>3</sup>/s, September 17-20, gage height, 1.84 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	265	e495	e529	e305	e257	e279	3290	627	265	143	115
2	160	283	e428	e512	e283	e257	e271	4870	1310	289	137	127
3	158	281	e395	e496	e280	e254	e261	5380	4410	264	127	117
4	154	266	e388	e485	e254	e241	e261	5330	3160	243	123	106
5	154	342	e372	e469	e290	e252	e291	4080	2050	384	257	104
6	278	534	e341	e454	e284	e266	e323	2590	1560	323	192	106
7	441	384	e269	e437	e322	e282	e382	1990	1240	260	155	98
8	298	362	e209	e418	e308	e269	e464	1790	1010	251	136	93
9	257	382	e207	e405	e298	e278	e523	1730	856	265	125	91
10	233	413	e223	e391	e332	e274	e862	1740	759	267	121	87
11	213	1590	e293	e376	e328	e268	e1230	1690	690	277	114	88
12	199	1290	e380	e378	e324	e254	e1350	1620	741	272	112	90
13	194	856	e380	e360	e385	e265	2860	1800	701	251	110	90
14	198	716	e350	e377	e321	e282	2930	1290	603	235	107	85
15	199	1490	e325	e356	e300	e274	2220	1080	532	223	104	83
16	192	1100	e316	e349	e283	e274	2180	992	477	226	100	82
17	202	833	2340	e346	e277	e264	2230	951	449	219	98	81
18	234	696	12200	e318	e249	e255	2160	889	541	242	102	79
19	659	592	3150	e323	e291	e253	1810	863	439	218	104	79
20	481	529	e2060	e319	e288	e259	1760	851	387	198	102	80
21	351	494	e1560	e302	e271	e284	2170	777	354	183	111	182
22	294	461	e1320	e292	e233	e311	4780	729	336	173	134	362
23	264	415	e1130	e281	e309	e335	8380	695	337	165	125	216
24	247	e341	e964	e313	e277	e335	9550	649	430	158	111	165
25	236	e328	e824	e310	e262	e325	9120	597	402	149	102	611
26	228	e358	e720	e286	e286	e300	4690	547	336	158	97	2170
27	221	585	e660	e314	e275	e291	3920	561	300	165	95	671
28	209	724	e619	e298	e269	e281	3610	763	273	153	96	409
29	198	596	e586	e267	---	e274	2890	1090	249	145	98	416
30	199	538	e567	e291	---	e282	2570	812	244	140	94	310
31	226	---	e546	e315	---	e284	---	661	---	138	91	---
TOTAL	7742	18044	34617	11367	8184	8580	76327	52697	25803	6899	3723	7393
MEAN	250	601	1117	367	292	277	2544	1700	860	223	120	246
MAX	659	1590	12200	529	385	335	9550	5380	4410	384	257	2170
MIN	154	265	207	267	233	241	261	547	244	138	91	79
CFSM	.65	1.56	2.90	.95	.76	.72	6.61	4.42	2.23	.58	.31	.64
IN.	.75	1.74	3.34	1.10	.79	.83	7.37	5.09	2.49	.67	.36	.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	645	956	765	574	510	969	2626	2230	845	440	355	391																																																																																						
MAX	2369	2493	2656	1887	3170	5986	4564	4609	3644	2043	1685	1794																																																																																						
(WY)	1978	1908	1974	1986	1981	1936	1987	1940	1998	1973	1990	1954																																																																																						
MIN	114	211	152	144	124	146	871	614	300	158	120	102																																																																																						
(WY)	1948	1909	1956	1940	1940	1940	1995	1941	1964	1991	2001	1948																																																																																						

SUMMARY STATISTICS

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1904 - 2001
ANNUAL TOTAL	338061	261376	
ANNUAL MEAN	924	716	943
HIGHEST ANNUAL MEAN			1463
LOWEST ANNUAL MEAN			489
HIGHEST DAILY MEAN	12200	Dec 18	33900
LOWEST DAILY MEAN	141	Sep 11	66
ANNUAL SEVEN-DAY MINIMUM	147	Sep 8	81
MAXIMUM PEAK FLOW			20300
MAXIMUM PEAK STAGE			10.93
INSTANTANEOUS LOW FLOW			79
ANNUAL RUNOFF (CFSM)	2.40	1.86	2.45
ANNUAL RUNOFF (INCHES)	32.66	25.26	33.27
10 PERCENT EXCEEDS	2110	1730	2190
50 PERCENT EXCEEDS	412	308	460
90 PERCENT EXCEEDS	202	115	184

a Ice Jam.  
e Estimated.

01064801 BEARCAMP RIVER AT SOUTH TAMWORTH, NH

LOCATION.--Lat 43°49'48", long 71°17'18", Carroll County, Hydrologic Unit 01060002, on right bank, 0.7 mi upstream of Sanger Brook, 0.8 mi east of South Tamworth, 1.0 mi downstream of Cold Brook, and 1.1 mi west of Whittier.

DRAINAGE AREA.--67.6 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: April 1993 to current year. Published as "near South Tamworth" prior to October 1995.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 490 ft above sea level, from topographic map. Formerly published as Bear Camp River.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft<sup>3</sup>/s (revised) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0045	* 3,720	* 8.12	Apr. 22	1900	1,630	6.73

Minimum discharge, 4.9 ft<sup>3</sup>/s, September 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	32	83	e69	36	31	69	281	55	27	10	10
2	11	28	e74	e66	35	30	64	340	412	60	9.7	12
3	11	25	e65	e64	34	30	62	324	1090	34	8.8	8.7
4	11	24	e62	e60	31	29	66	286	690	26	8.3	e11
5	10	39	e60	e57	32	29	97	223	354	37	7.7	e12
6	28	63	e58	e57	43	31	132	155	212	31	7.4	9.1
7	37	46	e53	e53	42	35	147	121	142	23	7.0	7.8
8	24	38	e47	e51	36	32	181	105	105	22	6.7	7.1
9	19	33	e44	e51	36	32	198	98	81	23	6.5	6.5
10	17	63	e47	e48	50	34	353	94	66	21	6.8	6.2
11	16	325	55	e46	e65	32	454	87	58	22	8.7	6.4
12	33	209	e67	e45	e61	31	e700	88	61	25	7.2	6.2
13	29	138	e68	e43	e53	32	e1050	111	57	23	6.6	5.9
14	24	121	e64	e46	48	34	1010	80	48	20	6.3	5.7
15	17	367	e60	e44	e46	33	743	66	42	18	5.9	5.5
16	15	224	e61	e43	44	38	682	61	35	16	5.6	5.3
17	18	154	e860	e42	43	41	626	59	31	21	5.5	5.2
18	37	118	e1850	41	39	46	553	56	31	27	5.8	5.1
19	126	94	e540	40	38	50	453	56	26	21	6.0	5.0
20	68	78	e330	39	38	61	426	53	23	17	5.8	5.1
21	45	71	e230	38	38	102	512	48	20	15	6.9	6.4
22	34	64	e180	37	34	140	1090	44	19	14	7.6	6.8
23	28	e58	e150	34	36	685	1260	44	20	13	6.7	30
24	25	e45	e120	36	34	297	1270	40	35	12	5.8	19
25	24	e50	e100	35	33	194	874	36	32	11	5.3	305
26	22	e56	e86	33	36	142	483	32	25	14	5.0	285
27	21	e95	e99	32	35	111	381	40	21	15	5.0	82
28	20	123	e95	32	33	88	333	66	18	12	5.1	47
29	19	110	e83	30	---	72	262	134	16	11	6.1	34
30	18	96	e76	30	---	65	228	86	15	10	6.2	26
31	25	---	e72	35	---	82	---	65	---	10	5.9	---
TOTAL	843	2987	5839	1377	1129	2689	14759	3379	3840	651	207.9	1105.8
MEAN	27.2	99.6	188	44.4	40.3	86.7	492	109	128	21.0	6.71	36.9
MAX	126	367	1850	69	65	685	1270	340	1090	60	10	305
MIN	10	24	44	30	31	29	62	32	15	10	5.0	5.0
CFSM	.40	1.47	2.79	.66	.60	1.28	7.28	1.61	1.89	.31	.10	.55
IN.	.46	1.64	3.21	.76	.62	1.48	8.12	1.86	2.11	.36	.11	.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	115	167	158	133	119	242	446	189	151	73.1	35.3	56.5						
MAX	258	302	410	331	242	436	632	398	811	178	91.0	243						
(WY)	1996	1996	1997	1996	1997	1998	1993	1996	1998	1996	1997	1999						
MIN	27.2	66.2	60.3	44.4	40.3	86.7	129	77.4	34.7	17.0	6.71	9.52						
(WY)	2001	1995	1998	2001	2001	2001	1995	1993	1999	1995	2001	1995						

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1993 - 2001

ANNUAL TOTAL	50331.3	38806.7	
ANNUAL MEAN	138	106	158
HIGHEST ANNUAL MEAN			217
LOWEST ANNUAL MEAN			94.6
HIGHEST DAILY MEAN	e 1850	Dec 18	5370
LOWEST DAILY MEAN	8.8	Sep 11	a 5.0
ANNUAL SEVEN-DAY MINIMUM	9.5	Sep 8	5.3
MAXIMUM PEAK FLOW			3720
MAXIMUM PEAK STAGE			8.12
INSTANTANEOUS LOW FLOW			b 4.9
ANNUAL RUNOFF (CFSM)	2.03		1.57
ANNUAL RUNOFF (INCHES)	27.70		21.36
10 PERCENT EXCEEDS	322		283
50 PERCENT EXCEEDS	59		39
90 PERCENT EXCEEDS	16		7.3
			17

a Also occurred August 27 and September 19.  
b Also occurred September 20.  
c Also occurred September 8, 1995.  
e Estimated.

PISCATAQUA RIVER BASIN

01072100 SALMON FALLS RIVER AT MILTON, NH

**LOCATION (REVISED)**.--Lat 43°24'48", long 70°59'15", Strafford County, Hydrologic Unit 01060003, on right bank, just downstream from Milton Pond at Milton, 4.2 mi east of Farmington, and 7.4 mi north of Rochester.

**DRAINAGE AREA**.--108 mi<sup>2</sup>.

**PERIOD OF RECORD**.--Discharge records: October 1968 to current year.

**GAGE**.--Water-stage recorder and concrete control. Elevation of gage is 405 ft above sea level, from topographic map.

**REMARKS**.--Records good except for the periods of shifting control due to gate openings, December 18-20 and March 22-23, which are fair. Flow regulated by Great East and Lovell Lakes and Horn, Wilson, and Milton (also controls Northeast and Town House) Ponds. These reservoirs have a combined usable capacity of about 1.28 billion ft<sup>3</sup>.

**EXTREMES FOR CURRENT YEAR**.--Maximum discharge, 1,250 ft<sup>3</sup>/s, April 15, gage height, 4.94 ft; minimum daily discharge 25 ft<sup>3</sup>/s, August 11, 12 and September 29, 30.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	134	230	178	91	87	270	247	112	62	35	31
2	46	134	205	175	92	86	268	220	153	55	32	31
3	45	134	183	171	93	86	200	147	402	40	37	30
4	44	132	171	208	89	86	132	165	485	41	41	30
5	44	134	162	225	88	85	135	186	414	41	37	30
6	42	163	157	207	89	86	224	183	280	41	35	30
7	43	187	154	193	90	86	284	124	179	38	32	30
8	49	166	154	210	90	85	312	104	166	37	29	29
9	146	153	152	229	113	85	341	119	149	38	27	29
10	230	157	151	226	129	85	441	115	133	41	26	29
11	227	229	149	226	128	85	581	112	113	49	25	29
12	231	299	122	144	126	84	674	113	171	55	25	29
13	225	291	91	79	126	84	850	116	208	49	30	28
14	219	268	91	80	126	84	1070	115	191	45	35	28
15	217	295	162	82	126	84	1190	113	134	44	34	28
16	216	317	222	83	125	84	1090	113	92	41	33	28
17	236	303	223	84	124	85	1040	110	99	43	33	27
18	244	277	489	84	123	85	978	89	109	50	33	27
19	250	251	753	87	122	85	873	76	104	56	33	27
20	256	230	537	89	121	85	782	77	103	71	33	27
21	255	221	394	90	120	87	745	78	98	69	33	27
22	248	209	365	91	118	314	810	83	87	60	33	27
23	244	188	328	91	101	395	1070	81	82	54	32	27
24	241	170	291	90	87	305	1160	78	84	49	31	26
25	232	154	264	90	87	362	1040	73	103	45	31	26
26	235	155	226	90	88	373	737	69	100	49	31	26
27	237	198	204	90	87	354	554	88	90	49	31	26
28	226	245	192	90	87	319	497	110	80	46	31	26
29	214	264	182	90	---	292	440	129	69	42	31	25
30	174	258	179	90	---	283	292	138	63	40	31	25
31	132	---	186	91	---	275	---	129	---	38	31	---
TOTAL	5494	6316	7369	4053	2986	5061	19080	3700	4653	1478	991	838
MEAN	177	211	238	131	107	163	636	119	155	47.7	32.0	27.9
MAX	256	317	753	229	129	395	1190	247	485	71	41	31
MIN	42	132	91	79	87	84	132	69	63	37	25	25

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2001, BY WATER YEAR (WY)**

MEAN	181	198	225	178	189	318	437	221	134	67.7	60.7	76.0
MAX	499	487	604	384	439	720	908	431	650	181	165	162
(WY)	1978	1996	1984	1978	1970	1979	1969	1984	1998	1996	1982	1999
MIN	81.4	77.9	40.5	59.7	60.8	108	103	55.4	35.5	26.1	24.2	22.3
(WY)	1969	1987	1979	1977	1977	1993	1985	1985	1999	1991	1999	1993

**SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1969 - 2001**

ANNUAL TOTAL	68950		62019			
ANNUAL MEAN	188		170		190	
HIGHEST ANNUAL MEAN					307 1984	
LOWEST ANNUAL MEAN					98.6 1985	
HIGHEST DAILY MEAN	922	Apr 24	1190	Apr 15	3220	Mar 15 1977
LOWEST DAILY MEAN	29	Sep 14	a 25	Aug 11	16	Sep 11 1999
ANNUAL SEVEN-DAY MINIMUM	30	Sep 14	26	Sep 24	17	Sep 8 1999
MAXIMUM PEAK FLOW			1250	Apr 15	4000	Apr 6 1984
MAXIMUM PEAK STAGE			4.94	Apr 15	6.70	Apr 6 1984
10 PERCENT EXCEEDS	356		315		402	
50 PERCENT EXCEEDS	154		110		134	
90 PERCENT EXCEEDS	41		31		37	

a Also occurred August 12 and September 29, 30.

01072800 COCHECO RIVER NEAR ROCHESTER, NH

**LOCATION.**--Lat 43°16'06", long 70°58'27", Strafford County, Hydrologic Unit 01060003, on right bank, directly behind Rochester Country Club, 0.6 mi south by southeast of Gonic, 2.5 mi south of Rochester City Hall, approximately 3.3 mi upstream from mouth of Isinglass River, and approximately 12.6 mi above mouth.

**DRAINAGE AREA.**-- 85.7 mi<sup>2</sup>

**REVISED RECORDS.**-- WDR NH-VT-97-1: Drainage area.

**PERIOD OF RECORD.**--Discharge records: March 1995 to current year. Published as "at Rochester" prior to October 1996.

**GAGE.**--Water-stage recorder and crest-stage gage. Elevation of gage is 125 ft above sea level, from topographic map.

**REMARKS.**--Records good except those for the periods of December 8-10 and 13-16, which are fair, and those for December 21 to March 21, which are poor. Some regulation by small hydro plants, Sunrise and Baxter Lakes, City Dam No. 1, and the Rochester Reservoirs. Low flows diverted from Berrys River (tributary to Isinglass River) to Rochester Reservoir (head of Howard Brook) then into the Rochester City water supply system. Unknown amount of diverted flow enters the Cocheco River Basin above the gage.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	1900	* 1,460	* 9.29	Apr. 13	1315	1,180	8.25
Mar. 23	1315	862	7.01				

Minimum daily discharge, 3.5 ft<sup>3</sup>/s, September 13, 14, and 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	37	106	e100	e69	e66	291	138	46	31	14	18
2	14	38	92	e93	e73	e60	257	123	129	37	12	12
3	13	34	73	e89	e72	e56	248	109	329	38	14	12
4	11	31	70	e85	e64	e52	274	98	293	33	26	11
5	11	37	64	e81	e61	e50	347	95	182	31	23	10
6	32	58	62	e83	e65	e53	429	91	125	29	19	7.9
7	53	61	54	e83	e70	e63	420	82	91	26	15	6.9
8	42	51	e48	e83	e65	e68	467	75	72	24	12	5.7
9	33	46	e42	e79	e64	e66	486	74	58	25	11	5.0
10	30	60	e40	e72	e79	e63	727	68	49	30	9.7	5.2
11	41	216	43	e70	e87	e61	831	64	49	50	9.4	5.1
12	44	279	52	e68	e83	e65	753	60	132	39	11	4.1
13	39	175	e49	e62	e77	e62	1080	58	132	32	12	3.5
14	35	129	e50	e62	e72	e75	1050	55	94	29	10	3.5
15	35	210	e49	e60	e71	e97	873	51	71	27	9.0	3.8
16	34	259	e50	e60	e72	e110	758	52	57	24	8.0	3.8
17	35	183	176	e60	e70	e110	675	51	65	25	8.3	4.3
18	38	144	1020	e59	e78	e115	603	50	98	48	8.6	4.3
19	81	123	736	e59	e71	e125	526	48	75	42	8.6	3.9
20	95	109	413	e58	e64	e140	460	46	60	35	9.7	3.5
21	85	98	e320	e55	e62	e160	431	44	52	30	11	12
22	76	90	e220	e55	e57	471	443	42	45	26	13	12
23	68	86	e175	e54	e55	838	491	40	49	22	8.9	7.6
24	67	76	e140	e54	e55	801	451	38	61	19	7.3	6.6
25	64	e66	e120	e53	e51	675	363	37	80	16	6.0	8.6
26	60	87	e105	e52	e69	513	289	35	76	21	5.9	13
27	48	203	e115	e50	e78	417	227	55	59	25	6.4	11
28	38	223	e110	e50	e73	352	197	76	45	23	6.4	15
29	30	154	e100	e46	---	311	174	81	37	20	8.7	16
30	27	121	e95	e47	---	299	154	70	33	18	5.4	12
31	31	---	e97	e60	---	292	---	54	---	15	4.8	---
TOTAL	1325	3484	4886	2042	1927	6686	14775	2060	2744	890	334.1	247.3
MEAN	42.7	116	158	65.9	68.8	216	492	66.5	91.5	28.7	10.8	8.24
MAX	95	279	1020	100	87	838	1080	138	329	50	26	18
MIN	11	31	40	46	51	50	154	35	33	15	4.8	3.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2001, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999	2000	2001
MEAN	104	147	149	163	178	297	317
MAX	286	329	409	359	295	415	508
(WY)	1997	1996	1997	1996	1996	1998	1997
MIN	20.3	50.0	50.7	65.9	68.8	216	127
(WY)	1998	1999	1999	2001	2001	2001	1999

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1995 - 2001

	2000 CALENDAR YEAR	2001 WATER YEAR	1995 - 2001
ANNUAL TOTAL	49034	41400.4	
ANNUAL MEAN	134	113	151
HIGHEST ANNUAL MEAN			197
LOWEST ANNUAL MEAN			104
HIGHEST DAILY MEAN	1180	1080	2940
LOWEST DAILY MEAN	11	a 3.5	2.2
ANNUAL SEVEN-DAY MINIMUM	12	3.9	2.5
MAXIMUM PEAK FLOW		1460	3700
MAXIMUM PEAK STAGE		9.29	15.51
10 PERCENT EXCEEDS	319	292	340
50 PERCENT EXCEEDS	72	60	77
90 PERCENT EXCEEDS	22	10	12

a Also occurred on September 14, 20.  
e Estimated.

PISCATAQUA RIVER BASIN

01073000 OYSTER RIVER NEAR DURHAM, NH

**LOCATION.**--Lat 43°08'55", long 70°57'56", Strafford County, Hydrologic Unit 01060003, on left bank, 200 ft upstream from Old Concord Road bridge, 2.5 mi west of Durham, and 7 mi upstream from mouth.

**DRAINAGE AREA.**--12.1 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1934 to current year. October and November 1934 monthly discharge only, published in WSP 1301.

**GAGE.**--Water-stage recorder and concrete control. Elevation of gage is 70 ft above sea level, from topographic map. Prior to October 1, 1964, at datum 1.00 ft higher.

**REMARKS.**--Records good except those for September 29 and those below 1.0 ft<sup>3</sup>/s, which are fair.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 170 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 22	2245	* 452	* 4.78	No other peak greater than base discharge.			
Minimum discharge, 0.27 ft <sup>3</sup> /s, August 26.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	7.3	13	8.6	9.5	11	87	9.4	3.7	2.9	.88	2.6
2	2.1	5.9	11	7.6	9.9	10	73	9.1	28	3.0	.94	1.7
3	2.6	4.3	8.1	7.4	9.5	9.2	70	8.2	38	2.6	.87	.85
4	2.4	3.6	7.0	e7.0	8.3	7.8	76	7.5	24	2.3	1.1	1.4
5	2.4	4.9	6.5	e6.8	8.1	7.4	89	7.6	17	2.4	1.0	1.2
6	9.0	7.2	8.8	7.7	9.4	9.6	93	8.3	12	2.1	.95	.86
7	8.9	6.6	9.2	8.0	9.4	13	90	7.8	9.5	1.7	.82	.64
8	6.4	5.4	7.9	7.5	8.5	12	89	8.6	8.0	1.7	.78	.56
9	5.5	4.2	6.7	7.9	9.5	11	96	10	6.7	1.6	.50	.49
10	5.5	11	5.9	7.9	13	9.5	117	9.0	5.4	2.9	.41	.48
11	5.7	39	5.9	7.7	14	9.4	105	8.2	5.1	3.8	.50	.69
12	5.6	23	8.2	7.5	13	9.0	106	7.4	16	2.9	.83	.65
13	5.6	14	7.4	7.4	12	9.7	122	7.3	10	2.4	.77	.64
14	5.7	13	6.1	7.2	11	12	97	6.0	6.9	2.2	.69	.80
15	5.3	33	5.4	7.1	12	14	76	4.4	5.6	2.0	.64	.71
16	5.9	21	5.1	7.3	11	16	63	4.6	6.0	1.6	.54	.72
17	7.3	15	41	7.4	11	18	52	5.7	8.4	2.2	.47	.82
18	9.5	12	97	7.2	10	21	45	6.8	15	3.7	.49	.92
19	13	10	51	7.1	11	30	38	6.2	7.9	2.6	.52	.98
20	7.0	8.9	36	7.4	9.5	46	33	5.1	6.1	1.8	.53	1.2
21	4.9	7.9	24	7.2	9.4	47	31	3.9	10	1.4	.57	2.8
22	3.7	7.2	19	7.1	8.8	214	29	3.6	8.4	1.1	.60	1.8
23	2.6	11	15	7.2	8.7	345	26	3.3	8.0	1.0	.56	1.1
24	2.3	14	12	7.9	7.8	263	23	3.3	8.6	.98	.46	.65
25	3.0	12	10	6.9	7.6	210	20	2.9	9.6	.78	.38	.89
26	2.8	18	8.8	6.3	14	152	18	3.6	7.8	2.0	.28	1.5
27	2.2	41	11	6.4	15	111	16	7.0	5.6	1.9	.34	.97
28	3.4	24	10	6.1	13	87	14	9.0	4.1	1.5	.52	1.3
29	4.3	19	e9.0	5.3	---	76	11	7.6	3.3	.96	1.1	e1.2
30	5.7	20	8.6	6.3	---	76	10	5.7	3.1	.93	.58	e.91
31	7.3	---	9.7	9.2	---	111	---	4.6	---	.91	.49	---
TOTAL	159.8	423.4	484.3	225.6	293.9	1977.6	1815	201.7	307.8	61.86	20.11	32.03
MEAN	5.15	14.1	15.6	7.28	10.5	63.8	60.5	6.51	10.3	2.00	.65	1.07
MAX	13	41	97	9.2	15	345	122	10	38	3.8	1.1	2.8
MIN	2.1	3.6	5.1	5.3	7.6	7.4	10	2.9	3.1	.78	.28	.48
CFSM	.43	1.17	1.29	.60	.87	5.27	5.00	.54	.85	.16	.05	.09
IN.	.49	1.30	1.49	.69	.90	6.08	5.58	.62	.95	.19	.06	.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2001, BY WATER YEAR (WY)

	7.55	18.1	22.1	19.2	21.9	48.1	48.9	24.5	12.4	5.00	3.42	4.30
MEAN	7.55	18.1	22.1	19.2	21.9	48.1	48.9	24.5	12.4	5.00	3.42	4.30
MAX	65.2	62.7	55.6	58.1	84.5	122	104	97.5	71.1	33.7	22.7	52.6
(WY)	1997	1952	1997	1958	1981	1936	1956	1954	1998	1938	1991	1954
MIN	.89	1.58	2.73	2.25	3.47	13.5	13.7	6.51	2.07	.65	.52	.58
(WY)	1942	1979	1966	1981	1980	1967	1999	2001	1936	1949	1999	1995

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1935 - 2001

ANNUAL TOTAL	6736.84	6003.10	
ANNUAL MEAN	18.4	16.4	19.6
HIGHEST ANNUAL MEAN			32.3
LOWEST ANNUAL MEAN			9.09
HIGHEST DAILY MEAN	226	Apr 22	856
LOWEST DAILY MEAN	.83	Sep 11	.01
ANNUAL SEVEN-DAY MINIMUM	.97	Sep 6	.04
MAXIMUM PEAK FLOW		452	1160
MAXIMUM PEAK STAGE		4.78	8.45
INSTANTANEOUS LOW FLOW		.27	a .01
ANNUAL RUNOFF (CFSM)	1.52	1.36	1.62
ANNUAL RUNOFF (INCHES)	20.71	18.46	21.98
10 PERCENT EXCEEDS	46	38	48
50 PERCENT EXCEEDS	8.9	7.4	9.9
90 PERCENT EXCEEDS	2.0	.83	1.2

a Also occurred September 7, 1999.

e Estimated.





PISCATAQUA RIVER BASIN

01073587 EXETER RIVER AT HAIGH ROAD NEAR BRENTWOOD, NH

LOCATION.--Lat 42°59'04", long 71°02'20", Rockingham County, Hydrologic Unit 01060003, on right bank, 10 ft downstream of Haigh Road bridge, 0.8 mi upstream from mouth of the Little River, 1.3 mi southwest of Marshall Corner, 1.8 mi east of Brentwood, and 3.4 mi north of Kingston.

DRAINAGE AREA.--63.5 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: June 27, 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 60.16 ft above sea level.

REMARKS.--Records good except those for December 3-16 and March 26, which are fair, and those for December 20 through March 21, which are poor. Low flow regulation by power plant upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 24	1500	* 1,800	9.99	Apr.13	1215	614	7.21
Mar. 25	1845	Ice Jam	* 10.19				

Minimum daily discharge, 0.99 ft<sup>3</sup>/s, September 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	27	89	e72	e54	e55	523	82	38	21	5.9	2.2
2	7.8	25	82	e68	e56	e52	456	84	56	22	5.5	1.7
3	7.5	24	e68	e67	e57	e48	399	79	131	21	4.9	1.6
4	6.9	24	e60	e65	e54	e43	387	68	139	18	5.0	1.6
5	6.6	29	e55	e63	e53	e40	392	62	120	19	5.9	1.4
6	15	37	e47	e61	e54	e47	406	59	103	21	6.8	1.3
7	20	38	e43	e60	e54	e49	411	49	82	19	5.7	1.3
8	18	35	e41	e58	e53	e50	424	36	63	16	4.5	1.3
9	15	32	e37	e58	e55	e50	446	42	49	18	3.9	1.2
10	13	39	e34	e57	e61	e50	520	40	40	46	4.1	1.2
11	12	83	32	e55	e68	e50	564	38	38	48	5.5	1.1
12	12	102	e32	e53	e66	e44	572	36	80	37	5.6	1.1
13	12	91	e34	e52	e65	e49	602	34	77	30	6.4	1.1
14	12	122	40	e49	e62	e72	564	32	60	25	5.9	1.3
15	12	91	e37	e49	e60	e75	501	29	60	21	5.4	1.3
16	13	110	38	e49	e58	e77	425	29	51	18	4.4	1.5
17	16	106	81	e49	e57	e79	357	31	51	17	3.7	1.6
18	21	92	255	e48	e59	e80	301	34	77	19	3.4	.99
19	32	83	360	e47	e55	e84	261	33	75	19	3.0	1.1
20	33	75	e250	e47	e53	e94	246	30	62	16	3.1	1.1
21	30	66	e200	e47	e51	e115	173	26	60	14	3.1	3.0
22	26	60	e160	e46	e49	e560	179	25	57	12	3.2	3.8
23	22	56	e123	e46	e47	1310	165	25	52	10	3.0	2.6
24	22	50	e100	e45	e45	1760	150	26	46	8.9	2.7	2.0
25	21	e47	e88	e44	e46	e1650	136	26	46	7.3	2.4	2.1
26	18	49	e84	e42	e54	e1450	120	25	44	11	2.1	2.6
27	18	83	e79	e41	e58	1090	110	37	36	12	3.4	2.4
28	18	105	e75	e40	e57	803	99	54	30	10	2.4	2.4
29	18	97	e74	e39	---	624	91	56	23	8.5	1.7	2.7
30	18	92	e74	e42	---	547	85	48	20	7.0	1.5	2.8
31	24	---	e74	e48	---	550	---	42	---	6.1	1.5	---
TOTAL	527.6	1970	2846	1607	1561	11647	10065	1317	1866	577.8	125.6	53.39
MEAN	17.0	65.7	91.8	51.8	55.8	376	336	42.5	62.2	18.6	4.05	1.78
MAX	33	122	360	72	68	1760	602	84	139	48	6.8	3.8
MIN	6.6	24	32	39	45	40	85	25	20	6.1	1.5	.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2001, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001
MEAN	87.8	67.5	115	103	149	266
MAX	335	132	304	133	252	376
(WY)	1997	1997	1997	1998	1998	2001
MIN	1.94	29.4	36.9	51.8	55.8	172
(WY)	1998	1999	1999	2001	2001	1997

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1996 - 2001

	2000 CALENDAR YEAR	2001 WATER YEAR	1996	1997	1998	1999	2000	2001
ANNUAL TOTAL	36421.8	34163.39						
ANNUAL MEAN	99.5	93.6	106	142	1997			
HIGHEST ANNUAL MEAN								
LOWEST ANNUAL MEAN			67.2		1999			
HIGHEST DAILY MEAN	792	Apr 23	2630		Oct 22	1996		
LOWEST DAILY MEAN	5.9	Sep 11	.73		Sep 10	1997		
ANNUAL SEVEN-DAY MINIMUM	7.2	Sep 7	.77		Sep 4	1997		
MAXIMUM PEAK FLOW			3060		Oct 22	1996		
MAXIMUM PEAK STAGE								
10 PERCENT EXCEEDS	227	a 10.19	11.44		Oct 22	1996		
50 PERCENT EXCEEDS	60	168	248					
90 PERCENT EXCEEDS	14	46	52					
		3.0	2.7					

a Ice Jam.  
e Estimated.

01074520 EAST BRANCH PEMIGEWASSET RIVER AT LINCOLN, NH

**LOCATION.**--Lat 44°02'51", long 71°39'37", Grafton County, Hydrologic Unit 01070001, on right bank at old crib dam, locally known as "the old hole", 800 ft upstream of bridge, 1900 ft downstream of Pollard Brook, 1.8 mi above mouth, east of the center of Lincoln.

**DRAINAGE AREA.**--115 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: March 1993 to current year. Records for November 1928 to March 1953 at site 2.7 mi upstream published as "near Lincoln" (station 01074500) are not equivalent because of difference in drainage areas.

**GAGE.**--Water-stage recorder and crest-stage gage. Elevation of gage is 830 ft above sea level, from topographic map. Prior to August 17, 2001, at Datum 5.00 ft higher.

**REMARKS.**--Records good except those for estimated daily discharges, and those from July 28 through August 29, which are fair.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Flood of March 19, 1936, reached a stage of 9.80 ft, former site and datum, discharge, 17,000 ft<sup>3</sup>/s. Flood in October 1959 reached a discharge of 24,200 ft<sup>3</sup>/s, by computation of peak flow over dam.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 3,900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2045	* 14,800	* 8.87	May 3	1930	4,690	4.98
Apr. 24	1845	6,190	5.68				

Minimum discharge, 25 ft<sup>3</sup>/s, September 17-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	85	107	160	e65	53	51	1260	238	101	e38	70
2	53	85	e87	138	e64	52	51	2320	926	92	e37	48
3	53	94	e77	132	e64	52	50	3200	1720	79	e36	35
4	52	102	e88	e125	e63	51	52	3100	1060	77	e35	32
5	54	168	e84	e130	e64	51	62	1860	639	89	e34	31
6	129	147	e70	144	63	53	68	1060	458	79	e33	29
7	108	119	e62	131	68	54	73	861	362	73	e32	28
8	84	164	e50	119	63	53	87	813	294	73	e31	27
9	77	175	54	e108	63	52	86	897	251	73	e30	26
10	71	292	66	e96	e76	51	131	972	221	73	e30	27
11	69	716	95	105	e118	51	149	984	200	77	33	45
12	73	459	e108	97	e88	e50	208	1100	189	79	31	34
13	74	288	e97	96	e72	e48	398	1040	171	80	31	29
14	73	250	e84	104	66	e49	395	546	151	82	30	27
15	69	382	81	95	66	e48	282	426	137	83	28	27
16	72	263	e60	93	63	e50	262	354	126	75	28	26
17	76	224	e3940	85	61	51	265	326	159	73	29	26
18	145	196	3790	77	60	52	262	309	149	71	33	25
19	232	175	834	80	61	51	226	304	120	62	29	25
20	137	159	521	79	60	52	219	286	109	57	28	26
21	109	152	e350	75	58	57	302	263	102	54	37	164
22	97	143	e275	e72	57	64	1220	248	100	52	38	97
23	91	126	e230	e68	58	65	2270	239	99	51	33	66
24	88	e79	e200	e72	56	58	3990	225	110	50	29	55
25	84	e86	e170	69	55	55	2410	210	98	49	e27	745
26	81	e125	e160	e66	57	53	1190	185	89	52	e26	491
27	79	188	e180	68	55	53	1030	198	83	50	e27	183
28	77	177	e190	66	54	52	899	264	79	e45	e29	129
29	78	131	e185	e64	---	51	642	350	78	e43	e31	110
30	78	118	e182	e64	---	52	574	259	81	e42	28	89
31	85	---	e178	e67	---	52	---	241	---	e40	29	---
TOTAL	2703	5868	12655	2945	1818	1636	17904	24700	8599	2076	970	2772
MEAN	87.2	196	408	95.0	64.9	52.8	597	797	287	67.0	31.3	92.4
MAX	232	716	3940	160	118	65	3990	3200	1720	101	38	745
MIN	52	79	50	64	54	48	50	185	78	40	26	25
CFSM	.76	1.70	3.55	.83	.56	.46	5.19	6.93	2.49	.58	.27	.80
IN.	.87	1.90	4.09	.95	.59	.53	5.79	7.99	2.78	.67	.31	.90

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001			
MEAN	290	369	261	260	155	257	763	747	312	193	113	170
MAX	740	760	509	564	389	535	1093	1323	646	525	167	655
(WY)	1996	1996	1997	1996	1996	1998	1993	1996	1998	1996	1994	1999
MIN	87.2	139	83.5	95.0	64.9	52.8	264	412	179	67.0	31.3	67.7
(WY)	2001	1995	1998	2001	2001	2001	1995	1993	1999	2001	2001	1996

SUMMARY STATISTICS

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1993 - 2001
ANNUAL TOTAL	109661	84646	
ANNUAL MEAN	300	232	326
HIGHEST ANNUAL MEAN			507
LOWEST ANNUAL MEAN			202
HIGHEST DAILY MEAN	5270	Apr 9	3990
LOWEST DAILY MEAN	49	Sep 11	a 25
ANNUAL SEVEN-DAY MINIMUM	52	Sep 6	26
MAXIMUM PEAK FLOW		b 14800	Dec 17
MAXIMUM PEAK STAGE		8.87	Dec 17
INSTANTANEOUS LOW FLOW		c 25	Sep 17
ANNUAL RUNOFF (CFSM)	2.61	2.02	2.83
ANNUAL RUNOFF (INCHES)	35.47	27.38	38.52
10 PERCENT EXCEEDS	664	439	729
50 PERCENT EXCEEDS	124	79	173
90 PERCENT EXCEEDS	68	33	69

a Also occurred on September 19.  
 b From rating curve extended above 5,800 ft<sup>3</sup>/s.  
 c Also occurred on September 18-20.  
 e Estimated.

## MERRIMACK RIVER BASIN

## 01076500 PEMIGEWASSET RIVER AT PLYMOUTH, NH

**LOCATION (REVISED).**--Lat 43°45'33", long 71°41'10", Grafton County, Hydrologic Unit 01070001, on right bank, 150 ft downstream from Holderness Road bridge in Plymouth, 0.1 mi northeast of Plymouth Town Hall, and 0.3 mi downstream from Baker River.

**DRAINAGE AREA.**--622 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1903 to current year. Records for April 1886 to September 1903, published in WSP 124, are unreliable and should not be used.

**REVISED RECORDS.**--WSP 471: 1912-14. WSP 726: Drainage area. WSP 1231: 1904-11, 1913-14, 1917-18, 1919(M), 1920-25, 1926-27(M), 1929-31(M). WSP 1721: 1959(M). See also **PERIOD OF RECORD.**

**GAGE.**--Water-stage recorder. Datum of gage is 457.07 ft above sea level. Prior to January 1, 1910, nonrecording gage at sites 150 ft and 200 ft upstream at present datum or datum 1.11 ft lower. January 1, 1910, to September 30, 1926, nonrecording gage at site 200 ft upstream at present datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Stage-discharge relationship at times is affected by variable slope. Some diurnal fluctuation during period 1940-52 caused by power plants upstream.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 12,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0500	* a 29,300	15.99	Apr. 25	0200	16,400	11.44
Dec. 18	0715	(a)	* 16.41				

Minimum discharge, 79 ft<sup>3</sup>/s, September 19, 20.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	397	833	e870	e410	e390	568	3280	1040	388	155	139
2	198	370	667	e740	e480	e410	535	5410	3040	648	148	192
3	197	349	e585	e720	e405	e390	531	6290	9560	433	144	151
4	194	361	e590	e740	e425	e370	557	6510	6370	354	140	128
5	193	491	e570	e670	e400	e385	787	5220	3490	447	137	118
6	343	743	e490	e750	e440	e380	1060	3190	2360	431	131	112
7	611	595	e440	e650	e480	e415	1060	2350	1720	342	126	103
8	431	609	e440	e640	e460	e355	1380	2070	1350	315	122	99
9	389	615	e355	e590	e430	e385	1320	2020	1140	322	118	94
10	344	696	374	e600	e410	e400	2190	2060	988	302	147	92
11	314	2190	446	e540	e620	e390	3070	2000	891	316	131	101
12	295	1890	562	e530	e590	e380	3990	1940	896	342	125	123
13	306	1250	708	e580	e540	e410	7700	2610	844	343	117	109
14	300	1020	627	e560	e515	e420	6790	1700	737	325	113	97
15	285	2120	577	e540	e500	e460	4880	1350	644	312	106	91
16	276	1670	511	e570	e470	e470	4370	1180	574	295	101	88
17	361	1220	4680	e540	e480	e490	4150	1090	584	329	103	85
18	539	1010	21100	e560	e490	e550	3980	1010	779	403	119	83
19	1500	864	6020	e530	e445	e560	3130	975	593	325	119	81
20	939	768	3500	e510	e430	e380	2710	953	494	268	112	84
21	674	710	2440	e450	e405	e710	3480	875	439	241	137	382
22	540	656	e1950	e480	e420	e600	7800	818	402	220	138	636
23	457	578	e1600	e430	e430	e1550	12400	789	394	199	125	330
24	413	579	e1200	e470	e420	e900	12900	755	458	186	112	229
25	390	497	e1180	e420	e400	e530	11600	700	450	176	100	983
26	365	568	e900	e430	e425	e790	6040	657	376	189	95	3650
27	347	856	e890	e420	e420	886	4890	666	336	199	94	1050
28	325	1140	e930	e410	e340	709	4310	938	303	175	102	625
29	313	1030	e850	e410	---	616	3410	1850	269	165	117	478
30	313	917	e910	e400	---	631	2880	1270	281	157	111	390
31	356	---	e880	e450	---	623	---	1090	---	152	105	---
TOTAL	12710	26759	57805	17200	12680	16935	124468	63616	41802	9299	3750	10923
MEAN	410	892	1865	555	453	546	4149	2052	1393	300	121	364
MAX	1500	2190	21100	870	620	1550	12900	6510	9560	648	155	3650
MIN	193	349	355	400	340	355	531	657	269	152	94	81
CFSM	.66	1.43	3.00	.89	.73	.88	6.67	3.30	2.24	.48	.19	.59
INF.	.76	1.60	3.46	1.03	.76	1.01	7.44	3.80	2.50	.56	.22	.65

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)**

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	965	1337	1137	877	733	1730	3940	2777	1155	641	504	594																																																																																						
MAX	3423	4578	4588	3191	4379	9266	7206	5304	3878	3103	3345	3813																																																																																						
(WY)	1978	1928	1974	1996	1981	1936	1969	1940	1917	1973	1990	1938																																																																																						
MIN	129	308	216	148	138	205	1222	806	283	160	111	107																																																																																						
(WY)	1948	1979	1948	1931	1931	1940	1995	1921	1921	1923	1923	1923																																																																																						

**SUMMARY STATISTICS**

	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1904 - 2001	
ANNUAL TOTAL	519107		397947			
ANNUAL MEAN	1418		1090		1366	
HIGHEST ANNUAL MEAN					2156	
LOWEST ANNUAL MEAN					735	
HIGHEST DAILY MEAN	21100		21100		57300	
LOWEST DAILY MEAN	171		81		45	
ANNUAL SEVEN-DAY MINIMUM	180		87		66	
MAXIMUM PEAK FLOW			29300		65400	
MAXIMUM PEAK STAGE			16.41		b 29.00	
INSTANTANEOUS LOW FLOW			c 79		d 39	
ANNUAL RUNOFF (CFSM)	2.28		1.75		2.20	
ANNUAL RUNOFF (INCHES)	31.05		23.80		29.85	
10 PERCENT EXCEEDS	3350		2510		3180	
50 PERCENT EXCEEDS	639		490		679	
90 PERCENT EXCEEDS	282		126		236	

a Discharge affected by variable slope.

b From flood marks.

c Also occurred on September 20.

d Also on October 3, 1948.

e Estimated.

01078000 SMITH RIVER NEAR BRISTOL, NH

LOCATION (REVISED).--Lat 43°34'04", long 71°44'54", Merrimack County, Hydrologic Unit 01070001, on right bank, 0.6 mi upstream of Borough Road bridge, 1.5 mi upstream from mouth, 1.7 mi southwest of Post Office in Bristol, and 3.8 mi northwest of Hill.

DRAINAGE AREA.--85.8 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge: May 1918 to current year.

REVISED RECORDS.--WSP 711: Drainage area. WSP 781: 1934. WSP 1231: 1919, 1920-21(M), 1922-31, 1932-33(M), 1941-43.

GAGE.--Water-stage recorder. Datum of gage is 449.80 ft above sea level (levels by U.S. Army Corps of Engineers).

Prior to November 25, 1933, nonrecording gage at site 1.5 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, and those below 16 cfs, which are fair. Prior to 1954, some diurnal fluctuation caused by small mill upstream; greater fluctuation prior to 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1885, that of March 19, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2200	1,200	5.85	Apr. 23	1900	* 2,050	* 7.43

Minimum discharge, 4.0 ft<sup>3</sup>/s, September 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	27	92	92	52	e43	85	354	49	33	12	12
2	14	27	e76	e70	58	e42	81	349	207	64	11	8.3
3	14	26	e59	e65	54	42	79	313	686	54	10	9.7
4	13	25	50	63	49	41	85	265	753	41	9.8	8.5
5	13	28	47	60	47	41	108	223	515	56	9.3	8.7
6	52	40	e40	61	47	43	144	178	275	65	8.7	7.1
7	82	41	35	60	52	45	163	151	162	46	8.2	6.2
8	55	36	29	58	52	46	198	133	120	39	7.5	6.0
9	40	33	e24	57	50	45	229	121	97	38	6.8	5.6
10	32	52	25	55	56	e46	352	109	80	35	6.6	5.7
11	28	147	28	54	74	45	474	99	85	32	6.3	6.0
12	25	138	38	52	75	44	584	92	252	29	6.1	5.2
13	23	92	45	50	e65	43	760	125	207	27	6.3	4.7
14	21	77	44	49	61	45	933	119	131	25	6.1	5.1
15	20	170	43	49	59	46	918	97	96	23	5.6	4.7
16	20	176	42	49	59	50	869	88	76	22	5.4	4.4
17	22	122	356	50	58	56	822	84	71	23	7.2	4.3
18	47	94	993	48	e52	60	752	78	73	24	12	4.3
19	109	78	836	47	e50	61	661	76	61	24	8.1	4.1
20	80	69	568	47	51	63	614	71	48	22	10	4.5
21	56	62	440	47	52	73	715	64	42	20	10	14
22	45	57	e340	46	49	86	1190	63	42	18	9.2	26
23	38	48	e315	43	49	109	1830	61	51	16	10	20
24	33	34	e300	43	48	128	1890	60	68	15	8.5	15
25	31	34	e280	42	46	127	1660	54	58	13	7.1	49
26	29	38	e270	41	48	e108	1090	49	47	19	6.3	201
27	28	105	e235	40	48	102	775	55	38	19	5.9	92
28	27	146	e200	40	46	91	631	64	31	19	5.6	52
29	25	124	e155	39	---	84	507	65	28	16	5.3	38
30	25	104	126	39	---	78	403	58	26	14	4.8	30
31	26	---	113	44	---	81	---	52	---	13	5.3	---
TOTAL	1088	2250	6244	1600	1507	2014	19602	3770	4475	904	241.0	662.1
MEAN	35.1	75.0	201	51.6	53.8	65.0	653	122	149	29.2	7.77	22.1
MAX	109	176	993	92	75	128	1890	354	753	65	12	201
MIN	13	25	24	39	46	41	79	49	26	13	4.8	4.1
CFSM	.41	.87	2.35	.60	.63	.76	7.62	1.42	1.74	.34	.09	.26
IN.	.47	.98	2.71	.69	.65	.87	8.50	1.63	1.94	.39	.10	.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 2001, BY WATER YEAR (WY)

	MEAN	130	133	102	98.2	252	485	225	104	53.4	37.0	41.3
MAX	279	379	393	300	578	1242	1077	504	391	387	340	457
(WY)	1997	1928	1974	1996	1981	1936	1969	1954	1998	1973	1990	1938
MIN	8.45	24.9	22.3	19.2	20.6	29.7	134	71.5	20.5	9.00	4.54	7.62
(WY)	1948	1972	1923	1940	1980	1940	1995	1941	1964	1965	1965	1948

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1918 - 2001

ANNUAL TOTAL	54340	44357.1	
ANNUAL MEAN	148	122	144
HIGHEST ANNUAL MEAN			240
LOWEST ANNUAL MEAN			64.7
HIGHEST DAILY MEAN	1700	Apr 10	6890
LOWEST DAILY MEAN	11	Sep 11	2.7
ANNUAL SEVEN-DAY MINIMUM	12	Sep 8	3.2
MAXIMUM PEAK FLOW		2050	a 8100
MAXIMUM PEAK STAGE		7.43	b 16.09
INSTANTANEOUS LOW FLOW		4.0	2.7
ANNUAL RUNOFF (CFSM)	1.73	1.42	1.68
ANNUAL RUNOFF (INCHES)	23.56	19.23	22.88
10 PERCENT EXCEEDS	360	277	348
50 PERCENT EXCEEDS	62	49	67
90 PERCENT EXCEEDS	24	8.5	17

a From rating curve extended above 2,700 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow.  
b From floodmarks.  
e Estimated.

MERRIMACK RIVER BASIN

01079602 POORFARM BROOK AT ELLACOYA STATE PARK NEAR GILFORD, NH

LOCATION.--Lat 43°34'22", long 71°21'20", Belknap County, Hydrologic Unit 01070002, on right bank at Old Highway 11 bridge, 250 ft downstream from State Highway 11 bridge, 950 ft upstream from mouth, 3.1 mi northeast of Gilford, and 5.9 mi southeast of Weirs Beach.

DRAINAGE AREA.--6.38 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: June 1998 to current year.

GAGE.--Water-stage recorder and crest stage gage. Elevation of gage is 515 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges and discharges above 100 ft<sup>3</sup>/s, which are poor.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 110 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	----	125	Ice Jam	Apr. 22	1745	* 217	4.66
Dec. 28	1700	Ice Jam	* 5.98				

Minimum discharge, 0.35 ft<sup>3</sup>/s, August 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.96	2.5	e7.3	e4.4	3.1	e2.7	4.4	39	4.5	5.3	1.0	2.7
2	.94	2.3	e6.5	e4.1	3.2	e2.7	4.3	36	25	6.0	.88	.80
3	.95	2.2	e5.6	e4.0	3.1	2.5	4.4	33	50	3.4	.80	.58
4	.89	2.2	e4.8	e3.9	e2.9	2.5	5.1	30	36	2.8	.80	.90
5	.97	3.1	e4.2	e3.5	e2.6	2.6	7.3	28	21	3.5	.83	.84
6	5.6	2.9	e3.8	e3.9	3.2	2.8	9.0	25	15	3.2	.73	.59
7	4.4	2.6	e3.1	e4.1	2.9	2.7	9.1	23	12	2.5	.66	.51
8	2.8	2.8	e2.4	3.8	2.8	2.6	10	21	9.5	2.4	.62	.48
9	2.3	2.6	e2.4	3.9	3.0	2.7	22	26	7.7	2.3	.58	.45
10	2.0	6.2	e2.7	e3.7	5.5	2.8	29	20	7.0	2.0	.54	.43
11	1.9	17	e3.4	e3.7	e4.3	2.6	32	6.0	7.4	2.2	.54	.44
12	2.2	9.3	e4.5	e3.3	e3.7	2.6	46	5.9	12	2.1	.54	.45
13	1.8	6.3	e3.9	e3.4	e3.4	e2.7	59	5.8	8.8	1.8	.55	.43
14	1.5	7.2	e3.5	e3.7	3.2	e3.1	57	5.0	6.9	1.8	.52	.48
15	1.3	22	e3.5	3.5	3.4	e3.5	54	4.6	5.6	1.7	.50	.44
16	1.5	21	e2.7	3.5	3.3	e3.9	54	4.5	4.7	1.5	.47	.42
17	1.6	16	e5.3	3.4	3.4	e4.3	52	4.6	6.2	2.0	.66	.47
18	5.5	13	74	e3.1	e3.1	e4.6	46	4.4	6.1	2.0	.76	.42
19	15	10	28	2.8	e3.0	e4.4	40	4.2	4.6	1.7	.52	.40
20	7.5	8.8	e2.0	2.8	e2.9	e4.9	41	4.0	4.1	1.5	.58	.40
21	4.4	8.0	e1.6	2.8	e2.8	e5.4	67	3.8	3.6	1.3	.65	1.2
22	3.2	6.4	e1.4	e2.7	e2.8	5.9	156	3.7	11	1.1	.58	.62
23	2.8	5.6	e1.1	e2.7	2.9	6.0	161	3.7	16	1.0	.52	.49
24	2.7	e4.2	e7.8	e2.6	2.8	5.4	153	3.7	16	.94	.46	.46
25	2.8	e3.6	e6.5	2.5	2.8	5.1	143	3.3	15	.88	.43	2.4
26	2.8	e4.5	e6.0	2.5	2.9	5.4	73	3.2	14	2.9	.45	2.1
27	2.6	e8.0	e6.5	2.5	2.8	4.8	42	7.9	13	2.0	.43	1.1
28	2.4	e9.8	e6.3	2.5	2.8	4.4	44	9.4	12	1.6	.42	1.0
29	1.9	e9.3	e5.9	e2.4	---	4.3	41	8.2	8.2	1.3	.39	.97
30	2.3	e8.2	e5.0	2.6	---	4.3	39	5.7	2.6	1.1	.43	.68
31	3.2	---	e4.5	3.0	---	4.9	---	4.9	---	1.2	.40	---
TOTAL	92.71	227.6	328.8	101.3	88.6	119.1	1504.6	387.5	365.5	67.02	18.24	23.65
MEAN	2.99	7.59	10.6	3.27	3.16	3.84	50.2	12.5	12.2	2.16	.59	.79
MAX	15	22	74	4.4	5.5	6.0	161	39	50	6.0	1.0	2.7
MIN	.89	2.2	2.4	2.4	2.6	2.5	4.3	3.2	2.6	.88	.39	.40
CFSM	.47	1.19	1.66	.51	.50	.60	7.86	1.96	1.91	.34	.09	.12
IN.	.54	1.33	1.92	.59	.52	.69	8.77	2.26	2.13	.39	.11	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2001, BY WATER YEAR (WY)

	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
MEAN	8.18	7.10	7.76	7.20	7.42	21.3	34.5	11.0	18.2	5.57	2.49	8.28
MAX	12.6	8.12	10.6	12.5	12.6	30.6	50.2	13.5	52.0	13.9	6.23	29.1
(WY)	2000	2000	2001	1999	1999	1999	2001	2000	1998	1998	2000	1999
MIN	2.99	5.60	5.35	3.27	3.16	3.84	22.1	7.15	1.88	.99	.59	.79
(WY)	2001	1999	1999	2001	2001	2001	1999	1999	1999	1999	2001	2001

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1998 - 2001

ANNUAL TOTAL	3900.82	3324.62		
ANNUAL MEAN	10.7	9.11		
HIGHEST ANNUAL MEAN			10.6	
LOWEST ANNUAL MEAN			11.4	1999
HIGHEST DAILY MEAN	74	Dec 18	9.11	2001
LOWEST DAILY MEAN	.89	Oct 4	e 398	Jun 14 1998
ANNUAL SEVEN-DAY MINIMUM	.97	Sep 29	a .39	Sep 4 1999
MAXIMUM PEAK FLOW			.42	Aug 25
MAXIMUM PEAK STAGE			217	Apr 22
INSTANTANEOUS LOW FLOW			c 5.98	Dec 28
ANNUAL RUNOFF (CFSM)	1.67		.35	Aug 29
ANNUAL RUNOFF (INCHES)	22.74		1.43	1.66
10 PERCENT EXCEEDS	29		19.38	22.55
50 PERCENT EXCEEDS	5.6		29	29
90 PERCENT EXCEEDS	1.7		3.4	4.8
			.58	.97

- a Also occurred on August 30.
- b Also occurred on September 5, 6, and 9.
- c Ice Jam.
- d Maximum observed gage height.
- e Estimate.

MERRIMACK RIVER BASIN

01079900 SHANNON BROOK NEAR MOULTONBOROUGH, NH

LOCATION.--Lat 43°43'49", long 71°21'28", Carroll County, Hydrologic Unit 01070002, on left bank 20 ft downstream from State Highway 109 bridge, 1.4 mi upstream from mouth, 2.5 mi southeast of Moultonborough, and 4.0 mi northwest of Melvin Village.

DRAINAGE AREA.--6.99 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: August 1998 to current year.

GAGE.--Water-stage recorder and crest stage gage. Elevation of gage is 545 ft above sea level, from topographic map.

REMARKS.--Records good except those for the period of April 22 to May 10, which are fair, and those for estimated daily discharges and discharges below 1 ft<sup>3</sup>/s, which are poor.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 120 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2315	189	6.35	Apr. 22	2200	* 292	* 7.00
Apr. 12	2045	164	6.17				

Minimum discharge, 0.03 ft<sup>3</sup>/s, August 16, 17, 30, and 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	4.5	7.4	e4.7	e3.5	e2.6	10	26	4.6	1.9	1.1	.45
2	.74	3.2	6.0	e4.4	e3.5	e2.5	10	26	46	2.8	.55	.60
3	.71	2.7	5.1	e4.3	e3.3	e2.4	11	22	79	1.6	.39	.30
4	.63	2.6	e4.8	e4.2	e3.0	e2.3	13	20	40	1.5	.32	.27
5	.71	4.9	4.7	e4.1	e2.9	e2.4	21	21	22	2.5	.25	.57
6	2.9	6.4	4.2	e4.0	e3.5	e2.6	26	16	15	1.7	.20	.35
7	2.4	4.9	3.4	e3.9	e3.2	e2.5	26	13	11	1.3	.18	.24
8	1.4	4.1	2.5	e3.9	e3.0	e2.5	29	11	8.6	1.5	.13	.18
9	1.2	3.7	2.6	e3.8	e3.2	e2.5	37	9.9	7.0	2.2	.09	.14
10	1.1	7.5	3.0	e3.8	e5.4	e2.6	66	9.0	5.9	4.0	.07	.14
11	1.1	44	e3.8	e3.7	e4.3	e2.4	68	7.7	6.1	2.2	.07	.24
12	1.0	24	e4.0	e3.6	e3.4	e2.4	92	7.3	10	1.8	.06	.21
13	.97	15	e4.3	e3.6	e3.0	e2.5	127	7.5	6.9	1.4	.05	.14
14	e.87	14	e3.7	e3.5	e3.1	e3.4	110	6.4	5.3	1.3	.04	.12
15	e1.1	41	e4.0	e3.5	e3.2	4.1	85	5.9	4.5	1.1	.04	.10
16	e1.4	24	e4.2	e3.5	e3.2	e4.6	80	6.0	3.8	.84	.03	.07
17	e1.7	16	e66	e3.4	e3.1	e4.8	76	5.9	4.0	1.3	.04	.06
18	4.6	12	101	e3.3	e2.9	e5.4	68	5.3	4.2	1.5	.12	.05
19	10	10	e32	e3.2	e2.8	e6.0	53	5.3	3.0	1.1	e.18	.05
20	4.4	8.6	e22	e3.2	e2.8	e7.0	54	4.7	2.7	.79	.15	.06
21	2.9	7.8	e18	e3.1	e2.5	e8.0	69	4.2	2.3	.64	.33	3.9
22	2.3	7.0	15	e3.0	e2.4	e14	149	3.7	2.4	.55	.30	2.4
23	1.9	5.9	12	e3.0	e2.7	41	153	3.6	2.8	.47	.20	1.1
24	1.9	e4.7	e8.2	e2.9	e2.6	29	145	3.3	3.8	.41	.12	.68
25	1.8	4.1	e7.0	e2.8	e2.6	23	104	2.9	3.0	.36	.07	4.2
26	1.7	e5.0	6.5	e2.8	e2.7	20	55	2.8	2.3	1.7	.05	4.9
27	1.7	e8.0	e7.1	e2.7	e2.6	15	46	7.6	1.8	1.5	.05	1.7
28	1.6	e9.8	e7.0	e2.7	e2.4	13	39	10	1.5	.63	.05	1.1
29	1.5	8.7	e6.4	e2.7	---	12	31	11	1.2	.50	.05	.85
30	1.8	8.1	e5.6	e2.8	---	11	26	6.7	1.3	.38	.03	.64
31	5.6	---	e5.0	e3.3	---	12	---	5.3	---	.40	.03	---
TOTAL	64.41	322.2	386.5	107.4	86.8	265.5	1879	297.0	312.0	41.87	5.34	25.81
MEAN	2.08	10.7	12.5	3.46	3.10	8.56	62.6	9.58	10.4	1.35	.17	.86
MAX	10	44	101	4.7	5.4	41	153	26	79	4.0	1.1	4.9
MIN	.63	2.6	2.5	2.7	2.4	2.3	10	2.8	1.2	.36	.03	.05
CFSM	.30	1.54	1.78	.50	.44	1.23	8.96	1.37	1.49	.19	.02	.12
IN.	.34	1.71	2.06	.57	.46	1.41	10.00	1.58	1.66	.22	.03	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2001, BY WATER YEAR (WY)

	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
MEAN	8.09	10.5	9.89	8.26	8.62	25.3	36.2	10.4	6.05	2.67	2.16	5.73
MAX	11.7	11.1	12.5	13.8	13.0	34.8	62.6	15.5	10.4	5.48	3.99	18.1
(WY)	2000	2000	2001	1999	1999	2000	2001	2000	2001	2000	1998	1999
MIN	2.08	9.82	6.91	3.46	3.10	8.56	14.6	6.02	1.49	1.18	.17	.86
(WY)	2001	1999	1999	2001	2001	2001	1999	1999	1999	1999	2001	2001

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1998 - 2001

ANNUAL TOTAL	4285.48	3793.83		
ANNUAL MEAN	11.7	10.4		
HIGHEST ANNUAL MEAN			11.2	
LOWEST ANNUAL MEAN			12.4	2000
HIGHEST DAILY MEAN	109	Mar 28	10.4	2001
LOWEST DAILY MEAN	.63	Sep 11	190	Sep 17 1999
ANNUAL SEVEN-DAY MINIMUM	.72	Sep 29	a .03	Aug 16 2001
MAXIMUM PEAK FLOW			.05	Aug 11 2001
MAXIMUM PEAK STAGE			292	Apr 22 1999
INSTANTANEOUS LOW FLOW			7.00	Apr 22 1999
ANNUAL RUNOFF (CFSM)	1.68		b .03	Aug 16 2001
ANNUAL RUNOFF (INCHES)	22.81			
10 PERCENT EXCEEDS	30			
50 PERCENT EXCEEDS	5.6			
90 PERCENT EXCEEDS	1.2			

a Also occurred on August 30, 31, 2001.  
b Also occurred on August 17, 30, and 31, 2001.  
e Estimated.

## MERRIMACK RIVER BASIN

## 0108000 LAKE WINNIPESAUKEE AT WEIRS BEACH, NH

**LOCATION (REVISED).**--Lat 43°36'27", long 71°27'34, Belknap County, Hydrologic Unit 01070002, 600 ft east of Weirs Beach Post Office, 1,600 ft north of US Highway 3 bridge across Paugus Bay at Weirs Beach, 4.7 mi southeast of Meredith, and 5.3 mi north of Laconia Post Office.

**DRAINAGE AREA.**--363 mi<sup>2</sup>, at outlet at Lakeport.

**PERIOD OF RECORD.**--Gage heights: September 1933 to current year. Prior to November 1937, monthend contents only, published in WSP 1301. Prior to October 1970, published as "at The Weirs."

**REVISED RECORDS.**--WDR NH-VT-78-1: 1938-77 (datum correction). WDR NH-VT-99-1: 1998 (+).

**GAGE.**--Water-stage recorder. Datum of gage is 499.92 ft above sea level. Prior to November 1937, nonrecording gage at lake outlet at Lakeport at datum 0.63 ft, (corrected) higher. November 24, 1937 to November 7, 1965, water-stage recorder at site 500 ft southeast at present datum.

**REMARKS.**--Lake used for recreation and conservation for development of water power. Usable capacity, 7.22 billion ft<sup>3</sup> between elevations 500.57 ft and 504.24 ft above sea level. Stage regulated at outlet and by Wentworth, Merrymeeting, and other lakes. Contents given herein are computed from gage height at 2400 on last day of month.

Capacity table (gage height, in feet, and contents,  
in millions of cubic feet), furnished by State of New Hampshire,  
Department of Environmental Services

2.0	13,880
3.0	15,840
4.0	17,840
5.0	19,850

**EXTREMES FOR PERIOD OF RECORD.**--Maximum daily gage height, 5.94 ft, June 4, 1984; minimum daily gage height, 0.63 ft, December 11, 1941.

**EXTREMES FOR CURRENT YEAR.**--Maximum daily gage height, 4.37 ft, June 6, 7; minimum daily gage height, 2.11 ft, March 21.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.75	2.73	2.92	3.20	2.46	2.27	2.39	3.92	3.96	3.88	3.51	2.90
2	2.74	2.73	2.91	3.19	2.44	2.26	2.38	3.92	4.09	3.85	3.48	2.89
3	2.72	2.74	2.90	3.17	2.42	2.25	2.38	3.92	4.28	3.85	3.46	2.87
4	2.71	2.74	2.90	3.15	2.41	2.25	2.38	3.93	4.34	3.85	3.46	2.85
5	2.70	2.77	2.90	3.12	2.41	2.24	2.37	3.92	4.36	3.85	3.44	2.84
6	2.77	2.77	2.86	3.12	2.49	2.30	2.38	3.92	4.37	3.82	3.42	2.81
7	2.74	2.76	2.86	3.09	2.48	2.32	2.40	3.91	4.37	3.81	3.40	2.80
8	2.71	2.74	2.86	3.07	2.46	2.32	2.42	3.90	4.34	3.81	3.38	2.79
9	2.70	2.73	2.83	3.04	2.47	2.31	2.45	3.90	4.31	3.82	3.36	2.77
10	2.66	2.77	2.84	3.01	2.46	2.33	2.49	3.89	4.29	3.81	3.33	2.76
11	2.63	2.85	2.84	2.98	2.43	2.32	2.55	3.88	4.28	3.79	3.32	2.74
12	2.63	2.85	2.82	2.95	2.42	2.31	2.65	3.88	4.30	3.77	3.30	2.72
13	2.63	2.86	2.83	2.93	2.40	2.32	2.78	3.88	4.26	3.76	3.27	2.69
14	2.63	2.87	2.87	2.90	2.38	2.31	2.88	3.88	4.23	3.74	3.25	2.68
15	2.62	2.91	2.88	2.87	2.36	2.29	2.97	3.88	4.20	3.72	3.23	2.65
16	2.64	2.92	2.89	2.85	2.34	2.25	3.05	3.88	4.16	3.72	3.19	2.62
17	2.64	2.92	3.01	2.82	2.33	2.23	3.12	3.88	4.14	3.73	3.18	2.60
18	2.71	2.92	3.11	2.79	2.31	2.19	3.18	3.87	4.10	3.74	3.17	2.58
19	2.75	2.93	3.22	2.76	2.30	2.16	3.24	3.87	4.07	3.72	3.16	2.58
20	2.76	2.93	3.23	2.74	2.29	2.14	3.31	3.87	4.05	3.70	3.16	2.56
21	2.76	2.91	3.29	2.70	2.27	2.11	3.37	3.87	4.03	3.69	3.14	2.58
22	2.75	2.89	3.30	2.67	2.25	2.19	3.45	3.86	4.02	3.66	3.12	2.57
23	2.76	2.87	3.27	2.64	2.25	2.28	3.57	3.86	3.99	3.64	3.10	2.56
24	2.75	2.86	3.29	2.61	2.24	2.30	3.66	3.85	4.00	3.61	3.07	2.56
25	2.76	2.86	3.23	2.57	2.27	2.32	3.76	3.84	3.98	3.59	3.05	2.60
26	2.76	2.89	3.19	2.53	2.29	2.33	3.83	3.83	3.97	3.64	3.01	2.61
27	2.77	2.92	3.20	2.50	2.28	2.32	3.87	3.88	3.94	3.61	2.98	2.58
28	2.71	2.93	3.20	2.47	2.27	2.32	3.88	3.94	3.91	3.58	2.96	2.58
29	2.70	2.94	3.21	2.45	---	2.31	3.90	3.98	3.90	3.57	2.92	2.56
30	2.72	2.94	3.20	2.45	---	2.35	3.91	3.95	3.88	3.55	2.91	2.53
31	2.74	---	3.22	2.47	---	2.40	---	3.94	---	3.52	2.88	---
MEAN	2.71	2.85	3.03	2.83	2.36	2.28	3.03	3.89	4.14	3.72	3.21	2.68
MAX	2.77	2.94	3.30	3.20	2.49	2.40	3.91	3.98	4.37	3.88	3.51	2.90
MIN	2.62	2.73	2.82	2.45	2.24	2.11	2.37	3.83	3.88	3.52	2.88	2.53

(+)	15,310	15,730	16,280	14,820	14,430	14,660	17,720	17,780	17,580	16,860	15,610	14,860
(+)	-22	162	205	-545	-161	86	1181	22	-77	-269	-467	-289

CAL YR 2000 MEAN 3.32 MAX 4.20 MIN 2.27 (+) +31.9  
WTR YR 2001 MEAN 3.06 MAX 4.37 MIN 2.11 (+) -16.2

(+) Millions of cubic feet at 2400 on last day of month.

(+) Change in contents equivalent in cubic feet per second.



01080500 LAKE WINNIPESAUKEE OUTLET AT LAKEPORT, NH

**LOCATION (Revised).**--Lat 43°32'57", long 71°27'54", Belknap County, Hydrologic Unit 01070002, on right bank, 100 ft upstream from Elm Street bridge across Paugus Bay, 150 ft upstream of dam across Paugus Bay, 0.2 mi northwest of Elm Street and US 3 intersection in Lakeport, and 1.4 mi north of Laconia Post Office.

**DRAINAGE AREA.**--363 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: January 1860 to December 1911 (monthly gage heights only, published in WSP 301), June 1933 to September 1983. October 1987 to current year.

**GAGE.**--Acoustic velocity meter and measuring flume. Datum of gage is 500.55 ft above sea level. January 1860 to December 1911, nonrecording gage at site 150 ft downstream at same datum. June 1, 1933 to September 30, 1936, nonrecording gage and continuous-recording current meter at present site and datum. October 1, 1936 to May 23, 1944, discharge computed from flow over spillway and through gates and wheels at site 150 ft downstream. May 24, 1944 to September 1983, record obtained from water-stage recorder, deflection meter, and measuring flume.

**REMARKS.**--Records good except those for the periods December 17 to January 4, and April 17 to August 3, which are fair. Flow completely regulated by Winnepesaukee (station 01080000), Wentworth, Merrymeeting, and other lakes. Daily discharge computed from the acoustic flowmeter.

**COOPERATION.**--Records were provided by New Hampshire Department of Environmental Services.

**EXTREMES FOR CURRENT YEAR.**--Maximum daily discharge, 1,090 ft<sup>3</sup>/s, June 15-17; minimum daily discharge, 5.0 ft<sup>3</sup>/s, November 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	243	6	239	784	758	376	757	808	251	279	279	249
2	264	5	243	786	543	365	764	807	238	271	283	250
3	246	10	245	810	559	364	764	594	320	284	276	257
4	248	11	234	917	575	364	763	580	534	280	267	252
5	271	9	247	910	589	365	778	598	814	280	270	245
6	242	250	253	913	586	363	764	596	831	280	275	251
7	255	698	243	916	585	366	761	603	897	282	255	256
8	252	553	233	924	614	473	770	381	1080	277	257	258
9	31	542	243	916	714	514	765	378	1080	282	258	248
10	30.9	546	246	915	685	509	677	374	1050	289	252	254
11	25.9	557	242	915	694	511	591	346	1060	281	250	246
12	19.7	563	243	913	711	510	589	259	1070	275	243	249
13	16.8	558	239	917	712	759	743	256	1070	279	246	249
14	14.5	360	331	916	712	802	857	232	1080	274	246	249
15	9.5	320	248	847	713	1002	1040	226	1090	277	245	250
16	5.2	249	222	912	614	997	1040	234	1090	275	233	247
17	8.9	237	220	913	511	996	1040	244	1090	275	250	249
18	11.8	250	225	930	510	997	803	247	912	276	243	248
19	16.4	235	231	1023	509	995	595	239	784	273	251	248
20	19	231	339	1024	512	991	615	241	703	292	240	246
21	17.9	250	542	1052	506	994	602	244	699	315	247	243
22	11.5	307	560	1022	414	948	609	237	612	301	249	244
23	15.9	226	560	1018	364	483	608	236	600	308	252	243
24	41.7	268	560	1016	364	485	608	242	612	279	248	243
25	51.9	245	550	1017	362	491	574	247	612	283	266	242
26	25	238	665	982	363	727	600	242	414	271	257	245
27	24	252	565	739	365	757	783	249	298	310	253	245
28	23	249	755	768	365	757	860	244	280	288	252	244
29	15	250	788	765	---	751	793	254	284	290	239	244
30	11	241	875	759	---	757	803	248	281	311	254	245
31	7.5	---	776	755	---	765	---	244	---	280	253	---
TOTAL	2475.0	8716	12162	27994	15509	20534	22316	10930	21736	8817	7889	7439
MEAN	79.8	291	392	903	554	662	744	353	725	284	254	248
MAX	271	698	875	1050	758	1000	1040	808	1090	315	283	258
MIN	5.2	5.0	220	739	362	363	574	226	238	271	233	242

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1983, 1988 - 2001, BY WATER YEAR (WY)

MEAN	332	396	523	701	777	667	719	737	542	398	365	359
MAX	909	993	1245	1671	1672	1550	2596	2074	1548	1612	783	868
(WY)	1978	1982	1955	1955	1958	1951	1936	1996	1954	1998	1967	1951
MIN	79.8	149	49.3	45.0	67.7	33.2	92.8	75.2	148	161	185	202
(WY)	2001	1942	1942	1942	1942	1942	1942	1957	1957	1957	1957	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1933 - 1983, 1988 - 2001
ANNUAL TOTAL	190195.0	166517.0	
ANNUAL MEAN	520	456	541
HIGHEST ANNUAL MEAN			858
LOWEST ANNUAL MEAN			174
HIGHEST DAILY MEAN	1800	Apr 24	a 1090
LOWEST DAILY MEAN	5.0	Nov 2	5.0
ANNUAL SEVEN-DAY MINIMUM	8.5	Oct 30	8.5
10 PERCENT EXCEEDS	922		1090
50 PERCENT EXCEEDS	368		365
90 PERCENT EXCEEDS	226		230

a Also occurred June 16, 17.  
b Dam closed.

## MERRIMACK RIVER BASIN

## 01081000 WINNIPESAUKEE RIVER AT TILTON, NH

**LOCATION (REVISED).**--Lat 43°26'31", long 71°35'20", Belknap County, Hydrologic Unit 01070002, on right bank, 150 ft upstream of Bridge/School Street bridge, 300 ft south of Town Hall in Tilton, and 0.3 mi upstream from Packer Brook.

**DRAINAGE AREA.**--471 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: January 1937 to current year.

Water-quality records: Water years 1953.

**REVISED RECORDS.**--WSP 1901: 1960.

**GAGE.**--Water-stage recorder. Datum of gage is 441.87 ft above sea level.

**REMARKS.**--Records good except those for October 23-32, November 1-10, and February 11, 12, which are fair. Flow regulated by power plants prior to 1967 and by Winnepesaukee (station 01080000), Winnisquam 4.5 mi upstream, Wentworth, Merrymeeting, and other lakes upstream.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 2,120 ft<sup>3</sup>/s, April 15, gage height 5.87 ft; minimum daily discharge, 48 ft<sup>3</sup>/s, November 9.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	298	e53	341	778	807	526	890	1110	447	271	295	273
2	296	e63	331	822	815	e520	887	1090	440	282	250	263
3	295	e57	319	998	811	516	890	1020	858	276	258	256
4	295	e53	303	1020	806	510	904	875	1160	270	260	258
5	295	e55	304	1020	807	514	937	851	1130	288	258	249
6	328	e63	307	1020	816	522	1040	838	1060	277	256	243
7	328	e58	302	1020	803	513	1150	691	1080	248	254	241
8	316	e52	297	971	798	510	1180	393	1170	246	249	240
9	465	e48	292	976	799	513	1200	363	1170	257	251	238
10	766	e58	289	1020	e660	515	1300	355	1170	263	240	238
11	722	e117	291	1010	e674	512	1400	328	1180	266	237	239
12	782	130	301	1010	e754	513	1530	258	1320	264	237	236
13	628	144	303	1010	766	590	1950	248	1390	261	236	236
14	494	292	309	1010	768	835	2060	244	1290	262	234	239
15	405	389	309	1010	769	994	2050	240	1190	260	233	236
16	343	385	303	1010	699	993	2030	243	1160	258	232	235
17	291	349	355	1010	554	1010	2020	253	1170	262	239	236
18	281	314	874	1000	e557	1020	1870	254	1130	261	249	235
19	333	300	1050	1000	e548	1020	1490	258	1010	283	243	235
20	281	295	934	1010	540	1030	1410	256	986	332	245	235
21	166	295	858	1010	538	1040	1400	282	920	338	246	251
22	129	309	834	1010	e480	1100	1440	344	813	335	244	246
23	e108	308	818	1010	327	1140	1550	348	802	329	242	243
24	e71	301	803	1000	e308	1150	1540	348	807	304	242	240
25	e63	296	795	992	312	1130	1520	344	744	296	240	274
26	e56	312	785	941	309	1030	1370	341	590	311	239	279
27	e53	353	781	806	e308	883	1210	362	525	307	240	266
28	e51	365	777	793	390	862	1180	414	429	303	242	254
29	e51	356	774	790	---	859	1150	513	252	300	239	248
30	e51	347	779	798	---	878	1120	548	251	298	240	244
31	e49	---	757	777	---	890	---	514	---	302	242	---
TOTAL	9090	6517	16875	29652	17523	24638	41668	14526	27644	8810	7612	7406
MEAN	293	217	544	957	626	795	1389	469	921	284	246	247
MAX	782	389	1050	1020	816	1150	2060	1110	1390	338	295	279
MIN	49	48	289	777	308	510	887	240	251	246	232	235

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2001, BY WATER YEAR (WY)**

MEAN	422	521	716	850	929	967	1167	963	713	466	407	402
MAX	1257	1304	2209	1855	1889	2043	2745	2605	2821	1922	897	954
(WY)	1978	1976	1984	1952	1958	1983	1953	1954	1984	1998	1986	1938
MIN	219	217	136	145	158	418	420	217	201	179	181	182
(WY)	1958	2001	1942	1942	1942	1989	1948	1957	1957	1957	1957	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR
ANNUAL TOTAL	249054	211961										
ANNUAL MEAN	680	581										
HIGHEST ANNUAL MEAN												
LOWEST ANNUAL MEAN												
HIGHEST DAILY MEAN	2600	Apr 10	2060	Apr 14	4480	May 31	1984					
LOWEST DAILY MEAN	48	Nov 9	e 48	Nov 9	a 48	Aug 31	1941					
ANNUAL SEVEN-DAY MINIMUM	52	Oct 26	52	Oct 26	52	Oct 26	2000					
MAXIMUM PEAK FLOW			2120	Apr 15	4580	May 31	1984					
MAXIMUM PEAK STAGE			5.87	Apr 15	8.68	May 31	1984					
10 PERCENT EXCEEDS	1480		1130		1430							
50 PERCENT EXCEEDS	555		355		535							
90 PERCENT EXCEEDS	291		237		265							

a Also occurred November 9, 2000.  
e Estimated.



## MERRIMACK RIVER BASIN

## 01089100 SOUCCOOK RIVER AT PEMBROKE ROAD NEAR CONCORD, NH

**LOCATION (REVISED).**--Lat 43°12'47", long 71°28'49", Merrimack County, Hydrologic Unit 01070002, on left bank, 100 ft upstream of Pembroke Road bridge, 550 ft upstream of Frenchs Brook, 770 ft east of New Hampshire Highway 106 and Pembroke Road intersection, 2.9 mi downstream from U.S. Highways 4, 202, and New Hampshire State Highway 9 bridges, 2.9 mi east of the State Capitol Building in Concord, 4.7 mi southwest of Chichester.

**DRAINAGE AREA.**--81.9 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: March 1988 to current year. Records for October 1951 to September 1987, at site 0.9 mi upstream, published "near Concord" (station 01089000) are not equivalent because of difference in drainage area.

**GAGE.**--Water-stage recorder and crest-stage gage. Elevation of gage is 265 ft above sea level, from topographic map.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Records affected by the annual drawdown event at Shellcamp Pond 21.5 miles upstream.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	1545	846	8.11	Apr. 14	1130	* 1,210	* 9.17

Minimum discharge, 7.1 ft<sup>3</sup>/s, September 20.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	69	104	93	68	e49	236	144	86	44	19	13
2	25	60	90	87	70	e47	210	133	159	71	18	13
3	24	52	e70	84	e67	45	203	123	576	58	20	12
4	22	47	e68	80	e59	43	221	114	485	49	53	12
5	21	50	e67	77	59	43	276	112	306	52	51	12
6	39	67	e60	77	62	45	341	101	204	51	35	12
7	61	63	e53	77	65	48	340	91	148	41	28	11
8	46	55	e50	74	60	e49	399	85	114	37	24	11
9	38	49	e44	73	60	49	421	79	93	38	21	10
10	35	67	45	71	e70	49	665	74	81	38	20	9.6
11	43	216	49	67	e72	e49	828	68	83	57	18	9.6
12	39	217	e55	65	e70	e50	831	63	296	54	18	8.8
13	35	159	e53	62	65	51	991	61	247	45	19	8.1
14	33	131	e52	60	60	54	1120	60	169	39	17	8.6
15	30	235	e54	59	59	64	934	56	125	37	16	8.7
16	30	250	e50	60	e56	78	786	56	97	33	14	8.3
17	34	188	e150	60	e56	77	670	58	96	33	14	8.0
18	39	154	e710	e57	e54	80	592	e56	143	35	17	7.9
19	87	130	479	56	e51	86	507	55	106	31	15	7.7
20	81	114	315	56	51	e94	434	50	87	28	14	7.6
21	62	104	230	56	e51	111	379	46	77	26	14	12
22	52	94	195	e54	e49	223	390	43	68	24	16	16
23	45	85	155	e53	48	501	424	42	67	23	16	14
24	43	e65	124	51	e47	521	373	43	77	22	14	12
25	45	e60	e110	50	45	463	308	41	85	20	13	17
26	42	e68	e100	48	50	388	263	38	76	29	12	33
27	39	137	e105	47	55	337	221	62	65	37	11	26
28	36	152	e97	47	e52	299	192	131	54	28	11	20
29	32	130	90	45	---	275	170	219	47	24	11	17
30	37	113	86	46	---	260	154	156	42	21	10	14
31	50	---	92	58	---	258	---	112	---	20	10	---
TOTAL	1269	3381	4002	1950	1631	4786	13879	2572	4359	1145	589	379.9
MEAN	40.9	113	129	62.9	58.2	154	463	83.0	145	36.9	19.0	12.7
MAX	87	250	710	93	72	521	1120	219	576	71	53	33
MIN	21	47	44	45	45	43	154	38	42	20	10	7.6
CFSM	.50	1.38	1.58	.77	.71	1.89	5.65	1.01	1.77	.45	.23	.15
IN.	.58	1.54	1.82	.89	.74	2.17	6.30	1.17	1.98	.52	.27	.17

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2001, BY WATER YEAR (WY)**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	81.1	129	137	128	125	228	280	158	98.3	43.8	35.8	36.7		
MAX	168	289	368	420	350	417	463	333	441	127	95.4	140		
(WY)	1992	1996	1997	1996	1996	1998	2001	1996	1998	1998	1990	1999		
MIN	12.7	30.6	35.2	35.8	34.6	134	120	55.5	16.1	11.6	13.0	8.33		
(WY)	1998	1995	1999	1989	1993	1992	1999	1999	1999	1993	1999	1995		

**SUMMARY STATISTICS**

**FOR 2000 CALENDAR YEAR**

**FOR 2001 WATER YEAR**

**WATER YEARS 1988 - 2001**

ANNUAL TOTAL	47561	39942.9	
ANNUAL MEAN	130	109	124
HIGHEST ANNUAL MEAN			198
LOWEST ANNUAL MEAN			84.3
HIGHEST DAILY MEAN	877	Mar 29	1120
LOWEST DAILY MEAN	15	Sep 11	7.6
ANNUAL SEVEN-DAY MINIMUM	16	Sep 6	8.1
MAXIMUM PEAK FLOW			1210
MAXIMUM PEAK STAGE			9.17
INSTANTANEOUS LOW FLOW			7.1
ANNUAL RUNOFF (CFSM)	1.59		1.34
ANNUAL RUNOFF (INCHES)	21.60		18.14
10 PERCENT EXCEEDS	311		261
50 PERCENT EXCEEDS	78		56
90 PERCENT EXCEEDS	31		15

a Also occurred September 16, 1995, and October 4, 1995.  
e Estimated.

01092000 MERRIMACK RIVER NEAR GOFFS FALLS, BELOW MANCHESTER, NH

LOCATION (REVISED).--Lat 42°56'53", long 71°27'50", Hillsborough County, Hydrologic Unit 01070002, on right bank, 600 ft upstream from bridge on Interstate Highway 293, 0.8 mi downstream from Bowman Brook, 1.3 mi north of Goffs Falls, 2.2 mi downstream from Piscataquog River, and 3.0 mi south of Manchester City Hall on Elm Street.

DRAINAGE AREA.--3,092 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1231: 1937. WSP 1271: 1937(M, m).

GAGE.--Water-stage recorder. Datum of gage is 109.27 ft above sea level.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by power plants, by Franklin Falls Reservoir since 1942, and by Squam, Newfound, Winnepesaukee, Winnisquam, and other lakes and reservoirs upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1722, 150,000 ft<sup>3</sup>/s, March 20, 1936, gage height, 35.19 ft, from floodmarks, from rating curve extended above 48,000 ft<sup>3</sup>/s on basis of computation of flow over dam at gage heights 25.87 ft and 35.19 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,800 ft<sup>3</sup>/s, April 15, gage height, 10.42 ft; minimum daily discharge, 582 ft<sup>3</sup>/s, August 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1490	1710	4150	3900	2940	2360	6780	13300	3180	1720	1200	957
2	1330	1720	3920	3980	3070	2320	6330	11900	4910	2230	1070	752
3	1470	1720	4260	4130	3110	2480	6190	12500	7820	2150	1370	665
4	1410	1510	2370	4010	2890	2350	6010	13000	16600	2170	1080	704
5	1140	1950	2730	3910	2990	2380	6520	12800	17400	2090	1080	728
6	1660	2010	2530	3800	2440	2370	7360	11500	13600	2080	1020	689
7	2330	2270	2800	3900	2960	2460	8210	8430	9990	1790	917	985
8	2200	2250	1940	3730	3250	2660	9610	6710	7030	1790	877	795
9	2430	1780	2160	3610	3170	2700	10400	5570	6020	1990	1040	791
10	2100	2480	2170	3560	3220	2620	13300	4900	5380	1730	980	825
11	2480	3900	1980	3660	3130	2720	16900	4750	4980	1630	1070	854
12	2420	5010	2230	3430	3420	2680	20100	4610	5560	1960	886	747
13	2130	5610	2140	3330	3550	2890	22700	4320	6870	1600	654	761
14	2000	5330	2410	3240	3240	2720	27700	4810	6620	1670	582	764
15	3090	4510	2170	3230	3310	3040	28300	3930	5920	1370	737	768
16	1750	5830	2560	3400	3360	3470	25900	3010	4760	1580	726	701
17	1930	6180	3730	3330	3040	3450	24500	3180	4450	1150	665	623
18	1800	5810	12400	3120	2870	3920	23600	3430	4630	1280	728	633
19	2710	4600	21800	3300	2800	3790	22200	2840	3970	1590	811	705
20	3430	4010	22700	3250	2850	3880	19600	2970	4060	1510	907	667
21	3720	3560	17900	3110	2850	4400	18200	2730	3420	1640	760	913
22	2960	3490	11800	3060	2440	6190	18600	2230	3260	1390	950	988
23	2420	3280	8150	2920	2500	10500	22600	2530	3300	1290	721	1220
24	1980	2880	6430	3150	2240	11000	25000	2610	3140	1020	753	849
25	2020	2650	e5400	2850	2310	11200	26600	2420	3510	1030	727	2000
26	2170	2450	e4800	3000	2180	10400	26900	2130	2960	1250	708	3360
27	1940	3380	e4800	2880	2560	9140	25800	3010	2540	1320	752	4400
28	1470	4420	e4700	2700	2510	7980	22700	2910	2230	1080	774	2360
29	1570	5040	4680	2600	---	7380	18600	3830	1920	1140	772	1540
30	1540	4690	4300	2740	---	7450	15800	4420	1800	1150	777	1570
31	1980	---	3860	2980	---	6670	---	4280	---	1000	697	---
TOTAL	65070	106030	179970	103810	81200	149570	533010	171560	171830	48390	26791	34314
MEAN	2099	3534	5805	3349	2900	4825	17770	5534	5728	1561	864	1144
MAX	3720	6180	22700	4130	3550	11200	28300	13300	17400	2230	1370	4400
MIN	1140	1510	1940	2600	2180	2320	6010	2130	1800	1000	582	623

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2001, BY WATER YEAR (WY)

	3037	4702	5283	4546	4744	8030	14040	8633	4520	2459	1958	2106
MEAN	3037	4702	5283	4546	4744	8030	14040	8633	4520	2459	1958	2106
MAX (WY)	10380	12910	13690	10840	11370	18240	25660	18250	16480	11470	8576	14500
MIN (WY)	1978	1996	1984	1978	1970	1953	1969	1954	1984	1973	1990	1938
MIN (WY)	771	1341	1458	1410	1354	2141	4612	3059	1354	808	782	745
MIN (WY)	1965	1979	1979	1948	1980	1940	1995	1957	1964	1991	1965	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1937 - 2001
ANNUAL TOTAL	2079760	1671545	
ANNUAL MEAN	5682	4580	5311
HIGHEST ANNUAL MEAN			8400
LOWEST ANNUAL MEAN			2248
HIGHEST DAILY MEAN	27300	Mar 30	28300
LOWEST DAILY MEAN	1070	Sep 9	582
ANNUAL SEVEN-DAY MINIMUM	1290	Sep 8	694
MAXIMUM PEAK FLOW			28800
MAXIMUM PEAK STAGE		10.42	Apr 15
10 PERCENT EXCEEDS	12700	11100	12200
50 PERCENT EXCEEDS	3470	2880	3420
90 PERCENT EXCEEDS	1720	868	1200

a From rating curve extended above 48,000 ft<sup>3</sup>/s as explained above.  
e Estimated.

## MERRIMACK RIVER BASIN

## 01093800 STONY BROOK TRIBUTARY NEAR TEMPLE, NH

**LOCATION.**--Lat 42°51'36", long 71°50'00", Hillsborough County, Hydrologic Unit 01070002, on left bank, 450 ft downstream from Putnam Road bridge, 2.9 mi north of Temple, 5.0 mi west of Wilton (revised), and 5.5 mi upstream from mouth.

**DRAINAGE AREA.**--3.60 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: May 1963 to current year.

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

**REMARKS.**--Records good except those below 3.5 ft<sup>3</sup>/s, for the period of October 1 to July 30, which are fair, and those for estimated daily discharges, which are poor.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 110 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	1900	* 169	* 4.11	Apr. 22	1415	112	3.80

Minimum discharge, 0.11 ft<sup>3</sup>/s, August 29, 30.

## DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

## DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	2.3	4.0	e3.7	2.8	e2.2	9.1	9.2	2.5	2.8	.42	1.9
2	.53	2.1	3.5	e3.5	2.5	e2.2	6.7	8.3	17	3.2	.35	.43
3	.55	1.9	3.1	3.3	2.3	2.1	6.5	7.4	24	1.8	.34	.30
4	.55	1.9	3.0	3.1	2.3	2.0	7.3	6.7	14	1.4	.41	.43
5	.58	2.1	2.9	3.3	e2.3	2.1	9.5	6.0	7.9	1.7	.41	.45
6	6.9	2.6	2.8	3.1	5.8	3.3	12	5.3	5.4	1.7	.34	.30
7	3.8	2.3	e2.7	2.8	3.5	2.9	14	4.9	4.0	1.2	.30	.27
8	1.9	2.2	e2.5	2.4	2.5	2.3	18	4.5	3.3	1.4	.26	.22
9	1.5	2.0	e2.3	2.3	2.2	2.0	32	4.1	2.8	1.3	.26	.20
10	1.4	9.3	e2.1	2.2	e4.9	2.2	52	3.9	2.4	1.0	.94	.23
11	1.4	14	e2.0	2.2	e4.6	2.0	43	3.6	3.7	.93	.77	.32
12	1.3	7.8	2.6	2.0	e3.8	2.0	53	3.1	12	.81	.52	.19
13	1.2	4.9	2.3	2.0	2.9	2.2	66	2.8	6.0	.73	.55	.18
14	1.2	5.8	2.0	2.0	2.6	2.3	55	2.3	4.0	.67	.45	.28
15	1.3	16	1.8	2.0	3.1	2.6	46	2.2	3.1	.61	.36	.24
16	1.8	8.2	1.8	2.0	2.9	3.3	39	2.8	2.4	.53	.32	.19
17	2.8	5.9	51	2.0	2.7	3.6	36	2.8	6.5	1.1	.30	.17
18	3.8	4.6	29	1.7	e2.7	3.6	32	2.5	6.4	.85	.29	.17
19	6.8	3.9	12	1.8	e2.6	3.5	26	2.4	3.5	.69	.26	.15
20	3.9	3.5	e8.7	1.7	2.4	3.9	29	2.1	2.9	.55	.27	.18
21	2.7	3.2	e7.0	1.7	2.4	4.6	43	1.9	3.3	.44	.32	2.3
22	2.1	3.0	5.7	e1.7	e2.4	e4.0	75	2.9	3.2	.39	.31	.99
23	1.8	2.7	4.7	e1.7	e2.3	33	48	3.3	4.1	.33	.22	.49
24	1.7	2.3	e4.8	1.7	2.2	19	39	2.7	5.0	e.48	.20	.39
25	1.4	2.4	e4.4	1.7	2.6	14	24	2.1	3.3	e.41	.16	3.7
26	1.3	4.4	e4.1	1.5	3.0	e11	18	1.9	2.3	e2.8	.15	2.2
27	1.3	9.3	e3.9	1.5	2.7	e9.5	15	2.4	1.9	e1.2	.16	.93
28	1.3	6.7	e3.7	1.6	2.3	e8.4	13	5.2	1.5	e.75	.15	.69
29	1.3	5.3	e3.5	1.7	---	8.0	11	6.6	1.2	e.60	.13	.60
30	1.6	4.6	e3.5	2.0	---	e11	9.8	3.8	1.1	e.50	.12	.49
31	2.5	---	e3.9	3.2	---	e15	---	2.9	---	.41	.14	---
TOTAL	62.60	147.2	191.3	69.1	81.3	225.8	887.9	122.6	160.7	33.28	10.18	19.58
MEAN	2.02	4.91	6.17	2.23	2.90	7.28	29.6	3.95	5.36	1.07	.33	.65
MAX	6.9	16	51	3.7	5.8	40	75	9.2	24	3.2	.94	3.7
MIN	.39	1.9	1.8	1.5	2.2	2.0	6.5	1.9	1.1	.33	.12	.15
CFSM	.56	1.36	1.71	.62	.81	2.02	8.22	1.10	1.49	.30	.09	.18
IN.	.65	1.52	1.98	.71	.84	2.33	9.17	1.27	1.66	.34	.11	.20

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2001, BY WATER YEAR (WY)

	4.43	7.55	8.34	7.19	6.96	14.1	19.1	9.19	4.98	1.85	1.45	1.67
MEAN	4.43	7.55	8.34	7.19	6.96	14.1	19.1	9.19	4.98	1.85	1.45	1.67
MAX	22.9	18.9	29.4	37.2	19.0	30.9	38.9	28.6	17.1	7.26	6.51	10.2
(WY)	1997	1996	1997	1999	1970	1983	1987	1984	1968	1968	1986	1999
MIN	.34	.65	1.34	1.09	1.59	3.65	4.10	2.64	.66	.28	.18	.11
(WY)	1965	1979	1979	1977	1977	1989	1985	1985	1964	1966	1966	1964

## SUMMARY STATISTICS

## FOR 2000 CALENDAR YEAR

## FOR 2001 WATER YEAR

## WATER YEARS 1963 - 2001

ANNUAL TOTAL	2495.20	2011.54	
ANNUAL MEAN	6.82	5.51	
HIGHEST ANNUAL MEAN			7.25
LOWEST ANNUAL MEAN			10.9
HIGHEST DAILY MEAN	74	Apr 22	75
LOWEST DAILY MEAN	.39	Oct 1	.12
ANNUAL SEVEN-DAY MINIMUM	.50	Sep 6	.14
MAXIMUM PEAK FLOW		169	Dec 17
MAXIMUM PEAK STAGE		4.11	Dec 17
INSTANTANEOUS LOW FLOW		b .11	Aug 29
ANNUAL RUNOFF (CFSM)	1.89		1.53
ANNUAL RUNOFF (INCHES)	25.78		20.79
10 PERCENT EXCEEDS	16		12
50 PERCENT EXCEEDS	3.7		2.4
90 PERCENT EXCEEDS	.82		.34
			7.25
			10.9
			2.58
			343
			.05
			.07
			648
			a 7.81
			c .00
			2.01
			27.34
			17
			3.5
			.45

a Ice Jam. Also occurred on December 21, 1973.

b Also occurred on August 30.

c No flow for part of September 26, 1976.

e Estimated.

010965852 BEAVER BROOK AT NORTH PELHAM, NH

**LOCATION.**--Lat 42°46'59", long 71°21'14", Rockingham County, Hydrologic Unit 01070002, on right bank, 10 ft downstream from State Highway 128 bridge at the Windham-Pelham town line, 0.7 mi north of North Pelham, 1.3 mi south of State Highways 128 and 111 intersection in West Windham, and 4.7 mi north of Pelham.

**DRAINAGE AREA.**--47.8 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1986 to current year.

**GAGE.**--Water-stage recorder and crest-stage gage. Elevation of gage is 150 ft above sea level, from topographic map.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair, and those for May 29 to June 1, which are poor. Some regulation at low- and medium-flows.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 23	1545	* 1,170	* 11.75	Apr. 13	0215	441	9.01
Mar. 31	1800	420	8.91				

Minimum discharge, 1.2 ft<sup>3</sup>/s, August 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	30	51	51	59	47	384	57	34	15	6.5	5.6
2	6.3	26	47	48	58	44	329	56	83	31	6.3	4.9
3	6.7	22	e39	46	54	41	299	53	185	26	28	4.8
4	7.6	20	e36	e44	47	38	294	50	173	22	115	4.9
5	6.0	21	e34	43	47	37	303	46	126	20	85	4.8
6	17	31	e32	44	e49	38	330	41	89	11	50	4.1
7	22	29	e29	43	53	53	341	38	66	14	31	4.0
8	16	25	e27	42	49	55	363	36	55	18	23	3.8
9	13	22	e27	42	48	53	379	34	44	22	20	3.6
10	11	32	e26	37	57	53	417	32	35	15	20	3.4
11	11	102	e27	39	57	50	424	31	27	9.0	16	3.5
12	9.5	83	e24	37	57	51	415	30	66	10	17	3.1
13	8.5	61	e27	34	57	59	428	29	63	11	18	2.8
14	7.8	44	30	35	52	78	378	23	50	11	15	3.8
15	7.9	82	30	34	56	82	314	23	41	10	13	3.0
16	8.6	81	e28	34	54	96	264	24	38	11	11	2.6
17	16	70	97	34	53	102	229	23	53	14	11	2.6
18	17	66	304	33	46	112	204	23	134	18	10	2.4
19	29	61	297	33	48	126	179	23	88	17	8.8	2.4
20	38	55	230	34	46	138	159	23	61	14	8.1	2.6
21	34	52	e157	33	46	151	140	22	49	12	8.0	4.0
22	32	48	e118	33	41	433	137	21	44	11	6.7	3.4
23	29	45	e100	32	43	1110	124	21	42	9.4	6.2	3.1
24	28	39	e82	32	39	974	113	21	44	8.1	5.9	3.1
25	28	e27	e69	31	39	757	88	21	49	7.5	5.4	5.4
26	28	31	e57	31	51	564	94	20	42	8.9	5.1	5.3
27	27	77	e53	30	56	441	84	85	36	10	5.0	5.3
28	24	72	e50	30	53	359	77	122	32	10	4.7	5.0
29	21	59	e45	30	---	318	71	73	29	8.9	4.3	4.7
30	20	52	e41	31	---	321	65	44	19	8.0	4.6	4.1
31	23	---	e45	44	---	401	---	40	---	6.9	4.0	---
TOTAL	559.7	1465	2259	1144	1415	7182	7426	1185	1897	419.7	572.6	116.1
MEAN	18.1	48.8	72.9	36.9	50.5	232	248	38.2	63.2	13.5	18.5	3.87
MAX	38	102	304	51	59	1110	428	122	185	31	115	5.6
MIN	6.0	20	24	30	39	37	65	20	19	6.9	4.0	2.4
CFSM	.38	1.02	1.52	.77	1.06	4.85	5.18	.80	1.32	.28	.39	.08
IN.	.44	1.14	1.76	.89	1.10	5.59	5.78	.92	1.48	.33	.45	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	44.4	72.3	92.6	83.6	92.3	155	169	89.2	51.8	20.3	20.9	19.9			
MAX	186	148	228	223	181	281	406	145	241	50.2	80.1	86.5			
(WY)	1997	1996	1987	1996	1996	1994	1987	1989	1998	1998	1991	1991			
MIN	5.15	15.4	15.8	27.5	41.4	56.5	56.9	34.4	7.27	3.53	1.52	2.71			
(WY)	1998	1999	1999	1989	1987	1989	1999	1999	1999	1993	1999	1997			

SUMMARY STATISTICS

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1987 - 2001
ANNUAL TOTAL	26988.6	25641.1	
ANNUAL MEAN	73.7	70.2	75.8
HIGHEST ANNUAL MEAN			99.9
LOWEST ANNUAL MEAN			41.9
HIGHEST DAILY MEAN	664	1110	1500
LOWEST DAILY MEAN	4.6	a 2.4	.83
ANNUAL SEVEN-DAY MINIMUM	6.2	2.8	.92
MAXIMUM PEAK FLOW		1170	1850
MAXIMUM PEAK STAGE		11.75	12.94
INSTANTANEOUS LOW FLOW		1.2	b .60
ANNUAL RUNOFF (CFSM)	1.54	1.47	1.59
ANNUAL RUNOFF (INCHES)	21.00	19.95	21.55
10 PERCENT EXCEEDS	167	153	170
50 PERCENT EXCEEDS	40	34	47
90 PERCENT EXCEEDS	11	5.5	6.1

a Also occurred September 19.  
b Also occurred September 5, 8, 1999.  
e Estimated.

## MERRIMACK RIVER BASIN

## 01100505 SPICKET RIVER, AT ISLAND POND ROAD, AT NORTH SALEM, NH

**LOCATION.**--Lat 42°50'57", long 71°12'56", Rockingham County, Hydrologic Unit 01070002, on right bank, 70 ft downstream from Old State Highway 111 bridge (Haverhill Road), at Cowbell Corners, 0.9 mi northeast of North Salem, 3.4 mi northwest of Atkinson, and 6.1 mi southeast of Derry.

**DRAINAGE AREA.**--16.5 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 2000 to current year.

**GAGE.**--Water-stage recorder and crest-stage gage. Elevation of gage is 190 ft above sea level, from topographic map.

**REMARKS.**--Records good except those for estimated daily discharges and those below 1.5 ft<sup>3</sup>/s, which are fair, and those for February 6 and March 6, which are poor. Flows regulated by Island Pond 0.7 mi upstream.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 235 ft<sup>3</sup>/s, October 16, gage-height, 5.46 ft; minimum daily discharge, 0.25 ft<sup>3</sup>/s, June 10.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	24	23	25	15	16	143	1.0	.44	.82	.78	1.3
2	---	21	22	23	16	16	138	.90	2.5	1.1	.74	.98
3	---	18	20	21	16	16	132	.86	2.2	.56	2.0	1.0
4	---	16	19	20	e17	15	127	1.1	1.2	.44	8.0	1.1
5	---	17	19	e18	e16	15	123	1.2	.74	.54	1.5	.94
6	2.6	17	19	19	e20	e21	122	1.3	.52	.61	1.1	.90
7	1.4	15	18	18	20	21	121	1.4	.40	.50	1.0	.88
8	1.1	14	17	17	19	20	122	1.6	.33	.67	1.1	.81
9	1.1	13	16	17	19	19	123	1.5	.27	.63	1.1	.76
10	1.1	17	15	e16	19	20	127	1.6	.25	.63	1.4	.74
11	1.1	22	14	e16	e20	19	129	1.5	1.1	.65	1.1	.70
12	1.0	24	14	e16	e19	18	132	1.4	2.7	.66	1.6	.65
13	1.1	24	e14	e15	19	19	134	1.3	.88	.87	1.3	.68
14	1.1	26	14	e14	18	21	132	1.4	.51	.93	1.1	1.1
15	1.1	30	15	14	19	21	127	1.5	.38	.85	1.1	.78
16	139	29	14	14	19	23	121	1.4	.66	.63	1.1	.77
17	209	29	26	14	19	25	52	.89	1.9	1.0	1.4	.69
18	179	27	45	e14	e18	28	3.0	.75	1.7	.86	1.3	.59
19	164	25	58	14	e17	30	2.4	.61	.75	.86	1.3	.73
20	145	23	65	14	17	33	2.0	.61	.59	.86	1.4	.73
21	126	21	63	e14	17	38	1.7	.55	.61	.84	1.6	1.6
22	111	20	60	e13	e16	90	1.6	.45	.74	.82	1.4	.99
23	94	18	55	e13	16	137	1.6	.50	.70	.77	1.4	.85
24	78	17	50	e13	e16	160	1.3	.46	.74	.80	1.4	.90
25	66	15	e45	13	15	167	1.1	.38	.65	.81	1.3	1.6
26	56	18	e39	e12	17	166	1.1	.36	.64	1.3	1.3	1.1
27	47	21	34	e12	17	161	.94	1.8	.68	1.0	1.3	1.0
28	41	22	30	e11	17	155	.94	1.1	.52	.89	1.3	1.0
29	33	23	27	e11	---	147	.89	.83	.46	.84	1.2	.86
30	28	23	26	e12	---	146	.97	.60	.61	.85	1.2	.76
31	27	---	29	14	---	147	---	.64	---	.87	1.2	---
TOTAL	1555.7	629	925	477	493	1930	2124.54	31.49	26.37	24.46	46.02	27.49
MEAN	59.8	21.0	29.8	15.4	17.6	62.3	70.8	1.02	.88	.79	1.48	.92
MAX	209	30	65	25	20	167	143	1.8	2.7	1.3	8.0	1.6
MIN	1.0	13	14	11	15	15	.89	.36	.25	.44	.74	.59

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEAR 2001 - 2001, BY WATER YEAR (WY)**

MEAN	---	21.0	29.8	15.4	17.6	62.3	70.8	1.02	.88	.79	1.48	.92
MAX	---	21.0	29.8	15.4	17.6	62.3	70.8	1.02	.88	.79	1.48	.92
(WY)	---	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001
MIN	---	21.0	29.8	15.4	17.6	62.3	70.8	1.02	.88	.79	1.48	.92
(WY)	---	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001

**SUMMARY STATISTICS**

**FOR 2001 WATER YEAR**

HIGHEST DAILY MEAN	209	Oct 17
LOWEST DAILY MEAN	.25	Jun 10
ANNUAL SEVEN-DAY MINIMUM	.47	May 20
MAXIMUM PEAK FLOW	235	Oct 16
MAXIMUM PEAK STAGE	5.46	Oct 16
10 PERCENT EXCEEDS	66	
50 PERCENT EXCEEDS	12	
90 PERCENT EXCEEDS	.65	

e Estimated.



## 01129200 CONNECTICUT RIVER BELOW INDIAN STREAM, NEAR PITTSBURG, NH

**LOCATION (REVISED).**--Lat 45°02'25", long 71°26'37", Coos County, Hydrologic Unit 01080101, on right bank, 1,200 ft downstream from Indian Stream, 2.7 mi west of US Highway 3 and State Highway 145 intersection in Pittsburg, 3.9 mi northeast of Post Office in Beecher Falls, and at mile 376.5.

**DRAINAGE AREA.**--254 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD.**--October 1956 to current year.

**REVISED RECORDS.**--WDR MA-NH-RI-VT-73-1: 1958, 1960(M), 1969(M).

**GAGE.**--Water-stage recorder. Elevation of gage is 1,150 ft above sea level, from topographic map.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Flow regulated by First Connecticut and Second Connecticut Lakes and Lake Francis 3.7 mi upstream.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 5,820 ft<sup>3</sup>/s, May 11, 2000, gage height, 8.37 ft, from rating curve extended above 2,600 ft<sup>3</sup>/s; minimum daily 30 ft<sup>3</sup>/s, August 6, 1965.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 3,420 ft<sup>3</sup>/s, April 25, gage height, 6.48 ft; minimum daily discharge, e88 ft<sup>3</sup>/s, March 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	359	526	245	875	850	e148	101	661	356	285	686	465
2	354	537	216	866	843	e142	297	886	279	332	671	326
3	348	555	189	860	841	e140	519	782	480	275	665	253
4	348	556	178	930	834	e138	645	620	1070	262	661	233
5	347	644	178	965	832	139	653	429	1670	341	654	223
6	364	782	178	958	821	139	661	324	1540	318	652	218
7	381	545	162	954	818	139	682	263	1240	278	648	214
8	403	369	e160	949	810	e138	702	235	1070	259	719	211
9	480	332	e159	943	810	137	424	216	966	255	868	209
10	494	330	e158	938	816	137	207	191	902	303	868	210
11	497	429	e157	930	817	137	329	177	870	535	862	207
12	600	477	332	923	e817	137	506	177	914	854	855	205
13	713	401	434	920	e817	139	711	221	876	816	708	205
14	697	298	428	913	e817	143	904	194	490	768	638	204
15	629	382	426	906	789	119	650	167	276	1110	636	204
16	589	333	421	906	508	e88	542	161	267	785	632	204
17	571	279	482	901	498	e90	543	149	342	744	633	204
18	572	257	1670	897	348	89	489	144	377	825	632	204
19	613	230	840	890	253	90	383	293	302	815	630	200
20	584	212	473	890	234	92	352	286	281	763	540	197
21	563	204	e350	883	160	95	629	209	263	734	455	203
22	550	198	e282	875	e158	99	1720	168	261	715	453	208
23	539	183	e260	874	153	103	2340	154	245	701	453	208
24	537	169	e230	867	e150	110	2690	150	325	752	287	205
25	531	156	e210	865	e150	e110	2330	131	342	960	204	207
26	526	173	e191	858	147	e105	1070	123	284	776	201	221
27	523	344	e190	858	e144	e105	958	120	261	729	206	222
28	517	423	e187	854	e144	99	808	141	251	712	213	213
29	515	308	e550	845	---	e100	599	356	249	697	220	208
30	516	270	887	842	---	100	551	473	234	689	217	205
31	523	---	882	846	---	101	---	375	---	684	226	---
TOTAL	15783	10902	11705	27781	15379	3648	23995	8976	17283	19072	16993	6696
MEAN	509	363	378	896	549	118	800	290	576	615	548	223
MAX	713	782	1670	965	850	148	2690	886	1670	1110	868	465
MIN	347	156	157	842	144	88	101	120	234	255	201	197

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2001, BY WATER YEAR (WY)

	552	549	735	797	770	539	631	517	384	420	431	437
MEAN	552	549	735	797	770	539	631	517	384	420	431	437
MAX	1342	1056	1485	1175	1325	1088	1035	1691	863	1187	1043	1095
(WY)	1978	1978	1960	1960	1974	1979	2000	1974	1984	1996	1976	1963
MIN	111	181	378	462	376	118	247	162	80.9	55.7	64.7	111
(WY)	1969	1967	2001	1979	1980	2001	1995	1988	1962	1965	1975	1968

## SUMMARY STATISTICS

## FOR 2000 CALENDAR YEAR

## FOR 2001 WATER YEAR

## WATER YEARS 1957 - 2001

ANNUAL TOTAL	216700	178213	
ANNUAL MEAN	592	488	563
HIGHEST ANNUAL MEAN			789
LOWEST ANNUAL MEAN			379
HIGHEST DAILY MEAN	5610	May 11	2690
LOWEST DAILY MEAN	156	Nov 25	e 88
ANNUAL SEVEN-DAY MINIMUM	165	Dec 5	92
MAXIMUM PEAK FLOW			3420
MAXIMUM PEAK STAGE			6.48
10 PERCENT EXCEEDS	1080		886
50 PERCENT EXCEEDS	448		382
90 PERCENT EXCEEDS	218		144

a From rating curve extended above 2,600 ft<sup>3</sup>/s.

e Estimated.

## CONNECTICUT RIVER BASIN

01129200 CONNECTICUT RIVER BELOW INDIAN STREAM, NEAR PITTSBURG, NH -- Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1999 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1999 to current year.

INSTRUMENTATION.--Water-temperature recorder since June 16, 1999, provides continuous recordings.

REMARKS.--Records Poor.

## TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.5	13.0	14.5	10.0	8.0	9.0	3.0	.5	2.0	3.0	1.0	2.0
2	16.5	13.5	15.0	9.5	8.0	9.0	2.5	.0	1.0	2.5	1.0	2.0
3	16.0	14.0	15.0	9.5	7.5	8.5	2.5	.0	1.0	3.0	1.0	2.0
4	15.0	13.5	14.5	10.0	8.0	8.5	2.5	.0	1.0	3.0	1.0	2.0
5	15.5	13.5	14.5	9.0	6.5	8.0	2.5	.0	1.5	3.0	1.0	2.0
6	14.5	13.0	14.0	7.5	6.0	7.0	2.0	---	---	3.0	1.0	2.0
7	14.0	12.5	13.0	7.5	6.0	7.0	2.0	---	---	3.0	1.0	2.0
8	13.5	11.0	12.5	8.5	6.0	7.0	1.5	---	---	3.0	1.0	2.0
9	13.0	10.0	11.5	9.5	6.5	8.0	1.5	---	---	3.0	1.0	2.0
10	12.0	10.0	11.0	9.0	7.0	8.0	1.5	---	---	2.5	1.0	1.5
11	12.5	9.5	11.0	9.0	7.0	8.0	2.0	.0	1.0	3.0	1.0	2.0
12	11.0	7.5	9.5	7.5	6.0	7.0	2.5	.0	1.5	2.5	1.0	1.5
13	11.5	8.0	9.5	8.0	5.5	6.5	2.5	.0	1.5	3.0	1.0	2.0
14	12.5	10.0	11.5	7.5	6.0	7.0	3.0	.5	1.5	3.5	1.0	2.0
15	13.0	11.0	12.0	7.0	4.0	5.5	2.5	.5	1.5	3.0	1.0	2.0
16	12.0	10.0	11.0	5.5	3.5	4.5	3.0	.5	2.0	3.0	1.0	2.0
17	12.5	10.5	11.5	6.0	3.5	4.5	3.5	.5	2.0	3.0	1.0	2.0
18	12.0	10.5	11.5	4.0	2.0	3.0	1.5	---	---	3.0	.5	2.0
19	11.5	10.0	11.0	4.0	1.5	2.5	2.0	---	---	3.0	1.0	2.0
20	12.0	9.5	11.0	4.0	1.5	2.5	1.5	---	---	3.0	.5	2.0
21	12.0	10.0	11.0	4.0	2.0	3.0	1.5	---	---	2.5	1.0	1.5
22	11.5	10.0	10.5	3.5	1.5	2.5	2.0	---	---	3.0	.5	2.0
23	11.5	9.0	10.0	3.0	1.0	2.0	1.5	---	---	3.0	1.0	2.0
24	11.5	9.5	10.5	3.0	1.0	2.0	1.5	---	---	3.0	1.0	2.0
25	12.0	9.5	11.0	4.0	1.0	2.0	1.5	---	---	3.0	1.0	2.0
26	12.0	10.0	10.5	3.0	1.0	2.0	1.5	---	---	3.0	1.0	1.5
27	11.5	10.0	11.0	2.5	.5	1.5	1.5	---	---	3.0	1.0	2.0
28	11.0	8.5	10.0	2.0	.0	1.0	1.5	---	---	2.5	.5	2.0
29	9.5	8.0	9.0	3.5	1.0	2.5	3.0	.0	1.5	2.5	.5	1.5
30	10.0	8.0	9.0	4.0	2.0	3.0	3.0	1.0	2.0	3.0	.5	1.5
31	9.5	8.0	9.0	---	---	---	3.0	1.0	2.0	3.0	1.0	2.0
MONTH	16.5	7.5	11.5	10.0	.0	5.1	3.5	.0	1.5	3.5	.5	1.9

## 01129200 CONNECTICUT RIVER BELOW INDIAN STREAM, NEAR PITTSBURG, NH -- Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	3.0	1.0	2.0	2.5	---	---	4.0	.0	2.0	11.0	4.5	7.5
2	3.0	1.0	2.0	2.5	---	---	3.5	.5	1.5	11.5	5.0	8.5
3	2.5	.5	1.5	3.0	---	---	3.0	1.0	2.0	12.5	6.5	10.0
4	3.0	.5	1.5	3.5	---	---	3.5	.5	2.0	12.0	9.5	10.5
5	3.0	.5	2.0	3.5	.5	1.5	3.5	.5	2.0	10.5	7.5	9.0
6	3.0	1.0	2.0	3.0	.5	2.0	3.0	1.0	1.5	12.0	5.5	9.0
7	3.0	1.0	2.0	4.5	.0	2.0	3.5	1.0	2.0	14.0	6.5	10.0
8	3.0	.5	1.5	5.0	.0	2.0	2.5	1.0	1.5	15.0	7.5	11.0
9	3.0	1.0	1.5	4.5	.5	2.5	2.5	1.0	1.5	15.0	8.5	11.5
10	3.0	.5	1.5	4.0	1.0	2.0	3.5	.5	1.5	16.5	9.0	12.5
11	2.0	.0	1.5	3.5	.5	2.0	2.5	.0	1.5	17.0	9.0	12.5
12	2.5	.5	1.5	4.5	.0	1.5	1.5	.0	1.0	14.5	11.0	12.5
13	2.5	.5	1.5	3.0	.5	1.5	1.5	.0	1.0	13.5	9.0	11.0
14	2.5	.5	1.5	3.5	1.0	2.0	1.5	.0	1.0	12.5	7.0	10.0
15	2.5	.5	1.5	3.0	.5	1.5	2.0	.0	1.0	10.0	7.0	8.5
16	3.0	.0	1.5	5.0	.0	2.0	2.5	.0	1.0	13.0	7.5	10.0
17	2.5	.0	1.5	4.5	.0	2.0	4.5	.0	2.5	13.5	8.5	11.0
18	2.5	.0	1.0	3.5	.0	1.5	4.5	.0	2.5	12.5	8.5	10.5
19	3.0	.0	1.5	5.5	.5	2.5	4.0	1.0	2.5	12.5	9.5	11.0
20	3.0	1.0	2.0	5.5	.5	2.5	7.5	.5	3.5	15.5	8.5	11.5
21	2.5	---	---	4.5	.0	2.0	7.0	1.5	4.0	17.5	9.5	13.0
22	2.0	---	---	2.5	.0	1.5	3.0	.5	1.5	17.0	10.0	13.0
23	2.5	.0	1.0	2.5	.0	1.5	5.0	.5	2.0	17.0	10.5	13.5
24	3.0	---	---	3.0	.5	1.5	5.5	1.0	3.0	16.0	10.5	13.0
25	2.0	---	---	4.0	.0	1.5	5.0	.5	3.0	18.0	10.0	13.5
26	3.0	.0	1.5	4.0	.0	1.5	7.5	1.5	4.5	17.5	10.5	13.5
27	3.0	.0	1.0	2.0	.0	1.0	6.0	2.5	4.5	13.0	10.5	12.0
28	2.5	---	---	3.0	.5	1.5	7.0	2.5	5.0	11.5	9.5	10.5
29	---	---	---	4.5	.0	2.0	8.0	2.5	5.0	13.0	10.5	11.5
30	---	---	---	2.5	.0	1.5	8.0	3.5	5.5	11.5	9.5	10.5
31	---	---	---	3.0	.0	1.5	---	---	---	10.5	8.0	9.0
MONTH	3.0	.0	1.6	5.5	.0	1.8	8.0	.0	2.4	18.0	4.5	11.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	14.5	7.0	11.0	15.5	11.5	14.0	16.0	13.5	14.5	17.5	14.5	16.5
2	12.5	10.5	11.5	15.0	11.5	13.0	16.0	13.5	14.5	17.5	13.5	15.0
3	14.5	10.0	12.0	14.5	11.0	12.5	16.0	14.0	15.0	19.0	14.0	16.0
4	13.0	10.5	11.5	15.5	11.0	13.0	15.5	13.0	14.5	17.5	15.0	16.0
5	11.0	10.0	10.5	16.5	12.0	14.5	16.5	13.5	15.0	18.5	14.5	16.0
6	11.5	9.5	10.5	14.0	11.5	12.5	15.0	13.5	14.5	19.0	14.5	16.0
7	13.5	9.5	11.0	15.5	11.0	13.0	16.0	14.0	15.0	20.0	14.5	17.0
8	13.0	8.5	10.5	14.5	12.0	13.0	16.5	14.5	15.5	19.5	15.0	17.0
9	13.0	9.0	10.5	16.0	11.5	13.5	17.0	15.5	16.0	21.0	15.5	17.5
10	13.5	9.0	11.0	15.5	12.0	14.0	18.0	15.0	16.0	20.5	16.0	17.5
11	12.0	9.5	10.5	15.0	13.0	14.0	18.0	15.0	16.0	19.5	14.5	17.0
12	11.5	9.5	10.5	15.0	13.0	14.0	17.0	15.0	16.5	20.0	14.5	17.0
13	13.0	9.5	11.5	14.0	13.0	13.5	17.5	15.0	16.0	18.5	15.0	16.0
14	17.0	11.0	13.5	14.0	12.5	13.0	17.0	15.0	16.0	18.5	14.5	16.0
15	16.5	11.0	13.5	15.0	13.0	14.0	17.5	15.5	16.0	19.0	14.5	16.0
16	16.0	11.5	13.5	15.0	13.0	14.0	17.5	15.0	16.0	19.5	14.5	16.5
17	16.5	12.0	14.0	14.5	12.5	13.5	17.5	15.0	16.0	20.0	15.0	17.0
18	17.0	12.5	14.5	14.0	12.0	13.0	17.0	16.0	16.5	19.0	15.5	16.5
19	17.0	12.0	14.0	15.0	12.0	13.0	18.0	15.5	17.0	18.5	16.0	17.0
20	16.0	11.5	13.5	15.0	12.0	13.5	18.0	15.5	16.5	18.0	16.0	17.0
21	15.5	11.0	12.5	14.5	12.0	13.0	18.0	15.5	16.5	19.0	16.5	17.5
22	14.5	11.0	12.5	14.0	12.5	13.0	17.5	15.5	16.5	18.5	16.0	17.0
23	15.0	11.0	12.5	14.5	12.0	13.5	18.5	15.5	16.5	18.5	16.0	17.0
24	16.5	11.0	13.0	18.0	12.5	14.0	19.5	14.0	17.0	19.5	16.0	17.5
25	17.5	12.5	15.0	17.0	14.0	15.5	19.0	14.0	16.0	18.5	17.0	17.5
26	17.0	12.5	14.0	15.0	13.0	14.0	19.0	14.0	16.0	18.5	16.0	17.0
27	17.0	12.0	14.0	14.5	12.5	13.5	17.0	14.5	15.5	17.5	15.5	16.5
28	16.0	11.0	13.5	14.5	12.0	13.5	19.0	15.0	16.5	17.5	15.0	16.0
29	13.0	10.5	11.5	14.5	13.0	14.0	17.0	15.0	16.0	18.5	14.5	16.0
30	15.0	10.0	12.5	15.0	12.5	13.5	19.0	14.5	16.0	19.0	14.5	16.0
31	---	---	---	15.0	13.0	14.0	20.0	14.5	17.0	---	---	---
MONTH	17.5	7.0	12.3	18.0	11.0	13.5	20.0	13.0	15.9	21.0	13.5	16.6

## CONNECTICUT RIVER BASIN

## 01129440 MOHAWK RIVER NEAR COLEBROOK, NH

**LOCATION.**--Lat 44°52'28", Long 71°24'38", Coos County, Hydrologic Unit 01080101, on right bank, upstream of Bungy Road bridge, south of the intersection of State Highway 26 and Bungy Road, 0.8 mi upstream of Read Brook, 1.7 mi downstream of Roaring Brook, 5 mi east of Colebrook, and 5.5 mi west of Dixville Notch.

**DRAINAGE AREA.**--36.7 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1986 to current year.

**GAGE.**--Water-stage recorder and crest-stage gage. Elevation of gage is 1,220 ft above sea level, from topographic map.

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

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2015	1,720	8.38	Apr. 24	1645	* 1,990	* 8.70

Minimum discharge, 8.3 ft<sup>3</sup>/s, September 17-20.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	28	40	e42	e20	e18	18	300	45	95	20	138
2	14	27	36	e38	e20	e18	17	340	73	55	17	28
3	13	26	e34	e35	e20	e18	17	303	143	28	18	17
4	14	24	e32	e34	e19	e18	20	224	265	23	16	14
5	15	58	e31	e33	e20	e18	e29	150	156	34	13	14
6	65	71	e29	e32	e20	e18	e31	105	100	23	12	12
7	36	60	e28	e32	e22	e19	31	82	70	21	11	11
8	57	51	e27	e31	e21	e18	35	68	52	19	11	11
9	44	44	e27	e30	e20	e19	36	64	41	20	14	10
10	34	61	e27	e29	e34	e18	59	58	38	27	14	9.8
11	40	102	e30	e27	e65	18	94	53	37	35	13	11
12	39	72	e47	e27	e44	e18	140	82	39	47	11	9.8
13	30	53	37	e27	e35	e20	190	96	37	45	10	9.5
14	26	49	32	e26	e30	e19	154	60	28	62	9.8	9.5
15	23	105	31	e26	e28	18	115	53	26	80	9.4	9.1
16	21	63	27	e27	e26	e17	122	52	26	49	9.0	9.0
17	21	55	e540	e26	e25	e16	130	46	52	45	9.8	8.7
18	27	48	483	e25	e24	16	116	56	37	38	17	8.5
19	30	39	184	e24	e23	17	87	163	26	33	12	8.5
20	23	e36	e125	e23	e23	e18	102	75	22	26	11	8.4
21	21	35	e100	e23	e22	e23	226	53	22	23	14	13
22	19	33	e76	e22	e21	25	791	44	23	21	17	19
23	18	e30	e60	e22	e22	23	769	40	22	17	13	13
24	18	e29	e54	e21	e21	21	1170	37	155	e80	12	11
25	18	e29	e49	e21	e21	19	533	33	42	e55	10	32
26	17	e50	e47	e20	e20	e19	325	31	25	e28	9.4	41
27	17	e75	e44	e20	e20	e19	277	32	23	e24	14	24
28	18	63	e42	e20	e19	18	230	49	22	20	14	17
29	18	49	e40	e19	---	e18	181	57	21	19	21	14
30	20	45	e41	e19	---	18	199	45	21	21	13	13
31	26	---	e43	e21	---	21	---	56	---	22	14	---
TOTAL	797	1510	2443	822	705	583	6244	2907	1689	1135	409.4	553.8
MEAN	25.7	50.3	78.8	26.5	25.2	18.8	208	93.8	56.3	36.6	13.2	18.5
MAX	65	105	540	42	65	25	1170	340	265	95	21	138
MIN	13	24	27	19	19	16	17	31	21	17	9.0	8.4
CFSM	.70	1.37	2.15	.72	.69	.51	5.67	2.56	1.53	1.00	.36	.50
IN.	.81	1.53	2.48	.83	.71	.59	6.33	2.95	1.71	1.15	.41	.56

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)**

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	55.8	69.9	58.8	50.5	35.8	87.7	206	102	53.8	39.7	31.8	32.2			
MAX	122	110	127	134	109	231	344	177	96.3	108	93.3	79.9			
(WY)	1991	1989	1991	1996	1996	1998	1996	1998	1998	1996	1988	1999			
MIN	23.5	33.0	25.9	25.8	13.4	18.8	74.2	51.3	26.7	13.0	12.9	11.1			
(WY)	1998	1995	1990	1994	1993	2001	1995	1998	1992	1991	1999	1995			

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1987 - 2001
ANNUAL TOTAL	25127.8	19798.2	
ANNUAL MEAN	68.7	54.2	68.7
HIGHEST ANNUAL MEAN			104
LOWEST ANNUAL MEAN			44.1
HIGHEST DAILY MEAN	956	May 10	2450
LOWEST DAILY MEAN	9.8	Sep 1	5.3
ANNUAL SEVEN-DAY MINIMUM	12	Aug 26	8.8
MAXIMUM PEAK FLOW		1990	a 4880
MAXIMUM PEAK STAGE		8.70	Apr 24
INSTANTANEOUS LOW FLOW		b 8.3	Sep 17
ANNUAL RUNOFF (CFSM)	1.87	1.48	1.87
ANNUAL RUNOFF (INCHES)	25.47	20.07	25.44
10 PERCENT EXCEEDS	153	101	136
50 PERCENT EXCEEDS	33	27	40
90 PERCENT EXCEEDS	14	13	16

a From rating curve extended above 2,200 ft<sup>3</sup>/s.

b Also occurred on September 18-20.

c Also occurred on September 5-7, 1996.

e Estimated.

## 01129500 CONNECTICUT RIVER AT NORTH STRATFORD, NH

LOCATION (REVISED).--Lat 44°44'59", long 71°37'54", Coos County, Hydrologic Unit 01080101, on left bank, at North Stratford, 400 ft downstream from Nulhegan River, 0.3 mi downstream of Vermont State Highway 105 bridge, 12.0 mi southwest of Colebrook, and at mile 344.5.

DRAINAGE AREA.--799 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 781: 1934(M). WSP 891: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 880.17 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by power plants and by First Connecticut and Second Connecticut Lakes and Lake Francis 36 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,000 ft<sup>3</sup>/s, April 25, gage height, 12.15 ft; minimum daily discharge, 291 ft<sup>3</sup>/s, September 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	606	946	1150	e1850	e1350	e520	e450	4420	1760	1080	1000	2270
2	574	970	967	e1800	e1300	e510	e450	5460	1510	1250	928	1490
3	553	1010	706	e1750	e1280	e500	e630	5230	2680	843	892	799
4	543	1010	766	e1700	e1260	e495	e870	4330	3890	636	870	568
5	553	1340	e780	e1650	e1240	e490	e1050	3100	4120	1100	844	484
6	957	2170	e740	e1580	e1220	e500	e1140	2300	3920	981	824	434
7	1140	1930	e660	e1600	e1220	e520	e1200	1830	2900	723	816	402
8	1300	1520	e650	e1600	e1250	e510	e1300	1570	2250	593	817	377
9	1390	1290	e640	e1550	e1250	e500	e1350	1420	1890	554	993	359
10	1250	1310	e650	e1520	e1500	e500	1370	1260	1680	676	1070	345
11	1210	2040	e700	e1500	e1650	e490	2030	1150	1540	1250	1060	346
12	1460	2130	741	e1400	e1500	e490	3100	1160	1510	2310	1030	334
13	1390	1690	e1100	e1400	e1420	e500	4520	1790	1490	1870	982	323
14	1330	1380	e1450	e1370	e1380	e515	5260	1380	1320	1940	802	318
15	1170	1880	e1200	e1320	e1350	e530	4290	1110	775	2360	774	313
16	1040	1770	e1100	e1350	e1300	e510	3880	1020	652	2110	763	309
17	978	1400	e2100	e1370	e1000	e490	3930	921	838	1720	782	322
18	1000	1260	e8100	e1350	e940	e480	3680	842	1340	1940	881	316
19	1280	1060	6670	e1300	e800	e490	2930	1920	895	1630	837	298
20	1170	930	3640	e1280	e700	e500	2500	2010	689	1380	789	291
21	1040	874	2220	e1260	e650	e530	3930	1350	601	1230	655	370
22	965	811	1820	e1240	e580	e580	9780	1040	555	1130	657	492
23	913	715	1520	e1230	e570	e610	14800	875	525	1070	605	460
24	887	578	1350	e1220	e550	e580	17500	754	1200	1080	571	400
25	869	526	e1200	e1210	e550	e560	17200	652	1260	2040	365	414
26	853	718	e1120	e1200	e550	e530	9260	575	816	1530	319	925
27	834	1460	e1030	e1200	e540	e500	6420	543	615	1210	347	628
28	826	2020	e970	e1200	e520	e480	5250	782	529	1090	380	494
29	825	1520	e1100	e1200	---	e470	4100	1950	473	1030	446	435
30	836	1310	e1350	e1200	---	e460	3630	2040	461	979	421	398
31	894	---	e1600	e1300	---	e450	---	1720	---	963	376	---
TOTAL	30636	39568	49790	43700	29420	15790	137800	56504	44684	40298	22896	15714
MEAN	988	1319	1606	1410	1051	509	4593	1823	1489	1300	739	524
MAX	1460	2170	8100	1850	1650	610	17500	5460	4120	2360	1070	2270
MIN	543	526	640	1200	520	450	450	543	461	554	319	291

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2001, BY WATER YEAR (WY)

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	1289	1600	1539	1367	1223	1640	3904	2537	1255	900	839	917																																																												
MAX	3445	3119	3095	2537	3295	6254	7348	6018	3724	2818	2475	3203																																																												
(WY)	1978	1960	1974	1998	1981	1936	1934	1972	1943	1996	1976	1954																																																												
MIN	355	583	643	549	350	271	1206	843	472	292	220	357																																																												
(WY)	1949	1948	1948	1948	1940	1940	1995	1998	1962	1955	1940	1949																																																												

## SUMMARY STATISTICS

## FOR 2000 CALENDAR YEAR

## FOR 2001 WATER YEAR

## WATER YEARS 1930 - 2001

ANNUAL TOTAL	640032	526800	
ANNUAL MEAN	1749	1443	1583
HIGHEST ANNUAL MEAN			2246
LOWEST ANNUAL MEAN			1033
HIGHEST DAILY MEAN	18300	May 11	28000
LOWEST DAILY MEAN	344	Aug 3	108
ANNUAL SEVEN-DAY MINIMUM	409	Aug 8	128
MAXIMUM PEAK FLOW		20000	32300
MAXIMUM PEAK STAGE		12.15	a 20.60
10 PERCENT EXCEEDS	3530	2260	3020
50 PERCENT EXCEEDS	1170	1060	1120
90 PERCENT EXCEEDS	552	480	457

a Ice Jam. From floodmarks in well.

e Estimated.

## CONNECTICUT RIVER BASIN

## 01129500 CONNECTICUT RIVER AT NORTH STRATFORD, NH -- Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1999 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1999 to current year.

INSTRUMENTATION.--Water-temperature recorder since June 16, 1999, provides continuous recordings.

REMARKS.--Records poor.

## TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	14.5	10.0	12.0	7.5	5.5	6.5	3.0	1.5	2.0	1.0	.0	.5
2	15.0	11.5	13.0	8.5	6.0	7.0	1.5	.5	1.0	1.0	.0	.5
3	16.0	12.5	14.0	8.0	6.0	7.0	1.0	.5	.5	1.0	.0	.5
4	14.0	12.0	13.0	8.5	6.5	7.5	1.0	.5	.5	1.0	.0	.5
5	13.5	11.5	12.5	8.5	6.5	7.5	1.0	.0	.5	1.0	.0	.5
6	12.0	11.0	11.5	7.0	5.5	6.5	1.0	.5	.5	1.0	.0	.5
7	11.5	10.5	11.0	7.5	5.5	6.5	1.0	.0	.5	1.0	.0	.5
8	10.5	8.5	9.5	8.0	6.0	7.0	1.0	.5	.5	1.0	.0	.5
9	9.0	8.0	8.5	8.0	6.5	7.5	1.0	.0	.5	1.0	.0	.5
10	8.5	7.0	8.0	8.5	7.5	8.0	1.0	.5	.5	1.0	.0	.5
11	10.0	7.0	8.0	8.5	7.0	8.0	.5	.0	.5	1.0	.0	.5
12	10.0	7.0	8.5	8.0	6.5	7.0	.5	.0	.5	1.0	.0	.5
13	10.0	7.5	9.0	7.0	6.0	6.5	1.0	.0	.5	1.0	.0	.5
14	12.0	9.0	11.0	7.0	6.0	6.5	1.0	.0	.5	1.0	.0	.5
15	13.0	11.0	12.0	7.0	5.0	6.0	1.0	.0	.5	1.0	.0	.5
16	11.0	9.0	10.0	5.5	3.5	4.5	1.0	.0	.5	1.0	.0	.5
17	10.5	8.0	9.0	4.5	3.5	4.0	1.0	.0	.5	1.0	.0	.5
18	10.5	9.0	9.5	4.0	2.0	3.5	1.0	.0	.5	1.0	.0	.5
19	11.0	9.0	10.0	3.0	1.0	2.0	1.0	.0	.5	1.0	.0	.5
20	11.0	8.0	9.5	2.5	.5	1.5	1.0	.0	.5	1.0	.0	.5
21	10.5	8.5	9.5	2.5	1.5	2.0	1.0	.0	.5	1.0	.0	.5
22	10.5	8.0	9.0	2.5	1.0	1.5	1.0	.0	.5	1.0	.0	.5
23	9.5	6.5	8.0	1.5	.5	1.0	1.0	.0	.5	1.0	.0	.5
24	9.0	6.5	8.0	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5
25	10.5	7.5	9.0	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5
26	11.5	8.5	10.0	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5
27	11.0	9.0	10.0	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5
28	11.0	7.0	9.0	1.5	.0	1.0	1.0	.0	.5	1.0	.0	.5
29	7.5	4.5	6.0	2.5	.5	1.5	1.0	.0	.5	1.0	.0	.5
30	6.0	4.0	5.0	3.0	2.0	2.5	1.0	.0	.5	1.0	.0	.5
31	7.0	5.0	6.0	---	---	---	1.0	.0	.5	1.0	.0	.5
MONTH	16.0	4.0	9.6	8.5	.0	4.4	3.0	.0	.6	1.0	.0	.5

01129500 CONNECTICUT RIVER AT NORTH STRATFORD, NH -- Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5	9.5	5.5	7.5
2	.5	.0	.5	1.0	.0	.5	1.0	.0	.5	10.0	7.0	9.0
3	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5	11.5	8.5	10.0
4	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5	11.5	10.5	11.0
5	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5	11.0	8.5	10.0
6	1.0	.0	.5	1.0	.0	.5	1.0	.0	.5	11.0	7.5	9.5
7	1.0	---	---	1.0	.0	.5	1.5	.0	.5	13.0	7.5	10.0
8	1.0	---	---	1.0	.0	.5	3.0	.5	1.5	14.0	8.5	11.5
9	1.0	.0	.5	1.0	.0	.5	4.0	1.5	2.5	15.0	10.5	12.5
10	1.5	---	---	1.0	.0	.5	6.0	2.0	3.5	16.0	11.0	13.5
11	2.0	---	---	1.5	.0	.5	5.0	1.5	3.5	17.5	12.0	14.5
12	1.5	---	---	1.0	.0	.5	3.0	1.0	2.0	17.0	13.0	15.0
13	1.0	.0	.5	1.0	.0	.5	2.0	1.0	1.5	14.0	11.0	13.0
14	1.0	.0	.5	1.0	.0	.5	2.5	.5	1.5	12.5	10.0	11.0
15	1.0	---	---	1.0	---	---	3.5	1.0	2.0	10.5	9.5	10.0
16	1.0	.0	.5	1.0	.0	.5	4.0	1.5	2.5	12.0	9.5	10.5
17	1.0	.0	.5	1.0	.0	.5	4.0	2.0	3.0	14.5	10.0	12.0
18	1.0	.0	.5	1.0	.0	.5	4.0	1.5	2.5	13.5	11.0	12.5
19	1.0	.0	.5	1.0	.0	.5	4.0	1.5	2.5	13.0	11.5	12.0
20	1.0	.0	.5	1.0	.0	.5	6.0	1.5	3.5	15.0	10.5	12.5
21	1.0	.0	.5	1.0	.0	.5	6.0	3.0	4.0	17.0	12.0	14.5
22	1.0	.0	.5	1.0	.0	.5	4.0	2.0	3.0	16.5	13.5	15.0
23	1.0	.0	.5	1.0	.0	.5	4.5	1.5	3.0	17.5	13.5	15.5
24	1.0	.0	.5	1.0	.0	.5	5.5	3.5	4.5	19.5	14.5	16.5
25	1.0	.0	.5	1.0	.0	.5	5.0	3.5	4.0	20.5	13.5	16.5
26	1.0	.0	.5	1.0	.0	.5	5.5	3.5	4.5	19.5	15.0	17.0
27	1.0	.0	.5	1.0	.0	.5	6.0	4.5	5.0	17.0	15.5	16.0
28	1.0	.0	.5	1.0	---	---	6.0	4.5	5.0	15.5	13.0	14.5
29	---	---	---	1.0	.0	.5	7.0	4.5	5.5	13.5	12.0	13.0
30	---	---	---	1.0	.0	.5	7.0	5.0	6.0	13.0	10.5	12.0
31	---	---	---	1.0	.0	.5	---	---	---	11.0	9.5	10.5
MONTH	2.0	.0	.5	1.5	.0	.5	7.0	.0	2.7	20.5	5.5	12.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13.0	8.5	11.0	20.5	18.0	19.0	21.0	16.0	18.5	19.5	16.0	18.0
2	13.0	11.5	12.0	18.5	15.5	17.0	22.0	16.0	19.0	17.5	15.0	16.0
3	13.5	11.5	12.5	17.0	14.5	16.0	22.5	18.0	20.0	19.0	14.0	16.5
4	13.0	12.0	12.5	19.5	15.0	17.5	23.0	17.5	20.0	18.5	16.0	17.0
5	12.5	11.5	12.0	19.5	17.0	18.5	22.0	17.5	19.5	---	---	---
6	12.0	11.0	11.5	18.0	15.5	17.0	21.5	17.0	19.5	---	---	---
7	14.0	11.5	12.5	19.5	14.5	17.0	21.0	17.5	19.5	---	---	---
8	15.5	12.5	13.5	18.0	16.5	17.0	22.5	17.5	19.5	---	---	---
9	15.0	12.0	13.5	22.5	17.0	19.5	23.5	18.5	20.5	---	---	---
10	16.5	12.5	14.0	19.5	17.5	18.5	22.0	18.0	20.0	---	---	---
11	16.5	13.0	14.5	18.0	15.5	17.0	21.5	17.0	19.0	---	---	---
12	15.0	12.5	13.5	16.0	15.0	15.5	22.0	17.0	19.0	---	---	---
13	16.5	12.0	14.0	16.0	14.5	15.5	21.5	17.5	19.0	---	---	---
14	19.5	14.0	16.5	15.5	14.5	15.0	21.5	17.0	19.0	---	---	---
15	22.0	15.5	18.5	15.5	14.5	15.0	21.5	16.5	19.0	---	---	---
16	25.0	19.0	21.5	17.0	14.5	15.5	21.0	16.0	18.5	---	---	---
17	21.5	18.5	20.5	17.5	15.0	16.0	20.0	17.5	19.0	---	---	---
18	20.0	17.0	18.5	17.0	14.5	15.5	19.5	17.0	18.0	---	---	---
19	22.5	17.0	19.5	18.5	14.5	16.5	21.5	17.0	19.0	---	---	---
20	22.0	18.5	20.5	20.0	15.5	17.5	20.0	17.5	19.0	---	---	---
21	23.0	18.0	19.5	20.5	15.5	17.5	20.0	17.5	18.5	17.5	15.5	16.5
22	22.0	17.5	19.0	20.0	15.5	17.5	21.5	18.5	19.5	19.0	15.5	17.0
23	23.5	17.5	20.0	21.0	15.5	18.0	22.5	17.5	19.5	19.0	15.5	17.0
24	19.5	17.0	18.0	21.5	17.0	19.0	22.0	17.5	19.5	19.5	15.5	17.5
25	20.5	16.5	18.5	19.5	17.5	18.5	---	---	---	18.0	16.5	17.5
26	23.5	17.5	20.5	19.5	16.0	18.0	---	---	---	18.5	16.0	17.0
27	25.5	19.5	22.0	18.0	15.0	16.5	---	---	---	17.0	15.0	16.0
28	---	---	---	18.0	14.0	16.0	---	---	---	15.5	13.5	14.5
29	---	---	---	20.0	14.0	16.5	20.5	15.0	18.0	16.0	12.0	14.0
30	---	---	---	19.5	15.0	17.0	---	---	---	15.5	11.0	13.0
31	---	---	---	20.0	15.5	17.5	---	---	---	---	---	---
MONTH	25.5	8.5	16.3	22.5	14.0	17.0	23.5	15.0	19.2	19.5	11.0	16.2

## CONNECTICUT RIVER BASIN

## 01130000 UPPER AMMONOOSUC RIVER NEAR GROVETON, NH

**LOCATION (REVISED)**.--Lat 44°37'30", long 71°28'10", Coos County, Hydrologic Unit 01080101, on left bank, 75 ft upstream from Emerson Road bridge, 0.2 mi downstream from Nash Stream, 2.8 mi northeast of Groveton, and 3.4 mi northwest of Stark.

**DRAINAGE AREA**.--232 mi<sup>2</sup>.

**PERIOD OF RECORD**.--Discharge records: August 1940 to November 1980, October 1982 to current year.

**GAGE**.--Water-stage recorder. Elevation of gage is 920 ft above sea level, from topographic map.

**REMARKS**.--Records good except those for periods of estimated record, which are poor. Prior to May 21, 1969, some regulation by pond 9 mi upstream on Nash Stream. Small diversion upstream for municipal supply of Berlin.

**EXTREMES FOR CURRENT YEAR**.--Peak discharges greater than base discharge of 2,900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 25	0845	* 7,730	* 8.31	May 03	1930	3,520	6.06

Minimum discharge, 31 ft<sup>3</sup>/s, September 20.

## DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

## DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	186	294	e300	e210	e160	149	2070	431	139	88	174
2	120	180	236	e290	e180	e160	150	2910	625	155	80	153
3	115	181	250	e280	e175	e155	147	3280	1540	133	68	104
4	113	183	e245	e265	e175	e155	149	3090	1750	116	61	77
5	117	251	e240	e260	e170	e155	e175	2330	1300	115	56	63
6	328	422	e225	e250	e170	e160	e210	1550	949	116	53	59
7	490	352	e220	e240	e175	e165	235	1180	684	105	50	54
8	353	326	e215	e230	e180	e160	268	1020	517	102	46	47
9	306	300	e210	e230	e185	e160	e280	952	413	104	44	42
10	262	313	e210	e225	e185	e155	e375	907	351	136	47	40
11	244	782	e230	e220	e340	e155	e550	829	313	234	53	46
12	277	835	e280	e215	e275	e155	e770	821	296	303	49	48
13	258	544	e415	e215	e250	e160	e1050	1040	283	256	44	43
14	224	437	e350	e210	e235	e165	e1250	743	251	221	41	39
15	203	775	e320	e210	e220	e170	1280	581	221	213	38	38
16	185	666	e295	e210	e205	e175	1260	523	200	188	36	35
17	177	485	e385	e205	e195	e170	1240	469	229	168	38	35
18	203	409	e1450	e200	e190	e175	1200	420	278	176	74	34
19	328	351	2240	e195	e190	174	972	690	223	152	60	33
20	280	313	1400	e190	e185	182	842	641	183	129	53	32
21	227	302	825	e185	e185	e200	1160	465	162	114	82	71
22	203	285	692	e180	e180	220	2500	385	154	103	86	123
23	186	252	e590	e180	e180	219	4620	338	147	96	69	105
24	175	240	e485	e175	e175	e205	6130	305	172	97	56	79
25	170	e285	e430	e175	e175	e190	7020	275	173	147	46	128
26	163	e245	e390	e170	e170	e180	3890	251	146	120	40	428
27	159	e300	e365	e170	e170	e170	2690	242	130	97	48	236
28	155	390	e340	e165	e165	164	2250	327	118	89	55	146
29	152	351	e320	e165	---	e155	1850	678	109	82	87	114
30	151	320	e310	e170	---	151	1660	497	109	75	68	96
31	166	---	e305	e190	---	151	---	428	---	75	58	---
TOTAL	6614	11261	14762	6565	5590	5271	46322	30237	12457	4356	1774	2722
MEAN	213	375	476	212	200	170	1544	975	415	141	57.2	90.7
MAX	490	835	2240	300	340	220	7020	3280	1750	303	88	428
MIN	113	180	210	165	165	151	147	242	109	75	36	32
CFSM	.92	1.62	2.05	.91	.86	.73	6.66	4.20	1.79	.61	.25	.39
IN.	1.06	1.81	2.37	1.05	.90	.85	7.43	4.85	2.00	.70	.28	.44
(+)	2.44	2.22	2.72	2.98	2.97	3.45	2.95	2.30	2.17	2.26	2.61	1.85

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2001, BY WATER YEAR (WY)

MEAN	315	450	351	261	217	463	1426	1125	446	243	199	203
MAX	1057	1128	994	748	851	1374	2416	2695	1115	840	572	1427
(WY)	1991	1970	1974	1978	1970	1945	1954	1972	1947	1996	1969	1954
MIN	69.7	118	68.6	53.3	56.6	74.4	532	402	179	94.0	57.2	51.0
(WY)	1949	1948	1948	1948	1980	1941	1995	1941	1953	1991	2001	1948

## SUMMARY STATISTICS

## FOR 2000 CALENDAR YEAR

## FOR 2001 WATER YEAR

## WATER YEARS 1940 - 2001

ANNUAL TOTAL	193069	147931		
ANNUAL MEAN	528	405		
HIGHEST ANNUAL MEAN			696	1954
LOWEST ANNUAL MEAN			297	1980
HIGHEST DAILY MEAN	4590	Apr 5	7020	Apr 25
LOWEST DAILY MEAN	93	Jul 27	32	Sep 20
ANNUAL SEVEN-DAY MINIMUM	107	Sep 8	35	Sep 14
MAXIMUM PEAK FLOW			7730	Apr 25
MAXIMUM PEAK STAGE			8.31	Apr 25
INSTANTANEOUS LOW FLOW			31	Sep 20
ANNUAL RUNOFF (CFSM)	2.27	1.75		2.05
ANNUAL RUNOFF (INCHES)	30.96	23.72		27.82
10 PERCENT EXCEEDS	1310	838		1110
50 PERCENT EXCEEDS	280	200		247
90 PERCENT EXCEEDS	136	61		95

- (+) Diversion in cubic feet per second for municipal supply of Berlin; records furnished by City of Berlin.  
a Also occurred September 20, 2001.  
b From rating curve extended above 8,700 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow.  
c From floodmarks. Caused by failure of dam on Nash Stream.  
e Estimated.



## 01131500 CONNECTICUT RIVER NEAR DALTON, NH

**LOCATION (REVISED).**--Lat 44°24'36", long 71°43'16", Coos County, Hydrologic Unit 01080101, on left bank, 250 ft upstream from Dalton Hill Road bridge, 1,200 ft downstream from dam of Gilman Paper Co., 0.3 mi south of Post Office in Gilman, VT, 0.3 mi north of Dalton Hill Road and State Highway 135 intersection in Cusham, 1.2 mi downstream from Dalton, and at mile 300.1.

**DRAINAGE AREA.**--1,514 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: March 1927 to current year. Published as "at Waterford, VT" 1927-35. Records published for both sites January to September 1935.

**REVISED RECORDS.**--WSP 891: Drainage area. WSP 1231: 1935. WSP 1301: 1928-35(M).

**GAGE.**--Water-stage recorder. Datum of gage is 799.89 ft above sea level. Prior to September 30, 1935, nonrecording gage at bridge 10.5 mi downstream at mean sea level. January 1, 1935 to June 29, 1937, nonrecording gage at bridge 250 ft downstream at present datum. July 11, 1956 to June 1, 1961, auxiliary nonrecording gage read hourly at same site.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Flow regulated by power plants and by First Connecticut and Second Connecticut Lakes, Lake Francis, and other reservoirs. These reservoirs have a combined usable capacity of about 8.3 billion ft<sup>3</sup>.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 32,300 ft<sup>3</sup>/s, April 25, gage height, 21.38 ft; minimum daily discharge, 407 ft<sup>3</sup>/s, September 18.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1060	1490	2510	3180	1740	1070	915	7640	2930	978	1180	1010
2	1010	1570	2130	3160	1660	1010	959	9570	2950	1450	1170	2510
3	932	1570	1560	2850	1740	896	953	11000	4750	1510	1150	1760
4	947	1530	1260	e2500	e1650	963	972	11000	6910	1230	1010	1040
5	970	1820	1180	2560	1600	953	1440	9180	7050	1190	1070	740
6	1250	2840	1160	2390	1580	934	1750	6530	6360	1470	1020	735
7	2520	3400	e1200	2500	1690	947	2050	4940	5310	1210	989	624
8	2230	3050	e980	2460	1590	896	2310	4130	4200	790	958	592
9	2440	2600	916	2360	1780	885	2590	3670	3380	1250	949	570
10	2220	2390	879	2300	1660	887	2820	3430	2700	1040	1130	533
11	2060	3470	841	2250	e2230	910	3640	3080	2550	1430	1230	523
12	2040	4930	1250	2070	e2500	886	4980	3040	2110	2320	1130	517
13	2240	4200	1240	2020	2200	878	7330	3500	2370	2830	1120	512
14	2170	3310	1470	1980	2280	882	9490	3650	2250	2540	1110	490
15	1940	3530	1410	1880	2190	876	10600	2850	1750	2350	854	491
16	1850	4220	1380	1960	2080	896	10400	2480	1470	3120	890	463
17	1550	3690	e1850	1960	1960	925	9860	2070	1250	2660	928	424
18	1690	3180	e6600	e1930	e1650	801	8670	e1770	1820	2260	918	407
19	1900	2370	11600	1810	1540	857	7230	2090	1940	2390	1150	441
20	2330	2320	11200	1790	1340	920	5910	3520	1260	1940	1000	475
21	1930	1960	7570	1850	1300	812	6800	3140	1190	1640	1020	511
22	1590	1870	5190	1750	1480	1010	12000	2590	1060	1550	939	887
23	1540	1630	4120	e1690	1140	1060	19000	1900	1050	1380	848	747
24	1620	1150	3440	1760	1050	1110	24300	1830	957	1290	811	725
25	1340	1040	e2860	1780	1080	1030	31300	1560	1870	1550	679	719
26	1510	1190	e3050	e1790	1070	1030	28700	1360	1750	2380	584	1370
27	1410	1780	2920	1650	975	968	20100	1230	1050	1500	492	1620
28	1370	2920	e2590	1700	1010	970	14200	865	e1020	1460	534	1080
29	1300	3490	2360	e1730	---	931	10200	2400	e750	1300	670	763
30	1440	3120	2730	1610	---	958	8060	3310	1050	1160	639	699
31	1310	---	2560	1480	---	849	---	3080	---	1220	665	---
TOTAL	51709	77630	92006	64700	45765	29000	269529	122405	77057	52388	28837	23978
MEAN	1668	2588	2968	2087	1634	935	8984	3949	2569	1690	930	799
MAX	2520	4930	11600	3180	2500	1110	31300	11000	7050	3120	1230	2510
MIN	932	1040	841	1480	975	801	915	865	750	790	492	407

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2001, BY WATER YEAR (WY)**

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	2188	2873	2509	2134	1820	2919	7794	5516	2480	1582	1408	1520																																																															
MAX	6129	7331	5786	4321	6093	12140	15380	11890	5915	5059	3662	7140																																																															
(WY)	1978	1928	1974	1996	1981	1936	1934	1972	1947	1996	1976	1954																																																															
MIN	654	1066	860	751	533	482	2631	1951	1030	654	406	654																																																															
(WY)	1949	1948	1948	1948	1940	1940	1995	1941	1988	1955	1942	1995																																																															

**SUMMARY STATISTICS**

	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1927 - 2001	
ANNUAL TOTAL	1191638		935004			
ANNUAL MEAN	3256		2562		2899	
HIGHEST ANNUAL MEAN					4203	
LOWEST ANNUAL MEAN					1934	
HIGHEST DAILY MEAN	23300	May 12	31300	Apr 25	46500	Mar 20 1936
LOWEST DAILY MEAN	a 754	Jul 28	407	Sep 18	115	Oct 3 1937
ANNUAL SEVEN-DAY MINIMUM	877	Sep 8	456	Sep 14	265	Sep 8 1957
MAXIMUM PEAK FLOW			32300		48300	
MAXIMUM PEAK STAGE			21.38		25.60	
10 PERCENT EXCEEDS	6930		4820		6070	
50 PERCENT EXCEEDS	1840		1620		1870	
90 PERCENT EXCEEDS	1030		849		819	

a Also occurred August 3, 2000.

e Estimated.

CONNECTICUT RIVER BASIN

01133000 EAST BRANCH PASSUMPSIC RIVER NEAR EAST HAVEN, VT

**LOCATION (REVISED).**--Lat 44°38'02", long 71°53'53", Caledonia County, Hydrologic Unit 01080102, on right bank, in Town of Burke, downstream of Watkins Road, 0.5 mi upstream from Flower Brook, 0.9 mi south of Hartwellville, 2.1 mi south of East Haven, 4.2 mi east of Post Office in West Burke, and 8.4 mi upstream from mouth.

**DRAINAGE AREA.**--53.8 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: July 1939 to October 1945, October 1948 to September 1979, October 1997 to present. Prior to October 1951, published as Passumpsic River near East Haven.

**REVISED RECORDS.**--WSP 1141: Drainage area.

**GAGE.**--Water-stage recorder and crest-stage gage. Datum of gage is 943.88 ft above sea level (levels by Corps of Engineers). Prior to October 1, 1973, at datum 2.00 ft higher.

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

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0015	* 2,940	* 8.47	Apr. 24	1845	2,180	7.49

Minimum discharge, 11 ft<sup>3</sup>/s, August 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	55	88	e97	e71	73	42	418	114	e50	22	139
2	43	53	71	e95	83	73	41	453	158	e43	21	59
3	44	51	e62	e90	e74	72	40	403	294	e37	20	36
4	43	54	e57	e88	e76	70	43	331	230	e32	19	31
5	45	102	e64	e85	e71	e76	58	255	168	e34	18	26
6	134	127	e59	e85	e74	e69	64	207	138	e32	17	22
7	106	106	e71	e76	e88	e69	62	176	e107	e29	17	21
8	133	97	e74	e78	78	e69	82	157	e82	e30	19	21
9	98	89	e83	e83	82	e66	84	143	e68	e34	17	20
10	82	116	e76	e76	e114	65	121	133	e61	e96	18	20
11	84	241	e71	e76	e126	64	164	125	e55	e138	17	24
12	84	158	e69	e74	e135	62	230	151	e58	e134	14	18
13	73	116	e67	e76	e162	62	306	183	e53	e94	14	17
14	72	111	e66	e81	e169	64	275	135	e49	e75	13	15
15	65	191	e65	90	158	56	245	121	e46	e70	12	14
16	55	128	e64	86	147	49	235	116	e43	e59	12	14
17	55	110	805	77	e81	47	246	109	e62	e51	18	14
18	80	94	1160	e74	e83	44	226	106	e63	e47	37	14
19	99	82	319	e74	e78	43	171	249	e47	e39	21	14
20	74	77	229	74	83	46	177	157	e39	e33	18	14
21	66	77	165	83	e76	52	348	119	e40	e31	30	41
22	57	73	e152	74	e83	53	960	106	e37	e30	41	37
23	52	61	e126	e74	e88	52	1020	99	e35	e32	23	27
24	53	70	e121	73	e83	49	1530	94	e35	e25	19	22
25	54	135	e119	69	e83	47	875	88	e41	e32	16	94
26	53	180	e115	e78	e81	49	548	83	e42	e28	15	100
27	55	169	e112	e74	75	50	491	87	e34	e25	24	44
28	51	136	e109	69	72	42	420	138	e34	e27	24	31
29	47	110	e107	e85	---	44	348	168	e31	e26	38	25
30	50	101	e102	e74	---	41	334	127	e34	e26	23	22
31	56	---	e100	e71	---	44	---	131	---	e27	21	---
TOTAL	2107	3270	4948	2459	2674	1762	9786	5368	2298	1466	638	996
MEAN	68.0	109	160	79.3	95.5	56.8	326	173	76.6	47.3	20.6	33.2
MAX	134	241	1160	97	169	76	1530	453	294	138	41	139
MIN	43	51	57	69	71	41	40	83	31	25	12	14
CFSM	1.26	2.03	2.97	1.47	1.78	1.06	6.06	3.22	1.42	.88	.38	.62
IN.	1.46	2.26	3.42	1.70	1.85	1.22	6.77	3.71	1.59	1.01	.44	.69

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	82.7	101	85.9	65.2	54.1	95.0	288	213	106	67.4	55.5	61.3	218	232	250	148	114	244	469	423	319	241	121	177	1946	1960	1974	1978	1976	1953	1954	1972	1973	1973	1962	1954	24.4	39.3	41.0	21.4	16.9	20.5	154	76.1	48.9	31.7	19.8	28.3	1949	1979	1956	1940	1940	1940	1972	1998	1953	1955	1999	1978			

SUMMARY STATISTICS

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1939 - 2001
ANNUAL TOTAL	47313	37772	
ANNUAL MEAN	129	103	106
HIGHEST ANNUAL MEAN			166
LOWEST ANNUAL MEAN			76.0
HIGHEST DAILY MEAN	1200	May 11	2000
LOWEST DAILY MEAN	28	Jul 27	a 12
ANNUAL SEVEN-DAY MINIMUM	35	Jul 22	12
MAXIMUM PEAK FLOW		b 2940	b 4450
MAXIMUM PEAK STAGE		8.47	11.45
INSTANTANEOUS LOW FLOW		11	c 11
ANNUAL RUNOFF (CFSM)	2.40	1.92	1.97
ANNUAL RUNOFF (INCHES)	32.71	26.12	26.78
10 PERCENT EXCEEDS	262	173	229
50 PERCENT EXCEEDS	78	72	64
90 PERCENT EXCEEDS	40	22	31

a Also occurred on August 15, 16, 2001.  
 b From rating curve extended above 1,300 ft<sup>3</sup>/s on basis of slope area measurement of peak flow.  
 c Also occurred on August 16, 2001.  
 e Estimated.

CONNECTICUT RIVER BASIN

01134500 MOOSE RIVER AT VICTORY, VT

LOCATION.--Lat 44°30'42", long 71°50'13", Essex County, Hydrologic Unit 01080102, on right bank, 0.5 mi northeast of Victory, 0.8 mi downstream from Cold Brook, 1.1 mi upstream from Stanley Brook, 3.1 mi north of North Concord, and 5.1 mi southwest of Burke Road and River Road intersection in Gallup Mills.

DRAINAGE AREA.--75.2 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: January 1947 to current year.

REVISED RECORDS.--WSP 1381: Drainage area. WDR NH-VT-96-1: 1973 (M), 1995 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,103.99 ft above sea level (levels by U.S. Army Corps of Engineers).

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	1445	2,530	9.81	Apr. 25	0200	* 2,950	* 10.17

Minimum discharge, 2.2 ft<sup>3</sup>/s, August 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	61	123	e103	e58	e50	e43	476	131	46	11	64
2	36	58	95	e100	e57	e56	e43	648	208	47	10	53
3	34	55	90	e98	e56	e49	e44	649	489	33	9.2	27
4	32	53	80	e96	e56	e49	e45	549	528	26	8.3	18
5	36	110	e72	e94	e56	e48	e49	385	331	27	7.1	14
6	197	207	e69	e93	e55	e48	e57	263	216	24	6.2	11
7	249	149	e68	e90	e55	e48	e68	215	154	20	5.5	9.7
8	217	137	e68	e89	e55	e47	e78	194	109	19	5.2	8.5
9	180	122	e67	e88	e54	e46	e90	177	80	29	5.6	7.0
10	127	141	e67	e86	e54	e46	e110	159	66	169	5.4	6.2
11	110	362	e68	e84	e65	e46	e130	140	55	259	6.1	7.1
12	122	344	e67	e79	e85	e45	e160	131	54	262	5.7	6.9
13	97	195	e71	e77	e74	e44	e205	189	52	163	4.5	6.1
14	83	151	e68	e75	e66	e43	e235	125	46	126	3.9	5.6
15	71	294	e67	e74	e62	e43	e265	103	41	118	3.5	5.4
16	62	237	e67	e73	e59	e42	e255	96	34	87	2.7	4.8
17	59	171	e165	e72	e57	e42	e240	88	52	66	2.5	4.6
18	75	146	1960	e71	e56	e43	e225	79	76	62	10	4.1
19	145	119	984	e70	e56	e43	e215	153	44	46	12	3.7
20	102	104	508	e69	e56	e44	e310	134	33	36	7.6	3.8
21	80	99	e340	e68	e55	e47	e410	90	28	30	10	45
22	68	95	e190	e68	e54	e52	1170	70	25	26	13	63
23	60	78	e170	e67	e54	e57	2150	63	25	23	13	39
24	58	80	e155	e67	e53	e54	2220	56	105	20	8.8	26
25	55	67	e145	e65	e52	e51	2240	50	81	23	6.3	87
26	52	70	e135	e63	e52	e48	1040	46	43	20	4.7	377
27	51	156	e128	e61	e51	e46	837	44	31	16	6.1	110
28	49	210	e122	e59	e51	e45	697	81	26	14	13	56
29	47	161	e117	e56	---	e44	541	245	21	13	33	40
30	48	144	e110	e55	---	e43	458	140	23	12	24	32
31	56	---	e105	e56	---	e43	---	135	---	12	15	---
TOTAL	2696	4376	6541	2366	1614	1452	14630	5973	3207	1874	278.9	1145.5
MEAN	87.0	146	211	76.3	57.6	46.8	488	193	107	60.5	9.00	38.2
MAX	249	362	1960	103	85	57	2240	649	528	262	33	377
MIN	32	53	67	55	51	42	43	44	21	12	2.5	3.7
CFSM	1.16	1.94	2.81	1.01	.77	.62	6.48	2.56	1.42	.80	.12	.51
IN.	1.33	2.16	3.24	1.17	.80	.72	7.24	2.95	1.59	.93	.14	.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2001, BY WATER YEAR (WY)

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	109	147	118	82.0	73.3	164	490	270	114	69.9	65.1	65.5																																											
MAX	353	376	386	210	429	468	806	674	299	236	242	323																																											
(WY)	1991	1960	1974	1998	1981	1953	1954	1972	1973	1973	1995	1954																																											
MIN	14.1	35.9	21.8	12.7	15.7	32.9	172	72.3	31.1	10.8	9.00	8.34																																											
(WY)	1948	1948	1948	1948	1980	1956	1995	1999	1988	1991	2001	1948																																											

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1947 - 2001

ANNUAL TOTAL	63458.9	46153.4	
ANNUAL MEAN	173	126	147
HIGHEST ANNUAL MEAN			205
LOWEST ANNUAL MEAN			102
HIGHEST DAILY MEAN	1960	Dec 18	4100
LOWEST DAILY MEAN	7.9	Jul 27	2.5
ANNUAL SEVEN-DAY MINIMUM	12	Jul 22	4.1
MAXIMUM PEAK FLOW			2950
MAXIMUM PEAK STAGE			10.17
INSTANTANEOUS LOW FLOW			2.2
ANNUAL RUNOFF (CFSM)	2.31		1.68
ANNUAL RUNOFF (INCHES)	31.39		22.83
10 PERCENT EXCEEDS	413		236
50 PERCENT EXCEEDS	86		61
90 PERCENT EXCEEDS	30		10

a Also occurred on August 17, 2001.  
e Estimated.

CONNECTICUT RIVER BASIN

01135150 POPE BROOK (SITE W-3) NEAR NORTH DANVILLE, VT

LOCATION (REVISED).--Lat 44°28'35", long 72°07'31", Caledonia County, Hydrologic Unit 01080102, on left bank, 200 ft upstream of Morrill Flat Road, 0.3 mi north of Pope Cemetery, 1.1 mi upstream of North Brook, 1.7 mi northwest of North Danville, 4.5 mi north of Danville, and 6.4 mi northwest of Court House in St. Johnsbury.

DRAINAGE AREA.--3.25 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: December 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,141.20 ft above sea level.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 1960-1990, 380 ft<sup>3</sup>/s, June 30, 1973, gage height, 3.4 ft (data provided by USACOE-CRREL).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	1950	* 235	* 2.90	Apr. 24	1530	143	2.44

Minimum discharge, 0.65 ft<sup>3</sup>/s, August 15, 24-26, and September 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.8	4.2	4.6	2.6	e2.1	2.2	29	3.3	2.6	.92	1.9
2	1.3	1.7	3.5	4.5	2.6	e2.0	2.1	26	9.3	1.7	.87	.99
3	1.3	1.7	3.3	4.3	2.5	2.0	2.1	20	15	1.5	.98	.87
4	1.3	1.7	3.7	4.3	2.6	1.8	2.5	16	11	1.6	.88	.86
5	1.5	5.1	e3.1	4.1	2.4	1.9	3.5	13	6.5	2.0	.86	.84
6	9.1	3.3	e3.1	3.9	2.7	2.0	3.3	11	4.8	1.5	.83	.79
7	3.9	2.6	e3.1	3.9	2.4	1.9	3.9	9.5	4.0	1.4	.85	.77
8	4.6	2.3	e3.0	3.7	2.4	1.9	4.9	8.6	3.3	1.5	.90	.76
9	2.6	2.2	e3.0	3.7	2.6	2.0	5.3	7.9	3.0	1.4	.81	.74
10	2.3	6.2	e2.9	3.5	3.9	2.0	8.4	7.3	2.8	2.3	.95	.87
11	2.4	9.9	e3.2	3.4	e3.0	2.0	8.3	6.8	2.8	2.2	.83	.89
12	2.2	4.3	e3.8	3.1	e2.6	1.9	15	11	3.1	2.2	.79	.77
13	1.9	3.3	2.9	3.1	2.5	2.0	17	8.4	2.7	2.0	.81	.78
14	1.8	5.4	2.7	3.0	2.4	2.0	15	6.8	2.4	2.0	.76	.75
15	1.7	9.0	2.5	3.1	2.4	2.1	15	6.2	2.1	1.6	.74	.74
16	1.8	4.5	2.5	3.1	2.3	2.1	16	5.8	1.9	1.4	.75	.73
17	1.8	3.9	71	3.0	2.3	2.1	16	5.3	3.6	1.9	.89	.73
18	4.1	3.5	34	2.9	2.3	2.1	15	5.2	2.4	1.5	.87	.73
19	2.9	3.2	14	2.9	2.2	2.1	13	5.6	1.9	1.3	.80	.73
20	2.2	3.0	12	2.9	2.2	2.3	17	4.7	1.7	1.2	.82	.77
21	2.0	3.1	12	2.8	2.3	2.6	31	4.1	1.7	1.2	.94	1.7
22	1.9	3.0	12	2.7	e2.2	2.7	70	3.9	1.7	1.1	.86	.98
23	1.8	2.5	8.8	2.5	2.2	2.5	69	3.7	1.8	1.1	.77	.89
24	1.8	2.6	e8.0	2.7	2.1	2.4	90	3.7	2.6	1.1	.74	.90
25	1.8	3.1	e7.0	2.7	2.1	2.3	49	3.2	1.9	1.1	.71	3.7
26	1.7	5.8	e6.6	2.6	2.1	2.2	40	3.0	1.6	1.0	.71	1.7
27	1.7	12	6.0	2.6	2.1	2.2	35	3.4	1.5	1.0	1.0	1.1
28	1.7	6.3	5.6	2.5	2.1	2.2	28	8.3	1.4	1.0	1.0	.97
29	1.8	5.6	5.0	2.3	---	2.2	24	5.3	1.4	1.0	1.1	.91
30	1.9	4.9	4.9	2.6	---	2.2	24	3.8	2.1	.97	.84	.88
31	1.9	---	4.9	2.7	---	2.3	---	4.2	---	.96	.91	---
TOTAL	72.0	127.5	262.3	99.7	68.1	66.1	645.5	260.7	105.3	46.33	26.49	30.74
MEAN	2.32	4.25	8.46	3.22	2.43	2.13	21.5	8.41	3.51	1.49	.85	1.02
MAX	9.1	12	71	4.6	3.9	2.7	90	29	15	2.6	1.1	3.7
MIN	1.3	1.7	2.5	2.3	2.1	1.8	2.1	3.0	1.4	.96	.71	.73
CFSM	.71	1.31	2.60	.99	.75	.66	6.62	2.59	1.08	.46	.26	.32
IN.	.82	1.46	3.00	1.14	.78	.76	7.39	2.98	1.21	.53	.30	.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	3.86	5.54	5.22	4.93	3.57	6.13	19.3	9.03	4.24	3.13	2.88	2.57
MAX	6.54	11.4	9.22	9.04	8.16	10.9	25.4	16.5	9.48	7.79	6.00	4.90
(WY)	1996	1996	1997	1996	1996	1998	1994	2000	1998	1998	1997	1999
MIN	2.20	2.79	3.24	2.50	1.98	2.13	6.87	4.51	1.84	1.40	.85	1.02
(WY)	1995	1995	1998	1994	1993	2001	1995	1998	1995	1991	2001	2001

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1991 - 2001

ANNUAL TOTAL	2554.9	1810.76		
ANNUAL MEAN	6.98	4.96	5.92	
HIGHEST ANNUAL MEAN			8.44	1996
LOWEST ANNUAL MEAN			3.93	1995
HIGHEST DAILY MEAN	71	Dec 17	90	Apr 24 2001
LOWEST DAILY MEAN	1.1	Sep 8	a .71	Aug 25 2001
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 6	.74	Sep 14 2001
MAXIMUM PEAK FLOW			b 235	Dec 17 1997
MAXIMUM PEAK STAGE			2.90	Dec 17 1997
INSTANTANEOUS LOW FLOW			c .65	Aug 15 2001
ANNUAL RUNOFF (CFSM)	2.15	1.53	1.82	
ANNUAL RUNOFF (INCHES)	29.24	20.73	24.77	
10 PERCENT EXCEEDS	17	9.7	12	
50 PERCENT EXCEEDS	3.1	2.4	3.5	
90 PERCENT EXCEEDS	1.4	.87	1.5	

a Also occurred on August 26, 2001.

b From rating curve extended above 84 ft<sup>3</sup>/s on basis of theoretical weir formula.

c Also occurred on August 24-26, September 9, 2001.

e Estimated.

01135300 SLEEPERS RIVER (SITE W-5) NEAR ST. JOHNSBURY, VT

LOCATION (REVISED).--Lat 44°26'07", long 72°02'20", Caledonia County, Hydrologic Unit 01080102, on left bank, just upstream of Emerson Falls, 0.6 mi upstream of US 2 bridge, 1.5 mi northwest of Post Office in St. Johnsbury, and 2.7 mi above mouth.

DRAINAGE AREA.--42.9 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge Records: October 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 641.68 ft above sea level.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 603 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2100	* 3,820	* 5.39	Apr. 22	1730	1,320	3.53

Minimum discharge, 0.98 ft<sup>3</sup>/s, August 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	18	55	e52	28	e23	31	247	36	28	e3.0	11
2	10	17	42	e50	27	e23	30	227	97	18	2.7	6.5
3	9.9	16	31	49	28	e22	29	193	183	12	3.0	4.3
4	10	16	28	48	e28	e22	32	159	167	11	2.6	3.4
5	12	67	30	47	e28	e22	54	133	84	15	2.2	3.1
6	124	61	30	45	e27	e21	65	114	57	12	2.0	2.5
7	64	36	28	45	27	e21	63	100	43	10	1.9	2.2
8	84	29	e27	43	26	21	95	90	34	10	2.0	1.9
9	42	26	e26	43	29	21	110	83	29	10	1.8	1.8
10	31	73	e25	40	48	22	173	76	26	16	1.7	1.6
11	29	163	e24	37	52	22	182	70	24	23	2.1	2.5
12	26	75	e36	36	36	e22	230	84	29	21	1.7	2.2
13	22	48	40	e36	32	e23	299	94	26	16	1.5	1.8
14	20	52	28	e35	30	24	278	68	21	16	1.4	1.7
15	18	159	27	e35	29	24	239	60	18	14	1.2	1.5
16	18	70	28	e34	e28	25	241	57	16	11	1.1	1.4
17	19	53	1130	34	e27	25	238	52	41	14	1.5	1.4
18	44	46	542	33	e26	27	213	49	30	15	1.9	1.3
19	52	39	184	32	e25	26	183	57	19	10	1.7	1.3
20	31	36	127	32	e24	28	227	47	15	e9.4	1.7	1.3
21	25	35	109	e31	27	e32	389	40	13	e8.4	2.6	6.0
22	21	34	e84	e30	e26	e34	844	37	13	e7.9	2.5	6.3
23	19	27	e76	e29	e26	e33	684	36	13	e7.0	2.1	4.7
24	19	12	e70	28	e25	e33	847	36	31	e6.6	1.6	3.5
25	18	14	e68	28	e25	e32	478	31	21	e5.8	1.3	14
26	18	14	e66	e27	e24	32	358	27	14	e5.4	1.1	21
27	17	21	67	e27	e23	31	316	30	11	e5.0	2.7	9.3
28	17	77	63	e26	e23	30	266	68	9.9	e4.5	2.8	6.4
29	16	82	59	e26	---	29	221	78	9.6	e3.9	3.8	5.2
30	17	69	e56	e26	---	29	215	44	15	e3.4	3.5	4.4
31	19	---	e54	30	---	32	---	41	---	e3.2	2.8	---
TOTAL	881.9	1485	3260	1114	804	811	7630	2528	1145.5	352.5	65.5	135.5
MEAN	28.4	49.5	105	35.9	28.7	26.2	254	81.5	38.2	11.4	2.11	4.52
MAX	124	163	1130	52	52	34	847	247	183	28	3.8	21
MIN	9.9	12	24	26	23	21	29	27	9.6	3.2	1.1	1.3
CFSM	.66	1.15	2.45	.84	.67	.61	5.93	1.90	.89	.26	.05	.11
IN.	.76	1.29	2.83	.97	.70	.70	6.61	2.19	.99	.31	.06	.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	52.8	68.9	66.7	58.8	42.9	86.6	215	98.5	43.7	33.9	33.1	26.4
MAX	128	124	143	108	93.3	142	302	198	100	84.2	97.9	56.9
(WY)	1991	1991	1991	1996	1996	1998	1994	2000	1998	1998	1998	1999
MIN	20.0	31.6	33.4	24.5	19.8	26.2	75.2	48.8	14.9	8.47	2.11	4.52
(WY)	1995	1995	1998	1994	1993	2001	1995	1998	1995	1991	2001	2001

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1991 - 2001

ANNUAL TOTAL	29749.7	20212.9		
ANNUAL MEAN	81.3	55.4	68.9	
HIGHEST ANNUAL MEAN			93.2	1996
LOWEST ANNUAL MEAN			42.8	1995
HIGHEST DAILY MEAN	1130	Dec 17	1130	Dec 17
LOWEST DAILY MEAN	6.2	Jul 27	a 1.1	Aug 16
ANNUAL SEVEN-DAY MINIMUM	8.2	Sep 6	1.4	Sep 14
MAXIMUM PEAK FLOW			b 3820	Dec 17
MAXIMUM PEAK STAGE			5.39	Dec 17
INSTANTANEOUS LOW FLOW			.98	Aug 16
ANNUAL RUNOFF (CFSM)	1.89	1.29	.98	1.61
ANNUAL RUNOFF (INCHES)	25.78	17.52	21.83	
10 PERCENT EXCEEDS	200	112	153	
50 PERCENT EXCEEDS	34	27	40	
90 PERCENT EXCEEDS	12	2.6	11	

a Also occurred on August 26, 2001.

b From rating curve extended above 560 ft<sup>3</sup>/s on basis of theoretical weir formula.

e Estimated.

## CONNECTICUT RIVER BASIN

## 01135500 PASSUMPSIC RIVER AT PASSUMPSIC, VT

**LOCATION (REVISED).**--Lat 44°21'56", long 72°02'23", Caledonia County, Hydrologic Unit 01080102, on right bank, 0.7 mi upstream from Water Andric, 1.1 mi downstream from dam, bridge, and village of Passumpsic, 3.8 mi south of Town Hall in St. Johnsbury, 4.0 mi upstream from mouth, and 4.8 mi north of Post Office in Barnet.

**DRAINAGE AREA.**--436 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1928 to current year. Monthly discharge only October 1928, published in WSP 1301.

**REVISED RECORDS.**--WSP 781: 1933(M). WSP 871: Drainage area. WSP 1231: 1929, 1930-31(M).

**GAGE.**--Water-stage recorder. Elevation of gage is 500 ft above sea level, from topographic map.

**REMARKS.**--Records good except for those estimated daily discharges, which are fair. Low flow regulated by power plants upstream.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum stage since at least 1780, about 31.5 ft in November 1927, from information by local residents (discharge not determined).

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 5,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0430	* 11,400	* 16.36	Apr. 25	0345	9,180	13.89

Minimum daily discharge, 66 ft<sup>3</sup>/s, August 16.

## DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

## DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	340	688	e890	500	470	464	2110	628	296	106	260
2	219	333	540	e870	497	468	444	2530	737	320	101	370
3	233	319	523	e850	479	468	423	2360	1680	263	103	203
4	232	309	652	e820	448	462	415	2010	1790	223	98	179
5	249	495	639	e810	451	457	e455	1590	1190	221	92	167
6	786	918	559	e790	479	468	e535	1280	860	233	89	116
7	1020	694	686	e780	514	480	e630	1100	681	216	85	107
8	918	585	572	e760	508	474	e750	988	524	204	83	102
9	784	521	720	e730	519	474	e880	899	468	153	86	93
10	560	606	e575	e690	634	480	e1050	835	419	411	86	90
11	490	1460	e390	e640	792	479	e1380	766	380	662	84	93
12	490	1330	451	e580	709	475	e1820	732	375	609	86	124
13	444	863	e500	e590	678	480	e2650	1130	366	454	80	87
14	399	696	430	e660	617	499	2870	846	337	425	78	68
15	361	1380	393	e700	569	516	2710	703	319	411	86	72
16	335	1090	e340	654	538	515	2610	654	287	367	66	71
17	334	812	e2600	623	531	495	2610	603	336	331	68	72
18	378	707	8810	576	517	483	2470	562	505	368	73	74
19	670	600	3210	558	501	473	2000	695	352	299	108	72
20	510	529	1840	568	501	466	1750	800	281	246	112	70
21	420	520	1260	535	501	484	2680	583	233	208	110	84
22	369	498	1140	502	494	559	5600	489	241	193	127	222
23	326	431	e1080	514	493	620	7490	466	245	170	158	183
24	325	377	e1060	514	489	583	7900	455	404	170	127	152
25	321	410	e1020	537	485	525	7770	413	501	154	105	161
26	313	415	e1000	514	490	449	4270	383	320	155	91	809
27	306	924	e980	493	490	429	3450	372	252	156	86	390
28	303	1160	e970	478	480	441	2960	466	250	118	96	239
29	294	917	e950	439	---	409	2350	1010	245	112	149	185
30	296	801	e940	428	---	426	2100	721	189	117	201	165
31	324	---	e930	438	---	456	---	604	---	129	164	---
TOTAL	13271	21040	36448	19531	14904	14963	75486	29155	15395	8394	3184	5080
MEAN	428	701	1176	630	532	483	2516	940	513	271	103	169
MAX	1020	1460	8810	890	792	620	7900	2530	1790	662	201	809
MIN	219	309	340	428	448	409	415	372	189	112	66	68
CFSM	.98	1.61	2.70	1.45	1.22	1.11	5.77	2.16	1.18	.62	.24	.39
IN.	1.13	1.80	3.11	1.67	1.27	1.28	6.44	2.49	1.31	.72	.27	.43

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	526	705	608	499	428	936	2265	1342	639	403	339	350																																																													
MAX	1522	1667	1919	1255	2280	4013	3931	3082	1846	1519	963	1126																																																													
(WY)	1946	1960	1974	1978	1981	1936	1934	1972	1973	1990	1954																																																														
MIN	132	253	169	128	123	161	806	517	225	138	103	98.8																																																													
(WY)	1948	1948	1948	1948	1980	1940	1995	1941	1988	1955	2001	1948																																																													

## SUMMARY STATISTICS

## FOR 2000 CALENDAR YEAR

## FOR 2001 WATER YEAR

## WATER YEARS 1929 - 2001

ANNUAL TOTAL	338387	256851	
ANNUAL MEAN	925	704	753
HIGHEST ANNUAL MEAN			1153
LOWEST ANNUAL MEAN			472
HIGHEST DAILY MEAN	8810	Dec 18	8810
LOWEST DAILY MEAN	152	Jul 28	66
ANNUAL SEVEN-DAY MINIMUM	186	Jul 22	71
MAXIMUM PEAK FLOW			11400
MAXIMUM PEAK STAGE			16.36
ANNUAL RUNOFF (CFSM)	2.12		1.61
ANNUAL RUNOFF (INCHES)	28.87		21.91
10 PERCENT EXCEEDS	2080		1220
50 PERCENT EXCEEDS	526		480
90 PERCENT EXCEEDS	231		108

e Estimated.

01137500 AMMONOOSUC RIVER AT BETHLEHEM JUNCTION, NH

**LOCATION (REVISED).**--Lat 44°16'08", long 71°37'52", Grafton County, Hydrologic Unit 01080101, on left bank, 0.2 mi upstream from Pierce Bridge and Bethlehem Junction, 0.8 mi upstream from unnamed tributary entering from left, 3.0 mi east of US 302 and State Highway 142 intersection in Bethlehem, 3.4 mi downstream from Little River, 4.5 mi west of US 3 and 302 intersection in Twin Mountain, and at mile 35.0.

**DRAINAGE AREA.**--87.6 mi<sup>2</sup>.

**PERIOD OF RECORD.**-- Discharge records: August 1939 to current year.

**REVISED RECORDS.**--WSP 1701: 1951(M), 1953-54(M).

**GAGE.**--Water-stage recorder. Datum of gage is 1,180.74 ft above sea level (levels by U.S. Army Corps of Engineers).

**REMARKS.**--Records good except those for periods of estimated daily discharges, which are fair, and those for February 10-12 and March 22-24, which are poor.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 2,700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0015	* 7,440	* 10.09	Apr. 24	1815	3,780	7.46

Minimum discharge, 18 ft<sup>3</sup>/s, August 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	98	133	e135	e64	59	65	687	203	65	33	51
2	51	100	111	e127	e62	59	66	1230	366	64	30	44
3	50	110	e83	e122	e61	59	66	1480	730	55	29	31
4	50	129	99	119	61	58	69	1440	518	52	29	26
5	53	232	108	116	64	58	86	910	542	56	44	26
6	102	218	e80	108	62	60	e94	527	422	52	33	24
7	98	192	81	103	71	57	e104	423	310	48	29	24
8	95	219	e64	99	66	55	e122	417	239	48	28	23
9	102	226	e68	94	e62	56	e125	457	199	47	27	23
10	84	335	e72	e84	e110	56	e160	492	173	43	27	22
11	78	705	e96	e86	e230	55	e190	493	152	46	27	39
12	88	540	e146	e83	e150	54	e265	558	142	57	25	29
13	84	309	e160	e82	e115	53	e490	598	132	61	24	25
14	83	253	e114	e86	96	56	472	350	118	64	23	24
15	78	365	98	84	93	56	334	277	107	83	22	24
16	73	255	e86	86	86	57	318	250	97	72	21	23
17	75	215	e1800	82	81	56	320	236	137	61	21	23
18	90	189	2760	73	75	58	301	225	145	64	24	23
19	134	161	620	76	74	57	235	241	103	53	23	22
20	102	145	395	76	72	59	231	231	88	47	21	22
21	88	136	275	74	72	68	408	210	80	44	24	56
22	79	126	e235	72	66	e72	1690	202	75	41	25	50
23	74	112	204	66	69	e98	1800	196	72	40	24	34
24	72	86	e155	74	65	e176	2770	180	80	38	22	29
25	69	e94	e140	69	62	92	1460	164	75	37	20	155
26	67	e132	128	62	64	e74	757	150	66	38	19	238
27	66	e235	146	e64	61	e70	661	153	60	38	20	89
28	64	240	154	64	60	67	610	190	55	35	24	66
29	65	176	156	60	---	e64	467	227	53	34	28	61
30	68	150	e150	e60	---	64	423	201	56	34	25	53
31	87	---	e150	e65	---	65	---	194	---	34	22	---
TOTAL	2422	6483	9067	2651	2274	2048	15159	13589	5595	1551	793	1379
MEAN	78.1	216	292	85.5	81.2	66.1	505	438	186	50.0	25.6	46.0
MAX	134	705	2760	135	230	176	2770	1480	730	83	44	238
MIN	50	86	64	60	60	53	65	150	53	34	19	22
CFSM	.89	2.47	3.34	.98	.93	.75	5.77	5.00	2.13	.57	.29	.52
IN.	1.03	2.75	3.85	1.13	.97	.87	6.44	5.77	2.38	.66	.34	.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	157	220	168	121	107	190	512	511	203	106	92.8	99.6
MAX	416	524	590	438	712	691	896	1054	462	308	273	550
(WY)	1978	1960	1974	1996	1981	1953	1969	1940	1973	1996	1990	1954
MIN	34.1	59.0	44.9	30.9	31.9	47.3	176	221	91.5	39.0	25.6	32.5
(WY)	1948	1979	1948	1948	1980	1940	1995	1993	1953	1991	2001	1948

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1939 - 2001

ANNUAL TOTAL	79741	63011	
ANNUAL MEAN	218	173	208
HIGHEST ANNUAL MEAN			323
LOWEST ANNUAL MEAN			131
HIGHEST DAILY MEAN	3060	Apr 9	2770
LOWEST DAILY MEAN	42	Sep 11	19
ANNUAL SEVEN-DAY MINIMUM	46	Sep 8	22
MAXIMUM PEAK FLOW			7440
MAXIMUM PEAK STAGE			10.09
INSTANTANEOUS LOW FLOW			c 18
ANNUAL RUNOFF (CFSM)	2.49	1.97	2.37
ANNUAL RUNOFF (INCHES)	33.86	26.76	32.18
10 PERCENT EXCEEDS	448	365	460
50 PERCENT EXCEEDS	102	80	107
90 PERCENT EXCEEDS	56	27	46

a From rating curve extended above 4,100 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.  
 b From floodmarks in well.  
 c Also occurred on August 27.  
 e Estimated.

## CONNECTICUT RIVER BASIN

## 01138500 CONNECTICUT RIVER AT WELLS RIVER, VT

**LOCATION.**--Lat 44°09'13", long 72°02'34", Orange County, Hydrologic Unit 01080101, on right bank, at village of Wells River, 200 ft downstream from bridge on US 302, 400 ft upstream from Wells River, 1,200 ft downstream from Ammonoosuc River, and at mile 266.0.

**DRAINAGE AREA.**--2,644 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1949 to current year. October and November 1949 monthly discharge only, published in WSP 1301.

**PERIOD OF DAILY WATER-QUALITY RECORD.**--Water years 1980 to 1982.

**WATER TEMPERATURE:** Water years 1980 to 1982.

**SPECIFIC CONDUCTANCE:** Water years 1980 to 1982.

**REVISED RECORDS.**--WDR NH-VT-93-1: 1992.

**GAGE.**--Water-stage recorder. Datum of gage is 399.75 ft above sea level.

**REMARKS.**--Records good. Flow regulated by power plants, by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, and other reservoirs. These reservoirs have a combined capacity of about 14.8 billion ft<sup>3</sup>.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 57,100 ft<sup>3</sup>/s, July 1, 1973, gage height, 17.35 ft, from peak-stage indicator; minimum daily discharge 152 ft<sup>3</sup>/s, August 28, 1960.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 39,600 ft<sup>3</sup>/s, April 26, gage height, 12.60 ft; minimum daily discharge, 509 ft<sup>3</sup>/s, September 14.

## DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

## DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	2210	4660	3440	3200	2690	1500	15300	5420	1780	885	927
2	1450	2260	4690	5670	4560	1850	3120	16000	5470	842	600	932
3	1600	2240	4330	5230	3540	1030	1150	16700	8890	945	1360	1560
4	2630	1160	4780	5620	2560	1510	1200	16300	12100	1960	806	1310
5	1480	1970	3770	4090	2170	3410	2210	13800	11500	3660	818	1400
6	1120	3920	2450	3910	3050	2290	3540	10700	10100	1810	2540	2810
7	2060	4330	3230	2990	3180	2900	4140	8140	8030	1180	2480	2590
8	1340	4260	2380	4380	3500	3200	5050	6530	6810	992	3530	1290
9	2590	5200	2560	2280	4240	2730	6180	6070	5530	3490	4280	1670
10	3230	6450	1550	4540	2500	1550	7050	6340	2210	4300	2990	2160
11	5060	4900	1690	5320	3350	1840	7340	5950	4160	3620	592	1560
12	2950	6800	2150	4500	3590	3320	9220	5420	1770	1250	609	829
13	956	7710	3110	3360	4530	5110	14200	6200	4570	1760	971	907
14	1520	6900	4170	2990	5720	2490	17800	6390	4140	2620	659	509
15	1630	6400	1990	4820	3990	1330	15000	5650	4230	1820	822	600
16	3930	7100	2390	4100	4370	1070	17000	4370	3460	4730	699	628
17	3910	6720	6340	2900	2900	1190	16000	2590	2210	6780	1720	662
18	2710	5860	26400	2790	3100	2180	15200	5420	2620	3120	1030	666
19	2750	3690	15800	2290	3690	4050	13700	3990	3900	3630	584	658
20	2770	5480	16100	1810	3560	2900	13200	4900	3100	3670	595	682
21	2090	5980	13200	2640	3590	1800	14600	4730	2980	1090	692	767
22	1540	6610	9340	2950	5190	2520	21900	6100	1410	2640	1770	852
23	2450	2440	6470	3610	3870	4940	24100	4680	1060	4330	3110	804
24	2560	2540	3850	4190	2650	4250	25500	3800	842	4690	1070	758
25	1870	1590	3990	2620	2120	4830	36600	2950	2540	5540	658	1890
26	4740	1740	4970	3960	2660	5000	37700	1210	2580	1040	637	1970
27	1190	4020	4490	4790	3320	4080	30000	1120	804	1230	669	1190
28	1220	4180	2910	3010	3490	2260	22500	1390	730	574	664	1160
29	2450	2650	1690	2350	---	3540	15900	5220	644	655	643	826
30	3600	3880	4620	1580	---	3320	14700	5820	1690	871	1110	789
31	3740	---	3340	1110	---	1340	---	5690	---	600	721	---
TOTAL	74216	131190	173410	109840	98190	86520	417300	209470	125500	77219	40314	35356
MEAN	2394	4373	5594	3543	3507	2791	13910	6757	4183	2491	1300	1179
MAX	5060	7710	26400	5670	5720	5110	37700	16700	12100	6780	4280	2810
MIN	956	1160	1550	1110	2120	1030	1150	1120	644	574	584	509

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2001, BY WATER YEAR (WY)

MEAN	3747	4818	4682	3818	3825	5898	12670	8395	4371	2851	2509	2528
MAX	9801	9815	11320	7717	10050	13420	20110	17120	10320	8566	6709	10810
(WY)	1978	1960	1974	1996	1981	1979	1954	1972	1984	1996	1990	1954
MIN	1226	2008	1445	1632	1824	2492	3634	3479	1906	1206	1013	883
(WY)	1964	1979	1979	1981	1980	1962	1995	1987	1988	1991	1970	1978

## SUMMARY STATISTICS

## FOR 2000 CALENDAR YEAR

## FOR 2001 WATER YEAR

## WATER YEARS 1950 - 2001

ANNUAL TOTAL	2095104	1578525	
ANNUAL MEAN	5724	4325	5014
HIGHEST ANNUAL MEAN			7355
LOWEST ANNUAL MEAN			3211
HIGHEST DAILY MEAN	32300	37700	50600
LOWEST DAILY MEAN	788	509	152
ANNUAL SEVEN-DAY MINIMUM	1240	629	522
MAXIMUM PEAK FLOW		39600	57100
MAXIMUM PEAK STAGE		12.60	a 17.35
10 PERCENT EXCEEDS	13200	7840	10400
50 PERCENT EXCEEDS	3810	2990	3600
90 PERCENT EXCEEDS	1190	837	1290

a From peak stage indicator.



## 01139000 WELLS RIVER AT WELLS RIVER, VT

**LOCATION.**--Lat 44°09'03", long 72°03'55", Orange County, Hydrologic Unit 01080103, on right bank, 0.8 mi west of village of Wells River, 1.3 mi southeast of I-91 and US 302 intersection in Four Corners (revised), and 1.5 mi upstream from mouth.

**DRAINAGE AREA.**--98.4 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: August 1940 to current year.

**REVISED RECORDS.**--WSP 1171: Drainage area. WSP 1201: 1942(P), 1944-45(M), 1946-47(P), 1948(M), 1950.

**GAGE.**--Water-stage recorder. Datum of gage is 505.53 ft above sea level (levels by Connecticut River Power Co.).

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Some diurnal fluctuation at low flow prior to 1958 and since June 1984 caused by small power plant upstream. Flow partly regulated by Groton and Ricker Ponds.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 980 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0015	* 3,010	* 6.87	Apr. 24	2300	2,190	5.93

Minimum daily discharge, 7.9 ft<sup>3</sup>/s, September 20.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	30	85	e115	e56	e35	e74	414	88	76	14	22
2	24	31	69	e113	e47	e31	e70	418	153	62	15	26
3	24	30	61	e110	e40	e34	e69	386	312	48	13	18
4	24	29	58	e108	e35	e38	e71	337	358	41	12	15
5	26	54	57	e105	e33	e41	e81	294	217	172	12	13
6	91	92	56	e103	e35	e44	e99	250	157	75	12	13
7	111	69	e46	e101	e41	e47	e115	220	120	53	11	11
8	101	58	e45	e97	e45	e47	e130	202	97	46	11	9.5
9	85	52	e44	e93	e51	e50	e175	189	80	46	11	9.5
10	68	58	e47	e82	e65	e47	e220	176	70	44	10	10
11	57	119	e50	e73	e75	e47	e270	162	64	43	16	12
12	50	107	66	e68	e63	e48	e340	149	79	45	14	11
13	45	81	75	e55	e60	e48	726	144	78	44	12	10
14	41	70	70	e54	e62	e50	812	127	68	41	11	9.2
15	39	194	61	e54	e57	e52	710	122	59	39	10	8.8
16	38	138	54	e52	e54	e52	655	121	54	37	9.5	8.5
17	48	116	755	e51	e50	e53	624	115	59	44	9.8	8.4
18	53	97	1540	e49	e42	e54	566	109	69	53	12	8.1
19	75	78	511	e47	e35	e56	476	109	55	42	13	8.2
20	56	67	328	e46	e43	e58	463	91	48	37	11	7.9
21	46	64	222	e44	e56	e64	683	79	45	32	22	20
22	42	62	193	e42	e39	e68	1400	76	43	30	25	22
23	37	53	e170	e40	e33	e89	1670	76	43	28	17	14
24	35	43	e158	e38	e32	e83	1790	81	57	26	13	10
25	34	46	e149	e37	e33	e77	1520	79	56	24	10	31
26	32	52	e142	e35	e48	e75	920	73	46	23	8.8	81
27	32	122	e138	e33	e42	e73	712	73	42	22	9.2	40
28	31	134	e130	e34	e38	e70	588	97	38	19	9.6	29
29	31	108	e127	e36	---	e67	468	149	34	18	10	25
30	31	95	e125	e40	---	e68	417	109	39	17	10	21
31	31	---	e120	e45	---	e79	---	100	---	15	10	---
TOTAL	1462	2349	5752	2000	1310	1745	16914	5127	2728	1342	383.9	532.1
MEAN	47.2	78.3	186	64.5	46.8	56.3	564	165	90.9	43.3	12.4	17.7
MAX	111	194	1540	115	75	89	1790	418	358	172	25	81
MIN	24	29	44	33	32	31	69	73	34	15	8.8	7.9
CFSM	.48	.80	1.89	.66	.48	.57	5.73	1.68	.92	.44	.13	.18
IN.	.55	.89	2.17	.76	.50	.66	6.39	1.94	1.03	.51	.15	.20

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2001, BY WATER YEAR (WY)**

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	96.1	130	121	97.4	94.6	188	453	255	132	77.3	63.9	59.5																																																		
MAX	337	279	395	285	349	467	764	589	449	323	305	196																																																		
(WY)	1982	1990	1984	1996	1981	1953	1952	1972	1973	1973	1990	1981																																																		
MIN	16.3	37.6	36.3	23.2	22.1	49.5	137	82.2	38.9	25.2	12.4	17.7																																																		
(WY)	1964	1971	1948	1948	1980	1941	1995	1965	1995	1965	2001	2001																																																		

**SUMMARY STATISTICS**

**FOR 2000 CALENDAR YEAR**

**FOR 2001 WATER YEAR**

**WATER YEARS 1940 - 2001**

ANNUAL TOTAL	60386	41645.0	
ANNUAL MEAN	165	114	147
HIGHEST ANNUAL MEAN			239
LOWEST ANNUAL MEAN			66.5
HIGHEST DAILY MEAN	1540	Dec 18	2960
LOWEST DAILY MEAN	20	Sep 12	7.9
ANNUAL SEVEN-DAY MINIMUM	22	Sep 7	8.4
MAXIMUM PEAK FLOW		a 3010	a 5970
MAXIMUM PEAK STAGE		6.87	9.82
ANNUAL RUNOFF (CFSM)	1.68	1.16	1.50
ANNUAL RUNOFF (INCHES)	22.83	15.74	20.33
10 PERCENT EXCEEDS	416	208	340
50 PERCENT EXCEEDS	74	53	82
90 PERCENT EXCEEDS	30	13	29

a From rating curve extended above 1,400 ft<sup>3</sup>/s on basis of peak flow over dam.

e Estimated.

CONNECTICUT RIVER BASIN

01139800 EAST ORANGE BRANCH AT EAST ORANGE, VT

LOCATION (REVISED)--Lat 44°05'34", long 72°20'10", Orange County, Hydrologic Unit 01080103, on left bank, 0.3 mi east of East Orange Road and Fish Pond Road intersection in East Orange, 1.7 mi upstream from mouth, 2.0 mi southwest of West Topsham, 5.0 mi southwest of Orange, and 11.0 mi southeast of Barre.

DRAINAGE AREA--8.95 mi<sup>2</sup>.

PERIOD OF RECORD--Discharge records: June 1958 to current year.

REVISED RECORDS--WDR MA-NH-RI-VT-72-1: 1960-64(P), 1969-71(P).

GAGE--Water-stage recorder. Elevation of gage is 1,180 ft above sea level, from topographic map.

REMARKS--Records fair except those for estimated daily discharges, which are poor. Occasional diurnal fluctuation at low flow caused by mill upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 140 ft<sup>3</sup>/s and maximum (\*):

Table with columns: Date, Time, Discharge (ft<sup>3</sup>/s), Gage height (ft), Date, Time, Discharge (ft<sup>3</sup>/s), Gage height (ft). Includes entries for Dec 17, Dec 24, and Apr 24.

Minimum discharge, 0.80 ft<sup>3</sup>/s, September 18, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001 DAILY MEAN VALUES

Table with columns: DAY, OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP. Shows daily mean discharge values for each month from October 2000 to September 2001.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2001, BY WATER YEAR (WY)

Table with columns: MEAN, MAX, MIN, CFSM, IN. and rows for water years 1976, 1977, 1978, 1979, 1996, 1997, 1998, 1999, 2000, 2001.

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1958 - 2001

Table with columns: ANNUAL TOTAL, ANNUAL MEAN, HIGHEST ANNUAL MEAN, LOWEST ANNUAL MEAN, HIGHEST DAILY MEAN, LOWEST DAILY MEAN, ANNUAL SEVEN-DAY MINIMUM, MAXIMUM PEAK FLOW, MAXIMUM PEAK STAGE, INSTANTANEOUS LOW FLOW, ANNUAL RUNOFF (CFSM), ANNUAL RUNOFF (INCHES), 10 PERCENT EXCEEDS, 50 PERCENT EXCEEDS, 90 PERCENT EXCEEDS.

a From rating curve extended above 160 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.
b From floodmarks.
c Ice Jam.
d Also occurred on September 20.
e Estimated.
f Also occurred on September 19, 1963.

01142500 AYERS BROOK AT RANDOLPH, VT

**LOCATION (REVISED).**--Lat 43°56'04", long 72°39'30", Orange County, Hydrologic Unit 01080105, on right bank, 135 ft upstream from bridge on State Highway 12, just north of village limits of Randolph, 0.4 mi upstream from Adams Brook, 0.7 mi upstream from mouth, and 0.9 mi northeast of Town Hall in Randolph.

**DRAINAGE AREA.**--30.5 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: July 1939 to September 1975, June 1976 to current year.

**REVISED RECORDS.**--WDR MA-NH-RI-VT-72-1: 1949(M), 1952(M), 1953(P), 1958(P), 1960(M), 1967(M).

**GAGE.**--Water-stage recorder and crest-stage gage. Datum of gage is 630.50 ft (Vermont State Department of Highways datum). Prior to October 1, 1964, at site 140 ft downstream at datum 2.25 ft higher and October 1, 1964, to September 30, 1975, at site 140 ft downstream at datum 1.25 ft higher.

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

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum stage since at least 1830, about 18 ft, present datum, in November 1927.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 350 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	1900	* 1,200	* 7.38	Apr. 22	1944	1,070	7.05
Apr. 13	1814	518	5.39				

Minimum discharge, 1.2 ft<sup>3</sup>/s, August 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	13	40	e35	e23	e18	26	137	24	28	4.3	e1.9
2	6.7	13	35	e34	e20	e17	26	119	38	18	3.7	e2.7
3	6.7	13	32	e33	e17	e17	26	103	60	13	3.9	e2.6
4	6.5	12	30	e31	e16	e16	29	91	77	12	5.0	e2.7
5	7.5	15	30	e30	e17	e16	37	80	43	15	3.9	e2.3
6	44	18	27	e29	e18	e16	42	69	34	11	3.4	2.2
7	27	16	24	e28	e18	e17	45	64	29	9.6	3.2	2.2
8	20	15	18	e27	e19	e16	58	59	25	10	3.5	2.2
9	16	14	22	e27	e20	e17	68	54	22	10	3.3	2.2
10	14	30	20	e26	e31	e16	117	50	21	14	3.4	e2.3
11	13	37	24	e25	e25	e16	137	46	20	22	3.2	e2.5
12	12	27	34	e24	e23	e16	207	44	24	14	2.9	e2.2
13	11	23	28	e24	e25	e16	349	43	21	12	2.9	e2.1
14	10	25	24	e24	e24	e17	360	39	18	12	2.9	e2.2
15	9.8	65	25	e23	e23	e17	327	37	16	11	2.6	e2.1
16	18	39	24	e23	e22	e19	316	36	15	9.4	2.3	e2.1
17	23	34	482	e22	e21	e19	301	34	19	12	e2.4	e2.0
18	34	30	242	e21	e19	e19	274	33	17	11	e2.9	e2.0
19	33	28	e170	e20	e20	e19	236	32	14	8.6	e2.6	e2.1
20	23	26	e120	e20	e21	e20	257	30	12	7.6	e3.1	e3.0
21	20	26	e100	e19	e20	e23	350	28	11	6.8	e3.3	e7.7
22	17	25	e85	e19	e19	e26	658	26	11	6.4	e2.9	e6.8
23	15	22	e72	e18	e19	e29	596	26	11	5.8	e2.6	e6.0
24	15	19	e64	e18	e18	e28	551	26	14	5.3	e2.3	e5.5
25	14	19	e57	e17	e18	28	373	24	12	5.2	e2.1	31
26	14	31	e53	e17	e19	27	273	23	10	5.8	e1.9	21
27	14	72	e48	e18	e18	27	236	40	9.3	5.3	e2.2	8.6
28	13	56	e45	e17	e17	26	200	40	8.3	4.6	e1.6	5.9
29	12	48	e43	e17	---	25	167	38	7.9	4.3	1.6	5.0
30	13	44	e39	e17	---	25	150	31	20	4.1	1.5	4.0
31	14	---	e37	e19	---	29	---	29	---	3.9	1.3	---
TOTAL	503.0	855	2094	722	570	637	6792	1531	663.5	317.7	88.7	147.1
MEAN	16.2	28.5	67.5	23.3	20.4	20.5	226	49.4	22.1	10.2	2.86	4.90
MAX	44	72	482	35	31	29	658	137	77	28	5.0	31
MIN	6.5	12	18	17	16	16	26	23	7.9	3.9	1.3	1.9
CFSM	.53	.93	2.21	.76	.67	.67	7.42	1.62	.73	.34	.09	.16
IN.	.61	1.04	2.55	.88	.70	.78	8.28	1.87	.81	.39	.11	.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	27.0	39.4	41.9	35.1	33.6	75.4	163	77.9	38.7	20.4	15.3	15.0																																																			
MAX	102	102	151	96.8	136	189	289	173	142	85.5	64.0	48.9																																																			
(WY)	1946	1960	1984	1996	1981	1979	1969	1972	1947	1973	1989	1981																																																			
MIN	2.29	9.05	11.9	9.31	8.27	14.0	46.7	23.4	7.32	2.05	1.90	1.91																																																			
(WY)	1964	1954	1948	1981	1940	1940	1995	1941	1965	1965	1965	1963																																																			

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1939 - 2001

	2000	2001	1939-2001
ANNUAL TOTAL	21031.5	14921.0	
ANNUAL MEAN	57.5	40.9	48.5
HIGHEST ANNUAL MEAN			78.4
LOWEST ANNUAL MEAN			16.7
HIGHEST DAILY MEAN	538	Apr 4	658
LOWEST DAILY MEAN	6.5	Oct 4	1.3
ANNUAL SEVEN-DAY MINIMUM	6.9	Sep 29	1.7
MAXIMUM PEAK FLOW			1200
MAXIMUM PEAK STAGE			7.38
INSTANTANEOUS LOW FLOW			1.2
ANNUAL RUNOFF (CFSM)	1.88	1.34	1.59
ANNUAL RUNOFF (INCHES)	25.65	18.20	21.58
10 PERCENT EXCEEDS	154	68	110
50 PERCENT EXCEEDS	30	19	27
90 PERCENT EXCEEDS	11	2.9	6.8

e Estimated.

CONNECTICUT RIVER BASIN

01144000 WHITE RIVER AT WEST HARTFORD, VT

**LOCATION (REVISED).**--Lat 43°42'51", long 72°25'07", Windsor County, Hydrologic Unit 01080105, on left bank, 700 ft upstream from Quechee West Hartford Road bridge at West Hartford, 0.2 mi south of the State Highway 14 and Tigertown Road intersection in West Hartford, 5.1 mi south of State Highways 14 and 132 intersection in Sharon, 5.5 mi west of Post Office in Norwich, and 7.4 mi upstream from mouth.

**DRAINAGE AREA.**--690 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: June 1915 to current year. October 1927 to September 1928 monthly discharge only, published in WSP 1301.

**REVISED RECORDS.**--WSP 756: Drainage area. WSP 781: 1928(M). WSP 1031: 1916(m), 1923. WSP 1301: 1916-26(M), 1929(M).

**GAGE.**--Water-stage recorder. Datum of gage is 374.53 ft above sea level. Prior to October 30, 1927, nonrecording gage at same site and datum.

**REMARKS.**--Records good except those for the period of August 1-7, which are fair, and those for estimated daily discharges, which are poor. Some diurnal fluctuation at low flow during period 1934-50 caused by power plant upstream.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 120,000 ft<sup>3</sup>/s, November 4, 1927, gage height, 29.3 ft, from floodmarks, from rating curve extended above 29,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum observed, about 35 ft<sup>3</sup>/s, August 4, 1918; minimum daily discharge, 54 ft<sup>3</sup>/s, September 27, 28, 1963. Stage and discharge of the flood of November 4, 1927, are the greatest since at least 1761.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 11,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0030	* 28,800	* 16.04	Apr. 22	2400	26,200	15.37

Minimum discharge, 65 ft<sup>3</sup>/s, September 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	301	1000	e950	e700	e450	e720	3330	1020	986	140	108
2	164	293	825	872	e620	e445	e630	3570	1290	968	147	125
3	163	287	622	820	e550	e440	e600	3210	2020	497	e145	114
4	161	281	e560	804	e470	e435	e590	2740	2710	396	155	100
5	156	301	e600	768	e560	e430	e680	2340	1760	408	e150	101
6	445	358	e530	e770	e595	e430	e730	1930	1300	412	e130	132
7	697	345	e460	e750	e570	e460	936	1670	1020	337	e125	105
8	416	320	e410	722	e520	e475	1230	1490	848	317	117	92
9	380	311	e370	710	e530	e470	1270	1340	720	321	112	84
10	333	387	e370	623	e850	e460	2220	1230	631	310	109	80
11	297	896	e435	544	e1650	e440	3290	1130	592	383	108	92
12	282	696	e600	e550	e1100	e430	4720	1040	840	395	109	99
13	278	559	e530	e540	e870	e430	7870	1010	726	377	103	86
14	263	513	e500	e680	e760	e445	8130	920	595	338	97	80
15	243	1250	e490	e640	e680	e440	6570	851	514	313	92	76
16	259	1060	485	e580	e630	e475	6220	803	459	289	88	73
17	498	815	8280	e560	e600	e485	5870	765	460	275	88	72
18	555	721	14600	e545	e540	e490	5470	721	627	317	92	70
19	1090	630	3990	e540	e560	e480	4560	702	468	274	99	68
20	689	575	2760	e540	e530	e480	4370	657	400	241	99	70
21	526	548	1940	e530	e520	e600	6370	609	361	221	179	133
22	447	521	1700	e520	e480	e680	15600	572	344	205	154	166
23	397	456	1550	e510	e500	e950	17000	580	343	189	114	133
24	366	369	e1150	e500	e475	989	18000	598	352	179	101	109
25	352	359	e1300	e490	e470	864	11600	551	378	165	90	361
26	334	466	e900	e480	e490	e740	6830	514	331	178	84	771
27	324	1350	e1100	e480	e470	e670	5740	656	306	197	84	335
28	314	1810	e1050	e460	e460	e645	4990	1040	269	174	90	232
29	296	1410	e1000	e450	---	e620	3910	1270	244	155	103	197
30	296	1160	e950	e450	---	e600	3410	932	361	151	99	174
31	299	---	e1000	e590	---	e640	---	974	---	142	91	---
TOTAL	11475	19348	52057	18968	17750	17088	160126	39745	22289	10110	3494	4438
MEAN	370	645	1679	612	634	551	5338	1282	743	326	113	148
MAX	1090	1810	14600	950	1650	989	18000	3570	2710	986	179	771
MIN	155	281	370	450	460	430	590	514	244	142	84	68
CFSM	.54	.93	2.43	.89	.92	.80	7.74	1.86	1.08	.47	.16	.21
IN.	.62	1.04	2.81	1.02	.96	.92	8.63	2.14	1.20	.55	.19	.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2001, BY WATER YEAR (WY)

MEAN	667	1016	1012	860	802	1896	3896	1976	897	496	372	401
MAX	2416	2391	3189	2178	3503	7170	7286	4734	3459	2010	1822	2774
(WY)	1946	1960	1984	1996	1981	1936	1969	1940	1947	1996	1976	1938
MIN	80.0	285	237	197	169	222	1131	634	224	108	90.5	77.5
(WY)	1964	1954	1923	1925	1940	1940	1995	1941	1921	1965	1965	1963

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1915 - 2001

ANNUAL TOTAL	520063	376888	
ANNUAL MEAN	1421	1033	1189
HIGHEST ANNUAL MEAN			1910
LOWEST ANNUAL MEAN			494
HIGHEST DAILY MEAN	14600	Dec 18	18000
LOWEST DAILY MEAN	155	Oct 1	68
ANNUAL SEVEN-DAY MINIMUM	162	Sep 29	73
MAXIMUM PEAK FLOW			28800
MAXIMUM PEAK STAGE		16.04	Dec 18
INSTANTANEOUS LOW FLOW		65	Sep 20
ANNUAL RUNOFF (CFSM)	2.06	1.50	1.72
ANNUAL RUNOFF (INCHES)	28.04	20.32	23.41
10 PERCENT EXCEEDS	3340	1720	2700
50 PERCENT EXCEEDS	716	498	630
90 PERCENT EXCEEDS	280	109	189

a Also occurred on September 28, 1963.  
 b From rating curve extended above 29,000 ft<sup>3</sup>/s as explained under Extremes paragraphs.  
 c From floodmarks.  
 d About.  
 e Estimated.

## 01144500 CONNECTICUT RIVER AT WEST LEBANON, NH

**LOCATION (REVISED).**--Lat 43°38'46", long 72°18'46", Grafton County, Hydrologic Unit 01080104, on left bank, 50 ft downstream from railroad bridge at West Lebanon, 500 ft downstream from White River, 0.2 mi northwest of US 4 and State Highway 12A intersection in West Lebanon, and at mile 215.0.

**DRAINAGE AREA.**--4,092 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: November 1911 to December 1911, March 1912 to December 1913, March 1914 to December 1914, February 1915 to December 1915, April 1916 to December 1916, March 1917 to November 1917, April 1918 to December 1919, April 1920 to January 1921, March 1921 to November 1976, November 1978 to current year. Published as "at White River Junction, VT" prior to November 1978.

**REVISED RECORDS.**--WSP 741: 1932 (adjusted monthly and yearly figures only). WSP 781: 1928(M). WSP 891: Drainage area. WSP 1301: 1922-26(M).

**GAGE.**--Water-stage recorder. Datum of gage is 321.52 ft above sea level. Prior to June 16, 1918, nonrecording gage on downstream side of pier of railroad bridge 50 ft upstream at same datum. June 16, 1918, to November 2, 1930, nonrecording gage at various locations on upstream and downstream sides of railroad bridge at same datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Flow regulated by power plants and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, Union Village Reservoir, and other reservoirs. These reservoirs have a combined usable capacity of about 17.2 billion ft<sup>3</sup>.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 136,000 ft<sup>3</sup>/s, November 4, 1927, gage height, 35.0 ft, present site; minimum daily discharge 82 ft<sup>3</sup>/s, August 8, 1965. Stage and discharge of flood November 4, 1927, are the greatest since at least 1760.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 59,100 ft<sup>3</sup>/s, April 23, gage height, 20.95 ft; minimum daily discharge, 734 ft<sup>3</sup>/s, August 12.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001**  
**DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	1970	5860	e5470	3580	4170	2590	21000	6500	2430	771	1130
2	1360	2200	5270	e5780	3780	3720	4050	21500	6600	2430	818	1390
3	2090	2080	4830	e6550	4520	1480	1960	22500	12500	2180	1470	1260
4	2930	1710	5870	e7100	e2950	1750	2290	21400	15900	1950	784	1570
5	1010	1560	4490	e5150	2890	3310	3560	19300	15600	4260	783	1570
6	1260	3610	e2930	e5000	e4400	3110	5180	15000	13600	2580	1890	2330
7	1600	4940	e3260	4060	e3800	3330	4570	12300	9960	1380	2880	1610
8	2320	4290	e3210	5180	e5250	4330	6770	6980	6460	1180	2950	1280
9	2360	7030	e2930	3530	5780	3860	8400	8230	6790	4870	4500	1150
10	2790	7290	e1420	e3800	3110	2300	11100	8080	4010	4360	1620	852
11	5590	4120	e2630	e6750	4750	2050	15100	8090	5590	3680	747	2660
12	4380	7280	3070	e6100	3990	4000	17500	7020	2910	2060	734	1310
13	3660	9960	e2590	e3150	5980	5690	27000	6900	5330	2250	1040	766
14	1940	6880	e3900	e3680	6020	2750	33400	7970	4360	2240	877	754
15	1070	7360	e3210	6730	e6350	2200	29800	7830	5180	1810	1420	747
16	3060	7470	e3070	3650	e5200	1450	27900	6950	3450	5580	1410	745
17	4230	7520	12500	3900	4190	2090	28600	3280	3630	6000	1520	743
18	3020	8620	43600	e4250	e3150	3880	26000	5810	3030	4910	1420	739
19	2920	5960	28800	2650	5240	4870	23500	5010	4190	2870	863	737
20	3100	6190	22400	2020	3570	3070	21300	5490	5910	3230	865	1820
21	3080	6610	17800	3160	e3250	2570	24300	6160	3880	2670	911	970
22	1870	5810	13700	3230	7170	3310	41800	6190	1200	2040	1620	833
23	3280	1700	8740	4910	5160	5300	51400	6900	1180	4160	2130	819
24	3170	e2650	4470	5720	2590	6750	51000	3900	1180	5410	872	788
25	2700	1250	e5050	3080	4110	6600	49500	2610	3500	5890	859	1480
26	5060	3300	e5300	4790	2760	6920	49600	2700	2050	2290	854	3120
27	2410	5800	6570	5170	3540	4030	48000	2220	1070	839	852	1540
28	1730	6820	3960	2950	4560	3270	40400	2680	1020	813	1140	1370
29	2240	4750	5360	4000	---	4570	29700	5650	1050	792	1130	1600
30	4390	6130	e5320	3000	---	5440	21400	6650	2170	781	1260	872
31	3690	---	3740	3700	---	2960	---	7100	---	779	860	---
TOTAL	85630	152860	245850	138210	121640	115130	707670	273400	159800	88714	41850	38555
MEAN	2762	5095	7931	4458	4344	3714	23590	8819	5327	2862	1350	1285
MAX	5590	9960	43600	7100	7170	6920	51400	22500	15900	6000	4500	3120
MIN	1010	1250	1420	2020	2590	1450	1960	2220	1020	779	734	737

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1977, 1979 - 2001, BY WATER YEAR (WY)**

MEAN	4762	6774	6285	5130	4810	9203	20280	12980	6209	3763	3036	3209
MAX	12990	24860	16890	11680	17650	35510	32900	25890	16870	14050	8904	12900
(WY)	1982	1928	1984	1996	1981	1936	1934	1972	1947	1973	1990	1954
MIN	1314	2313	1795	1627	1419	1626	5536	4556	1946	1393	1072	1007
(WY)	1948	1948	1948	1948	1940	1940	1995	1987	1921	1921	1942	1921

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1912 - 1977, 1979 - 2001
ANNUAL TOTAL	2874114	2169309	
ANNUAL MEAN	7853	5943	
HIGHEST ANNUAL MEAN			7147
LOWEST ANNUAL MEAN			10700
HIGHEST DAILY MEAN	44000	Apr 5	51400
LOWEST DAILY MEAN	969	Sep 29	734
ANNUAL SEVEN-DAY MINIMUM	1570	Sep 29	747
MAXIMUM PEAK FLOW			59100
MAXIMUM PEAK STAGE		20.95	Apr 23
10 PERCENT EXCEEDS	19000	12400	15900
50 PERCENT EXCEEDS	4500	3650	4600
90 PERCENT EXCEEDS	1700	1050	1670

e Estimated.

CONNECTICUT RIVER BASIN

01150500 MASCOMA RIVER AT MASCOMA, NH

**LOCATION (REVISED).**--Lat 43°38'55", long 72°10'55", Grafton County, Hydrologic Unit 01080104, on right bank, 100 ft upstream of Payne Road bridge, 100 ft downstream from outlet of Mascoma Lake, 0.2 mi south of US 4 and Payne Road intersection in Mascoma, 1.9 mi west of City Hall in Enfield, and 3.5 mi east of City Hall in Lebanon.

**DRAINAGE AREA.**--153 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: August 1923 to present; August 1923 to January 1993, at site 900 ft downstream at different datum.

**REVISED RECORDS.**--WSP 726: Drainage area. WSP 801: 1925(M), WRD NH-VT-84-1: 1973(M).

**GAGE.**--Water-stage recorder. Datum of gage is 740.68 ft above sea level.

**REMARKS.**--Records good. Flow regulated by Mascoma and Crystal Lakes and Goose and Grafton Ponds.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 5,840 ft<sup>3</sup>/s, March 19, 1936, gage height, 7.50 ft (at different datum), from rating curve extended above 2,500 ft<sup>3</sup>/s on basis of computations of flow over dam at gage heights 6.85 ft and 7.50 ft; minimum daily discharge, 2 ft<sup>3</sup>/s, February 3, 1939, September 1, 1940.

**EXTREMES FOR CURENT YEAR.**--Maximum discharge, 3,300 ft<sup>3</sup>/s, April 24, gage height, 8.76 ft; minimum daily discharge, 20 ft<sup>3</sup>/s, September 20-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	127	138	133	74	74	93	539	98	51	39	33
2	36	126	135	131	76	72	92	575	185	57	39	33
3	36	125	134	128	77	71	94	578	627	67	39	33
4	36	124	133	124	77	69	97	557	1220	72	39	33
5	36	123	131	120	79	70	100	522	1100	82	39	33
6	35	104	129	117	90	82	104	480	479	95	39	33
7	35	86	126	113	86	81	406	294	350	101	38	32
8	36	85	103	109	84	78	460	185	323	97	38	32
9	36	84	79	106	85	78	305	146	273	84	38	32
10	36	84	78	102	88	81	241	130	217	78	38	32
11	138	85	77	98	90	79	365	140	194	76	38	32
12	214	86	77	94	96	113	509	146	382	75	37	31
13	210	86	78	91	99	164	823	160	310	59	36	31
14	208	87	78	87	100	206	1540	173	207	49	35	26
15	214	88	78	86	100	202	1830	172	142	49	35	21
16	220	90	77	84	99	195	1730	155	118	48	35	21
17	217	177	81	82	96	191	1590	139	152	48	34	21
18	216	259	353	81	93	189	1390	136	281	48	34	21
19	219	250	761	80	90	188	1200	130	257	48	34	21
20	221	239	807	79	87	160	995	125	200	48	34	20
21	220	152	714	77	85	135	946	119	171	47	34	20
22	216	85	505	77	83	138	1350	88	116	47	34	20
23	213	85	357	75	81	142	2750	70	96	46	34	21
24	209	85	299	72	79	144	3280	73	95	43	34	21
25	207	84	254	70	80	146	3170	73	93	40	34	21
26	203	84	221	69	79	149	2560	72	64	41	34	21
27	199	84	176	68	77	150	1750	75	46	40	33	21
28	194	85	144	67	76	150	1300	77	45	40	33	21
29	190	115	134	66	---	123	1090	84	45	40	33	21
30	156	138	132	67	---	91	702	95	47	40	33	21
31	128	---	135	71	---	92	---	98	---	40	33	---
TOTAL	4570	3512	6724	2824	2406	3903	32862	6406	7933	1796	1107	779
MEAN	147	117	217	91.1	85.9	126	1095	207	264	57.9	35.7	26.0
MAX	221	259	807	133	100	206	3280	578	1220	101	39	33
MIN	35	84	77	66	74	69	92	70	45	40	33	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2001, BY WATER YEAR (WY)

MEAN	142	186	192	158	165	315	644	344	180	115	93.3	91.2
MAX	461	560	607	368	550	1222	1338	769	493	658	443	591
(WY)	1976	1928	1984	1978	1981	1936	1969	1996	1984	1973	1990	1938
MIN	34.6	35.8	46.5	39.3	38.7	65.4	180	78.2	34.8	27.5	19.0	26.0
(WY)	1964	1965	1979	1981	1980	1931	1995	1957	1999	1999	1985	2001

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1923 - 2001

ANNUAL TOTAL	86234	74822		
ANNUAL MEAN	236	205		
HIGHEST ANNUAL MEAN			219	1973
LOWEST ANNUAL MEAN			84.4	1965
HIGHEST DAILY MEAN	2180	Apr 10	3280	Apr 24
LOWEST DAILY MEAN	35	Oct 6	a 20	Sep 20
ANNUAL SEVEN-DAY MINIMUM	36	Oct 1	21	Sep 16
MAXIMUM PEAK FLOW			3300	Apr 24
MAXIMUM PEAK STAGE			8.76	Apr 24
10 PERCENT EXCEEDS	539		372	472
50 PERCENT EXCEEDS	134		88	124
90 PERCENT EXCEEDS	40		34	47

a Also occurred on September 21, 22.

b From rating curve extended above 2,500 ft<sup>3</sup>/s on basis of computations of flow over dam at gage heights 6.85 ft and 7.50 ft. From gage located 900 ft downstream of present site at different datum.

01150900 OTTAUQUECHEE RIVER NEAR WEST BRIDGEWATER, VT

LOCATION (REVISED).--Lat 43°37'20", long 72°45'34", Rutland County, Hydrologic Unit 02010001, on right bank, 50 ft upstream from Mission Chapel Road bridge, 1.6 mi northwest of State Highway 100S and US 4E intersection in West Bridgewater, and 2.6 mi southeast of River Road and US 4 intersection in Sherburne Center.

DRAINAGE AREA.--23.4 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: October 1984 to current year.

REVISED RECORDS.--WRD NH-VT-87-1: 1985-86.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,150 ft above sea level, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	Unknown	* 2,560	* 8.08	Apr. 22	1945	2,280	7.72
Apr. 13	2115	675	5.21				

Minimum discharge, 2.1 ft<sup>3</sup>/s, September 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	14	55	e32	e18	e17	25	157	45	e110	7.1	7.7
2	8.9	13	42	e30	e17	e17	23	192	117	85	6.3	5.4
3	8.4	13	e37	e29	e17	e17	23	190	156	46	7.2	4.6
4	8.5	12	29	e28	e16	e16	24	165	171	35	7.0	4.8
5	8.9	15	28	e27	e16	e17	30	131	117	35	6.2	6.4
6	43	18	e25	e26	e16	e17	36	95	80	26	5.9	5.0
7	28	17	22	e25	e17	e18	37	75	59	21	5.6	4.5
8	19	18	20	e25	e17	e17	47	67	46	20	5.7	4.4
9	16	16	20	e24	e19	e16	58	63	38	20	e6.0	4.2
10	15	51	19	e24	e32	e17	110	61	33	19	e5.7	4.4
11	14	49	21	e22	e38	e16	145	57	34	18	e5.9	4.8
12	13	36	34	e21	e29	e16	233	58	e43	19	e5.5	4.2
13	13	30	e49	e20	e28	e17	436	52	71	19	5.0	4.2
14	12	40	e28	e20	e27	e17	375	42	51	23	4.4	4.5
15	11	89	e26	e20	e26	e17	238	38	40	19	3.9	3.9
16	16	54	e25	e20	e25	e18	210	36	34	16	3.5	3.7
17	25	41	e930	e19	e24	e18	188	33	35	17	4.4	3.6
18	49	36	646	e19	e22	e18	171	31	30	15	5.3	3.7
19	46	32	e252	e18	e22	e18	142	30	24	13	4.1	3.9
20	28	28	e115	e17	e21	21	142	28	20	12	7.0	5.1
21	23	27	e85	e16	e20	25	230	26	19	11	20	22
22	19	25	e60	e16	e19	29	1140	29	19	10	5.7	8.9
23	17	21	e52	e16	e19	32	e820	34	18	9.3	4.5	6.4
24	17	18	e47	e15	e18	28	e940	34	19	8.8	4.2	5.7
25	16	18	e44	e16	e19	26	e500	28	17	8.5	3.8	4.9
26	15	30	e45	e15	e19	24	262	27	15	13	3.6	24
27	15	121	e39	e15	e18	e22	213	47	14	9.7	e4.5	12
28	14	143	e36	e15	e18	e22	191	52	13	8.3	e4.4	10
29	13	96	e34	e15	---	22	142	48	12	7.8	4.7	8.8
30	14	71	e33	e16	---	24	129	42	e30	7.5	4.3	7.8
31	14	---	e33	e18	---	26	---	55	---	7.1	4.4	---
TOTAL	568.5	1192	2931	639	597	625	7260	2023	1420	689.0	175.8	247.6
MEAN	18.3	39.7	94.5	20.6	21.3	20.2	242	65.3	47.3	22.2	5.67	8.25
MAX	49	143	930	32	38	32	1140	192	171	110	20	49
MIN	8.4	12	19	15	16	16	23	26	12	7.1	3.5	3.6
CFSM	.78	1.70	4.04	.88	.91	.86	10.3	2.79	2.02	.95	.24	.35
IN.	.90	1.89	4.66	1.02	.95	.99	11.54	3.22	2.26	1.10	.28	.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2001, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
MEAN	47.7	63.2	50.3	49.5	38.4
MAX	121	121	94.5	108	76.6
(WY)	1988	1989	2001	1998	1990
MIN	14.2	25.4	21.2	19.4	14.5
(WY)	1998	1995	1998	1988	1987

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1985 - 2001

ANNUAL TOTAL	30002.6	18367.9	
ANNUAL MEAN	82.0	50.3	59.0
HIGHEST ANNUAL MEAN			83.2
LOWEST ANNUAL MEAN			35.6
HIGHEST DAILY MEAN	1120	Apr 4	1140
LOWEST DAILY MEAN	8.4	Oct 3	3.5
ANNUAL SEVEN-DAY MINIMUM	8.9	Sep 29	3.9
MAXIMUM PEAK FLOW			a 2560
MAXIMUM PEAK STAGE			8.08
INSTANTANEOUS LOW FLOW			2.1
ANNUAL RUNOFF (CFSM)	3.50	2.15	2.52
ANNUAL RUNOFF (INCHES)	47.70	29.20	34.28
10 PERCENT EXCEEDS	206	110	125
50 PERCENT EXCEEDS	35	20	31
90 PERCENT EXCEEDS	13	5.7	10

a From rating curve extended above 670 ft<sup>3</sup>/s.  
e Estimated.

01151500 OTTAUQUECHEE RIVER AT NORTH HARTLAND, VT

**LOCATION (REVISED).**--Lat 43°36'09", long 72°21'17", Windsor County, Hydrologic Unit 01080106, on left bank, 100 ft upstream from US 5 bridge, 0.3 mi downstream from North Hartland Dam, 0.7 mi north of Depot Road and US 5 intersection in North Hartland, 1.2 mi upstream from mouth, and 3.7 mi southwest of Courthouse in White River Junction.

**DRAINAGE AREA.**--221 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1930 to current year.

**GAGE.**--Water-stage recorder. Datum of gage is 336.77 ft above sea level (levels by U.S. Army Corps of Engineers).

**REMARKS.**-- Records good except those for estimated daily discharges, which are fair. Flow regulated by power plants upstream and by North Hartland Reservoir since March 1961; greater regulation by power plants at North Hartland Reservoir since July 1985. Small seasonal storage in reservoir at Plymouth.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum stage since at least 1760, 21.5 ft in November 1927, from floodmarks, discharge 30,400 ft<sup>3</sup>/s, by computation of peak flow over dam.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 24,400 ft<sup>3</sup>/s, September 21, 1938, gage height, 17.68 ft, from rating curve extended above 6,200 ft<sup>3</sup>/s on basis of computation of flow over dam at gage heights 15.58 ft, 17.68 ft, and 21.5 ft; minimum, 0.2 ft<sup>3</sup>/s, July 6, 1984, during hydroelectric construction; minimum daily discharge, 3.8 ft<sup>3</sup>/s, July 3, 1933. Maximum discharge since construction of North Hartland Dam in March 1961, 6,170 ft<sup>3</sup>/s, March 17, 1977, gage height, 8.67 ft.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 4,680 ft<sup>3</sup>/s, April 27, gage height, 7.91 ft; minimum daily discharge, 18 ft<sup>3</sup>/s, September 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	128	332	362	323	e159	e220	2950	292	397	81	32
2	84	139	293	415	236	e148	225	2810	754	942	51	32
3	116	105	272	327	180	131	233	2590	1130	538	51	32
4	122	75	164	278	180	131	243	1830	1290	286	51	32
5	86	74	198	e184	180	e242	317	1200	786	398	50	32
6	295	149	236	e205	180	220	390	862	500	174	49	32
7	276	217	192	e210	201	166	391	557	444	201	49	32
8	134	191	130	279	204	180	393	477	356	202	47	32
9	102	149	109	287	191	161	544	463	283	186	36	32
10	102	207	109	e252	190	147	915	462	283	179	33	32
11	102	361	130	214	336	147	1460	438	368	179	33	32
12	96	327	140	198	358	194	1880	372	1340	145	33	31
13	88	263	141	171	329	166	2820	356	682	145	33	31
14	87	230	247	170	281	174	3380	313	425	145	32	32
15	86	530	394	173	259	196	3000	293	337	145	31	32
16	127	468	343	277	259	162	2720	281	288	145	31	31
17	250	358	363	258	175	137	2220	180	316	134	30	31
18	327	278	821	182	177	138	2240	312	324	144	30	31
19	467	278	2120	168	202	244	1830	383	237	120	30	18
20	256	278	2770	152	350	257	1800	339	192	102	40	18
21	168	248	2080	153	243	253	2480	272	187	101	43	60
22	168	235	1900	e250	177	287	2090	155	198	83	76	97
23	168	181	1010	186	178	340	762	140	195	97	50	96
24	168	128	576	190	181	302	857	140	187	67	39	54
25	167	64	561	178	180	254	2240	162	174	52	34	167
26	166	229	409	125	216	253	3850	177	142	103	32	373
27	119	617	349	e115	197	223	4440	335	129	123	32	132
28	100	659	405	e193	160	236	4160	361	128	97	32	87
29	98	529	321	214	---	232	3480	474	103	77	32	84
30	155	406	261	e191	---	e210	3130	341	119	47	32	41
31	151	---	265	187	---	e220	---	256	---	45	32	---
TOTAL	4873	8101	17641	6744	6323	6310	54710	20281	12189	5799	1255	1798
MEAN	157	270	569	218	226	204	1824	654	406	187	40.5	59.9
MAX	467	659	2770	415	358	340	4440	2950	1340	942	81	373
MIN	42	64	109	115	160	131	220	140	103	45	30	18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2001, BY WATER YEAR (WY)

MEAN	218	339	343	301	283	628	1375	664	294	167	121	132
MAX	1060	816	1028	900	1157	2570	2587	1676	990	1131	759	1030
(WY)	1988	1976	1984	1996	1981	1936	1969	1940	1998	1973	1976	1938
MIN	33.3	70.5	72.2	56.2	55.4	84.0	346	201	70.3	34.8	28.5	29.7
(WY)	1965	1965	1948	1948	1940	1940	1995	1941	1965	1965	1965	1967

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1931 - 2001

ANNUAL TOTAL	191177	146024										
ANNUAL MEAN	522	400								405		
HIGHEST ANNUAL MEAN										691		1976
LOWEST ANNUAL MEAN										173		1965
HIGHEST DAILY MEAN				3890	Apr 5	4440	Apr 27		13300	Mar 18	1936	
LOWEST DAILY MEAN				42	Oct 1	a 18	Sep 19		3.8	Jul 3	1933	
ANNUAL SEVEN-DAY MINIMUM				66	Sep 25	28	Sep 14		14	Sep 25	1967	
MAXIMUM PEAK FLOW						4680	Apr 27		b 24400	Sep 21	1938	
MAXIMUM PEAK STAGE						7.91	Apr 27		17.68	Sep 21	1938	
10 PERCENT EXCEEDS		1240				800			931			
50 PERCENT EXCEEDS		296				191			207			
90 PERCENT EXCEEDS		107				34			56			

a Also occurred on September 20.

b From rating curve extended above 6,200 ft<sup>3</sup>/s as explained above.

e Estimated.



01152500 SUGAR RIVER AT WEST CLAREMONT, NH

LOCATION (REVISED).--Lat 43°23'15", long 72°21'45", Sullivan County, Hydrologic Unit 01080104, on right bank, 0.2 mi downstream from Redwater Brook, 0.7 mi southeast of Clay Hill Road and Paddy Hollow Road intersection in West Claremont, 1.6 mi northwest of City Hall in Claremont, and 2.4 mi upstream from mouth.

DRAINAGE AREA.--269 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: May 1928 to current year. Published as "at Claremont" prior to October 1928. REVISED RECORDS.--WSP 711: 1930(M). WSP 756: Drainage area. WSP 1901: 1960 (adjusted figures only).

GAGE.--Water-stage recorder. Datum of gage is 358.78 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to October 1, 1928, nonrecording gage at site 0.8 mi upstream at different datum.

REMARKS.--Records good except those for the period of Oct. 1-19, which are fair, and those for estimated daily discharges, which are poor. Regulation by Sunapee Lake 25 mi upstream and occasional diurnal fluctuation at low flow by mills upstream; greater regulation by mills prior to 1971.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft<sup>3</sup>/s, March 19, 1936, gage height, 10.92 ft, from rating curve extended above 6,700 ft<sup>3</sup>/s on basis of computations of flow over dam at gage heights 10.49 ft and 10.92 ft; maximum gage height, 11.80 ft, March 12, 1936 (ice jam); minimum daily discharge, 14 ft<sup>3</sup>/s, August 26, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	Unknown	Ice Jam	* 6.98	Apr. 23	0215	* 5,830	6.85
Dec. 18	0215	5,370	6.54	Jun. 11	2345	3,260	5.05

Minimum daily discharge, 36 ft<sup>3</sup>/s, September 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	146	298	e360	e360	e197	e350	1090	135	133	76	79
2	75	140	267	e340	e310	e195	312	1100	470	254	73	68
3	72	137	e220	e330	e280	e193	331	1010	2370	177	69	53
4	73	135	e205	e320	e260	e190	349	904	1920	151	91	53
5	71	141	e210	e310	e275	e190	394	809	1240	281	82	54
6	e155	152	e175	e300	e280	e195	464	707	849	272	75	52
7	e225	151	e160	e295	e270	e205	510	614	659	193	65	45
8	e180	139	e130	e285	e260	e205	640	432	540	171	56	40
9	156	133	e120	e280	e255	e200	748	374	460	165	51	40
10	136	164	e135	e270	e430	e200	1180	360	411	173	51	40
11	139	299	e185	e265	e350	e195	1540	331	723	253	50	38
12	145	292	e200	e260	e295	e190	1760	350	2420	201	49	37
13	141	245	e195	e255	e260	e190	2130	410	1100	182	53	36
14	136	234	e195	e250	e250	e195	2900	364	745	159	54	45
15	132	441	e190	e245	e255	e205	2700	313	587	140	52	45
16	132	439	e190	e240	e250	e215	2600	284	483	123	50	43
17	152	348	e1450	e235	e240	e220	2440	255	503	142	53	42
18	e215	300	3780	e230	e220	e220	2280	234	546	157	62	41
19	e350	271	1560	e220	e225	e215	1890	219	440	134	59	41
20	277	249	1090	e215	e220	e220	1710	195	387	115	55	46
21	229	230	755	e205	e215	e240	2110	178	349	104	60	116
22	202	218	634	e200	e205	e310	3890	179	342	95	55	113
23	183	198	521	e200	e200	e430	5060	186	268	89	51	91
24	171	e160	e470	e195	e200	470	4900	184	290	83	49	74
25	162	e155	e450	e190	e200	e430	4200	173	267	77	47	77
26	158	e180	e420	e188	e205	e385	2830	163	188	115	43	99
27	153	e270	e410	e185	e203	e355	2100	176	156	124	43	89
28	147	332	e390	e180	e200	330	1730	185	140	99	42	84
29	143	312	e375	e175	---	e310	1400	193	119	90	42	90
30	143	295	e365	e185	---	e290	1180	168	113	82	40	91
31	146	---	e385	e245	---	334	---	155	---	74	40	---
TOTAL	4876	6906	16130	7653	7173	7919	56628	12295	19220	4608	1738	1862
MEAN	157	230	520	247	256	255	1888	397	641	149	56.1	62.1
MAX	350	441	3780	360	430	470	5060	1100	2420	281	91	116
MIN	71	133	120	175	200	190	312	155	113	74	40	36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2001, BY WATER YEAR (WY)

MEAN	217	347	363	323	330	679	1289	638	318	174	136	133
MAX	895	917	1146	1090	1343	2490	2746	1657	818	711	952	1269
(WY)	1976	1996	1997	1978	1981	1936	1969	1940	1940	1973	1990	1938
MIN	39.2	66.9	92.9	84.7	74.5	108	359	179	67.5	26.2	29.3	44.7
(WY)	1984	1972	1948	1948	1942	1940	1995	1965	1965	1965	1999	1995

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1928 - 2001

ANNUAL TOTAL	169173	147008										
ANNUAL MEAN	462	403								411		
HIGHEST ANNUAL MEAN										660		1976
LOWEST ANNUAL MEAN										139		1965
HIGHEST DAILY MEAN	3780	Dec 18	5060	Apr 23	11200	Mar 19	1936					
LOWEST DAILY MEAN	55	Sep 12	36	Sep 13	14	Aug 26	1965					
ANNUAL SEVEN-DAY MINIMUM	61	Sep 8	39	Sep 7	21	Aug 22	1965					
MAXIMUM PEAK FLOW			5830	Apr 23	a 14000	Mar 19	1936					
MAXIMUM PEAK STAGE			bc 6.98	Dec 17	b 11.80	Mar 12	1936					
10 PERCENT EXCEEDS	1080		777		984							
50 PERCENT EXCEEDS	274		203		210							
90 PERCENT EXCEEDS	101		55		69							

a From rating curve extended above 6,700 ft<sup>3</sup>/s as explained above.  
 b Ice Jam.  
 c From peak stage indicator.  
 e Estimated.

CONNECTICUT RIVER BASIN

01153550 WILLIAMS RIVER NEAR ROCKINGHAM, VT

LOCATION.--Lat 43°11'30", long 72°29'08", Windham County, Hydrologic Unit 01080107, on left bank, 50 ft downstream from Parker Hill Road bridge, 0.2 mi downstream from Divoll Brook, 0.35 mi northeast of Rockingham, 2.2 mi upstream from mouth, 2.2 mi downstream of Station 01153500, "Williams River at Brockways Mills", and 4.5 mi northwest of Bellows Falls.

DRAINAGE AREA.--112 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: October 1986 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 300 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Low flow regulated by power plant upstream October 1986 to September 1992.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1938 had greatest discharge since at least 1753.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2000	5,090	8.10	Apr. 22	1815	* 5,710	* 8.42
Apr. 13	1900	2,600	6.57	Jun. 11	2230	4,550	7.82

Minimum discharge, 10 ft<sup>3</sup>/s, August 30, 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	65	135	e160	e160	e82	130	438	140	93	27	27
2	35	62	112	e150	e130	e81	122	405	736	127	25	23
3	35	60	e103	e145	e110	e80	124	336	1360	73	25	16
4	33	59	e100	e140	e100	e78	149	280	789	75	32	16
5	34	65	e102	e135	e105	e78	199	235	416	261	27	25
6	287	68	e93	e130	e105	e80	236	199	288	115	25	21
7	155	63	e85	e130	e103	e86	262	178	223	80	22	17
8	94	62	e80	e125	e97	e86	402	160	181	92	20	15
9	73	60	e78	e125	e96	e84	525	147	148	89	18	14
10	66	169	e76	e120	e225	e82	991	135	127	69	18	14
11	61	220	e83	e115	e190	e81	1050	121	712	62	19	17
12	56	145	e115	e115	e165	e79	1160	116	1390	62	17	14
13	52	116	e93	e110	e145	e79	1580	137	487	67	18	13
14	51	135	e85	e110	e130	e82	1690	109	307	57	17	16
15	47	396	e82	e110	e120	e85	1430	95	230	53	15	16
16	81	212	e80	e105	e110	e89	1310	89	186	48	15	14
17	137	168	e1950	e105	e105	e89	1200	87	377	55	15	13
18	329	141	1320	e100	e96	e89	1080	82	289	53	18	12
19	273	126	532	e95	e98	e88	862	81	190	46	19	12
20	163	115	387	e93	e95	e92	909	73	150	41	16	16
21	126	111	280	e88	e92	e105	1400	68	163	38	17	138
22	106	104	e245	e86	e88	e125	3180	88	185	34	14	53
23	93	89	e215	e86	e84	e275	2560	169	156	32	14	33
24	87	e98	e195	e85	e84	e200	2440	166	159	29	13	26
25	83	e88	e190	e83	e85	e170	1360	126	125	27	12	378
26	77	e100	e185	e81	e87	155	896	111	102	62	11	152
27	73	e250	e180	e79	e85	143	755	336	85	54	12	64
28	70	204	e175	e78	e83	131	639	304	72	37	12	56
29	65	169	e165	e77	---	124	489	280	66	32	12	70
30	66	148	e160	e78	---	e120	431	178	65	29	11	55
31	67	---	e170	e105	---	e135	---	182	---	27	11	---
TOTAL	3010	3868	7851	3344	3173	3353	29561	5511	9904	2019	547	1356
MEAN	97.1	129	253	108	113	108	985	178	330	65.1	17.6	45.2
MAX	329	396	1950	160	225	275	3180	438	1390	261	32	378
MIN	33	59	76	77	83	78	122	68	65	27	11	12
CFSM	.87	1.15	2.26	.96	1.01	.97	8.80	1.59	2.95	.58	.16	.40
IN.	1.00	1.28	2.61	1.11	1.05	1.11	9.82	1.83	3.29	.67	.18	.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	129	194	184	169	148	402	660	285	155	70.6	54.9	63.5			
MAX	461	382	443	441	306	850	1199	544	440	227	221	282			
(WY)	1988	1996	1997	1996	1997	1990	1994	1996	1998	1996	2000	1987			
MIN	29.4	59.2	78.2	58.7	51.0	108	156	90.4	34.9	16.6	15.7	13.4			
(WY)	1994	1999	1990	1989	1993	2001	1995	1995	1999	1999	1999	1995			

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1987 - 2001

ANNUAL TOTAL	87188	73497		
ANNUAL MEAN	238	201		209
HIGHEST ANNUAL MEAN				283
LOWEST ANNUAL MEAN				111
HIGHEST DAILY MEAN	2950	Mar 28	3180	Apr 22
LOWEST DAILY MEAN	33	Oct 4	a 11	Aug 26
ANNUAL SEVEN-DAY MINIMUM	35	Sep 29	12	Aug 25
MAXIMUM PEAK FLOW			5710	Apr 22
MAXIMUM PEAK STAGE			8.42	Apr 22
INSTANTANEOUS LOW FLOW			c 10	Aug 30
ANNUAL RUNOFF (CFSM)	2.13	1.80		d 7.0
ANNUAL RUNOFF (INCHES)	28.96	24.41		
10 PERCENT EXCEEDS	523	391		458
50 PERCENT EXCEEDS	135	95		104
90 PERCENT EXCEEDS	54	18		24

- a Also occurred on August 30, 31.
- b From rating curve extended above 3,800 ft<sup>3</sup>/s.
- c Also occurred on August 31.
- d Also occurred on August 6-8, 1999.
- e Estimated.

## 01154500 CONNECTICUT RIVER AT NORTH WALPOLE, NH

**LOCATION (REVISED).**--Lat 43°07'34", long 72°26'14", Cheshire County, Hydrologic Unit 01080104, on left bank, 100 ft upstream from Saxtons River, 0.7 mi downstream from Vilas Bridge between Bellows Falls, VT, and North Walpole, 1.0 mi south of Main Street and New Hampshire State Highway 12 intersection in North Walpole, and at mile 172.5.

**DRAINAGE AREA.**--5,493 mi<sup>2</sup>, includes that of Saxtons River.

**PERIOD OF RECORD.**--Discharge records: March 1942 to current year.

**PERIOD OF DAILY WATER-QUALITY RECORD.**--Water years 1975 to 1982.

**SPECIFIC CONDUCTANCE:** October 1980 to November 1981. Record at site 01155050, Connecticut River at Walpole, NH, are considered equivalent, Water years 1975 to 1980.

**WATER TEMPERATURES:** October 1980 to September 1981. Record at site 01155050, Connecticut River at Walpole, NH, are considered equivalent, Water years 1975 to 1980.

**GAGE.**--Water-stage recorder. Datum of gage is 218.63 ft above sea level.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Flow regulated by power plants and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, and other reservoirs, combined usable capacity, about 24.8 billion ft<sup>3</sup>.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum stage since at least 1750, 43.8 ft, March 19, 1936, from floodmarks.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 72,600 ft<sup>3</sup>/s, April 23, gage height, 25.31 ft; minimum daily discharge, 1,280 ft<sup>3</sup>/s, July 29, August 19.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1430	3980	8770	5950	4170	4080	6240	30200	7200	3140	1640	1420
2	1760	2670	6660	6670	5230	4450	4640	31000	10300	3570	1320	1680
3	2590	2320	6020	10000	5130	3880	4510	30100	22700	5340	1370	1620
4	2550	1600	7060	9530	4750	2460	3220	29300	25800	3200	1290	1620
5	2130	1610	4830	8880	3510	4290	5810	26200	23600	4020	1310	1680
6	3120	4540	5170	5860	5460	3600	6730	20200	19100	5440	1770	2520
7	3530	4980	3870	6520	4990	4260	8770	17600	14900	2940	2450	1350
8	3480	5770	3350	5760	5460	5440	9350	11600	10500	2030	2760	1700
9	3110	8020	3760	5680	6550	3980	13700	10800	8460	5330	4190	1290
10	2790	7710	2360	5410	5780	3940	19400	10400	7580	5040	3200	1350
11	4950	6680	2620	6550	e5270	3430	26500	11200	7790	4900	1390	1820
12	4810	8870	4080	8230	4550	4920	28600	9490	15200	3590	1390	1580
13	5120	10600	4210	7550	6500	5810	40000	8180	12100	3030	1410	1320
14	2180	9610	e4060	4850	e6800	4800	51700	10400	10600	3430	1410	1320
15	2280	8460	4600	7120	7280	3070	49900	9730	6200	2090	1470	1320
16	4190	10300	2710	5240	e7670	4340	44600	8780	7140	5870	1300	1320
17	4500	10000	13200	6290	5740	3120	44100	6740	5910	6390	1490	1340
18	5380	10300	59100	5280	e4760	3920	41400	5500	6300	6270	1320	1350
19	5830	8900	42900	4100	5040	5210	36200	7490	5890	4250	1280	1340
20	4630	7710	33700	2790	4820	4890	32500	6060	7210	2900	1290	1350
21	5620	7780	27200	3420	e4560	5810	36600	7760	5980	4060	1290	1480
22	2150	6680	20800	4460	e6060	4380	53900	7580	4070	2640	1630	2100
23	3980	4440	15400	5210	6060	6930	70600	8930	2470	4590	1920	1360
24	3710	2800	11000	5830	6770	8940	68500	5240	2500	5050	1860	1360
25	3650	2190	7070	5080	3970	9440	66700	3580	4080	5670	1370	1920
26	7730	3790	6620	4530	4350	9140	63300	4380	3680	3840	1370	3330
27	4290	6830	9660	6510	4070	7240	63000	4220	2680	2120	1350	2510
28	1710	8580	7270	4220	4330	5670	57300	4050	1970	2200	1330	2650
29	3070	8350	6350	4110	---	6120	46500	7300	1430	1280	1440	2860
30	4490	7580	7450	5280	---	6280	33900	8200	2450	1330	1370	1430
31	4640	---	6070	4610	---	5080	---	9410	---	1380	1330	---
TOTAL	115400	193650	347920	181520	149630	158920	1038170	371620	265790	116930	51310	51290
MEAN	3723	6455	11220	5855	5344	5126	34610	11990	8860	3772	1655	1710
MAX	7730	10600	59100	10000	7670	9440	70600	31000	25800	6390	4190	3330
MIN	1430	1600	2360	2790	3510	2460	3220	3580	1430	1280	1280	1290

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2001, BY WATER YEAR (WY)**

MEAN	6241	8627	8514	7139	7112	13550	27330	16410	8083	4626	3922	3800
MAX	18300	18420	22550	17930	21810	34150	45630	33380	20600	18930	12990	14820
(WY)	1978	1960	1984	1996	1981	1979	1969	1972	1947	1973	1990	1954
MIN	1424	2886	2124	1866	2736	4532	7803	6477	3082	1845	1461	1555
(WY)	1949	1948	1948	1948	1980	1956	1995	1965	1999	1965	1942	1995

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1942 - 2001
ANNUAL TOTAL	3969580	3042150	
ANNUAL MEAN	10850	8335	9613
HIGHEST ANNUAL MEAN			14630
LOWEST ANNUAL MEAN			4991
HIGHEST DAILY MEAN	60300	Apr 5	88300
LOWEST DAILY MEAN	1360	Sep 4	b 115
ANNUAL SEVEN-DAY MINIMUM	2020	Sep 29	1330
MAXIMUM PEAK FLOW			72600
MAXIMUM PEAK STAGE		25.31	Apr 23
10 PERCENT EXCEEDS	25900	18200	21400
50 PERCENT EXCEEDS	6320	4920	6210
90 PERCENT EXCEEDS	2610	1430	2000

a Also occurred on August 19.

b Also occurred on September 2, 1957.

e Estimated.

## CONNECTICUT RIVER BASIN

## 01155500 WEST RIVER AT JAMAICA, VT

**LOCATION (REVISED).**--Lat 43°06'32", long 72°46'33", Windham County, Hydrologic Unit 01080107, on left bank, 0.3 mi upstream from Depot Street bridge, 0.4 mi upstream from Ball Mountain Brook, 0.7 mi north of Depot Street and State Highway 30/100 intersection in Jamaica, 2.5 mi downstream from Ball Mountain Dam, and 7.0 mi northwest of State Highways 30 and 35 intersection in Townshend.

**DRAINAGE AREA.**--179 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1946 to September 1989, October 1995 to current year.

**REVISED RECORDS.**--WDR NH-VT-97-1: 1994 (M), 1996 (M).

**GAGE.**--Water-stage recorder. Elevation of gage is 640 ft above sea level, from topographic map.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Flow regulated since 1961 by Ball Mountain Reservoir.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 29,500 ft<sup>3</sup>/s, December 31, 1948, gage height, 14.87 ft, from rating curve extended above 9,800 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum daily, 0.94 ft<sup>3</sup>/s, September 23, 24, 1968. Maximum discharge since construction of Ball Mountain Dam in 1961, 5,840 ft<sup>3</sup>/s, April 23, 1996, gage height, 9.47 ft; maximum gage height, 11.72 ft, February 7, 1982 (ice jam).

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 4,680 ft<sup>3</sup>/s, April 29, gage height, 9.01 ft; minimum daily discharge, 17 ft<sup>3</sup>/s, August 18, 19.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	561	141	360	e200	e130	e140	178	3280	394	75	38	35
2	41	139	500	e310	e180	e135	178	3100	1370	200	37	34
3	40	137	458	e345	e255	e135	e176	2520	2290	183	36	34
4	50	135	300	e270	e245	e130	176	2140	2290	146	49	34
5	57	134	223	e170	e240	e130	e180	1550	1100	334	87	34
6	146	134	e200	e170	e240	e130	191	1030	568	284	57	34
7	462	136	e160	e170	e230	e135	200	777	403	193	39	34
8	400	134	e120	e170	e185	e135	220	359	296	125	38	34
9	220	134	e90	e170	e130	e135	464	282	215	90	32	34
10	127	150	e90	e170	e130	e135	1300	229	191	86	28	34
11	126	191	e120	e165	e145	e135	2210	200	229	87	27	34
12	123	198	e150	e160	e235	e135	1810	170	2100	87	28	34
13	96	239	e165	e160	e315	e135	1990	224	1450	159	27	35
14	46	336	e175	e160	e320	e135	2600	249	484	165	26	29
15	47	290	e210	e160	e320	e135	2620	202	295	146	26	20
16	111	396	e270	e160	e280	e135	2420	143	270	128	26	20
17	148	566	e270	e160	e240	e135	1710	132	382	104	24	19
18	280	808	e385	e150	e230	e133	1380	122	601	82	17	19
19	1230	387	2030	e130	e225	e130	1280	122	272	113	17	18
20	579	308	2900	e130	e205	e135	1150	112	200	96	28	20
21	773	258	2190	e130	e190	e138	1750	86	193	67	36	67
22	186	252	1060	e130	e180	e145	1650	80	391	66	36	473
23	419	243	e500	e120	e165	170	923	194	197	49	35	52
24	341	178	e365	e110	e160	190	901	331	196	39	35	52
25	149	128	e265	e110	e160	e190	1800	379	193	38	35	203
26	151	132	e205	e110	e155	e190	1880	223	173	75	35	464
27	150	205	e145	e110	e150	e187	2800	712	100	142	35	184
28	148	270	e145	e110	e145	e184	2860	627	78	78	34	98
29	146	278	e160	e110	---	e182	3190	906	59	76	34	78
30	144	282	e170	e110	---	184	3830	449	67	56	34	100
31	142	---	e185	e110	---	180	---	618	---	42	34	---
TOTAL	7639	7319	14566	4940	5785	4623	44017	21548	17047	3611	1070	2360
MEAN	246	244	470	159	207	149	1467	695	568	116	34.5	78.7
MAX	1230	808	2900	345	320	190	3830	3280	2290	334	87	473
MIN	40	128	90	110	130	130	176	80	59	38	17	18

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1989, 1996 - 2001, BY WATER YEAR (WY)**

MEAN	241	350	351	277	275	564	1273	588	255	134	105	122
MAX	916	787	862	749	1009	1486	2290	1499	831	822	909	606
(WY)	1988	1989	1984	1998	1981	1953	1969	1972	1984	1973	1976	1987
MIN	16.9	65.0	78.7	65.3	42.0	107	499	192	35.8	14.2	11.3	12.5
(WY)	1948	1965	1948	1981	1980	1956	1985	1964	1964	1965	1999	1948

**SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1946 - 1989, 1996 - 2001**

ANNUAL TOTAL	165988	134525										
ANNUAL MEAN	454	369								377		
HIGHEST ANNUAL MEAN										611		1976
LOWEST ANNUAL MEAN										161		1965
HIGHEST DAILY MEAN				3820	Mar 30		3830	Apr 30		15500		Dec 31 1948
LOWEST DAILY MEAN				40	Oct 3		a 17	Aug 18		.94		Sep 23 1968
ANNUAL SEVEN-DAY MINIMUM				52	Sep 13		21	Sep 14		1.1		Sep 18 1968
MAXIMUM PEAK FLOW							4680	Apr 29		b 29500		Dec 31 1948
MAXIMUM PEAK STAGE							9.01	Apr 29		14.87		Dec 31 1948
10 PERCENT EXCEEDS				1030			966			952		
50 PERCENT EXCEEDS				260			160			168		
90 PERCENT EXCEEDS				88			35			33		

a Also occurred August 19.

b From rating curve extended above 9,800 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.

e Estimated.

**01158000 ASHUELOT RIVER BELOW SURRY MOUNTAIN DAM, NEAR KEENE, NH**

**LOCATION (REVISED).**--Lat 42°59'41", long 72°18'42", Cheshire County, Hydrologic Unit 01080201, on right bank, 1000 ft south of Surry Mountain Dam, 2.7 mi upstream from Sturtevant Brook, 4.4 mi southwest of Post Office in Gilsum, 4.5 mi north of Courthouse in Keene, and at mile 34.0.

**DRAINAGE AREA.**--101 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: September 1945 to September 1989, October 1995 to current year. Annual maximums and measurements published, water years 1990-95.

**GAGE.**--Water-stage recorder and concrete control. Elevation of gage is 480.00 ft above sea level (levels by U.S. Army Corps of Engineers).

**REMARKS.**--Records good. Flow regulated by Surry Mountain Dam.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 1,170 ft<sup>3</sup>/s, April 26, gage height, 8.83 ft; minimum daily discharge, 1.9 ft<sup>3</sup>/s, August 31.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	74	122	129	100	69	169	1120	53	36	14	8.6
2	87	74	112	122	120	69	170	1090	75	40	12	11
3	78	71	94	82	120	69	169	1040	352	39	11	10
4	71	69	83	58	119	69	169	918	610	43	12	11
5	66	68	79	54	117	69	170	744	721	51	13	14
6	89	69	75	55	117	69	173	865	601	54	12	14
7	121	71	61	55	82	69	179	840	369	50	11	12
8	114	72	57	55	69	69	186	827	252	48	10	10
9	101	72	56	55	85	69	306	519	183	46	9.1	8.8
10	89	84	52	55	91	70	734	228	132	42	8.1	8.6
11	43	141	55	55	91	71	932	144	107	39	7.3	9.8
12	70	175	58	87	91	71	953	111	225	37	7.0	8.7
13	103	168	59	133	108	105	884	98	335	34	8.6	8.0
14	77	160	59	132	116	118	599	86	303	31	8.7	8.4
15	64	238	59	131	115	116	556	76	241	29	8.1	8.1
16	57	297	59	130	97	98	820	70	182	26	7.6	7.4
17	61	268	64	129	91	90	985	66	147	26	7.1	6.9
18	77	232	349	128	91	91	1060	63	145	28	7.3	6.5
19	157	205	878	127	90	91	1070	60	128	27	6.9	5.9
20	197	185	1130	125	89	91	1050	57	106	25	6.6	5.7
21	174	160	1060	124	89	91	1040	53	103	22	6.6	15
22	147	117	781	123	75	153	898	51	101	20	6.5	23
23	124	92	575	121	69	242	820	55	95	18	5.9	23
24	110	71	549	120	69	269	1000	63	94	16	5.0	20
25	100	58	522	118	69	257	1150	64	88	15	3.9	20
26	91	63	297	82	69	188	1160	60	77	19	3.6	23
27	85	108	130	61	69	169	1150	61	65	24	3.4	24
28	81	143	130	60	69	169	1120	66	54	23	3.3	23
29	72	142	129	60	---	169	1090	69	45	21	3.2	25
30	67	131	129	67	---	168	1080	66	40	18	2.3	24
31	70	---	129	70	---	168	---	59	---	16	1.9	---
TOTAL	2940	3878	7992	2903	2577	3676	21842	9689	6029	963	233.0	403.4
MEAN	94.8	129	258	93.6	92.0	119	728	313	201	31.1	7.52	13.4
MAX	197	297	1130	133	120	269	1160	1120	721	54	14	25
MIN	43	58	52	54	69	69	169	51	40	15	1.9	5.7

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1989, 1996 - 2001, BY WATER YEAR (WY)**

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1996	1997	1998	1999	2000	2001
MEAN	102	162	179	150	155	281	553	284	135	54.7	40.2	52.2																																							
MAX	453	577	512	383	423	661	1022	632	634	229	334	233																																							
(WY)	1978	1996	1997	1978	1981	1979	1960	1956	1984	1973	1986	1960																																							
MIN	4.39	4.04	22.7	21.2	28.1	88.5	167	90.6	13.5	5.77	4.88	9.63																																							
(WY)	1965	1965	1965	1981	1980	1956	1946	1986	1964	1965	1965	1957																																							

**SUMMARY STATISTICS**

**FOR 2000 CALENDAR YEAR**

**FOR 2001 WATER YEAR**

**WATER YEARS 1945 - 1989, 1996 - 2001**

ANNUAL TOTAL	71882	63125.4	
ANNUAL MEAN	196	173	179
HIGHEST ANNUAL MEAN			279
LOWEST ANNUAL MEAN			57.3
HIGHEST DAILY MEAN	1130	Dec 20	2150
LOWEST DAILY MEAN	16	Sep 12	.40
ANNUAL SEVEN-DAY MINIMUM	18	Sep 7	.67
MAXIMUM PEAK FLOW		1170	2260
MAXIMUM PEAK STAGE		8.83	a 11.78
10 PERCENT EXCEEDS	447	564	522
50 PERCENT EXCEEDS	122	77	90
90 PERCENT EXCEEDS	53	9.9	14

a From floodmarks.

CONNECTICUT RIVER BASIN

01158600 OTTER BROOK BELOW OTTER BROOK DAM NEAR KEENE, NH

LOCATION (REVISED).--Lat 42°56'45", long 72°14'14", Cheshire County, Hydrologic Unit 01080201, on right bank, 450 ft downstream from Otter Brook Dam, 1.5 mi downstream of station 01158500, "Otter Brook near Keene", 2.2 mi northeast of City Hall in Keene, and 2.3 mi upstream from confluence with Minnewawa Brook to form "The Branch."

DRAINAGE AREA.--47.2 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: May 1958 to September 1989, October 1995 to current year. Annual maximums and measurements, water years 1990-95.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 658.65 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to September 29, 1933, nonrecording gage on highway bridge at same datum.

REMARKS.--Records good. Flow regulated by Otter Brook Lake.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 656 ft<sup>3</sup>/s, May 7, gage height, 8.51 ft; minimum daily discharge, 0.99 ft<sup>3</sup>/s, August 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	38	64	49	48	21	72	580	19	17	5.8	2.2
2	30	35	53	49	66	21	71	578	63	25	5.0	2.9
3	29	32	43	49	66	21	70	598	184	22	4.5	2.8
4	31	31	34	49	65	22	71	585	310	18	4.2	2.7
5	33	31	31	49	46	29	72	547	312	19	3.9	3.1
6	73	32	31	49	36	37	74	566	217	17	4.2	2.8
7	84	31	31	49	36	37	77	602	107	15	3.9	2.7
8	65	29	31	49	36	45	80	405	69	14	3.5	2.4
9	53	28	31	48	36	52	174	123	54	16	3.1	2.3
10	28	42	31	48	36	51	326	48	44	15	2.8	2.3
11	18	90	31	48	36	51	334	36	43	14	2.6	3.2
12	17	86	31	47	37	44	248	34	159	14	2.5	3.5
13	94	70	31	47	42	26	180	33	155	12	2.4	3.1
14	63	66	31	46	44	22	148	30	96	11	2.4	3.2
15	40	140	31	46	44	14	203	27	68	10	2.2	3.1
16	39	132	31	36	45	9.4	406	26	53	9.6	2.1	2.8
17	45	102	33	20	44	90	474	27	54	9.8	2.0	2.7
18	56	82	42	14	45	94	511	26	67	11	2.0	2.5
19	111	71	343	14	44	36	559	26	52	10	1.9	2.4
20	94	64	500	14	44	36	566	24	41	9.5	1.9	2.3
21	74	59	464	14	44	36	562	21	40	8.6	1.8	4.8
22	61	54	291	15	44	77	388	20	38	7.5	1.8	8.4
23	53	49	186	15	43	131	196	25	37	6.7	1.7	7.9
24	50	41	178	18	43	143	255	29	49	6.0	1.6	6.9
25	47	37	137	22	43	139	377	27	43	5.4	1.4	7.0
26	47	46	64	27	43	95	567	23	34	6.7	1.3	11
27	44	89	49	30	29	74	614	26	29	10	1.2	10
28	41	90	50	30	21	74	601	28	21	9.8	1.2	9.8
29	35	75	50	30	---	73	588	31	16	8.8	1.1	11
30	34	66	49	29	---	72	591	27	15	7.6	1.0	10
31	38	---	49	30	---	72	---	22	---	6.7	.99	---
TOTAL	1557	1838	3051	1080	1206	1744.4	9455	5200	2489	372.7	77.99	141.8
MEAN	50.2	61.3	98.4	34.8	43.1	56.3	315	168	83.0	12.0	2.52	4.73
MAX	111	140	500	49	66	143	614	602	312	25	5.8	11
MIN	17	28	31	14	21	9.4	70	20	15	5.4	.99	2.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1989, 1996 - 2001, BY WATER YEAR (WY)

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1996	1997	1998	1999	2000	2001		
MEAN	47.0	73.6	78.5	64.5	71.2	135	252	117	60.0	28.1	21.1	23.7																												
MAX	158	242	272	185	223	368	447	256	312	120	157	114																												
(WY)	1978	1996	1997	1978	1984	1979	1987	1969	1984	1973	1986	1999																												
MIN	.86	3.20	12.8	8.97	14.3	29.8	88.6	34.4	3.78	2.65	2.21	.77																												
(WY)	1965	1965	1965	1981	1965	1965	1985	1999	1964	1965	1963	1964																												

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1958 - 1989, 1996 - 2001

ANNUAL TOTAL	31160.5	28212.89		
ANNUAL MEAN	85.1	77.3	81.0	
HIGHEST ANNUAL MEAN			126	1960
LOWEST ANNUAL MEAN			23.2	1965
HIGHEST DAILY MEAN	500	Dec 20	614	Apr 27
LOWEST DAILY MEAN	7.2	Sep 12	.99	Aug 31
ANNUAL SEVEN-DAY MINIMUM	8.8	Sep 7	1.2	Aug 25
MAXIMUM PEAK FLOW			656	May 7
MAXIMUM PEAK STAGE			8.51	May 7
10 PERCENT EXCEEDS	194		182	
50 PERCENT EXCEEDS	53		36	
90 PERCENT EXCEEDS	18		3.0	

a Includes bypass flow through spillway of the dam structure.

01160350 ASHUELOT RIVER AT WEST SWANZEY, NH

**LOCATION.**--Lat 42°52'16", long 72°19'42", Cheshire County, Hydrologic Unit 01080201, on left bank, 150 ft downstream of California/Main Street bridge in West Swanzey, 4.5 mi downstream from South Branch Ashuelot River, 5.0 mi southwest of City Hall in Keene, and 18.3 mi (revised) upstream from mouth.

**DRAINAGE AREA.**--316 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: April 1994 to current year.

**GAGE.**--Water-stage recorder and crest-stage gage. Elevation of gage is 452 ft above sea level, from topographic map.

**REMARKS.**--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Surry Mountain Lake 20 mi upstream since 1942 and by Otter Brook Lake 16 mi upstream on Otter Brook since 1958. Some regulation by small hydro plants upstream.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 3,510 ft<sup>3</sup>/s, April 12, gage height, 3.33 ft; maximum gage height, 3.57 ft, December 26 (ice jam); minimum daily discharge, e22 ft<sup>3</sup>/s, August 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	276	411	e400	332	223	630	2060	202	143	71	54
2	178	267	357	370	415	225	593	2030	333	189	68	73
3	168	259	291	318	383	228	597	1990	1430	186	64	59
4	168	266	271	278	327	225	629	1930	1950	154	e62	49
5	181	260	259	266	312	215	720	1690	1860	162	e72	50
6	298	249	248	268	289	211	823	1680	1510	211	e73	47
7	443	247	228	268	331	265	951	1710	991	196	64	42
8	366	241	214	268	269	266	1230	1640	603	161	60	37
9	292	254	207	267	267	262	1530	1180	427	154	55	33
10	256	304	197	259	278	256	2350	587	332	164	52	33
11	236	499	205	256	277	251	3220	357	297	140	e52	49
12	217	546	222	257	280	249	3370	280	608	132	e52	52
13	301	487	215	284	301	250	3370	263	882	128	51	48
14	319	453	216	298	305	263	3310	250	686	116	e50	47
15	240	740	216	298	326	264	3160	243	512	107	44	48
16	235	852	211	295	307	270	2990	235	393	99	43	45
17	230	752	658	274	287	350	3130	228	359	102	41	40
18	271	624	2470	265	272	360	3040	221	404	114	e40	36
19	538	527	2290	267	275	313	2950	217	343	102	e38	34
20	616	460	2300	265	276	323	2810	212	284	88	e37	33
21	519	417	e2100	261	269	351	2750	197	272	80	e35	73
22	422	355	1900	249	254	655	2920	190	268	75	e34	97
23	355	278	e1300	255	255	1110	3100	207	258	69	e31	87
24	333	244	e1100	258	247	1160	2910	232	275	66	e29	74
25	299	231	e1000	259	240	1040	2790	228	263	63	e28	82
26	274	252	e700	245	256	857	2640	212	227	83	27	119
27	264	462	e570	229	253	688	2490	230	198	110	e26	122
28	261	557	e520	224	238	624	2350	257	175	99	25	106
29	250	498	e480	220	---	595	2220	276	154	89	e24	106
30	248	441	e450	231	---	617	2120	252	143	80	e23	97
31	261	---	e420	264	---	642	---	225	---	74	e22	---
TOTAL	9230	12298	22226	8416	8121	13608	67693	21509	16639	3736	1393	1872
MEAN	298	410	717	271	290	439	2256	694	555	121	44.9	62.4
MAX	616	852	2470	400	415	1160	3370	2060	1950	211	73	122
MIN	168	231	197	220	238	211	593	190	143	63	22	33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2001, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	362	548	611	628	523	926	1417	721
MAX	761	1539	1723	1076	1007	1264	2353	1511
(WY)	1996	1996	1997	1996	1996	1998	1994	1996
MIN	108	160	214	271	290	439	518	316
(WY)	1998	1995	1999	2001	2001	2001	1995	1995

SUMMARY STATISTICS

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1994 - 2001
ANNUAL TOTAL	193999	186741	
ANNUAL MEAN	530	512	537
HIGHEST ANNUAL MEAN			781
LOWEST ANNUAL MEAN			380
HIGHEST DAILY MEAN	2470	a 3370	a 3370
LOWEST DAILY MEAN	68	e 22	20
ANNUAL SEVEN-DAY MINIMUM	79	25	21
MAXIMUM PEAK FLOW		3510	3620
MAXIMUM PEAK STAGE		b 3.57	b 6.30
10 PERCENT EXCEEDS	1090	1570	1470
50 PERCENT EXCEEDS	390	262	301
90 PERCENT EXCEEDS	166	52	65

a Also occurred on April 13, 2001.  
b Ice Jam.  
e Estimated.

## CONNECTICUT RIVER BASIN

## 01161000 ASHUELOT RIVER AT HINSDALE, NH

**LOCATION (REVISED).**--Lat 42°47'09", long 72°29'12", Cheshire County, Hydrologic Unit 01080201, on left bank, 40 ft upstream from State Highway 63S bridge in Hinsdale, 200 ft south of State Highway 63S and 119W intersection in Hinsdale, 0.2 mi downstream from dam, and 1.3 mi upstream from mouth.

**DRAINAGE AREA.**--420 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: March 1907 to December 1911, July 1914 to current year.

**REVISED RECORDS.**--WSP 661: Drainage area. WSP 781: 1907-10, 1914-34. WSP 1301: 1915(M), 1917-19(M), 1921-33(M). WSP 1701: 1920.

**GAGE.**--Water-stage recorder. Datum of gage is 201.32 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to September 29, 1933, nonrecording gage on State Highway 63S bridge at same datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Flow regulated by Surry Mountain Lake 33 mi upstream since 1942, and by Otter Brook Lake 29 mi upstream on Otter Brook since 1958. Regulation by small hydro plants upstream.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 16,600 ft<sup>3</sup>/s, March 19, 1936, by computation of peak flow over dam; maximum gage height, 20.2 ft, March 19, 1936, from floodmarks (backwater from the Connecticut River); minimum daily discharge, 12 ft<sup>3</sup>/s, September 15, 1929. Maximum discharge since at least 1859, that of March 19, 1936.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 4,870 ft<sup>3</sup>/s, April 14, gage height, 7.49 ft; minimum daily discharge, 40 ft<sup>3</sup>/s, August 31.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	280	321	629	e580	494	e320	945	2220	283	259	100	78
2	258	343	572	e540	e600	e310	891	2170	480	349	93	100
3	239	319	468	e460	e560	e300	874	2130	1910	312	92	92
4	222	310	425	e430	e470	291	906	2060	2370	250	91	81
5	219	317	e400	e410	e450	287	1040	1900	2110	249	103	84
6	411	304	e380	e410	e420	282	1210	1730	1740	296	109	75
7	684	296	e355	e405	e470	342	1400	1770	1300	311	96	71
8	605	288	e335	e405	e390	391	1920	1750	902	264	86	66
9	471	286	e310	e400	385	375	2360	1490	683	268	82	60
10	394	367	e300	e400	427	361	3400	930	518	250	84	59
11	334	604	309	e395	e430	340	4080	600	448	244	85	67
12	290	691	316	e395	e445	349	4340	458	776	210	86	71
13	285	631	e325	e440	e455	336	4630	380	1070	189	84	70
14	399	584	330	e465	e465	366	4780	354	949	180	79	72
15	330	882	e325	e465	e470	381	4380	328	758	166	69	71
16	319	1090	e315	e460	e450	409	3830	307	601	157	66	67
17	311	973	1260	e430	e435	442	3680	293	539	164	64	63
18	338	821	4090	e410	e410	555	3560	289	621	181	63	58
19	629	704	3160	401	e405	541	3390	279	536	169	59	54
20	778	633	2720	389	e400	488	3210	271	420	150	57	53
21	696	569	2490	e380	e390	542	3120	252	364	134	56	101
22	565	515	2320	e370	e385	903	3260	245	359	122	52	116
23	486	433	1700	e375	e380	1530	3480	265	346	116	50	127
24	437	370	1360	e380	e375	1640	3350	320	380	105	48	113
25	402	329	1220	e380	e370	1520	3080	350	371	99	48	109
26	370	358	997	e365	367	1320	2910	316	322	116	48	144
27	352	677	895	e350	e365	1080	2750	342	276	144	47	187
28	329	833	764	e335	e345	946	2570	399	237	146	46	148
29	304	772	e700	e330	---	900	2420	479	212	126	44	151
30	302	692	e670	e340	---	920	2300	401	205	115	42	141
31	311	---	e630	416	---	957	---	337	---	103	40	---
TOTAL	12350	16312	31070	12711	12008	19724	84066	25415	22086	5944	2169	2749
MEAN	398	544	1002	410	429	636	2802	820	736	192	70.0	91.6
MAX	778	1090	4090	580	600	1640	4780	2220	2370	349	109	187
MIN	219	286	300	330	345	282	874	245	205	99	40	53

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 1911, 1914 - 2001, BY WATER YEAR (WY)**

	1907	1908	1909	1910	1911	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	348	590	662	609	606	1242	1887	989	520	277	226	243																																																																																	
MAX	1474	2248	2209	1539	2016	4392	3723	2175	2075	1182	1098	2394																																																																																	
(WY)	1976	1928	1997	1978	1984	1936	1960	1945	1984	1915	1990	1938																																																																																	
MIN	49.2	55.4	113	84.0	113	273	597	335	96.9	60.8	50.5	53.0																																																																																	
(WY)	1965	1965	1915	1981	1980	1940	1985	1985	1964	1965	1966	1995																																																																																	

**SUMMARY STATISTICS**

**FOR 2000 CALENDAR YEAR**

**FOR 2001 WATER YEAR**

**WATER YEARS 1907 - 1911, 1914 - 2001**

ANNUAL TOTAL	290320	246604					
ANNUAL MEAN	793	676	683				
HIGHEST ANNUAL MEAN			1093				
LOWEST ANNUAL MEAN			216				
HIGHEST DAILY MEAN	4090	Dec 18	4780	Apr 14	16500	Mar 19	1936
LOWEST DAILY MEAN	117	Sep 12	40	Aug 31	12	Sep 15	1929
ANNUAL SEVEN-DAY MINIMUM	137	Sep 7	45	Aug 25	32	Aug 16	1966
MAXIMUM PEAK FLOW			4870	Apr 14	a 16600	Mar 19	1936
MAXIMUM PEAK STAGE			7.49	Apr 14	b 20.20	Mar 19	1936
10 PERCENT EXCEEDS	1740	1820	1720				
50 PERCENT EXCEEDS	581	375	377				
90 PERCENT EXCEEDS	254	83	97				

a By computation of peak flow over dam from floodmarks (backwater from Connecticut River).

b From floodmarks.

e Estimated.





ST. LAWRENCE RIVER BASIN

0428000 POULTNEY RIVER BELOW FAIR HAVEN, VT

LOCATION (REVISED).--Lat 43°37'27", long 73°18'43", Rutland County, Hydrologic Unit 02010001, on right bank, 0.4 mi downstream from Carver Falls and Dam, 2.0 mi upstream from Hubbardton River, 3.0 mi northwest of Town Hall in Fair Haven, and 6.6 mi northeast of Whitehall, NY.

DRAINAGE AREA.--187 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: October 1928 to current year.

REVISED RECORDS.--WSP 1114: 1929(M), 1932-35.

GAGE.--Water-stage recorder. Elevation of gage is 110 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by power plant upstream and Lake Bomoseen.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft<sup>3</sup>/s, July 20, 1945, gage height, 24.36 ft, from high-water mark in well, from rating curve extended above 2,600 ft<sup>3</sup>/s on basis of computations of flow over dam at gage heights 16.10 ft, 21.40 ft, and 24.36 ft; minimum daily discharge, 2.1 ft<sup>3</sup>/s, August 8, 1965, September 13, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	Unknown	* 10,200	* 21.60	Apr. 14	0445	2,820	12.86

Minimum daily discharge, 9.2 ft<sup>3</sup>/s, August 15, 16, and September 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	111	159	e285	e158	e172	402	431	133	135	e28	16
2	35	106	156	e270	e210	e168	411	409	132	e165	e26	16
3	35	85	e153	e255	e193	e165	430	336	143	e150	24	15
4	35	70	e143	e240	e183	e160	445	279	240	e133	31	13
5	35	63	e132	e230	e180	e153	491	251	325	e153	34	13
6	35	62	e122	e220	e185	e150	580	234	323	e130	39	12
7	46	65	e115	e210	e187	e150	663	215	264	e110	40	12
8	53	65	e105	e205	e187	e155	879	203	221	e122	30	11
9	53	63	e98	e195	e188	e160	1270	193	192	e130	23	11
10	51	64	88	e187	e210	e163	1970	183	171	e107	23	11
11	47	75	83	e195	e270	240	2260	176	162	e122	23	13
12	44	81	87	e208	e290	280	2140	168	529	e135	23	15
13	41	82	103	e215	e303	239	2620	163	695	e125	23	12
14	40	81	104	e190	e293	213	2650	161	555	e110	15	11
15	38	93	99	e170	e278	203	2260	157	414	e95	9.2	11
16	37	119	93	e158	e260	201	1940	152	334	e89	9.2	10
17	42	121	e1260	e147	e250	205	1700	147	304	e96	9.3	9.7
18	54	113	e5450	e140	e235	208	1520	141	367	e87	11	9.5
19	72	102	e2000	e135	e225	210	1360	137	355	e74	14	9.2
20	86	92	e1200	e133	e218	222	1220	132	280	e67	16	9.4
21	87	86	e900	e135	e208	237	1080	128	227	e63	33	12
22	81	82	e700	e140	e198	286	957	124	199	e58	30	15
23	76	80	e560	e141	e190	425	932	121	182	e54	23	14
24	74	75	e480	e138	e185	507	832	120	175	e50	19	12
25	71	68	e435	e133	e178	563	717	118	179	e62	17	26
26	68	68	e400	e130	e180	573	613	117	173	e84	16	32
27	64	100	e380	e127	e177	509	530	118	163	e78	16	26
28	57	138	e350	e120	e175	441	470	127	153	e46	16	19
29	77	151	e335	e115	---	396	455	133	144	e41	15	17
30	94	156	e318	e112	---	372	445	136	137	e36	14	15
31	105	---	e305	e122	---	382	---	135	---	e32	14	---
TOTAL	1768	2717	16913	5401	5994	8508	34242	5645	7871	2939	663.7	427.8
MEAN	57.0	90.6	546	174	214	274	1141	182	262	94.8	21.4	14.3
MAX	105	156	5450	285	303	573	2650	431	695	165	40	32
MIN	35	62	83	112	158	150	402	117	132	32	9.2	9.2
CFSM	.30	.48	2.92	.93	1.14	1.47	6.10	.97	1.40	.51	.11	.08
IN.	.35	.54	3.36	1.07	1.19	1.69	6.81	1.12	1.57	.58	.13	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)

MEAN	139	222	263	260	261	521	674	319	165	105	83.1	90.6
MAX	721	760	1018	897	800	1627	1441	902	776	639	629	666
(WY)	1978	1973	1984	1996	1984	1986	1977	1983	1947	1976	1976	1938
MIN	18.2	21.4	38.4	42.0	26.8	113	231	71.5	19.4	7.08	3.94	8.19
(WY)	1974	1965	1965	1931	1980	1940	1966	1941	1965	1965	1965	1995

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1929 - 2001

ANNUAL TOTAL	129174	93089.5	
ANNUAL MEAN	353	255	258
HIGHEST ANNUAL MEAN			527
LOWEST ANNUAL MEAN			66.9
HIGHEST DAILY MEAN	e 5450	Dec 18	7010
LOWEST DAILY MEAN	35	Sep 26	a 9.2
ANNUAL SEVEN-DAY MINIMUM	35	Sep 26	10
MAXIMUM PEAK FLOW			c 14800
MAXIMUM PEAK STAGE		d 21.60	d 24.36
ANNUAL RUNOFF (CFSM)	1.89	1.36	1.38
ANNUAL RUNOFF (INCHES)	25.70	18.52	18.77
10 PERCENT EXCEEDS	734	497	613
50 PERCENT EXCEEDS	190	136	136
90 PERCENT EXCEEDS	59	16	28

- a Also occurred on August 16 and September 19.
- b Also occurred on September 13, 1977.
- c From rating curve extended above 2,600 ft<sup>3</sup>/s as explained above.
- d From high-water mark in well.
- e Estimated.

04280350 METTAWEE RIVER NEAR PAWLET, VT

LOCATION (REVISED).--Lat 43°22'14", long 73°13'00", Rutland County, Hydrologic Unit 02010001, on left bank, 10 ft downstream from Betts Bridge Road bridge, 20 ft southwest of Betts Bridge Road and Offesend Road intersection, 0.8 mi upstream of State Highway 153 bridge, 1.0 mi southwest of Offesend Road and State Highway 30 intersection at Butternut Bend, and 2.5 mi northwest of State Highways 30 and 133 intersection in Pawlet.

DRAINAGE AREA.--70.2 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: October 1984 to current year.

REVISED RECORDS.--WDR NH-VT-97-1: 1993, 1994, 1996 (P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 525 ft above sea level, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	1700	* 7,080	* 7.31	Apr. 22	1915	1,230	4.31
Apr. 13	1530	1,620	4.67				

Minimum discharge, 6.6 ft<sup>3</sup>/s, September 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	51	114	e98	e75	e56	77	e180	e84	e87	21	32
2	31	48	104	e92	e66	e54	78	e172	e183	e110	20	18
3	31	47	e94	e88	e61	e52	84	e165	e252	e76	25	14
4	30	47	e88	e84	e59	e50	99	e155	e301	e69	28	13
5	31	56	e85	e79	e57	e54	135	e149	e226	e84	22	16
6	60	67	e84	e74	e55	e58	150	e130	e183	e69	20	13
7	45	59	e81	e73	e52	e54	187	e114	e152	e58	18	11
8	39	57	e80	e70	e51	e47	421	e103	e129	e63	17	9.7
9	37	57	e78	e67	e54	e43	630	e96	e111	e66	16	9.0
10	36	94	e87	e66	164	e41	797	e85	e97	e56	34	9.5
11	36	102	e80	e65	104	e40	728	e83	e169	e57	24	9.7
12	34	88	e83	e64	e92	e39	1050	e84	e566	e67	20	8.5
13	34	82	e79	e77	e86	e43	1310	e123	e286	e58	18	8.1
14	33	92	e78	e68	e81	49	1110	e91	e213	e52	16	9.3
15	32	159	e77	e62	e84	50	892	e81	e173	e52	15	8.5
16	66	122	e84	e56	e80	54	735	e75	e145	e47	13	8.1
17	66	109	2860	e55	e76	51	632	e70	e205	e52	15	7.6
18	112	99	1280	e54	e73	50	547	e65	e176	e48	18	7.3
19	113	92	589	e52	e75	48	461	e64	e138	e41	14	7.3
20	91	87	425	e49	e71	53	426	e60	e116	e37	17	7.6
21	77	85	316	e53	e66	61	484	e55	e118	e34	29	18
22	70	80	270	e56	e64	271	e650	e54	e139	e31	16	13
23	64	75	221	e57	e61	186	e643	e61	e114	e29	13	11
24	62	71	199	e56	e58	136	e580	e66	e167	27	12	10
25	58	70	171	e47	e61	118	e470	e66	e134	28	11	47
26	56	85	161	e49	e65	100	e350	e61	e107	50	10	35
27	54	132	e147	e54	e61	89	e290	e128	e92	37	11	e21
28	52	127	e130	e49	e57	82	e254	e113	e81	30	11	e17
29	51	126	e123	e46	---	78	e219	e124	e73	27	10	19
30	51	122	e110	e50	---	92	e196	e98	e72	25	9.5	17
31	53	---	e104	e85	---	86	---	e97	---	23	9.7	---
TOTAL	1636	2588	8482	1995	2009	2285	14685	3068	5002	1590	533.2	435.2
MEAN	52.8	86.3	274	64.4	71.8	73.7	490	99.0	167	51.3	17.2	14.5
MAX	113	159	2860	98	164	271	1310	180	566	110	34	47
MIN	30	47	77	46	51	39	77	54	72	23	9.5	7.3
CFSM	.75	1.23	3.90	.92	1.02	1.05	6.97	1.41	2.38	.73	.25	.21
IN.	.87	1.37	4.49	1.06	1.06	1.21	7.78	1.63	2.65	.84	.28	.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2001, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	72.7	123	134	139	108	191	281	150	82.5	59.3	47.4	40.0					
MAX	286	233	317	344	194	274	559	371	167	169	128	99.3					
(WY)	1988	1989	1997	1998	2000	1998	1994	1996	2001	1996	2000	1987					
MIN	24.5	32.7	45.8	45.3	45.5	73.7	115	55.4	32.8	13.8	13.6	10.6					
(WY)	1998	1999	1990	1989	1987	2001	1995	1987	1999	1995	1999	1995					

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1985 - 2001

	2000 CALENDAR YEAR	2001 WATER YEAR	1985 - 2001
ANNUAL TOTAL	61719	44308.4	
ANNUAL MEAN	169	121	119
HIGHEST ANNUAL MEAN			159
LOWEST ANNUAL MEAN			75.9
HIGHEST DAILY MEAN	2860	Dec 17	2860
LOWEST DAILY MEAN	30	Oct 4	a 7.3
ANNUAL SEVEN-DAY MINIMUM	31	Sep 29	8.0
MAXIMUM PEAK FLOW			7080
MAXIMUM PEAK STAGE			7.31
INSTANTANEOUS LOW FLOW			6.6
ANNUAL RUNOFF (CFSM)	2.40	1.73	1.70
ANNUAL RUNOFF (INCHES)	32.71	23.48	23.03
10 PERCENT EXCEEDS	307	208	248
50 PERCENT EXCEEDS	115	66	79
90 PERCENT EXCEEDS	47	16	23

a Also occurred on September 19.  
b Also occurred on September 18, 19, 2001.  
e Estimated.

ST. LAWRENCE RIVER BASIN

04282000 OTTER CREEK AT CENTER RUTLAND, VT

LOCATION (REVISED).--Lat 43°36'13", long 73°00'49", Rutland County, Hydrologic Unit 02010002, on right bank, 200 ft downstream from dam, 500 ft upstream from bridge on US Highway 4 (Business) in Center Rutland, 0.3 mi upstream of Clarendon River, 1.2 mi downstream from East Creek, and 2.1 mi west of US 7N and 4E intersection in Rutland.

DRAINAGE AREA.--307 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: May 1928 to current year.

REVISED RECORDS.--WSP 1084: 1929.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 474.80 ft above sea level; prior to October 1, 1964, datum was 1.00 ft higher. Prior to July 22, 1929, nonrecording gage at same site.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by power plants and Chittenden Reservoir 14 mi upstream on East Creek. These reservoirs have a combined usable capacity of about 819.8 million ft<sup>3</sup>. Prior to June 3, 1947, regulation by East Pittsford Reservoir, usable capacity, 150 million ft<sup>3</sup>.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	Unknown	* 7,430	* 11.32	Apr. 23	0515	6,520	10.60
Apr. 14	2200	4,600	8.90				

Minimum daily discharge, 53 ft<sup>3</sup>/s, September 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	214	484	e380	597	e315	419	1190	577	806	143	126
2	100	211	e390	e360	491	e280	420	1380	869	745	152	133
3	91	207	e320	e340	344	e240	493	1370	1320	375	141	104
4	92	200	e325	e330	e235	e217	542	1250	1620	305	187	98
5	94	220	e340	e320	e310	e220	606	1040	1190	340	160	144
6	276	308	e290	e317	e295	e213	691	811	805	340	172	175
7	328	274	e280	e315	e315	e310	739	689	652	262	178	136
8	213	248	e265	e305	e310	e320	1020	589	556	252	171	84
9	181	234	e260	e290	e360	e290	1230	563	435	338	163	67
10	159	342	e260	e280	642	e247	1690	566	379	444	166	95
11	153	565	e295	e277	703	e218	1920	530	855	493	129	89
12	156	428	e380	e260	587	e235	2410	484	2630	506	99	65
13	135	352	e260	e260	586	e250	3670	544	1960	383	130	60
14	123	351	e260	e260	502	268	4410	514	980	357	129	64
15	120	780	e257	e258	576	331	3930	408	669	311	96	57
16	162	627	e300	e255	550	393	3220	356	536	295	92	57
17	346	492	e3800	e250	445	378	2670	350	556	299	94	65
18	445	426	e2600	e240	298	322	2310	336	634	306	96	60
19	656	379	e1200	e242	336	341	1930	321	532	212	98	53
20	420	352	e870	e240	418	334	1700	292	457	174	100	53
21	324	333	e730	e230	458	356	1960	265	417	159	210	106
22	268	321	e650	e220	384	621	3510	253	421	150	140	131
23	227	281	e560	e220	417	694	6050	312	363	172	128	99
24	207	231	e490	e218	381	527	6030	329	370	199	95	87
25	198	210	e460	e215	299	474	5180	299	341	166	71	201
26	186	334	e445	e210	396	e410	3020	277	333	206	73	432
27	181	826	e435	e200	392	e365	1970	552	287	250	87	198
28	164	793	e410	e190	e340	349	1660	656	238	158	108	138
29	160	642	e385	e220	---	340	1390	690	184	132	85	129
30	198	555	e390	e260	---	368	1190	520	245	125	83	136
31	205	---	e405	489	---	445	---	709	---	114	96	---
TOTAL	6663	11736	18796	8451	11967	10671	67980	18445	21411	9374	3872	3442
MEAN	215	391	606	273	427	344	2266	595	714	302	125	115
MAX	656	826	3800	489	703	694	6050	1380	2630	806	210	432
MIN	91	200	257	190	235	213	419	253	184	114	71	53
CFSM	.70	1.27	1.97	.89	1.39	1.12	7.38	1.94	2.32	.98	.41	.37
IN.	.81	1.42	2.28	1.02	1.45	1.29	8.24	2.24	2.59	1.14	.47	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2001, BY WATER YEAR (WY)

	352	503	511	479	460	824	1471	825	439	288	243	255
MEAN	352	503	511	479	460	824	1471	825	439	288	243	255
MAX	1227	1025	1291	1094	1564	2376	3078	2120	1565	1047	1591	1385
(WY)	1988	1960	1984	1949	1981	1936	1969	1940	1947	1976	1976	1938
MIN	86.5	141	126	100	110	231	445	271	130	78.2	65.5	78.4
(WY)	1965	1965	1948	1948	1980	1965	1995	1941	1965	1965	1999	1964

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1928 - 2001

ANNUAL TOTAL	243371	192808	
ANNUAL MEAN	665	528	553
HIGHEST ANNUAL MEAN			1049
LOWEST ANNUAL MEAN			239
HIGHEST DAILY MEAN	3950	Apr 5	6050
LOWEST DAILY MEAN	91	Oct 3	a 53
ANNUAL SEVEN-DAY MINIMUM	96	Sep 29	58
MAXIMUM PEAK FLOW			7430
MAXIMUM PEAK STAGE			11.32
ANNUAL RUNOFF (CFSM)	2.17		1.72
ANNUAL RUNOFF (INCHES)	29.49		23.36
10 PERCENT EXCEEDS	1320		996
50 PERCENT EXCEEDS	447		320
90 PERCENT EXCEEDS	185		105
			134

a Also occurred on September 20.  
b At datum then in use.  
c Estimated.

04282500 OTTER CREEK AT MIDDLEBURY, VT

LOCATION (REVISED).--Lat 44°00'47", long 73°10'06", Addison County, Hydrologic Unit 02010002, on right bank, 150 ft upstream from State Highway 125 bridge in Middlebury, 0.1 mi southwest of US 7 and State Highway 125 intersection, and 3.6 mi downstream from Middlebury River.

DRAINAGE AREA.--628 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: April 1903 to April 1907, October 1910 to January 1920, October 1928 to current year.

REVISED RECORDS.--WSP 434: 1903-04. WSP 684: 1913(M), drainage area. WSP 1114: 1913. WSP 1207: 1929, 1931.

GAGE.--Water-stage recorder. Datum of gage is 335.75 ft above sea level. Nonrecording gage at site 1,800 ft upstream at datum 10 ft lower, April 1, 1903 to April 30, 1907, and October 5, 1910 to January 31, 1920, nonrecording gage at present site and datum, October 1, 1928 to October 17, 1933.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some regulation by Chittenden Reservoir, usable capacity, 819 million ft<sup>3</sup> on East Creek.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1830, 13,600 ft<sup>3</sup>/s, November 4, 1927, gage height, 13.3 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,770 ft<sup>3</sup>/s, April 27, gage height, 7.04 ft; minimum daily discharge, 112 ft<sup>3</sup>/s, September 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	372	1080	1770	e700	e580	887	4450	1080	558	221	158
2	174	355	927	e1550	e760	e560	885	4060	1030	1150	225	174
3	176	334	768	e1350	e700	e540	1000	3730	1250	1270	261	174
4	173	324	519	1210	e610	e490	1150	3460	1610	873	254	158
5	180	338	528	e1030	e520	e435	1340	3190	1780	750	261	154
6	234	410	e550	961	e545	e415	1570	2970	1860	634	242	182
7	425	457	e510	853	e580	e440	1680	2820	1830	584	224	234
8	541	444	e440	750	e605	e520	1960	2610	1630	495	236	210
9	443	407	e370	e705	e620	e580	2400	2370	1250	474	230	166
10	364	429	e345	e680	e780	591	2800	2070	832	606	232	136
11	310	583	e350	e640	e1020	522	3060	1770	646	723	234	141
12	292	734	e460	e580	e1010	468	3270	1480	1090	851	210	159
13	302	666	e590	e550	e1010	463	3660	1210	1670	855	173	135
14	269	591	e560	e530	e1000	498	3810	1030	1870	708	173	122
15	237	854	e490	e520	e975	501	3980	861	1990	668	185	117
16	268	1110	e430	e540	e950	571	4260	710	1990	564	167	116
17	420	1010	e850	e560	e875	642	4730	631	2070	504	151	113
18	620	838	e1460	e580	e740	639	4930	589	1730	498	166	112
19	875	707	e1910	e560	e630	618	5020	575	1400	488	156	114
20	968	620	e2250	e530	e630	619	4910	598	1110	424	148	114
21	734	596	e2560	e500	e680	680	4770	514	879	345	153	141
22	561	582	2810	e475	e710	803	4780	472	716	313	218	167
23	459	555	3020	e495	e675	1140	4720	473	674	282	200	179
24	431	466	3160	e480	e640	1240	4650	516	693	284	173	167
25	413	378	3110	e475	e605	1070	4840	516	689	333	161	170
26	407	418	3150	e460	e580	e950	5350	506	613	299	149	263
27	397	888	2940	e440	e605	e900	5730	549	560	336	134	382
28	376	1370	2680	e410	e625	e850	5620	838	512	363	140	289
29	333	1380	2430	e370	---	793	5320	1050	445	299	147	209
30	307	1230	2240	e380	---	760	4890	1040	417	242	152	178
31	352	---	2010	e550	---	851	---	998	---	228	145	---
TOTAL	12221	19446	45497	21484	20380	20729	107972	48656	35916	17001	5921	5134
MEAN	394	648	1468	693	728	669	3599	1570	1197	548	191	171
MAX	968	1380	3160	1770	1020	1240	5730	4450	2070	1270	261	382
MIN	173	324	345	370	520	415	885	472	417	228	134	112
CFSM	.63	1.03	2.34	1.10	1.16	1.06	5.73	2.50	1.91	.87	.30	.27
IN.	.72	1.15	2.70	1.27	1.21	1.23	6.40	2.88	2.13	1.01	.35	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903-07, 10-20, 28-01 BY WATER YEAR (WY)

MEAN	638	866	918	885	857	1517	2559	1528	826	546	461	478
MAX	2021	1897	2610	2509	2414	4538	4500	3717	3025	1833	2624	2411
(WY)	1988	1976	1984	1949	1981	1936	1960	1996	1947	1996	1976	1938
MIN	172	260	246	205	229	384	885	370	208	126	129	168
(WY)	1965	1965	1948	1948	1980	1940	1995	1903	1965	1965	1965	1982

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1903-07, 10-20, 28-01

ANNUAL TOTAL	467160	360357										
ANNUAL MEAN	1276	987							1005			
HIGHEST ANNUAL MEAN									1878			1976
LOWEST ANNUAL MEAN									397			1965
HIGHEST DAILY MEAN			3630	Mar 5		5730	Apr 27		11000	Mar 21	1936	
LOWEST DAILY MEAN			173	Oct 4		112	Sep 18		92	Aug 9	1965	
ANNUAL SEVEN-DAY MINIMUM			183	Sep 29		115	Sep 14		107	Jul 28	1965	
MAXIMUM PEAK FLOW						5770	Apr 27					
MAXIMUM PEAK STAGE						7.04	Apr 27					
ANNUAL RUNOFF (CFSM)		2.03				1.57			1.60			
ANNUAL RUNOFF (INCHES)		27.67				21.35			21.74			
10 PERCENT EXCEEDS		2650				2580			2330			
50 PERCENT EXCEEDS		922				580			635			
90 PERCENT EXCEEDS		338				174			259			

e Estimated.

ST. LAWRENCE RIVER BASIN

04282525 NEW HAVEN RIVER AT BROOKSVILLE NEAR MIDDLEBURY, VT

LOCATION.--Lat 44°03'42", long 73°10'16", Rutland County, Hydrologic Unit 02010002, on left bank, at downstream side of Dog Team Road bridge, 0.2 mi south of Brooksville, 0.6 mi upstream from mouth, 1.5 mi downstream of Muddy Branch, 3.3 mi north of US 7 and State Highway 125 intersection in Middlebury.

DRAINAGE AREA.-- 115 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: October 1990 to current year.

REVISED RECORDS.--WDR NH-VT-97-1: 1991(P), 1992(P), 1993(P), 1994(P), 1995(P), 1996(P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 235 ft (revised) above sea level, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2145	* 6,530	* 9.68	Apr. 22	1615	2,840	7.56
Apr. 12	2045	2,670	7.43				

Minimum discharge, 18 ft<sup>3</sup>/s, September 18-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	95	236	e160	e92	e92	e155	e460	220	262	37	50
2	40	94	196	e153	e88	e89	152	e550	268	180	34	43
3	40	93	e153	e150	e85	e81	178	489	240	101	35	31
4	40	87	e140	e143	e84	e76	215	449	254	88	40	29
5	43	141	154	e140	e83	e74	306	350	257	265	34	40
6	134	192	e120	e135	e81	e72	340	272	182	126	31	32
7	141	151	e102	e125	e82	e82	338	224	153	87	29	27
8	220	135	e76	e120	e83	e85	543	209	126	77	28	24
9	150	127	e79	e108	e90	e79	893	195	101	79	26	22
10	112	158	e84	e102	e190	e77	972	189	91	247	26	21
11	103	202	126	e105	e175	e78	849	184	84	418	33	23
12	111	196	286	e97	e160	e80	1520	184	94	292	27	22
13	101	159	265	e95	e135	e82	2170	258	82	185	25	20
14	92	155	195	e105	e130	e88	1240	184	71	157	24	20
15	82	436	171	e107	e125	e89	928	156	63	145	22	20
16	124	257	176	e107	e115	e95	814	144	57	113	22	20
17	175	198	2440	e95	e110	e96	736	133	489	112	27	19
18	203	172	1670	e88	e115	e94	644	124	195	100	36	19
19	242	153	506	e99	e123	e99	519	120	107	86	29	19
20	160	140	366	e95	e135	e105	535	111	80	75	26	19
21	128	133	e290	e90	e128	e139	854	101	75	64	35	144
22	109	131	e245	e91	e100	194	1440	95	64	58	34	95
23	102	117	e210	e88	e104	207	e1250	100	69	52	27	49
24	93	e86	e195	e90	e102	179	e990	102	119	49	24	38
25	88	e112	e190	e84	e95	163	e770	92	88	46	22	102
26	87	200	e185	e79	e103	142	e680	83	67	45	21	145
27	82	648	e180	e85	e97	132	e620	137	57	44	23	66
28	80	540	e170	e81	e91	126	e520	149	73	40	32	50
29	78	351	e165	e80	---	121	e460	150	66	38	32	49
30	83	274	e157	e85	---	140	e410	167	126	37	28	42
31	92	---	e162	e98	---	e162	---	291	---	40	25	---
TOTAL	3376	5933	9690	3280	3101	3418	22041	6452	4018	3708	894	1300
MEAN	109	198	313	106	111	110	735	208	134	120	28.8	43.3
MAX	242	648	2440	160	190	207	2170	550	489	418	40	145
MIN	40	86	76	79	81	72	152	83	57	37	21	19
CFSM	.95	1.72	2.72	.92	.96	.96	6.39	1.81	1.16	1.04	.25	.38
IN.	1.09	1.92	3.13	1.06	1.00	1.11	7.13	2.09	1.30	1.20	.29	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MEAN	178	210	200	195	136	281	464	272	151	117	108	102
MAX	409	369	409	450	283	554	763	592	448	344	257	263
(WY)	1991	1991	1997	1998	2000	1998	1994	1996	1998	1998	1998	1998
MIN	86.4	108	99.2	101	46.5	110	182	126	51.0	44.7	25.3	43.3
(WY)	1995	1995	1996	1994	1992	2001	1995	1995	1995	1993	1999	2001

SUMMARY STATISTICS

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1991 - 2001
ANNUAL TOTAL	89432	67211	
ANNUAL MEAN	244	184	198
HIGHEST ANNUAL MEAN			292
LOWEST ANNUAL MEAN			128
HIGHEST DAILY MEAN	2880	Feb 28	2440 Dec 17
LOWEST DAILY MEAN	40	Oct 2	a 19 Sep 17
ANNUAL SEVEN-DAY MINIMUM	42	Sep 29	19 Sep 14
MAXIMUM PEAK FLOW		6530	Dec 17
MAXIMUM PEAK STAGE		9.68	Dec 17
INSTANTANEOUS LOW FLOW		d 18	Sep 18
ANNUAL RUNOFF (CFSM)	2.12	1.60	f 12
ANNUAL RUNOFF (INCHES)	28.93	21.74	1.72
10 PERCENT EXCEEDS	496	357	416
50 PERCENT EXCEEDS	150	105	125
90 PERCENT EXCEEDS	54	32	49

- a Also occurred on September 18-20.
- b From rating curve extended above 5,300 ft<sup>3</sup>/s.
- c From floodmarks.
- d Also occurred on September 19, 20.
- e Estimated.
- f Also occurred on September 6, 7, 1999.

04282650 LITTLE OTTER CREEK AT FERRISBURG, VT

LOCATION (REVISED).--Lat 44°11'53", long 73°14'58", Addison County, Hydrologic Unit 02010002, on left bank, downstream side of US 7 Highway bridge, 0.5 mi south of Middle Brook Road and US 7 intersection in Ferrisburg, 2.2 mi north of Town Hall in Vergennes, 2.4 mi downstream of Mud Creek.

DRAINAGE AREA.-- 57.1 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: March 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 145 ft above sea level, from topographic map. Prior to October 23, 1990, nonrecording gage at same site and datum.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	1200	850	4.03	Apr. 10	0445	* 1,550	* 4.85

Minimum discharge, 1.4 ft<sup>3</sup>/s, September 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	11	67	e32	e20	e18	e83	28	13	26	3.2	4.4
2	4.0	11	61	e30	e19	e18	e96	27	17	45	2.9	5.1
3	4.1	9.5	81	e30	e18	e17	e108	25	27	27	3.1	4.3
4	4.0	8.5	70	e29	e17	e17	e120	22	35	16	3.1	3.3
5	3.9	12	38	e28	e16	e17	e150	20	25	13	3.6	3.7
6	6.9	25	e33	e27	e16	e18	e200	17	19	12	3.3	4.1
7	15	26	e25	e26	e16	e18	e350	16	14	10	3.1	5.4
8	25	21	e22	e25	e17	e18	e520	14	11	9.1	3.2	4.3
9	24	22	e22	e24	e18	e17	e1200	13	8.8	8.7	3.0	2.6
10	18	27	e21	e24	e30	e17	1410	12	7.3	22	3.2	2.3
11	12	23	e21	e23	e49	e17	1260	11	7.0	42	2.9	2.1
12	10	23	e24	e23	e45	e17	1140	16	7.7	60	3.0	1.9
13	8.9	24	e33	e21	e32	e17	1240	25	7.2	66	2.7	1.9
14	7.5	23	e29	e20	e30	e17	1030	19	6.4	45	2.7	1.8
15	6.8	21	e26	e20	e28	e18	657	16	5.6	28	2.6	1.7
16	7.3	18	e50	e19	e26	e19	392	14	5.3	21	2.4	1.6
17	13	17	338	e18	e25	e20	285	14	16	18	2.6	1.5
18	21	16	789	e18	e24	e22	202	12	32	15	2.6	1.5
19	38	15	740	e18	e23	e23	143	11	17	12	3.0	1.6
20	32	18	515	e18	e22	e24	111	10	9.3	10	3.0	1.7
21	22	18	e390	e17	e21	e26	96	9.5	7.5	8.7	3.9	2.4
22	17	18	e270	e16	e20	e28	94	8.6	7.0	7.2	3.4	4.0
23	13	17	e170	e16	e20	e30	87	8.8	6.9	5.8	3.0	4.8
24	11	17	e115	e16	e20	e46	76	10	12	5.0	2.7	3.4
25	10	22	e75	e16	e20	e42	64	12	15	4.6	2.6	3.1
26	9.8	253	e65	e16	e20	e38	54	10	11	4.0	2.3	3.7
27	10	275	e57	e15	e19	e42	47	10	9.2	4.5	2.5	4.0
28	9.3	220	e51	e15	e19	e45	40	16	7.9	3.5	2.4	3.2
29	9.3	145	e45	e15	---	e48	34	17	6.6	3.1	4.0	2.8
30	9.7	88	e42	e15	---	e52	30	13	8.4	3.0	4.4	2.5
31	11	---	e35	e16	---	e62	---	13	---	3.0	3.6	---
TOTAL	397.4	1444.0	4320	646	650	828	11319	469.9	382.1	558.2	94.0	90.7
MEAN	12.8	48.1	139	20.8	23.2	26.7	377	15.2	12.7	18.0	3.03	3.02
MAX	38	275	789	32	49	62	1410	28	35	66	4.4	5.4
MIN	3.9	8.5	21	15	16	17	30	8.6	5.3	3.0	2.3	1.5
CFSM	.22	.84	2.44	.36	.41	.47	6.61	.27	.22	.32	.05	.05
IN.	.26	.94	2.81	.42	.42	.54	7.37	.31	.25	.36	.06	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	50.3	70.3	71.0	81.2	48.6	107	169	62.4	30.8	22.5	24.5	18.2
MAX	178	174	226	259	153	193	377	203	127	123	107	58.7
(WY)	1991	1991	1997	1996	2000	1990	2001	1996	1998	1998	1990	1998
MIN	5.73	19.2	24.2	20.8	18.0	26.7	34.8	15.2	4.16	2.83	1.61	3.02
(WY)	1995	1995	1996	2001	1992	2001	1995	2001	1995	1999	1999	2001

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1990 - 2001

ANNUAL TOTAL	30281.0	21199.3	
ANNUAL MEAN	82.7	58.1	
HIGHEST ANNUAL MEAN			61.7
LOWEST ANNUAL MEAN			103
HIGHEST DAILY MEAN	1460	Feb 28	1410
LOWEST DAILY MEAN	3.1	Jul 8	Apr 10
ANNUAL SEVEN-DAY MINIMUM	3.8	Sep 28	1.6
MAXIMUM PEAK FLOW			1550
MAXIMUM PEAK STAGE			4.85
INSTANTANEOUS LOW FLOW			1.4
ANNUAL RUNOFF (CFSM)	1.45	1.02	
ANNUAL RUNOFF (INCHES)	19.73	13.81	
10 PERCENT EXCEEDS	248	82	152
50 PERCENT EXCEEDS	22	17	24
90 PERCENT EXCEEDS	4.9	3.1	4.8

- a Also occurred on September 18.
- b From rating curve extended above 920 ft<sup>3</sup>/s.
- c Ice Jam.
- e Estimated.

ST. LAWRENCE RIVER BASIN

04282780 LEWIS CREEK NEAR NORTH FERRISBURG, VT

LOCATION (REVISED).--Lat 44°14'57", long 73°13'44", Addison County, Hydrologic Unit 02010002, on right bank, 100 ft upstream of US 7 Highway bridge, 1.1 mi southwest of Four Winds Road and Hollow Road intersection in North Ferrisburg, 1.2 mi south of Mount Philo Peak, and 5.7 mi north of Town Hall in Vergennes.

DRAINAGE AREA.--77.2 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: March 1990 to current year. Published as "at North Ferrisburg" prior to October 1996.

GAGE.--Water-stage recorder. Elevation of gage is 105 ft above sea level, from topographic map.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	----	2,350	Ice Jam	Apr. 13	1500	* 2,750	5.10
Dec. 17	1515	Unknown	5.12	Apr. 23	0330	1,310	4.22

Minimum discharge, 6.2 ft<sup>3</sup>/s, September 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	29	102	e72	e42	e40	e60	83	42	60	10	18
2	17	28	e78	e68	e40	e39	e59	74	43	58	9.5	17
3	16	27	e68	e65	e38	e38	e58	66	51	35	9.5	13
4	16	27	e63	e63	e37	e39	e64	58	59	29	11	11
5	17	35	e66	e60	e36	e39	e115	53	61	27	10	14
6	26	64	e58	e58	e36	e40	e152	48	48	24	9.3	13
7	34	53	e52	e57	e38	e41	e190	44	38	21	9.1	11
8	41	47	e41	e56	e39	e40	e400	41	32	20	9.0	11
9	47	43	e39	e54	e46	e38	e630	38	29	27	8.8	9.3
10	38	48	e41	e52	e69	e39	e820	36	26	56	9.5	8.6
11	34	65	e45	e51	e74	e38	e760	33	25	51	11	8.2
12	31	62	e61	e49	e78	e37	e1630	42	24	44	9.8	8.0
13	29	54	e49	e47	e74	e38	e2250	58	23	42	9.0	7.3
14	27	56	e44	e46	e68	e39	e1250	45	21	39	8.3	7.9
15	25	157	e42	e44	e63	e40	e660	38	20	40	7.7	7.5
16	25	100	e43	e43	e58	e41	e500	35	19	32	7.4	7.0
17	32	77	e930	e42	e55	e42	e420	33	38	28	9.4	6.9
18	35	66	e720	e41	e52	e42	e350	31	37	28	11	6.8
19	54	57	e400	e40	e50	e43	e300	30	26	24	9.9	6.8
20	43	52	e200	e39	e49	e50	e280	29	22	21	11	6.9
21	38	48	e173	e38	e48	e58	385	28	20	19	15	10
22	34	45	e154	e38	e46	e65	772	26	19	18	14	16
23	31	46	e137	e37	e45	e72	801	26	19	17	11	12
24	29	62	e130	e37	e45	e64	583	28	29	16	9.5	9.8
25	28	80	e123	e36	e46	e61	343	27	26	15	8.9	10
26	27	70	e112	e35	e46	e57	212	24	22	14	8.1	13
27	26	201	e103	e35	e43	e55	168	28	19	13	13	13
28	25	235	e95	e34	e42	e56	139	41	17	12	15	11
29	25	158	e88	e35	---	e56	112	35	16	11	17	11
30	26	126	e84	e38	---	e56	95	30	18	11	16	10
31	28	---	e78	e42	---	e64	---	43	---	10	13	---
TOTAL	920	2218	4419	1452	1403	1467	14558	1251	889	862	330.7	315.0
MEAN	29.7	73.9	143	46.8	50.1	47.3	485	40.4	29.6	27.8	10.7	10.5
MAX	54	235	930	72	78	72	2250	83	61	60	17	18
MIN	16	27	39	34	36	37	58	24	16	10	7.4	6.8
CFSM	.38	.96	1.85	.61	.65	.61	6.29	.52	.38	.36	.14	.14
IN.	.44	1.07	2.13	.70	.68	.71	7.01	.60	.43	.42	.16	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	83.6	107	115	114	96.4	174	266	121	57.2	44.9	40.1	37.3
MAX	247	238	300	259	251	299	485	349	151	182	139	92.0
(WY)	1991	1991	1997	1996	2000	1999	2001	1996	1996	1998	1990	1998
MIN	22.6	47.5	41.6	42.1	32.8	47.3	77.1	40.4	15.7	9.98	7.44	10.5
(WY)	1995	1995	1993	1993	1993	2001	1995	2001	1995	1999	1999	2001

SUMMARY STATISTICS

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1990 - 2001
ANNUAL TOTAL	47751	30084.7	
ANNUAL MEAN	130	82.4	103
HIGHEST ANNUAL MEAN			152
LOWEST ANNUAL MEAN			54.2
HIGHEST DAILY MEAN	e 2500	Feb 28	e 2500 Feb 28 2000
LOWEST DAILY MEAN	15	Sep 10	a 6.8 Sep 18
ANNUAL SEVEN-DAY MINIMUM	16	Sep 27	7.1 Sep 14
MAXIMUM PEAK FLOW			b 2750 Apr 13
MAXIMUM PEAK STAGE			c 5.12 Dec 17
INSTANTANEOUS LOW FLOW			6.2 Sep 20
ANNUAL RUNOFF (CFSM)	1.69	1.07	d 4.0 Sep 3 1999
ANNUAL RUNOFF (INCHES)	23.01	14.50	1.34
10 PERCENT EXCEEDS	307	124	226
50 PERCENT EXCEEDS	48	39	57
90 PERCENT EXCEEDS	19	11	17

a Also occurred on September 19.  
 b From rating curve extended above 550 ft<sup>3</sup>/s.  
 c Ice Jam.  
 d Also occurred on September 4, 5, 1999.  
 e Estimated.



04282795 LAPLATTE RIVER AT SHELBURNE FALLS, VT

LOCATION (REVISED).--Lat 44°22'12", long 73°13'00", Chittenden County, Hydrologic Unit 02010003, on left bank, 150 ft upstream of small right bank tributary, 300 ft upstream of Falls Road bridge, 500 ft southwest of Falls Road and Thomas Road intersection in Shelburne Falls, 0.8 mi southeast of Town Hall in Shelburne, 3.4 mi above mouth.

DRAINAGE AREA.--44.6 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: March 1990 to current year.

GAGE.--Nonrecording gage at site 100 ft downstream, March to October 23, 1990. Water-stage recorder, October 24, 1990 to current year. Elevation of gage is 150 ft above sea level, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 598 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	----	1,050	Ice Jam	Apr. 9	1830	* 1,330	5.71
Dec. 18	0330	Unknown	* 6.03				

Minimum discharge, 0.32 ft<sup>3</sup>/s, August 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	12	62	e23	e19	e15	e66	26	15	7.7	1.0	6.8
2	5.0	11	e45	e22	e17	e15	e81	24	17	9.3	.82	5.5
3	4.7	10	e38	e20	e15	e16	e94	23	22	6.4	.75	3.5
4	4.7	9.6	e29	e20	e14	e15	e108	22	24	5.1	.74	2.9
5	5.0	14	e24	e19	e14	e16	e141	19	22	5.3	.75	2.9
6	11	28	e20	e19	e16	e15	e203	17	16	4.7	.75	2.8
7	15	19	e18	e18	e16	e16	e250	15	12	4.3	.86	2.4
8	21	15	e16	e18	e17	e18	e480	13	10	4.2	.75	1.9
9	21	13	e15	e18	e21	e17	1130	12	8.4	6.3	.72	1.8
10	14	18	e14	e17	e24	e16	933	12	7.3	11	1.6	1.7
11	11	28	e14	e17	e29	e15	837	11	6.7	8.0	1.7	2.0
12	11	27	e26	e18	e42	e16	915	16	6.7	7.6	1.1	1.4
13	10	23	e32	e19	e32	e16	970	48	6.6	6.6	.82	1.2
14	9.0	21	e23	e18	e28	e17	591	24	5.8	6.3	.75	1.3
15	8.5	112	e18	e17	e24	e16	398	18	5.4	6.7	.57	1.4
16	7.8	63	e23	e17	e23	e17	281	15	5.4	5.2	.58	1.4
17	8.5	38	e400	e17	e22	e18	216	14	13	4.3	1.8	1.5
18	10	30	e590	e16	e21	e18	166	12	12	4.1	1.6	1.5
19	19	24	e165	e16	e20	e19	125	13	8.5	3.7	1.8	1.5
20	15	21	e86	e15	e19	e21	106	12	7.1	3.2	2.1	1.6
21	12	19	e64	e16	e19	e22	110	11	5.9	3.0	3.9	3.1
22	11	18	e54	e15	e18	e28	143	9.7	5.0	2.8	3.0	3.5
23	10	19	e47	e16	e17	e47	128	9.8	6.2	2.5	2.2	3.7
24	10	23	e41	e15	e16	e54	97	10	8.2	2.4	1.7	3.4
25	9.7	16	e34	e15	e16	e48	77	9.7	7.6	2.4	1.3	4.6
26	9.2	23	e29	e14	e17	e44	62	8.5	6.2	1.7	1.3	4.7
27	8.6	142	e25	e14	e16	e45	50	9.7	5.1	1.4	2.0	5.1
28	8.7	151	e22	e14	e15	e46	41	17	4.5	1.4	2.6	4.8
29	9.0	105	e22	e15	---	e49	33	19	4.3	1.4	3.5	4.6
30	9.8	80	e22	e15	---	e54	29	14	4.8	1.2	3.2	4.3
31	12	---	e23	e17	---	e59	---	19	---	1.2	2.8	---
TOTAL	326.3	1132.6	2041	530	567	828	8861	503.4	288.7	141.4	49.06	88.8
MEAN	10.5	37.8	65.8	17.1	20.2	26.7	295	16.2	9.62	4.56	1.58	2.96
MAX	21	151	590	23	42	59	1130	48	24	11	3.9	6.8
MIN	4.7	9.6	14	14	14	15	29	8.5	4.3	1.2	.57	1.2
CFSM	.24	.85	1.48	.38	.45	.60	6.62	.36	.22	.10	.04	.07
IN.	.27	.94	1.70	.44	.47	.69	7.39	.42	.24	.12	.04	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	34.6	53.3	48.4	50.6	35.3	72.9	135	54.8	23.4	22.8	20.5	12.6
MAX	113	135	150	159	106	122	295	181	79.4	146	99.7	60.4
(WY)	1991	1991	1997	1996	2000	1999	2001	1996	1996	1998	1990	1998
MIN	3.97	11.1	16.5	14.0	8.61	26.7	28.8	15.0	4.86	1.69	1.58	2.62
(WY)	1995	1995	1993	1993	1993	2001	1995	1998	1995	1995	2001	1995

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1990 - 2001

ANNUAL TOTAL	21498.7	15357.26	
ANNUAL MEAN	58.7	42.1	46.3
HIGHEST ANNUAL MEAN			70.7
LOWEST ANNUAL MEAN			21.8
HIGHEST DAILY MEAN	1250	Feb 28	1410
LOWEST DAILY MEAN	3.2	Aug 31	.23
ANNUAL SEVEN-DAY MINIMUM	4.3	Jul 23	.76
MAXIMUM PEAK FLOW			1330
MAXIMUM PEAK STAGE			b 6.03
INSTANTANEOUS LOW FLOW			c .32
ANNUAL RUNOFF (CFSM)	1.32	.94	.18
ANNUAL RUNOFF (INCHES)	17.93	12.81	14.11
10 PERCENT EXCEEDS	150	62	109
50 PERCENT EXCEEDS	18	15	18
90 PERCENT EXCEEDS	5.3	1.8	3.6

a From rating curve extended above 750 ft<sup>3</sup>/s.  
b Ice Jam.  
c Also occurred August 16.  
e Estimated.

ST. LAWRENCE RIVER BASIN

04282815 ENGLSEBY BROOK AT BURLINGTON, VT

LOCATION.--Lat 44°27'28", long 73°13'11", Chittenden County, Hydrologic Unit 02010003, on right bank, 125 ft downstream from Vermont Railroad culvert, 0.25 mi upstream from mouth, 0.35 mi downstream from Pine Street culvert, 0.8 mi northwest from junction of US 7 and Interstate 189, 1.3 mi south of City Hall in Burlington.

DRAINAGE AREA.-- About 0.9 mi<sup>2</sup>, revised. Drainage area affected by stormwater diversions.

PERIOD OF RECORD.--Discharge records: October 1999 to current year.

GAGE.--Concrete control with v-notch weir, water-stage recorder, and crest-stage gage. Elevation of gage is 105 ft above sea level, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 46 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	1455	48	3.52	Aug. 31	1725	* 89	* 4.15
June 30	1210	61	3.75				

Minimum daily discharge, 0.00 ft<sup>3</sup>/s, October 1-4, June 27-29, July 7, 15-31, August 1-16, 18, 24-26, September 8-19, 22-24, 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.03	.27	.15	.09	.11	1.5	.29	.05	.28	e.00	2.0
2	.00	.03	.16	.13	.07	.11	1.7	.26	.49	.02	e.00	.06
3	.00	.03	.09	.12	.05	.09	2.1	.21	.97	.01	e.00	.01
4	.00	.03	.08	.12	.03	.07	3.2	.18	.37	.01	e.00	.47
5	.24	.52	.08	.12	.04	.08	4.3	.11	.20	.01	e.00	.12
6	.68	.18	e.04	.12	.08	.12	4.1	.08	.12	.01	e.00	1.0
7	.18	.06	e.04	.12	.08	.17	5.0	.07	.08	.00	.00	.01
8	.65	.04	.01	.13	.06	.19	11	.05	.02	.01	.00	.00
9	.07	.03	.01	.12	e.50	.26	11	.13	.02	.06	.00	.00
10	.03	.45	.01	.10	e2.8	.49	9.2	.09	.01	.08	.00	.00
11	.01	.44	.01	.10	e1.0	.21	8.0	.05	.01	.01	.00	.00
12	.01	.17	e.70	.09	e.75	.19	8.2	1.1	.01	.03	.00	.00
13	.01	.08	e.20	.07	.54	.30	5.5	.44	.01	.01	.00	.00
14	.01	1.5	.13	.07	.36	.54	2.7	.17	.01	.01	.00	.00
15	.01	1.1	e.13	.08	.51	.83	1.8	.10	.01	.00	.00	.00
16	.02	.30	.21	.11	.28	.53	1.5	.08	.20	.00	.00	.00
17	.02	.16	13	.08	.21	.38	1.1	.05	.79	.00	.09	.00
18	.35	.11	2.3	.06	.19	.31	.96	.04	.04	.00	.00	.00
19	.04	.11	1.1	.08	.17	.50	.82	.27	.01	.00	.42	.00
20	.02	.09	.75	.06	.22	.63	.71	.06	.01	.00	.47	.02
21	.02	.12	.50	.05	.19	.71	.69	.03	.01	.00	.35	.02
22	.02	.09	.34	.04	.14	1.9	1.1	.02	.01	.00	.04	.00
23	.02	.05	.25	.04	.13	1.6	.68	.09	.51	.00	.01	.00
24	.03	.03	.21	.05	.11	1.5	.61	.10	.18	.00	.00	.00
25	.03	.03	.19	.05	.26	.99	.46	.03	.02	e.00	.00	.11
26	.03	1.1	.15	.05	.67	.79	.41	.02	.01	e.00	.00	.02
27	.03	1.3	.15	.04	.22	.67	.41	.04	.00	e.00	.16	.00
28	.04	.66	.13	.04	.15	.65	.32	1.4	.00	e.00	.74	.00
29	.05	.54	.12	.22	---	.72	.29	.55	.00	e.00	.12	.00
30	.04	.34	.13	.21	---	1.5	.29	.29	2.3	e.00	.01	.00
31	.03	---	.16	.12	---	1.6	---	.26	---	e.00	4.2	---
TOTAL	2.69	9.72	21.65	2.94	9.90	18.74	89.65	6.66	6.47	0.55	6.61	3.84
MEAN	.087	.32	.70	.095	.35	.60	2.99	.21	.22	.018	.21	.13
MAX	.68	1.5	13	.22	2.8	1.9	11	1.4	2.3	.28	4.2	2.0
MIN	.00	.03	.01	.04	.03	.07	.29	.02	.00	.00	.00	.00
CFSM	.14	.54	1.16	.16	.59	1.01	4.98	.36	.36	.03	.36	.21
IN.	.17	.60	1.34	.18	.61	1.16	5.56	.41	.40	.03	.41	.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2001, BY WATER YEAR (WY)

MEAN	.34	.36	.50	.20	.98	.67	2.57	1.17	.32	.25	.22	.17
MAX	.60	.39	.70	.31	1.59	.74	2.99	2.13	.43	.48	.36	.22
(WY)	2000	2000	2001	2000	2000	2000	2001	2000	2000	2000	2000	2000
MIN	.087	.32	.30	.095	.35	.60	2.14	.21	.22	.018	.087	.13
(WY)	2001	2001	2000	2001	2001	2001	2000	2001	2001	2001	1999	2001

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1999 - 2001

ANNUAL TOTAL	288.65	179.42		
ANNUAL MEAN	.79	.49	.65	
HIGHEST ANNUAL MEAN			.80	2000
LOWEST ANNUAL MEAN			.49	2001
HIGHEST DAILY MEAN	16	May 9	16	May 9 2000
LOWEST DAILY MEAN	.00	Jan 17	a .00	Oct 1 1999
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 17	.00	Jul 15 1999
MAXIMUM PEAK FLOW			d 89	Aug 31 2000
MAXIMUM PEAK STAGE			4.15	Aug 31 2000
10 PERCENT EXCEEDS	1.8		1.0	1.5
50 PERCENT EXCEEDS	.17		.09	.12
90 PERCENT EXCEEDS	.00		.00	.00

a Also occurred on October 2-4, 2000, June 27-29, 2001, July 7, 15-31, 2001, August 1-16, 18, 24-26, 2001, September 8-19, 22-24, 27-30, 2001.

b Also occurred on October 1-4, 2000, June 27-29, 2001, July 7, 15-31, 2001, August 1-16, 18, 24-26, 2001, September 8-19, 22-24, 27-30, 2001.

c Also occurred on July 15, 2001.

d From rating curve extended above 25 ft<sup>3</sup>/s on basis of culvert computation.

e Estimated.

04282815 ENGLSBY BROOK AT BURLINGTON, VT -- Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--October 1999 to current year.

SPECIFIC CONDUCTANCE: October 1999 to current year.

WATER TEMPERATURE: October 1999 to current year.

DISSOLVED OXYGEN: October 1999 to August 2000.

pH: October 1999 to current year.

TURBIDITY: October 1999 to September 2000.

INSTRUMENTATION.--Water quality monitor July 1999 to current year.

REMARKS.--Specific conductance records rated good. Water temperature records rated excellent except for the period November 29 to December 9, and March 7 to April 2, which are rated good. pH records rated good except for the periods June 11 to June 29, which are rated fair. Interruptions in the record due to malfunctions of the instrument. Extremes for current year are only for those values reported.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum 4,390 microsiemens March 30; minimum 156 microsiemens June 30.

WATER TEMPERATURE: Maximum 72.4°F June 30; minimum 31.4°F February 25.

pH: Maximum 7.9 units October 8, March 23, May 13; minimum 6.6 units July 3,4.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	1670	1470	1590	888	838	862	---	---	---
2	---	---	---	1780	1670	1740	961	888	922	---	---	---
3	---	---	---	1830	1780	1810	1050	961	1020	---	---	---
4	---	---	---	1830	1760	1800	1090	1050	1080	---	---	---
5	2350	263	1990	1840	459	1320	1080	1070	1070	---	---	---
6	929	296	650	1040	907	1010	1200	1070	1150	---	---	---
7	1250	337	1010	1160	1020	1100	1190	1040	1090	---	---	---
8	886	283	622	1350	1160	1270	1510	1120	1320	---	---	---
9	1140	886	1010	1450	1350	1410	1660	1510	1590	---	---	---
10	1210	1060	1110	1500	568	1000	1740	1660	1710	---	---	---
11	1770	1200	1480	939	688	859	1790	1740	1770	---	---	---
12	2090	1770	1920	1010	879	959	---	---	---	---	---	---
13	2140	1870	1980	1210	1010	1080	---	---	---	---	---	---
14	2160	1930	2070	1310	255	1060	---	---	---	---	---	---
15	2290	2000	2110	778	672	721	---	---	---	---	---	---
16	2430	2280	2340	882	778	827	---	---	---	---	---	---
17	2420	2280	2360	930	882	914	---	---	---	---	---	---
18	2480	295	1280	991	918	955	---	---	---	---	---	---
19	1250	815	1100	1010	990	1000	---	---	---	---	---	---
20	1630	1250	1380	1050	1000	1020	---	---	---	---	---	---
21	1930	1600	1750	1100	1040	1080	---	---	---	---	---	---
22	1950	1790	1860	1760	1000	1150	---	---	---	---	---	---
23	1920	1790	1860	2100	1760	1990	---	---	---	---	---	---
24	1900	1850	1880	1780	1490	1590	---	---	---	---	---	---
25	1930	1900	1910	1490	1370	1430	---	---	---	---	---	---
26	2070	1910	1940	1370	275	1030	---	---	---	---	---	---
27	2090	1980	2040	834	631	698	---	---	---	---	---	---
28	2120	2020	2080	789	689	743	---	---	---	---	---	---
29	2130	2060	2100	805	645	746	---	---	---	---	---	---
30	2080	1460	1870	848	805	831	---	---	---	---	---	---
31	1470	1250	1360	---	---	---	---	---	---	---	---	---
MONTH	2480	263	1670	2100	255	1160	---	---	---	---	---	---



04282815 ENGLSBY BROOK AT BURLINGTON, VT -- Continued

WATER-QUALITY RECORDS

WATER TEMPERATURE, (DEGREES) FARENHEIT, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	43.2	40.9	42.0	38.7	34.7	37.0	---	---	---
2	---	---	---	43.0	39.8	41.4	36.1	34.4	35.0	---	---	---
3	---	---	---	44.3	40.1	42.0	35.8	34.2	34.7	---	---	---
4	---	---	---	46.1	44.0	44.8	36.3	34.2	34.9	---	---	---
5	54.5	52.5	53.2	46.2	44.7	45.7	35.9	34.3	34.9	---	---	---
6	54.9	52.8	53.9	45.2	43.8	44.5	36.2	34.0	34.9	---	---	---
7	52.8	50.1	51.7	46.9	44.8	45.9	34.4	33.3	33.7	---	---	---
8	50.4	46.6	48.4	47.7	46.2	46.9	35.7	33.3	34.4	---	---	---
9	48.1	46.0	47.0	48.4	46.8	47.6	35.3	34.0	34.4	---	---	---
10	47.1	44.3	46.1	50.6	48.4	49.6	34.9	33.5	34.1	---	---	---
11	50.8	45.3	47.8	49.9	46.8	49.1	35.9	34.2	35.1	---	---	---
12	51.4	47.0	49.3	46.8	44.8	45.4	---	---	---	---	---	---
13	53.1	49.0	51.0	46.0	44.8	45.4	---	---	---	---	---	---
14	56.3	52.8	54.4	47.7	45.2	46.0	---	---	---	---	---	---
15	55.7	50.8	53.8	45.2	43.0	43.9	---	---	---	---	---	---
16	50.8	49.6	50.1	44.4	42.8	43.4	---	---	---	---	---	---
17	53.4	49.0	51.4	43.7	40.6	42.6	---	---	---	---	---	---
18	53.2	51.3	52.3	41.5	39.8	40.4	---	---	---	---	---	---
19	53.1	50.4	51.8	41.2	39.6	40.4	---	---	---	---	---	---
20	51.5	47.1	49.5	40.3	39.1	39.6	---	---	---	---	---	---
21	54.2	50.3	51.9	39.6	37.9	38.8	---	---	---	---	---	---
22	50.3	44.0	47.3	39.8	35.7	38.2	---	---	---	---	---	---
23	44.7	42.1	43.4	38.4	35.3	36.7	---	---	---	---	---	---
24	48.1	43.8	45.7	38.7	36.4	37.3	---	---	---	---	---	---
25	49.7	47.1	48.4	38.6	36.4	37.3	---	---	---	---	---	---
26	52.1	48.0	49.3	37.2	32.9	35.9	---	---	---	---	---	---
27	55.1	51.3	53.3	40.0	35.8	38.8	---	---	---	---	---	---
28	54.3	42.6	47.4	41.1	38.9	40.0	---	---	---	---	---	---
29	42.8	37.4	39.2	41.1	40.0	40.5	---	---	---	---	---	---
30	41.8	35.7	38.1	40.1	38.7	39.4	---	---	---	---	---	---
31	42.7	41.8	42.2	---	---	---	---	---	---	---	---	---
MONTH	56.3	35.7	48.8	50.6	32.9	42.3	---	---	---	---	---	---

WATER TEMPERATURE, (DEGREES) FARENHEIT, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	32.6	32.2	32.4	40.5	34.2	36.1	64.5	47.5	55.3
2	---	---	---	32.9	32.2	32.4	40.4	34.0	36.0	63.7	50.9	57.2
3	---	---	---	32.9	32.2	32.4	40.3	33.7	35.9	67.3	53.5	60.0
4	---	---	---	32.9	32.2	32.5	40.5	33.4	35.6	62.5	54.7	58.6
5	---	---	---	32.6	32.3	32.5	40.9	33.3	35.7	60.6	49.8	54.9
6	---	---	---	32.4	32.3	32.4	36.8	34.3	35.6	58.0	46.8	52.2
7	---	---	---	32.4	32.0	32.3	40.0	34.7	36.5	59.4	48.2	53.2
8	---	---	---	32.5	32.0	32.2	37.6	34.4	35.8	62.2	49.0	54.0
9	---	---	---	32.5	32.1	32.3	39.8	34.6	36.2	59.2	49.8	54.5
10	---	---	---	32.3	31.7	32.1	41.4	35.0	36.8	61.8	51.6	55.8
11	---	---	---	32.6	32.2	32.4	43.0	34.5	37.7	62.6	51.4	56.3
12	---	---	---	32.6	32.2	32.4	39.4	36.8	38.0	60.9	51.7	54.7
13	---	---	---	32.7	31.8	32.3	41.8	37.6	39.5	56.5	50.6	53.4
14	---	---	---	32.6	32.1	32.3	47.1	37.2	41.1	57.0	48.3	52.5
15	---	---	---	32.9	32.1	32.5	48.3	37.2	41.7	53.5	48.5	51.0
16	32.6	32.1	32.4	33.5	32.4	32.9	48.8	37.0	42.1	55.5	49.4	52.4
17	32.9	32.3	32.6	34.1	32.5	33.3	47.6	38.1	41.9	58.0	50.6	53.7
18	32.5	32.2	32.4	34.9	32.8	33.9	48.0	36.1	41.1	56.1	50.9	52.8
19	32.7	32.4	32.5	35.6	33.1	34.4	49.6	36.5	42.1	58.2	52.0	55.9
20	32.9	32.2	32.5	36.2	32.8	34.5	52.8	36.9	44.3	58.2	51.3	54.6
21	32.9	32.3	32.5	36.7	32.3	34.6	55.0	40.9	48.1	60.8	51.8	55.2
22	32.8	32.2	32.4	33.1	32.2	32.5	57.2	48.5	52.4	55.4	51.9	53.3
23	33.0	32.4	32.6	34.4	32.7	33.3	59.4	44.8	52.1	55.5	51.4	52.9
24	32.7	32.3	32.4	37.5	33.2	34.8	---	---	---	56.8	53.5	54.9
25	32.6	31.4	32.3	38.2	32.5	34.6	53.4	43.9	48.1	58.9	53.0	55.4
26	32.2	31.6	32.0	38.6	32.2	34.3	58.5	41.9	49.4	59.2	52.5	55.1
27	32.8	32.2	32.3	36.5	32.2	33.9	58.0	45.4	49.9	57.4	52.4	54.9
28	32.6	32.2	32.4	40.1	33.5	35.9	55.1	41.8	47.3	59.5	53.0	57.3
29	---	---	---	40.1	32.4	35.7	56.7	40.6	47.9	57.2	53.1	55.9
30	---	---	---	35.4	33.1	34.3	57.9	43.1	49.6	53.2	49.0	51.5
31	---	---	---	36.5	33.4	35.1	---	---	---	54.7	49.0	51.7
MONTH	---	---	---	40.1	31.7	33.3	59.4	33.3	41.9	67.3	46.8	54.6



04282815 ENGLSBY BROOK AT BURLINGTON, VT -- Continued

WATER-QUALITY RECORDS

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	7.2	7.2	7.2	7.5	7.5	7.5	---	---	---			
2	---	---	---	7.2	7.2	7.2	7.5	7.4	7.5	---	---	---			
3	---	---	---	7.2	7.2	7.2	7.4	7.4	7.4	---	---	---			
4	---	---	---	7.3	7.1	7.2	7.4	7.3	7.4	---	---	---			
5	7.8	7.4	7.5	7.4	7.1	7.3	7.4	7.3	7.4	---	---	---			
6	7.8	7.5	7.7	7.4	7.3	7.4	7.4	7.3	7.4	---	---	---			
7	7.8	7.5	7.5	7.3	7.2	7.3	7.4	7.3	7.4	---	---	---			
8	7.9	7.5	7.7	7.2	7.2	7.2	7.4	7.2	7.3	---	---	---			
9	7.6	7.5	7.6	7.3	7.2	7.2	7.2	7.2	7.2	---	---	---			
10	7.6	7.5	7.5	7.4	7.0	7.2	7.2	7.1	7.2	---	---	---			
11	7.5	7.4	7.5	7.5	7.2	7.3	7.2	7.1	7.1	---	---	---			
12	7.4	7.3	7.4	7.5	7.4	7.4	7.5	7.1	7.3	---	---	---			
13	7.3	7.2	7.3	7.4	7.2	7.3	7.4	7.4	7.4	---	---	---			
14	7.3	7.3	7.3	7.6	7.2	7.3	7.4	7.3	7.3	---	---	---			
15	7.4	7.3	7.3	7.6	7.5	7.5	7.4	7.3	7.4	---	---	---			
16	7.4	7.3	7.3	7.5	7.3	7.4	7.5	7.3	7.3	---	---	---			
17	7.3	7.2	7.3	7.4	7.2	7.4	7.6	7.2	7.4	---	---	---			
18	7.4	7.2	7.3	7.4	7.3	7.3	7.5	7.3	7.4	---	---	---			
19	7.3	7.1	7.2	7.3	7.2	7.3	---	---	---	---	---	---			
20	7.2	7.2	7.2	7.3	7.2	7.3	---	---	---	---	---	---			
21	7.2	7.1	7.2	7.3	7.2	7.2	---	---	---	---	---	---			
22	7.3	7.2	7.2	7.3	7.1	7.2	---	---	---	---	---	---			
23	7.3	7.2	7.2	7.3	7.2	7.2	---	---	---	---	---	---			
24	7.3	7.2	7.3	7.2	7.1	7.2	---	---	---	---	---	---			
25	7.3	7.2	7.3	7.2	7.2	7.2	---	---	---	---	---	---			
26	7.2	7.2	7.2	7.6	7.1	7.3	---	---	---	---	---	---			
27	7.3	7.2	7.2	7.6	7.5	7.5	---	---	---	---	---	---			
28	7.3	7.2	7.3	7.6	7.5	7.5	---	---	---	---	---	---			
29	7.3	7.3	7.3	7.5	7.4	7.5	---	---	---	---	---	---			
30	7.3	7.2	7.3	7.6	7.5	7.5	---	---	---	---	---	---			
31	7.2	7.1	7.1	---	---	---	---	---	---	---	---	---			
MONTH	7.9	7.1	7.3	7.6	7.0	7.3	---	---	---	---	---	---			

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	FEBRUARY			MARCH			APRIL			MAY		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	7.6	7.6	7.6	---	---	---	---	---	---			
2	---	---	---	7.7	7.6	7.6	---	---	---	---	---	---			
3	---	---	---	7.6	7.5	7.6	---	---	---	---	---	---			
4	---	---	---	7.6	7.5	7.5	---	---	---	---	---	---			
5	---	---	---	7.5	7.5	7.5	---	---	---	---	---	---			
6	---	---	---	7.6	7.5	7.6	---	---	---	---	---	---			
7	---	---	---	7.7	7.6	7.7	---	---	---	---	---	---			
8	---	---	---	7.7	7.6	7.7	---	---	---	---	---	---			
9	---	---	---	7.7	7.6	7.6	---	---	---	---	---	---			
10	---	---	---	7.8	7.6	7.7	---	---	---	---	---	---			
11	---	---	---	7.7	7.6	7.6	---	---	---	---	---	---			
12	---	---	---	7.7	7.6	7.6	---	---	---	---	---	---			
13	---	---	---	7.8	7.6	7.7	---	---	---	7.9	7.7	7.8			
14	---	---	---	7.8	7.7	7.7	---	---	---	7.7	7.5	7.6			
15	---	---	---	7.8	7.6	7.7	---	---	---	7.6	7.4	7.5			
16	7.8	7.7	7.8	7.7	7.7	7.7	---	---	---	7.6	7.3	7.5			
17	7.8	7.7	7.8	7.8	7.7	7.7	---	---	---	7.4	7.2	7.3			
18	7.8	7.7	7.7	7.7	7.6	7.7	---	---	---	7.3	7.2	7.2			
19	7.7	7.7	7.7	7.7	7.7	7.7	---	---	---	7.7	7.2	7.4			
20	7.8	7.7	7.7	7.7	7.7	7.7	---	---	---	7.4	7.2	7.3			
21	7.7	7.6	7.7	7.8	7.7	7.7	---	---	---	7.3	7.2	7.2			
22	7.7	7.6	7.7	7.8	7.7	7.8	---	---	---	7.2	7.2	7.2			
23	7.7	7.6	7.6	7.9	7.8	7.8	---	---	---	7.6	7.2	7.2			
24	7.6	7.6	7.6	7.8	7.8	7.8	---	---	---	7.6	7.3	7.4			
25	7.8	7.6	7.6	7.8	7.8	7.8	---	---	---	7.4	7.2	7.3			
26	7.8	7.6	7.8	---	---	---	---	---	---	7.3	7.2	7.2			
27	7.7	7.6	7.6	---	---	---	---	---	---	7.3	7.2	7.3			
28	7.7	7.6	7.6	---	---	---	---	---	---	7.8	7.3	7.6			
29	---	---	---	---	---	---	---	---	---	7.8	7.6	7.7			
30	---	---	---	---	---	---	---	---	---	7.8	7.6	7.7			
31	---	---	---	---	---	---	---	---	---	7.8	7.5	7.6			
MONTH	---	---	---	7.9	7.5	7.7	---	---	---	---	---	---			





04285500 NORTH BRANCH WINOOSKI RIVER AT WRIGHTSVILLE, VT

**LOCATION (REVISED).**--Lat 44°17'58", long 72°34'45", Washington County, Hydrologic Unit 02010003, on right bank, 0.8 mi south of Wrightsville Dam Road and State Highway 12 intersection in Wrightsville, 0.9 mi downstream from Wrightsville Detention Reservoir, 2.6 mi north of the Vermont State Capitol Building in Montpelier, and 3.5 mi upstream from mouth.

**DRAINAGE AREA.**--69.2 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: October 1933 to current year.

**REVISED RECORDS.**--WSP 1237: 1934-39.

**GAGE.**--Water-stage recorder and concrete control. Datum of gage is 550.53 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to November 21, 1934, nonrecording gage at same site and datum.

**REMARKS.**--Records fair. Discharge affected since 1935 by Wrightsville Detention Reservoir (Reservoirs in Winooski River Basin above Montpelier). Flow regulated by power plant at Wrightsville Detention Reservoir since September 1985. Occasional diurnal fluctuation at low flow caused by small mill upstream; more frequent diurnal fluctuation prior to 1968. Maximum discharge since construction of Wrightsville Detention Reservoir in 1935, 1,100 ft<sup>3</sup>/s, July 5 and October 24, 1990, gage height 4.32 ft.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum discharge since at least 1830, 17,200 ft<sup>3</sup>/s, November 3, 1927, by computation of peak flow over dam 0.8 mi upstream.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 993 ft<sup>3</sup>/s, April 24, gage height, 3.31 ft; minimum daily discharge, 4.4 ft<sup>3</sup>/s, October 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	35	173	e55	29	e92	50	872	85	11	8.9	8.2
2	7.8	33	88	72	e46	e67	50	831	113	32	8.7	7.8
3	4.5	37	68	54	e29	e49	47	780	160	28	8.5	7.8
4	4.4	41	57	e82	e50	e54	48	652	183	19	9.1	7.9
5	5.3	65	61	e55	e60	37	69	234	164	15	8.2	7.9
6	126	136	55	50	43	29	141	174	90	10	8.2	7.8
7	178	81	46	50	35	59	142	115	71	9.3	8.4	7.8
8	163	77	37	48	29	81	181	88	41	9.3	8.1	e7.8
9	92	76	37	41	47	27	197	85	36	9.3	8.3	e7.8
10	60	151	34	e56	64	24	390	80	28	9.3	8.1	e7.8
11	56	195	36	e80	104	94	511	49	35	12	8.1	e7.8
12	56	194	49	e72	e87	65	633	68	38	29	7.8	e7.8
13	56	158	43	e82	65	77	799	76	35	21	7.9	e7.8
14	40	105	36	e52	e103	43	815	67	32	14	8.0	e7.6
15	35	223	42	32	e44	31	818	54	28	10	8.1	e7.5
16	42	227	36	44	e52	35	786	44	29	14	7.8	e7.5
17	30	196	310	e38	e53	47	763	42	146	29	7.8	e7.6
18	89	189	864	e62	e80	34	727	28	184	21	8.0	e7.7
19	149	82	820	e50	e56	37	452	47	78	26	8.1	e7.7
20	83	72	768	e40	36	47	384	57	40	13	8.1	e7.8
21	64	66	651	e76	e32	49	612	38	26	9.0	8.1	e7.8
22	44	53	215	e66	e75	51	844	27	32	9.0	8.1	e7.8
23	43	48	e148	e77	94	52	949	27	27	9.3	7.3	e7.8
24	31	38	e157	e60	e64	79	893	27	27	9.2	7.1	e7.8
25	37	41	140	e36	e122	51	788	27	29	9.8	7.1	e18
26	34	52	e112	e80	e55	65	779	27	33	9.6	7.1	e152
27	32	190	e66	e40	e55	100	765	37	24	9.9	7.2	e63
28	31	258	e79	e28	e98	49	747	86	18	9.8	7.6	e25
29	29	215	e76	e77	---	49	723	163	12	9.9	7.2	e25
30	31	192	e72	e52	---	48	832	80	10	9.3	7.5	e21
31	29	---	61	29	---	49	---	86	---	9.6	8.0	---
TOTAL	1695.0	3526	5437	1736	1707	1671	15935	5068	1854	445.6	246.5	490.6
MEAN	54.7	118	175	56.0	61.0	53.9	531	163	61.8	14.4	7.95	16.4
MAX	178	258	864	82	122	100	949	872	184	32	9.1	152
MIN	4.4	33	34	28	29	24	47	27	10	9.0	7.1	7.5
MEAN(+)	56.4	120	172	57.0	61.9	52.0	602	97.8	59.0	13.1	4.47	20.0
CFSM(+)	0.82	1.73	2.48	0.82	0.89	0.75	8.70	1.41	0.85	0.19	0.06	0.29
IN(+)	0.94	1.94	2.88	0.95	0.93	0.86	9.71	1.63	0.95	0.22	0.07	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2001, BY WATER YEAR (WY)

	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	107	139	113	84.9	70.6	174	454	244	89.2	49.8	48.6	52.8																																																								
MAX	437	248	318	279	348	556	714	617	396	271	278	230																																																								
(WY)	1991	1984	1974	1998	1981	1936	1994	1972	1984	1973	1995	1938																																																								
MIN	6.00	25.9	28.0	17.5	14.6	21.4	121	47.3	15.8	7.91	7.95	5.10																																																								
(WY)	1964	1954	1948	1940	1980	1940	1995	1941	1949	1953	2001	1963																																																								

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1934 - 2001

	2000 CALENDAR YEAR	2001 WATER YEAR	WATER YEARS 1934 - 2001
ANNUAL TOTAL	59338.0	39811.7	
ANNUAL MEAN	162	109	136
HIGHEST ANNUAL MEAN			226
LOWEST ANNUAL MEAN			71.4
HIGHEST DAILY MEAN	987	May 11	1620
LOWEST DAILY MEAN	3.8	Sep 11	4.4
ANNUAL SEVEN-DAY MINIMUM	9.1	Sep 8	7.2
MAXIMUM PEAK FLOW			993
MAXIMUM PEAK STAGE			3.31
10 PERCENT EXCEEDS	416	204	398
50 PERCENT EXCEEDS	70	47	61
90 PERCENT EXCEEDS	23	7.9	13

a From rating curve extended above 1,030 ft<sup>3</sup>/s.

b Datum then in use.

e Estimated.

(+) Adjusted for change in contents in Wrightsville Detention Reservoir.

NOTE: All statistics are based on unadjusted daily and monthly mean data.

RESERVOIRS IN WINOOSKI RIVER BASIN ABOVE MONTPELIER, VT

**04283500 EAST BARRE DETENTION RESERVOIR.**--Lat 44°09'18", long 72°26'42", Washington County, Hydrologic Unit 0201003, at dam on Jail Branch at East Barre, 4.5 mi upstream from mouth. **DRAINAGE AREA**, 38.8 mi<sup>2</sup>. **PERIOD OF RECORD**, Gage heights and contents: Monthend readings only, February 1936 (in WSP 1307), March and April 1936 (in WSP 798), May 1936 to August 1938 (in WSP 1307), September 1938 (in WSP 867), October 1938 to current year. **GAGE**, water-stage recorder. Datum of gage at sea level (levels by U.S. Army Corps of Engineers). Prior to August 30, 1960, nonrecording gage, and August 30 to September 30, 1960, water-stage recorder, at present site at datum 1,127.9 ft above sea level. **REMARKS**, Reservoir is formed by earthfill dam completed by U.S. Army Corps of Engineers in 1935 for flood control. Usable capacity, 525 million ft<sup>3</sup> between elevation 1,124.9 ft (bottom of outlet opening) and 1,165.0 ft (crest of spillway). Dam has no gates; below elevation 1,165.0 ft, outflow from reservoir is dependent on capacity of outlet opening near base of dam. Outlet-opening enlargement and reservoir-construction modifications completed in November 1959. Size of opening since enlargement, height, 7 ft and average width, 3.7 ft. Figures given herein represent usable contents, determined from capacity tables furnished by U.S. Army Corps of Engineers. **EXTREMES FOR PERIOD OF RECORD.**--Maximum elevation, 1,163.9 ft, present datum, March 22, 1936; minimum not determined. **EXTREMES FOR CURRENT YEAR.**--Maximum elevation, 1,150.34 ft April 25; minimum, not determined.

**04285000 WRIGHTSVILLE DETENTION RESERVOIR.**--Lat 44°18'38", long 72°34'31", Washington County, Hydrologic Unit 02010003, at Wrightsville Detention Reservoir Dam on North Branch Winoski River, 0.2 mi east of Wrightsville Dam Road and State Highway 12 intersection in Wrightsville, 0.3 mi downstream from Long Meadow Brook, 2.4 mi north of the State Capital Building in Montpelier, and 4.4 mi upstream from mouth. **DRAINAGE AREA**, 66.5 mi<sup>2</sup>. **PERIOD OF RECORD**, Gage heights and contents: Monthend reading only, November 1935 to February 1936 (in WSP 1307), March to May 1936 (in WSP 798), June 1936 to August 1938 (in WSP 1307), September 1938 (in WSP 867), October 1938 to current year. **GAGE**, water-stage recorder. Datum of gage is at sea level (levels by U.S. Army Corps of Engineers). Prior to July 28, 1960, nonrecording gage at present site at datum 612.75 ft above sea level. **REMARKS**, Reservoir is formed by earthfill dam completed by U.S. Army Corps of Engineers in 1935 for flood control; modification of intake-structure works to create a recreational pool completed in June 1965. Usable capacity for recreation, 22 million ft<sup>3</sup> between elevations 612.75 ft (bottom of outlet opening) and 620.00 ft; for flood control, 851.5 million ft<sup>3</sup> between elevations 620.00 ft and 685.00 ft (crest of spillway). Reservoir used for storage of water for power September 1985 to current year. Usable capacity for storage of water power 774 million ft<sup>3</sup> between elevation 631.00 ft (sill of gate) and 685.00 ft (crest of spillway). Total usable capacity 873.5 million ft<sup>3</sup>. Figures given herein represent usable contents, determined from capacity tables furnished by U.S. Army Corps of Engineers. **EXTREMES FOR PERIOD OF RECORD.**--Maximum elevation, 676.4 ft, present datum, March 22, 1936, from graph based on gage readings; minimum observed, 613.00 ft, August 17, 1949, and August 17-19, 1950. **EXTREMES FOR CURRENT YEAR.**--Maximum elevation, 664.10 ft, April 25, from peak indicator clip; minimum, 631.71 ft, September 20.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (millions of cubic feet)	Change in contents	
			Millions of cubic feet	Equivalent, cubic feet per second
<b>04283500 East Barre Detention Reservoir</b>				
Sep. 30.	1130.37	6.0	--	--
Oct. 31.	1131.23	7.2	+1.2	+0.45
Nov. 30.	*1131.30	7.3	+0.1	+0.04
Dec. 31.	1130.90	6.7	-0.6	-0.22
CAL YR 2000	--	--	+0.3	+0.01
Jan. 31.	1130.96	6.8	+0.1	+0.04
Feb. 28.	1130.69	6.4	-0.4	-0.16
Mar. 31.	1130.88	6.7	+0.3	+0.11
Apr. 30.	1139.09	28.5	+21.8	+8.41
May 31.	1131.87	8.1	-21.4	-7.62
June 30.	1131.89	8.1	0.0	0.00
July 31.	1130.78	6.6	-1.5	-0.56
Aug. 31.	1130.70	6.5	-0.1	-0.04
Sep. 30.	1130.69	6.4	-0.1	-0.04
WTR YR 2001	--	--	+0.4	+0.01
<b>04285000 Wrightsville Detention Reservoir</b>				
Sep. 30.	632.96	93.5	--	--
Oct. 31.	*633.56	98.1	+4.6	+1.72
Nov. 30.	*634.49	105.4	+7.3	+2.82
Dec. 31.	633.54	97.9	-7.5	-2.80
CAL YR 2000	--	--	+1.4	+0.04
Jan. 31.	633.90	100.7	+2.8	+1.04
Feb. 28.	634.19	103.0	+2.3	+0.95
Mar. 31.	633.52	97.8	-5.2	-1.94
Apr. 30.	651.87	281.8	+184	+71.0
May 31.	*634.52	105.7	-176	-65.7
June 30.	633.61	98.5	-7.2	-2.78
July 31.	633.17	95.1	-3.4	-1.27
Aug. 31.	631.92	85.8	-9.3	-3.47
Sep. 30.	633.19	95.3	+9.5	+3.66
WTR YR 2001	--	--	+1.9	+0.06

\* Estimated.

0428600 WINOOSKI RIVER AT MONTPELIER, VT

LOCATION (REVISED).--Lat 44°15'23", long 72°35'36", Washington County, Hydrologic Unit 02010003, on right bank, 0.4 mi upstream from Dog River, 0.6 downstream of Bailey Road bridge, 0.8 mi southwest of the Vermont State Capitol Building in Montpelier, and 1.0 mi downstream of the North Branch Winooski River.

DRAINAGE AREA.--397 mi².

PERIOD OF RECORD.--Discharge records: May 1909 to June 1914 (fragmentary), July 1914 to September 1923, August 1928 to current year.

REVISED RECORDS.--WSP 424: 1915. WSP 894: Drainage area. WSP 1437: 1912-14(M), 1915-18, 1919(M), 1920, 1921(M), 1922-23, 1929, 1933, 1934(M), 1936, 1937(M), 1938, 1946(M), WDR MA-NH-RI-VT-72-1: 1969(M), 1970(P), 1971(M).

GAGE.--Water-stage recorder. Datum of gage is 499.99 ft above sea level. Prior to June 16, 1914, nonrecording gage at site 0.9 mi upstream at different datum. June 16 to July 3, 1914, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by several small power plants upstream, by Peacham Pond and, since 1926, by Mollys Falls Reservoir, combined usable capacity, 492 million ft³, which regulated runoff from 24 mi², and by East Barre and Wrightsville Detention Reservoirs since 1935 (Reservoirs in Winooski River Basin above Montpelier, VT).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1830, 57,000 ft³/s, November 3, 1927, gage height, 27.1 ft, from rating curve extended above 9,090 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,570 ft³/s, December 17, gage height 14.18 ft; minimum daily discharge, 38 ft³/s, August 26, September 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

Table with 13 columns (DAY, OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP) and 31 rows of daily discharge data, plus summary statistics for total, mean, max, and min.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1923, 1928 - 2001, BY WATER YEAR (WY)

Summary table for monthly mean data across various years and metrics (MEAN, MAX, MIN).

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1914 - 1923, 1928 - 2001

Summary statistics table comparing 2000 calendar year, 2001 water year, and historical data for various metrics (ANNUAL TOTAL, MEAN, HIGHEST, etc.).

a Also occurred September 17.
e Estimated.

ST. LAWRENCE RIVER BASIN

04287000 DOG RIVER AT NORTHFIELD FALLS, VT

LOCATION (REVISED).--Lat 44°10'58", long 72°38'27", Washington County, Hydrologic Unit 02010003, on right bank, just downstream of New England Central Railroad bridge, 0.9 mi northeast of Cox Brook Road and State Highway 12 intersection in Northfield Falls, 1.1 mi downstream from Cox Branch, and 4.2 mi downstream of Station 04286500, Dog River at Northfield.

DRAINAGE AREA.--76.1 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: October 1934 to current year. October and November 1934 monthly discharge only, published in WSP 1307.

REVISED RECORDS.--WSP 1237: 1935-37.

GAGE.--Water-stage recorder. Datum of gage is 603.00 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Infrequent diurnal fluctuation at low flow by power plant upstream; regulation much greater prior to 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft<sup>3</sup>/s and maximum (\*):

Table with columns: Date, Time, Discharge (ft<sup>3</sup>/s), Gage height (ft), Date, Time, Discharge (ft<sup>3</sup>/s), Gage height (ft). Data for Dec 17 2045 and Apr 22 1800.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001 DAILY MEAN VALUES

Table with columns: DAY, OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP. Rows for days 1-31 and summary statistics (TOTAL, MEAN, MAX, MIN, CFMS, IN).

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2001, BY WATER YEAR (WY)

Table with columns: (WY), 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001. Rows for MEAN, MAX, MIN.

SUMMARY STATISTICS

Table with columns: FOR 2000 CALENDAR YEAR, FOR 2001 WATER YEAR, WATER YEARS 1935 - 2001. Rows for ANNUAL TOTAL, ANNUAL MEAN, HIGHEST ANNUAL MEAN, LOWEST ANNUAL MEAN, HIGHEST DAILY MEAN, LOWEST DAILY MEAN, ANNUAL SEVEN-DAY MINIMUM, MAXIMUM PEAK FLOW, MAXIMUM PEAK STAGE, INSTANTANEOUS LOW FLOW, ANNUAL RUNOFF (CFMS), ANNUAL RUNOFF (INCHES), 10 PERCENT EXCEEDS, 50 PERCENT EXCEEDS, 90 PERCENT EXCEEDS.

a Also occurred on September 18.
b From rating curve extended above 1,500 ft<sup>3</sup>/s on basis of flow over dam at gage height 8.49 ft.
c Also occurred on September 20.
e Estimated.

## 04288000 MAD RIVER NEAR MORETOWN, VT

**LOCATION (REVISED)**--Lat 44°16'38", long 72°44'35", Washington County, Hydrologic Unit 02010003, on left bank, at downstream side of Munns Road bridge, 0.4 mi downstream of Welder Brook, 2.0 mi northeast of Moretown Mountain Road and State Highway 100B intersection in Moretown, 3.2 mi west of State Highway 100B bridge across Winooski River in Middlesex, and 3.8 mi upstream from mouth.

**DRAINAGE AREA**--139 mi<sup>2</sup>.

**PERIOD OF RECORD**--Discharge records: October 1928 to current year.

**REVISED RECORDS**--WSP 744: Drainage area. WSP 854: 1934(M). WSP 1114: 1929, 1930(M), 1936-37.

**GAGE**--Water-stage recorder. Concrete control since October 13, 1933. Datum of gage is 543.93 ft above sea level (levels by Vermont Department of Highway). July 6 to November 4, 1910, nonrecording gage at same site at different datum. November 20, 1928 to September 27, 1930, nonrecording gage at same site at present datum.

**REMARKS**--Records good except those for estimated daily discharges, which are fair. Occasional diurnal fluctuation at low flow; much greater regulation prior to 1958.

**EXTREMES OUTSIDE PERIOD OF RECORD**--Maximum discharge since at least 1830, 23,000 ft<sup>3</sup>/s, November 3, 1927, gage height, 19.4 ft, from floodmarks, by computation of peak flow over dam at gage heights 9.98 ft, 11.51 ft, 16.34 ft, 19.4 ft.

**EXTREMES FOR CURRENT YEAR**--Peak discharges greater than base discharge of 3,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2345	5,520	8.50	Apr.22	2030	* 7,120	* 9.65

Minimum discharge, 13 ft<sup>3</sup>/s, September 17-20.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001**  
**DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	78	268	e160	e68	e81	e130	793	297	268	35	49
2	35	75	217	e153	e67	e80	e125	920	380	183	27	35
3	34	73	226	e150	e65	e79	e125	859	374	104	27	23
4	33	72	390	e145	e66	e80	e130	719	474	85	29	20
5	37	87	295	e140	e66	e81	e180	533	408	137	24	27
6	268	106	168	e133	e67	e82	e230	390	277	94	22	22
7	188	95	206	e130	e73	e84	242	323	205	72	20	18
8	205	97	123	e120	e78	e86	355	290	160	64	20	17
9	152	103	216	e118	e81	e83	416	276	131	63	18	15
10	121	212	206	e113	e180	e84	678	259	113	114	21	15
11	120	240	148	e110	e190	e84	761	243	103	200	31	15
12	139	187	178	e110	e170	e81	1470	238	125	130	20	15
13	137	149	203	e115	e150	e82	2190	248	103	115	19	15
14	122	143	152	e110	e130	e85	1670	197	88	118	17	14
15	100	364	150	e108	e120	e86	1250	171	75	109	16	14
16	118	231	160	e105	e105	e88	1140	156	65	84	15	14
17	150	178	1540	e96	e98	e90	1060	148	224	92	17	13
18	248	158	1880	e94	e96	e92	947	140	171	84	21	13
19	275	139	723	e88	e93	e95	755	136	103	66	18	13
20	181	128	e540	e85	e95	e110	820	131	81	57	16	13
21	144	125	e450	e80	e97	e120	1440	121	68	51	19	207
22	124	120	e370	e78	e96	e140	4470	113	66	44	21	83
23	109	117	e300	e75	e91	e150	3340	112	68	40	17	40
24	102	139	e275	e73	e90	e140	4550	112	97	36	15	28
25	96	144	e250	e71	e89	e132	1940	109	76	34	15	317
26	91	141	e225	e70	e89	e120	1170	100	60	32	14	191
27	87	634	e200	e67	e88	e122	1050	139	53	31	15	79
28	82	657	e190	e64	e85	e120	904	213	46	29	19	56
29	78	413	e180	e64	---	e120	672	198	42	27	32	54
30	78	319	e180	e65	---	e123	610	175	186	26	21	42
31	80	---	e170	e67	---	e135	---	384	---	26	17	---
TOTAL	3770	5724	10779	3157	2783	3135	34820	8946	4719	2615	638	1477
MEAN	122	191	348	102	99.4	101	1161	289	157	84.4	20.6	49.2
MAX	275	657	1880	160	190	150	4550	920	474	268	35	317
MIN	33	72	123	64	65	79	125	100	42	26	14	13
CFSM	.87	1.37	2.50	.73	.72	.73	8.35	2.08	1.13	.61	.15	.35
IN.	1.01	1.53	2.88	.84	.74	.84	9.32	2.39	1.26	.70	.17	.40

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)**

MEAN	181	261	236	193	176	385	800	433	179	103	99.9	104
MAX	675	582	705	608	956	1324	1415	1114	840	367	734	588
(WY)	1978	1984	1974	1998	1981	1936	1969	1940	1947	1998	1976	1938
MIN	22.1	65.5	73.0	35.9	40.8	76.9	258	142	46.2	22.8	20.6	22.5
(WY)	1964	1954	1948	1981	1931	1956	1995	1941	1965	1933	2001	1963

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1929 - 2001
ANNUAL TOTAL	113090	82563	
ANNUAL MEAN	309	226	263
HIGHEST ANNUAL MEAN			430
LOWEST ANNUAL MEAN			133
HIGHEST DAILY MEAN	3470	Apr 4	6410
LOWEST DAILY MEAN	32	Sep 30	2.9
ANNUAL SEVEN-DAY MINIMUM	34	Sep 27	4.6
MAXIMUM PEAK FLOW		7120	b 18400
MAXIMUM PEAK STAGE		9.65	Apr 22
INSTANTANEOUS LOW FLOW		a 13	Sep 17
ANNUAL RUNOFF (CFSM)	2.22	1.63	1.89
ANNUAL RUNOFF (INCHES)	30.27	22.10	25.66
10 PERCENT EXCEEDS	682	410	590
50 PERCENT EXCEEDS	164	110	137
90 PERCENT EXCEEDS	52	21	38

a Also occurred on September 18-20.

b From rating curve extended above 6,300 ft<sup>3</sup>/s on basis of computations of flow over dam at gage heights 9.98 ft, 11.51 ft, 16.34 ft, 19.4 ft.

e Estimated.

## ST. LAWRENCE RIVER BASIN

## 04288500 WATERBURY RESERVOIR NEAR WATERBURY, VT

**LOCATION (REVISED).**--Lat 44°22'54", long 72°46'13", Washington County, Hydrologic Unit 02010003, at dam on Little River, 0.3 mi east of Recreational Highway and Waterbury Dam Road intersection, 2.5 mi upstream of mouth, 2.8 mi north of US Highway 2 and State Highway 100 intersection in Waterbury.

**DRAINAGE AREA.**--109 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Elevation: September 1937 to current year. September 1937 to September 1938 monthend contents only, published in WSP 1307.

**GAGE.**--Water-stage recorder. Datum of gage is sea level (levels by U.S. Corps of Engineers). Prior to December 10, 1938, nonrecording gage at same site and datum.

**REMARKS.**--Records good. Reservoir is formed by earthfill dam completed by U.S. Army Corps of Engineers during summer of 1937 for flood control and storage of water for power. Usable capacity for storage of water for power, 1.58 billion ft<sup>3</sup> between elevations 500.0 ft and 592.0 ft, sill of taintor gate; for flood control, 1.23 billion ft<sup>3</sup>, between elevations 592.0 ft and 617.5 ft, crest of spillway; total usable capacity, 2.81 billion ft<sup>3</sup>.

Capacity table (elevation, in feet,  
and contents, in millions of cubic feet)

500.0	0	560.0	658.8
510.0	34.8	570.0	891.9
520.0	92.6	580.0	1,168.5
530.0	180.8	590.0	1,505.0
540.0	302.7	600.0	1,913.4
550.0	461.7		

**EXTREMES FOR PERIOD OF RECORD.**--Maximum elevation, 613.45 ft, May 4, 1940; minimum observed, 501.30 ft, October 16, 1938, July 3, 12, and 13, 1981.

**EXTREMES FOR CURRENT YEAR.**--Maximum elevation, 576.73 ft, April 25; minimum elevation, 536.47 ft, April 6.

**ELEVATION (SEA LEVEL), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
INSTANTANEOUS OBSERVATION AT 2400**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	550.33	550.06	550.09	551.70	550.48	549.97	549.33	565.42	551.27	549.74	549.64	550.94
2	550.21	549.36	550.77	551.49	550.21	549.80	548.11	564.83	551.80	549.78	549.71	550.78
3	550.17	549.67	551.27	550.88	550.09	549.64	545.95	564.01	551.49	549.35	549.78	550.63
4	550.34	549.99	550.62	550.27	550.20	550.03	543.78	562.44	551.43	549.56	549.85	550.34
5	550.57	550.59	550.81	549.59	550.09	549.94	540.64	559.55	551.38	549.78	549.90	550.17
6	550.13	550.44	551.24	549.42	550.20	550.01	537.66	556.34	550.51	549.94	549.95	550.28
7	549.95	549.76	549.99	549.66	550.25	550.04	537.56	552.58	550.46	550.09	550.02	550.06
8	550.88	550.40	549.30	549.82	550.25	550.12	539.87	549.51	550.48	549.91	550.08	550.14
9	550.08	550.32	549.62	550.06	550.03	550.24	540.52	548.60	550.35	549.73	550.12	550.21
10	549.75	550.97	549.94	550.20	551.48	550.38	540.51	549.23	550.17	549.88	550.25	550.27
11	550.42	550.30	550.35	550.33	551.16	549.77	539.64	550.42	549.93	549.69	550.33	549.82
12	550.22	550.13	550.94	550.48	550.54	549.71	542.35	550.71	550.14	549.96	550.38	549.87
13	549.87	549.81	550.90	550.36	550.60	549.62	545.29	550.51	549.85	549.94	550.43	549.70
14	550.60	549.53	550.25	550.31	550.72	549.14	545.90	550.51	550.20	550.44	550.47	549.75
15	549.94	550.26	549.65	550.28	550.87	549.03	545.07	550.11	550.16	550.12	550.51	549.80
16	549.14	550.22	550.07	e550.28	550.44	549.11	544.87	550.66	550.09	549.88	550.54	549.83
17	549.55	550.56	556.25	e550.33	550.36	549.39	545.33	550.55	550.48	549.98	550.63	549.54
18	550.53	551.20	558.06	550.40	550.04	549.85	544.35	550.57	550.47	549.93	550.72	549.59
19	551.16	550.87	556.51	550.32	550.07	549.91	542.60	550.39	549.91	549.81	550.78	549.63
20	550.61	550.11	554.50	550.32	550.12	549.67	541.24	550.28	549.80	549.72	550.83	549.77
21	549.05	550.63	551.93	550.23	550.16	549.51	543.47	550.17	549.53	549.52	550.98	551.49
22	548.72	550.66	550.74	550.17	550.08	549.62	558.84	550.23	549.47	549.65	551.02	551.52
23	549.15	549.53	550.47	550.03	550.09	549.63	566.15	550.32	549.81	549.76	549.47	551.33
24	549.53	548.92	550.43	549.94	550.58	549.92	575.99	550.32	549.87	549.51	549.09	550.27
25	549.90	549.29	550.46	549.95	550.35	550.11	574.65	550.22	549.87	549.62	549.13	551.55
26	550.03	550.20	550.40	549.92	550.28	549.89	573.66	550.00	549.80	549.70	549.17	551.33
27	549.60	550.95	550.41	549.97	550.16	550.12	572.43	550.40	549.76	549.53	549.37	550.18
28	549.93	550.70	550.35	550.34	550.06	549.91	570.82	550.66	549.56	549.36	549.60	549.62
29	550.22	550.17	549.96	550.41	---	549.59	568.58	550.66	549.73	549.43	549.57	549.88
30	549.90	549.79	550.55	550.54	---	549.44	566.28	550.26	549.81	549.51	549.40	550.09
31	550.22	---	551.15	550.55	---	549.51	---	551.69	---	549.58	549.65	---
MEAN	550.02	550.18	551.23	550.28	550.36	549.76	551.05	552.65	550.25	549.75	550.04	550.28
MAX	551.16	551.20	558.06	551.70	551.48	550.38	575.99	565.42	551.80	550.44	551.02	551.55
MIN	548.72	548.92	549.30	549.42	550.03	549.03	537.56	548.60	549.47	549.35	549.09	549.54
(†)	465.8	458.1	483.2	472.0	462.8	453.5	801.8	493.4	458.5	454.6	455.8	463.3
(‡)	+0.52	-2.97	+9.37	-4.18	-3.80	-3.47	+134.4	-115.1	-13.5	-1.46	+0.45	+2.89

CAL YR 2000 MEAN 569.20 MAX 598.31 MIN 548.72  
WTR YR 2001 MEAN 550.49 MAX 575.99 MIN 537.56

(†) Contents, in millions of cubic feet, at end of month.  
(‡) Change in contents, equivalent in cubic feet per second.

e Estimated.

04289000 LITTLE RIVER NEAR WATERBURY, VT

**LOCATION (REVISED).**--Lat 44°22'12", long 72°46'11", Washington County, Hydrologic Unit 02010003, on right bank, 0.8 mi downstream from spillway on Waterbury Reservoir, 1.7 mi upstream from mouth, and 2.0 mi north of US Highway 2 and State Highway 100 intersection in Waterbury.

**DRAINAGE AREA.**--111 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: July to October 1910 (gage heights only), October 1935 to current year. October, November 1935 monthly discharge only, published in WSP 1307. Monthly discharges only for July, August, and September 1937. Prior to October 1962, published as Waterbury River near Waterbury.

**REVISED RECORDS.**--WSP 824: 1936.

**GAGE.**--Water-stage recorder. Concrete control since December 8, 1937. Datum of gage is 428.00 ft above sea level (levels by U.S. Army Corps of Engineers). July 7 to October 31, 1910, nonrecording gage at site 2 mi upstream at different datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Flow completely regulated by Waterbury Reservoir (station 04288500).

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 6,520 ft<sup>3</sup>/s, March 18, 1936, gage height, 19.38 ft; minimum daily discharge, 0.6 ft<sup>3</sup>/s several times during summers of 1938-39, 1941, and 1944. Maximum discharge since construction of Waterbury Reservoir in 1937, 4,080 ft<sup>3</sup>/s, December 9, 1937, gage height, 14.88 ft.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 1,270 ft<sup>3</sup>/s, April 25, gage height, 8.93 ft; minimum daily discharge, 6.9 ft<sup>3</sup>/s, September 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	131	354	21	101	e98	154	1220	433	129	10	183
2	69	167	349	156	e120	e105	313	1200	353	66	8.6	138
3	55	13	349	230	104	e101	475	1210	436	139	8.4	83
4	13	13	513	228	e42	e15	472	1200	437	9.3	8.4	101
5	13	13	e160	231	106	e103	497	1190	436	9.4	8.2	72
6	342	187	e15	142	63	e82	758	1180	435	9.3	8.1	8.4
7	278	199	e255	66	72	e72	293	1160	188	8.9	8.1	71
8	16	13	e250	77	76	e68	140	1080	130	81	8.1	8.3
9	292	218	e15	66	146	80	400	762	130	79	8.1	e9.0
10	206	255	e15	72	e95	77	580	143	127	9.0	8.2	e9.5
11	17	377	e15	e68	407	209	805	11	148	101	8.1	e128
12	220	343	e15	e65	e325	185	849	295	70	9.0	8.1	7.7
13	272	250	e77	e86	e86	149	1070	432	145	81	8.1	50
14	15	249	226	115	e121	125	1130	215	8.7	69	8.1	7.5
15	250	251	152	105	139	106	1120	254	73	200	8.1	7.3
16	252	167	11	79	e192	76	1070	48	77	130	8.1	7.1
17	15	109	e300	e75	150	41	906	167	155	68	8.2	e72
18	15	8.5	690	e70	e150	11	886	132	14	76	8.2	7.2
19	110	201	757	102	e108	78	905	198	e184	74	8.4	6.9
20	270	227	749	e80	108	143	897	160	e84	70	8.5	7.2
21	418	8.4	737	e77	e110	145	905	140	98	76	9.1	12
22	166	107	596	91	e100	144	815	93	62	9.2	44	113
23	15	287	285	e90	108	147	806	89	9.5	9.2	414	113
24	15	142	165	95	e12	77	560	99	115	84	10	272
25	14	10	161	76	138	82	1040	106	77	9.2	8.6	e95
26	104	17	159	e70	115	e135	1260	124	71	8.9	8.4	e400
27	120	239	165	e62	e106	e60	1250	60	59	57	9.4	459
28	13	555	162	10	e100	146	1250	178	79	57	9.4	115
29	13	363	151	60	---	160	1240	248	8.7	9.1	47	8.7
30	131	358	22	e55	---	156	1220	274	78	8.9	150	8.4
31	14	---	21	95	---	111	---	177	---	8.8	9.4	---
TOTAL	3755	5477.9	7891	2915	3500	3287	24066	13845	4720.9	1755.2	885.4	2580.2
MEAN	121	183	255	94.0	125	106	802	447	157	56.6	28.6	86.0
MAX	418	555	757	231	407	209	1260	1220	437	200	414	459
MIN	12	8.4	11	10	12	11	140	11	8.7	8.8	8.1	6.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2001, BY WATER YEAR (WY)

	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	186	223	234	221	261	305	463	402	212	143	151	142																																																						
MAX	749	494	477	476	527	1121	1111	954	646	433	421	375																																																						
(WY)	1946	1996	1974	1991	1947	1936	1976	1940	1973	1973	1962	1938																																																						
MIN	18.9	10.4	9.39	16.8	53.3	12.0	72.4	28.8	1.31	31.4	28.5	30.4																																																						
(WY)	1942	1941	1939	1938	1936	1938	1940	1938	1938	1977	1999	1984																																																						

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1936 - 2001

ANNUAL TOTAL	113419.9	74678.6	
ANNUAL MEAN	310	205	244
HIGHEST ANNUAL MEAN			456
LOWEST ANNUAL MEAN			146
HIGHEST DAILY MEAN	1980	May 10	1260
LOWEST DAILY MEAN	8.4	Nov 21	6.9
ANNUAL SEVEN-DAY MINIMUM	31	Jun 26	8.1
MAXIMUM PEAK FLOW			1270
MAXIMUM PEAK STAGE			8.93
10 PERCENT EXCEEDS	586		557
50 PERCENT EXCEEDS	258		104
90 PERCENT EXCEEDS	15		8.8

a See Extremes for Period of Record.  
e Estimated.





04292000 LAMOILLE RIVER AT JOHNSON, VT

LOCATION (REVISED).--Lat 44°37'22", long 72°40'36", Lamoille County, Hydrologic Unit 02010005, on right bank, above falls, 0.8 mi south of State Highways 15 and 100C intersection in Johnson, 0.8 mi upstream from Railroad Street bridge in Johnson, 0.9 mi upstream from Gihon River, and 1.0 mi downstream of Waterman Brook.

DRAINAGE AREA.--310 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: July to December 1910, June 1911 to December 1913 (monthly discharge only, January to March 1912, February 1913), September 1928 to current year.

REVISED RECORDS.--WSP 894: Drainage area. WSP 1114: 1933, 1934(M). WSP 1237: 1912(M), 1930, 1932(M).

GAGE.--Water-stage recorder. Elevation of gage is 506.7 ft above sea level, by levels. Prior to December 31, 1913, nonrecording gage at bridge 0.7 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some regulation by power plant upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0900	* 8,550	* 13.59	Apr. 23	0100	7,950	13.12
Minimum discharge, 34 ft <sup>3</sup> /s, July 28.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	197	584	e360	e340	e310	e245	1460	433	125	67	498
2	120	279	503	e410	e315	e285	e265	1450	425	199	67	387
3	129	316	448	e445	e255	e240	e280	1460	406	162	67	182
4	129	240	272	e370	e380	e220	e310	1360	653	104	65	42
5	129	286	273	e320	e230	e185	e335	1130	519	103	62	148
6	247	482	316	e335	e285	e215	e400	949	443	101	56	64
7	567	391	e300	e345	e195	e285	e510	805	387	92	42	77
8	526	390	e290	e340	e300	e340	e680	732	373	49	43	74
9	506	368	255	e360	e320	e290	e900	699	307	53	49	71
10	431	418	258	e410	e450	e220	e1170	675	183	94	82	66
11	274	531	259	e355	e520	e210	e1500	651	166	235	43	53
12	257	717	360	e280	e460	e205	e1950	639	153	160	43	52
13	249	492	e390	e290	e400	e200	e2500	631	143	137	46	52
14	242	455	e330	e220	e365	e260	e2800	631	133	187	45	53
15	231	1010	e310	e250	e350	e300	2720	631	132	224	43	53
16	224	762	e295	e300	e335	e250	2420	627	121	215	43	52
17	198	625	1260	e340	e320	e205	2330	612	246	172	48	52
18	266	567	6060	e380	e315	e230	2110	579	497	187	53	52
19	341	416	1960	e315	e305	e260	1650	559	314	201	51	52
20	302	358	1210	e270	e285	e225	1490	544	174	110	49	52
21	257	277	e840	e410	e300	e240	2530	527	142	107	52	186
22	224	335	e720	e230	e320	e275	5770	496	128	90	82	144
23	220	328	e530	e440	e350	e350	5990	458	122	49	102	96
24	168	266	e410	e325	e285	e340	6060	430	154	116	43	79
25	136	187	e415	e310	e260	e325	4620	414	126	166	40	340
26	135	227	e380	e430	e235	e300	2580	403	123	93	40	504
27	138	1030	e475	e210	e255	e270	2310	391	120	37	49	196
28	149	1150	e415	e205	e325	e295	1900	375	109	36	54	125
29	148	865	e325	e265	---	e325	1470	414	99	64	181	85
30	152	697	e270	e300	---	e310	1290	421	106	69	45	88
31	157	---	e330	e280	---	e230	---	451	---	69	80	---
TOTAL	7372	14662	21043	10100	9055	8195	61085	21604	7437	3806	1832	3975
MEAN	238	489	679	326	323	264	2036	697	248	123	59.1	132
MAX	567	1150	6060	445	520	350	6060	1460	653	235	181	504
MIN	120	187	255	205	195	185	245	375	99	36	40	42
CFSM	.77	1.58	2.19	1.05	1.04	.85	6.57	2.25	.80	.40	.19	.43
IN.	.88	1.76	2.53	1.21	1.09	.98	7.33	2.59	.89	.46	.22	.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2001, BY WATER YEAR (WY)

	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	397	512	460	377	340	719	1640	799	409	270	249	254																																																																														
MAX	1481	1173	1390	959	1624	2711	2868	1903	1344	1028	843	655																																																																														
(WY)	1991	1991	1991	1996	1981	1936	1933	1972	1973	1973	1990	1938																																																																														
MIN	84.1	140	162	93.0	114	157	556	245	123	88.5	59.1	93.6																																																																														
(WY)	1964	1954	1948	1948	1934	1940	1995	1965	1988	1911	2001	1978																																																																														

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1912 - 2001

ANNUAL TOTAL	236501	170166	
ANNUAL MEAN	646	466	
HIGHEST ANNUAL MEAN			819
LOWEST ANNUAL MEAN			305
HIGHEST DAILY MEAN	7010	May 11	a 6060
LOWEST DAILY MEAN	115	Sep 10	36
ANNUAL SEVEN-DAY MINIMUM	122	Sep 7	44
MAXIMUM PEAK FLOW			8550
MAXIMUM PEAK STAGE			13.59
INSTANTANEOUS LOW FLOW			34
ANNUAL RUNOFF (CFSM)	2.08	1.50	1.73
ANNUAL RUNOFF (INCHES)	28.38	20.42	23.54
10 PERCENT EXCEEDS	1600	850	1170
50 PERCENT EXCEEDS	316	285	291
90 PERCENT EXCEEDS	149	55	130

a Also occurred on April 24.  
e Estimated.

ST. LAWRENCE RIVER BASIN

04292500 LAMOILLE RIVER AT EAST GEORGIA, VT

LOCATION (REVISED).--Lat 44°40'45", long 73°04'23", Franklin County, Hydrologic Unit 02010005, on right bank, 0.5 mi upstream from New England Central Railroad bridge at East Georgia, 0.9 mi downstream from Beaver Meadow Brook and 3.3 mi northeast of Main Street and US 7 intersection in Milton.

DRAINAGE AREA.--686 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: August 1929 to current year. Prior to October 1937, published as "near Milton." REVISED RECORDS.--WSP 894: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 285 ft above sea level, from topographic map. Prior to December 1, 1937, at site 3.5 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Low flow regulated by power plants upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	1900	12,000	9.51	Apr. 23	1130	* 14,400	10.16
Apr. 9	2245	Ice Jam	* 12.83				

Minimum daily discharge, 110 ft<sup>3</sup>/s, August 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	354	469	1370	e970	e940	e850	e710	2850	1250	305	167	2550
2	290	492	1120	e1050	e850	e770	e760	3330	1110	323	151	1250
3	301	574	956	e1160	e730	e700	e815	3200	1250	387	168	712
4	303	564	806	e935	e1020	e625	e880	2740	1370	304	158	406
5	314	625	782	e890	e670	e550	e945	2030	1450	338	150	293
6	401	1010	912	e920	e790	e665	e1150	1520	1180	300	147	356
7	819	958	1040	e930	e580	e790	e1400	1250	917	271	132	247
8	988	872	1090	e920	e780	e930	e1720	1110	760	266	126	243
9	1040	856	1010	e990	e950	e780	e2120	993	671	194	118	221
10	901	928	985	e1080	e1120	e640	e2690	960	546	278	134	238
11	845	1400	1120	e930	e1330	e620	e3200	863	429	610	169	193
12	793	1620	e1200	e790	e1200	e605	e3950	856	416	662	151	180
13	807	1240	e1100	e820	e1110	e590	e4950	1500	449	563	118	165
14	688	999	e980	e680	e1030	e710	e5600	1260	337	614	117	153
15	595	1880	e900	e740	e965	e820	e5300	950	332	693	116	159
16	637	1740	e860	e810	e930	e700	e4900	850	328	547	110	157
17	469	1250	e2900	e910	e900	e610	e4600	791	496	483	132	156
18	498	1140	e10200	e1020	e870	e680	e4400	568	716	354	166	155
19	874	972	6300	e900	e840	e730	3820	680	608	390	193	152
20	760	857	4540	e800	e800	e655	3190	748	485	342	171	142
21	658	738	e3700	e1080	e840	e710	4210	652	292	280	151	214
22	575	743	e2800	e700	e890	e790	8300	593	313	246	185	518
23	500	713	e2200	e1120	e945	e940	13400	502	288	232	202	341
24	494	574	e1700	e1000	e845	e920	11700	500	504	180	211	246
25	377	652	e1300	e870	e760	e880	11300	492	447	243	156	276
26	377	691	e1040	e1120	e680	e820	6130	459	364	253	118	1070
27	385	1890	e1220	e740	e880	e760	4470	455	307	204	146	670
28	385	2910	e1100	e610	e870	e840	3970	596	267	165	229	395
29	392	2190	e950	e700	---	e895	3080	988	263	130	357	320
30	396	1630	e800	e825	---	e860	2610	975	271	169	350	250
31	433	---	e880	e790	---	e670	---	1150	---	160	302	---
TOTAL	17649	33177	57861	27800	25115	23105	126270	36411	18416	10486	5301	12428
MEAN	569	1106	1866	897	897	745	4209	1175	614	338	171	414
MAX	1040	2910	10200	1160	1330	940	13400	3330	1450	693	357	2550
MIN	290	469	782	610	580	550	710	455	263	130	110	142
CFSM	.83	1.61	2.72	1.31	1.31	1.09	6.14	1.71	.89	.49	.25	.60
IN.	.96	1.80	3.14	1.51	1.36	1.25	6.85	1.97	1.00	.57	.29	.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)

MEAN	990	1301	1112	901	801	1645	3659	1843	957	636	599	629
MAX	3330	2695	3076	2197	4101	5622	6211	4022	2545	2609	1885	1987
(WY)	1946	1984	1974	1998	1981	1936	1933	1940	1973	1998	1976	1938
MIN	237	306	405	224	293	399	1253	638	293	223	171	218
(WY)	1954	1954	1948	1948	1962	1940	1995	1987	1988	1991	2001	1978

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1929 - 2001

ANNUAL TOTAL	559335	394019	
ANNUAL MEAN	1528	1080	
HIGHEST ANNUAL MEAN			1256
LOWEST ANNUAL MEAN			1776
HIGHEST DAILY MEAN	12800	May 11	1791
LOWEST DAILY MEAN	272	Sep 11	21700
ANNUAL SEVEN-DAY MINIMUM	299	Sep 7	74
MAXIMUM PEAK FLOW			122
MAXIMUM PEAK STAGE			14400
ANNUAL RUNOFF (CFSM)	2.23	a 12.83	23700
ANNUAL RUNOFF (INCHES)	30.33	1.57	21.64
10 PERCENT EXCEEDS	3520	2070	1.83
50 PERCENT EXCEEDS	818	760	24.87
90 PERCENT EXCEEDS	396	180	2800
			713
			297

a Ice Jam.  
e Estimated.

04293000 MISSISQUOI RIVER NEAR NORTH TROY, VT

LOCATION (REVISED).--Lat 44°58'22", long 72°23'09", Orleans County, Hydrologic Unit 02010007, on right bank, 200 ft upstream from Big Falls, 1.5 mi downstream from Jay Branch, 1.8 mi southeast of Town Hall in North Troy, 2.2 mi upstream from State Highway 105 bridge in North Troy, and 8.8 mi west of State Highway 105 and US 5 intersection in Newport.

DRAINAGE AREA.--131 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: August 1931 to current year.

REVISED RECORDS.--WSP 924: 1940. WSP 1114: 1933(M), 1936-39.

GAGE.--Water-stage recorder. Elevation of gage is 580 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional regulation at low flow caused by small power plant upstream; greater regulation prior to 1967.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,940 ft<sup>3</sup>/s, July 15, 1997, gage height, 13.84 ft; minimum, 9.4 ft<sup>3</sup>/s, August 28, 1949.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0745	3,870	8.35	Apr. 22	2300	* 6,080	* 10.47

Minimum discharge, 16 ft<sup>3</sup>/s, August 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	88	232	e130	e82	e78	e115	1210	369	79	30	559
2	57	82	175	e120	e80	e76	e112	1290	401	114	27	178
3	54	76	129	e112	e78	e76	e117	1090	375	66	25	84
4	53	74	132	e110	e74	e75	e125	766	367	53	24	55
5	61	171	127	e107	e75	e75	e170	493	455	84	23	43
6	142	283	109	e105	e75	e76	e200	336	337	68	21	37
7	211	179	e96	e103	e74	e76	e253	276	219	52	22	33
8	245	156	e81	e100	e74	e78	e325	247	153	47	22	30
9	216	137	e81	e98	e90	e79	e465	226	120	71	20	27
10	148	226	e83	e97	e115	e80	e565	206	101	113	20	26
11	158	660	e88	e96	e190	e78	e870	182	90	154	23	25
12	214	405	e115	e96	e148	e74	e1200	231	91	158	19	23
13	169	240	e130	e96	e115	e74	e2390	352	86	284	18	22
14	129	189	e110	e96	e111	e75	2490	213	75	256	18	22
15	102	457	e100	e92	e107	e78	1590	166	67	242	17	21
16	89	286	e94	e90	e105	e80	1270	147	62	143	17	20
17	84	217	618	e86	e101	e82	1220	132	82	117	23	19
18	96	211	2460	e84	e99	e84	1060	127	92	100	34	19
19	186	170	723	e83	e96	e88	801	487	64	75	34	19
20	129	147	e410	e81	e94	e98	791	280	59	61	27	19
21	103	140	e280	e79	e93	e115	1580	174	53	53	27	67
22	89	133	e275	e78	e91	e132	4640	134	48	45	32	109
23	82	115	e235	e78	e91	e128	4140	119	58	41	33	60
24	78	88	e210	e77	e88	e126	4600	111	237	46	27	44
25	75	91	e205	e75	e84	e118	3030	100	109	57	23	70
26	73	129	e198	e73	e82	e113	1400	89	72	40	21	270
27	71	475	e187	e72	e84	e112	1360	99	55	35	41	110
28	70	510	e175	e71	e80	e112	1140	161	47	34	55	68
29	75	342	e165	e72	---	e112	789	362	42	32	53	52
30	75	296	e150	e78	---	e117	803	220	42	31	47	44
31	81	---	e140	e85	---	e120	---	520	---	38	35	---
TOTAL	3476	6773	8313	2820	2676	2885	39611	10546	4428	2789	858	2175
MEAN	112	226	268	91.0	95.6	93.1	1320	340	148	90.0	27.7	72.5
MAX	245	660	2460	130	190	132	4640	1290	455	284	55	559
MIN	53	74	81	71	74	74	112	89	42	31	17	19
CFSM	.86	1.72	2.05	.69	.73	.71	10.1	2.60	1.13	.69	.21	.55
IN.	.99	1.92	2.36	.80	.76	.82	11.25	2.99	1.26	.79	.24	.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2001, BY WATER YEAR (WY)

MEAN	219	286	228	168	142	374	880	417	186	120	110	134
MAX	653	630	585	661	796	1225	1522	991	626	412	454	421
(WY)	1946	1960	1974	1998	1981	1936	1933	1940	1978	1997	1976	1945
MIN	51.3	97.6	60.9	53.9	34.0	57.0	265	143	43.7	32.0	19.7	31.5
(WY)	1949	1979	1956	1940	1980	1941	1995	1977	1933	1934	1934	1953

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1931 - 2001

ANNUAL TOTAL	119642	87350	
ANNUAL MEAN	327	239	272
HIGHEST ANNUAL MEAN			385
LOWEST ANNUAL MEAN			168
HIGHEST DAILY MEAN	3190	Apr 4	6870
LOWEST DAILY MEAN	40	Sep 11	11
ANNUAL SEVEN-DAY MINIMUM	48	Sep 6	15
MAXIMUM PEAK FLOW			6080
MAXIMUM PEAK STAGE			10.47
INSTANTANEOUS LOW FLOW			16
ANNUAL RUNOFF (CFSM)	2.50	1.83	2.07
ANNUAL RUNOFF (INCHES)	33.97	24.80	28.17
10 PERCENT EXCEEDS	804	460	630
50 PERCENT EXCEEDS	140	96	127
90 PERCENT EXCEEDS	66	32	46

a Also occurred on August 16.  
e Estimated.

ST. LAWRENCE RIVER BASIN

04293500 MISSISQUOI RIVER NEAR EAST BERKSHIRE, VT

**LOCATION (REVISED).**--Lat 44°57'36", long 72°41'49", Franklin County, Hydrologic Unit 02010007, on left bank, 0.4 mi upstream of State Highway 105 bridge, 1.9 mi north of intersection of State Highways 105 and 118 in East Berkshire, 1.9 mi upstream from Trout River, 2.6 mi southwest of Town Hall in Richford, and 3.6 mi downstream from North Branch.

**DRAINAGE AREA.**--479 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: July 1911 to September 1923, October 1928 to current year. Monthly discharge only for July 1911 to July 1915, September 1916, March 1920 to July 1920, March 1921 to July 1921, published in WSP 1307. Prior to October 1977, published as "near Richford."

**REVISED RECORDS.**--WSP 784: Drainage area. WSP 1237: 1913-14(M), 1922(M), 1923, 1929-30. WSP 1307: 1916(M). WSP 1437: 1912.

**GAGE.**--Water-stage recorder. Elevation of gage is 410 ft above sea level, from topographic map. Prior to August 1, 1915, nonrecording gage at site 0.2 mi downstream at datum 4.35 ft lower. August 1, 1915, to September 30, 1923, water-stage recorder at present site and datum. October 1, 1928, to September 30, 1929, nonrecording gage at former site at datum 4.6 ft lower.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low flow prior to 1934.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum discharge since at least 1830, 45,000 ft<sup>3</sup>/s during flood of November 1927, gage height, 23.1 ft, from floodmarks, from rating curve extended above 14,100 ft<sup>3</sup>/s on basis of computation of peak flow over dam at gage height 14.70 ft, slope-area measurement at gage height 12.90 ft, and study of discharge per foot of width at measuring section.

**EXTREMES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 7,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 14	2000	8,660	10.78	Apr. 24	0015	* 10,900	* 12.16

Minimum recorded discharge, 69 ft<sup>3</sup>/s, August 17, 2001, but may have been less during period of estimated gage-height record August 13-17, 25, 26, and September 19-21, 2001.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	249	992	e600	e385	e380	e545	2260	1170	234	166	717
2	200	246	774	e570	e370	e370	e540	2620	1220	397	132	882
3	182	245	546	e530	e360	e360	e560	2340	1350	295	117	568
4	166	247	e600	e510	e350	e355	e600	1850	1190	214	107	348
5	161	332	e580	e500	e350	e355	e650	1330	1460	360	96	231
6	194	622	e530	e490	e350	e360	e730	978	1300	307	86	176
7	378	658	e495	e475	e350	e365	e920	775	889	223	81	149
8	451	549	e450	e460	e375	e370	e1190	682	622	186	85	130
9	516	468	e425	e450	e440	e375	e1700	614	471	317	91	116
10	420	625	e395	e445	e650	e375	e2060	554	386	359	88	106
11	414	1510	e395	e440	e1000	e360	e3000	503	337	556	85	99
12	484	1740	e430	e440	e750	e355	e3720	609	322	569	78	91
13	474	1120	e485	e440	e545	e355	e7500	1090	296	657	e78	88
14	388	822	e410	e430	e520	e360	e7900	784	266	748	e77	85
15	323	1350	e385	e410	e510	e365	7820	560	239	946	e73	83
16	276	1230	e365	e400	e495	e375	6200	482	217	691	e71	81
17	250	863	e2150	e390	e480	e390	5200	434	340	525	e69	81
18	262	725	3820	e380	e455	e400	4390	404	290	469	75	80
19	358	624	3780	e375	e450	e435	3590	1510	244	383	80	e76
20	413	532	2390	e370	e440	e485	3030	1330	201	293	84	e74
21	345	486	1680	e365	e440	e560	4110	782	186	243	104	e76
22	293	460	1460	e360	e430	e630	7670	551	169	207	89	142
23	255	448	e1200	e355	e420	e600	10300	456	218	182	90	190
24	230	996	e1100	e350	e410	e580	10400	412	528	180	84	136
25	217	1110	e950	e345	e410	e560	9430	365	472	194	e74	122
26	212	1270	e900	e340	e405	e540	6180	319	292	239	e72	211
27	208	1740	e860	e335	e400	e530	4210	320	220	206	150	301
28	204	1850	e830	e335	e385	e535	3400	400	181	170	158	188
29	207	1460	e760	e340	---	e540	2520	874	159	148	174	141
30	218	1210	e700	e370	---	e550	2040	785	148	133	143	118
31	237	---	e650	e410	---	e560	---	1180	---	218	134	---
TOTAL	9160	25787	31487	13010	12925	13730	122105	28153	15383	10849	3091	5886
MEAN	295	860	1016	420	462	443	4070	908	513	350	99.7	196
MAX	516	1850	3820	600	1000	630	10400	2620	1460	946	174	882
MIN	161	245	365	335	350	355	540	319	148	133	69	74
CFSM	.62	1.79	2.12	.88	.96	.92	8.50	1.90	1.07	.73	.21	.41
IN.	.71	2.00	2.45	1.01	1.00	1.07	9.48	2.19	1.19	.84	.24	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1923, 1929 - 2001, BY WATER YEAR (WY)

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1929	2000	2001
MEAN	772	1029	848	653	520	1358	2985	1308	666	413	347	412
MAX	2295	2385	2330	2284	2439	4013	4882	3187	2129	1671	1528	1365
(WY)	1978	1984	1984	1998	1981	1936	1969	1940	1978	1974	1976	1954
MIN	87.4	241	270	157	115	240	922	453	175	86.0	63.3	57.5
(WY)	1949	1954	1956	1918	1980	1941	1995	1977	1999	1991	1934	1921

SUMMARY STATISTICS

	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1915-1923, 1929-2001
ANNUAL TOTAL	416282	291566	
ANNUAL MEAN	1137	799	
HIGHEST ANNUAL MEAN			941
LOWEST ANNUAL MEAN			1415
HIGHEST DAILY MEAN	7290	May 11	18200
LOWEST DAILY MEAN	111	Sep 12	28
ANNUAL SEVEN-DAY MINIMUM	129	Sep 8	39
MAXIMUM PEAK FLOW		10900	21200
MAXIMUM PEAK STAGE		12.16	a 18.92
INSTANTANEOUS LOW FLOW		b 69	8.0
ANNUAL RUNOFF (CFSM)	2.37	1.67	1.96
ANNUAL RUNOFF (INCHES)	32.33	22.64	26.69
10 PERCENT EXCEEDS	3290	1480	2220
50 PERCENT EXCEEDS	474	410	465
90 PERCENT EXCEEDS	211	117	143

a Ice Jam.  
b Minimum recorded.  
c Estimated.

04294000 MISSISQUOI RIVER AT SWANTON, VT

LOCATION.--Lat 44°55'00", long 73°07'44", Franklin County, Hydrologic Unit 02010007, on left bank, at Old Railroad abutment, 0.3 mi upstream of dam and Depot Street (Route 78) bridge, 0.3 mi southwest of Post Office in Swanton, 1.1 mi west of Highway 78 and Interstate 89 interchange, and 7.9 mi upstream of mouth.

DRAINAGE AREA.--850 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: March 1990 to current year.

GAGE.--Water-stage recorder and crest stage gage. Elevation of gage is 105 ft above sea level, from topographic map. July 6, 1989 to February 28, 1990, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Low flows regulated by power plants upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 18	0600	12,300	4.84	Apr. 13	0915	Unknown	6.39
Apr. 13	----	14,000	Ice Jam	Apr. 24	0945	* 15,700	5.59

Minimum daily discharge, 115 ft<sup>3</sup>/s, August 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	465	1920	e822	e685	e625	896	2970	1920	143	337	386
2	527	447	1260	772	e520	e670	1000	3740	1460	518	296	579
3	350	394	855	e690	e450	e545	1110	3570	2000	488	333	608
4	269	272	836	e760	e510	e540	1180	2960	1790	419	266	703
5	300	391	955	673	e620	e590	e1240	2060	1830	413	178	381
6	410	1080	722	733	e580	e650	e1530	1530	2010	344	198	259
7	290	1080	e490	656	622	535	e1900	1060	1550	432	223	232
8	732	901	e470	e685	656	479	e2900	995	936	308	242	234
9	896	741	e340	e690	595	609	e4500	934	679	424	141	229
10	750	860	e425	e610	e1000	494	e5200	834	489	520	177	187
11	823	1350	e570	690	e1950	506	e7030	759	693	1120	194	181
12	828	2720	e365	675	e1400	591	e8400	765	512	889	159	193
13	928	1950	e720	553	e1100	508	e12900	1830	389	1120	117	e150
14	439	1430	e570	612	e1020	564	e14000	1340	431	909	130	e147
15	578	1960	e560	679	e905	619	13200	918	342	1340	127	e144
16	569	2030	e430	683	e890	559	11000	822	356	1260	115	e144
17	503	1610	2250	586	e860	488	9260	666	518	659	136	e143
18	397	855	9660	586	e820	643	7430	627	656	735	125	e142
19	560	1090	6010	620	e805	689	5930	1300	457	593	119	e140
20	504	972	4270	518	e790	592	4740	1930	343	510	119	e137
21	467	752	e1750	591	e785	661	5580	1170	362	255	150	e135
22	504	741	e1650	551	e765	824	11300	842	301	335	192	e136
23	530	669	e1490	547	e750	1050	14700	676	269	399	170	e195
24	429	624	e890	e540	664	997	15300	628	684	235	164	e300
25	260	325	e950	e410	802	991	13900	527	805	285	158	307
26	365	687	955	e570	895	965	10100	523	634	314	142	202
27	545	2250	905	399	e730	840	6550	538	321	303	142	263
28	193	3910	899	425	e710	775	5190	482	325	477	126	424
29	200	2970	943	602	---	784	3860	1110	349	523	187	199
30	465	2300	771	460	---	844	2830	1140	293	478	329	170
31	359	---	715	566	---	721	---	1520	---	376	240	---
TOTAL	15243	37826	45596	18954	22879	20948	204656	40766	23704	17124	5732	7650
MEAN	492	1261	1471	611	817	676	6822	1315	790	552	185	255
MAX	928	3910	9660	822	1950	1050	15300	3740	2010	1340	337	703
MIN	193	272	340	399	450	479	896	482	269	143	115	135

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	1434	1891	1525	1585	929	2666	4905	1907	879	893	557	591
MAX	2507	3082	3894	4324	1670	5220	7078	3920	1440	2042	1130	1512
(WY)	1991	1996	1997	1998	1996	2000	1993	2000	1998	1997	1990	1999
MIN	295	1024	596	429	317	676	1527	629	363	148	185	165
(WY)	1995	1992	1993	1994	1993	2001	1995	1998	1999	1991	2001	1995

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1990 - 2001

ANNUAL TOTAL	725413	461078					
ANNUAL MEAN	1982	1263					
HIGHEST ANNUAL MEAN		1631					
LOWEST ANNUAL MEAN		2258					
HIGHEST DAILY MEAN	15300	May 11	15300	Apr 24	29500	Jan 9	1998
LOWEST DAILY MEAN	143	Sep 10	115	Aug 16	33	Sep 7	1999
ANNUAL SEVEN-DAY MINIMUM	263	Sep 8	124	Aug 13	70	Sep 2	1999
MAXIMUM PEAK FLOW			15700	Apr 24	37700	Jan 20	1996
MAXIMUM PEAK STAGE			a 6.39	Apr 13	9.50	Jan 20	1996
10 PERCENT EXCEEDS	5880	2140	4080				
50 PERCENT EXCEEDS	752	622	800				
90 PERCENT EXCEEDS	365	193	228				

a Ice Jam.  
e Estimated.

## ST. LAWRENCE RIVER BASIN

## 04294500 LAKE CHAMPLAIN AT BURLINGTON, VT

**LOCATION (REVISED).**--Lat 44°28'52", long 73°13'27", Chittenden County, Hydrologic Unit 02010003, 50 ft south of Gulf Oil Co. dock, 0.1 mi north of Burlington Water Department pumping station, 0.5 mi north of railroad station, and 0.6 mi northwest of City Hall in Burlington.

**PERIOD OF RECORD.**--Gage heights: May 1907 to current year.

**REVISED RECORDS.**--WSP 684: 1912-29 (datum correction). WSP 1207: 1938 (datum correction).

**GAGE.**--Water-stage recorder. Datum of gage is at sea level. Prior to Water Year 2000 datum of gage was 92.86 ft higher. Prior to July 20, 1937, nonrecording gage at site 0.7 mi south, and July 20, 1937, to September 7, 1939, nonrecording gage at site 0.1 mi south, both at present datum.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum gage height, 101.86 ft, April 27, 1993; minimum observed, 92.61 ft, December 4, 1908.

**EXTREMES FOR CURRENT YEAR.**--Maximum gage height, 100.99 ft, April 27, affected by seiche; minimum, 94.15 ft, November 8, 10, 26, affected by seiche.

**ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94.59	94.26	94.62	95.91	95.20	95.25	95.41	100.78	97.73	96.53	95.35	94.64
2	94.58	94.24	94.63	95.90	95.17	95.23	95.42	100.72	97.68	96.48	95.29	94.68
3	94.55	94.23	94.60	95.87	95.18	95.22	95.43	100.67	97.68	96.44	95.28	94.63
4	94.55	94.22	94.56	95.86	95.15	95.19	95.45	100.63	97.67	96.38	95.27	94.58
5	94.55	94.22	94.55	95.82	95.14	95.19	95.49	100.55	97.64	96.34	95.23	94.60
6	94.57	94.21	94.55	95.82	95.16	95.32	95.59	100.45	97.61	96.29	95.17	94.60
7	94.56	94.22	94.55	95.81	95.14	95.30	95.70	100.31	97.57	96.24	95.12	94.56
8	94.55	94.22	94.53	95.78	95.13	95.26	95.82	100.16	97.51	96.19	95.11	94.52
9	94.55	94.21	94.51	95.76	95.11	95.25	96.19	100.05	97.44	96.15	95.08	94.50
10	94.54	94.21	94.44	95.73	95.14	95.24	95.67	99.92	97.35	96.17	95.02	94.48
11	94.51	94.27	94.44	95.68	95.21	95.20	97.13	99.78	97.27	96.18	95.01	94.47
12	94.49	94.30	94.46	95.68	95.26	95.19	97.55	99.69	97.23	96.15	94.99	94.46
13	94.47	94.30	94.46	95.63	95.30	95.19	98.10	99.64	97.17	96.13	94.92	94.42
14	94.46	94.30	94.49	95.60	95.33	95.18	98.65	99.54	97.11	96.10	94.90	94.39
15	94.46	94.37	94.48	95.56	95.38	95.17	99.04	e99.31	97.04	96.06	94.88	94.38
16	94.46	94.38	94.46	95.55	95.39	95.16	99.28	e99.26	97.00	96.03	94.80	94.33
17	94.43	94.37	94.55	95.54	95.40	95.14	99.46	e99.15	97.03	96.02	94.75	94.29
18	94.42	94.41	94.99	95.50	95.37	95.12	99.59	e99.06	96.99	95.97	94.75	94.28
19	94.46	94.40	95.44	95.47	95.34	95.10	99.65	e98.86	96.92	95.94	94.76	94.27
20	94.43	94.38	95.64	95.46	95.35	95.07	99.69	e98.77	96.86	95.90	94.74	94.22
21	94.42	94.38	95.72	95.43	95.35	95.06	99.72	e98.70	96.79	95.84	94.73	94.22
22	94.43	94.37	95.77	95.40	95.33	95.18	99.83	e98.57	96.71	95.76	94.70	94.23
23	94.41	94.37	95.81	95.35	95.31	95.26	100.14	98.45	96.76	95.71	94.67	94.23
24	94.38	94.34	95.84	95.32	95.30	95.29	100.43	98.36	96.81	95.68	94.65	94.20
25	94.39	94.26	95.86	95.31	95.25	95.31	100.73	98.26	96.82	95.66	94.65	94.23
26	94.36	94.25	95.85	95.26	95.28	95.32	100.88	98.14	96.80	95.61	94.53	94.25
27	94.33	94.37	95.85	95.25	95.28	95.31	100.93	98.06	96.74	95.59	94.56	94.24
28	94.34	94.45	95.86	95.23	95.26	95.31	100.94	97.99	96.69	95.53	94.59	94.24
29	94.33	94.53	95.87	95.19	---	95.31	100.91	97.93	96.61	95.46	94.60	94.23
30	94.33	94.59	95.89	95.19	---	95.35	100.84	97.87	96.56	95.41	94.57	94.21
31	94.29	---	95.94	95.20	---	95.41	---	97.79	---	95.39	94.53	---
MEAN	94.46	94.32	95.07	95.55	95.26	95.23	98.36	99.27	97.13	95.98	94.88	94.39
MAX	94.59	94.59	95.94	95.91	95.40	95.41	100.94	100.78	97.73	96.53	95.35	94.68
MIN	94.29	94.21	94.44	95.19	95.11	95.06	95.41	97.79	96.56	95.39	94.53	94.20

CAL YR 2000 MEAN 96.58 MAX 100.80 MIN 94.21

WTR YR 2001 MEAN 95.83 MAX 100.94 MIN 94.20

e Estimated.

## 04295000 RICHELIEU RIVER (LAKE CHAMPLAIN) AT ROUSES POINT, NY

**LOCATION.**--Lat 44°59'46", long 73°21'37", Clinton County, Hydrologic Unit 02010006, on left bank at outlet of Lake Champlain in Rouses Point, and 1.0 mi south of Fort Montgomery ruins.

**DRAINAGE AREA.**--8,277 mi<sup>2</sup>.

**PERIOD OF RECORD.**--October 1863 to December 1870 (maximum and minimum monthly gage heights at St. Johns, Quebec, published in WSP 97), and March 1871 to current year (daily gage heights prior to October 1970, elevations thereafter: those for 1871-1907 published in WSP 894). Gage heights prior to October 1, 1925, published as "Richelieu River at Fort Montgomery, Rouses Point." Discharge records for January 1875 to September 1916, at "Chambly, Quebec," published in WSP 65, 82, 97, 129, 170, 206, 424, and 1307 have been found to be unreliable and should not be used. Daily discharge record for "Richelieu River at Fryers Rapids, Quebec," published in Water Survey of Canada annual reports.

**GAGE.**--Water-stage recorder. Datum of gage is sea level. March 1871 to May 1923, nonrecording gage located in Fort Montgomery and May 1923 to October 1938, nonrecording gage at present site. Prior to October 1970, at datum 93.00 ft higher.

**REMARKS.**--Area of lake surface about 490 mi<sup>2</sup>. Total volume below 92.5 ft elevation, reported by Lake Champlain Studies Center, 902.2 billion ft<sup>3</sup>. Telephone gage-height telemeter at station.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum elevation observed, 101.88 ft, April 25, 1993; minimum observed, 92.17 ft, October 23, 1941.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum elevation known since at least 1827, 102.1 ft, May 4, 1869, from marks at railroad bridge near present gage, according to data published on p. 428 of the Report of the Board of Engineers on Deep Waterways, 1900: U.S. 56th Congress, 2d session H. Doc. 149.

**EXTREMES FOR CURRENT YEAR.**--Maximum elevation, 100.99 ft, April 27; minimum, 93.90 ft, October 28.

**ELEVATION (FEET NGVD), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94.72	94.20	94.53	95.87	95.18	95.23	95.38	100.74	97.75	96.58	95.34	94.62
2	94.68	94.20	94.55	95.87	95.18	95.20	95.38	100.69	97.77	96.44	95.38	94.64
3	94.61	94.21	94.66	95.89	95.14	95.18	95.41	100.65	97.68	96.54	95.29	94.81
4	94.57	94.18	94.72	95.85	95.15	95.16	95.45	100.54	97.68	96.49	95.22	94.71
5	94.50	94.13	94.71	95.89	95.13	95.15	95.50	100.45	97.63	96.42	95.21	94.59
6	94.51	94.13	94.52	95.80	95.14	95.23	95.57	100.40	97.58	96.31	95.25	94.61
7	94.51	94.16	94.53	95.78	95.13	95.26	95.67	100.33	97.55	96.32	95.18	94.63
8	94.51	94.18	94.48	95.75	95.11	95.25	95.97	100.22	97.48	96.27	95.14	94.67
9	94.47	94.20	94.46	95.71	95.19	95.22	96.17	100.02	97.41	96.22	95.15	94.62
10	94.48	94.28	94.56	95.71	95.14	95.22	96.63	99.89	97.35	96.20	95.13	94.65
11	94.47	94.16	94.43	95.67	95.17	95.21	97.10	99.77	97.29	96.17	95.00	94.49
12	94.54	94.19	94.43	95.63	95.25	95.17	97.61	99.62	97.22	96.14	95.04	94.49
13	94.51	94.33	94.45	95.63	95.28	95.20	98.08	99.56	97.17	96.11	94.98	94.42
14	94.53	94.35	94.45	95.57	95.33	95.21	98.57	99.47	97.11	96.07	94.89	94.35
15	94.36	94.33	94.48	95.56	95.35	95.15	98.97	99.31	97.07	96.04	94.88	94.34
16	94.41	94.46	94.53	95.53	95.37	95.13	99.22	99.26	97.02	96.03	94.97	94.36
17	94.46	94.43	94.60	95.49	95.36	95.11	99.39	99.15	97.04	95.99	94.97	94.34
18	94.53	94.37	94.95	95.52	95.40	95.09	99.49	99.06	96.98	95.94	94.80	94.28
19	94.41	94.42	95.38	95.45	95.42	95.07	99.62	98.86	97.09	95.92	94.72	94.26
20	94.56	94.48	95.57	95.40	95.36	95.06	99.67	98.77	96.88	95.89	94.72	94.41
21	94.45	94.40	95.71	95.39	95.30	95.06	99.71	98.70	96.88	95.90	94.74	94.31
22	94.38	94.34	95.76	95.37	95.31	95.09	99.82	98.57	96.89	95.90	94.73	94.27
23	94.44	94.29	95.78	95.37	95.32	95.22	100.10	98.44	96.76	95.83	94.71	94.24
24	94.44	94.31	95.81	95.32	95.27	95.29	100.44	98.35	96.83	95.79	94.57	94.30
25	94.37	94.51	95.78	95.27	95.37	95.29	100.66	98.29	96.84	95.64	94.61	94.26
26	94.37	94.34	95.81	95.30	95.26	95.31	100.87	98.20	96.81	95.50	94.90	94.24
27	94.40	94.32	95.80	95.23	95.25	95.32	100.86	98.07	96.76	95.48	94.61	94.25
28	94.07	94.43	95.83	95.20	95.24	95.31	100.83	98.01	96.64	95.49	94.62	94.17
29	94.09	94.50	95.85	95.19	---	95.30	100.86	97.94	96.68	95.49	94.56	94.14
30	94.10	94.50	95.82	95.16	---	95.29	100.82	97.81	96.63	95.45	94.63	94.15
31	94.16	---	95.86	95.16	---	95.35	---	97.72	---	95.38	94.71	---
MEAN	94.44	94.31	95.06	95.53	95.25	95.20	98.33	99.25	97.15	96.00	94.92	94.42
MAX	94.72	94.51	95.86	95.89	95.42	95.35	100.87	100.74	97.77	96.58	95.38	94.81
MIN	94.07	94.13	94.43	95.16	95.11	95.06	95.38	97.72	96.63	95.38	94.56	94.14
CAL YR 2000	MEAN 96.56	MAX 100.96	MIN 94.07									
WTR YR 2001	MEAN 95.82	MAX 100.87	MIN 94.07									





04296000 BLACK RIVER AT COVENTRY, VT

LOCATION (REVISED).--Lat 44°52'08", long 72°16'14", Orleans County, Hydrologic Unit 01110000, on right bank, 15 ft downstream from Loop Road bridge, 800 ft upstream from Stony Brook, 0.3 mi northwest of Loop Road and Main Street intersection in Coventry, and 4.6 mi north of State Highways 14 and 58 intersection in Irasburg.

DRAINAGE AREA.--122 mi<sup>2</sup>.

PERIOD OF RECORD.--Discharge records: October 1951 to current year.

PERIOD OF DAILY WATER-QUALITY RECORD.--Water years 1978 to 1981.

SPECIFIC CONDUCTANCE: November 1977 to March 1979, May and June 1979, and December 1980 to July 1981.

WATER TEMPERATURE: November and December 1977, June to August 1978, May and June 1979, October 1979 to March 1980, May to September 1980, and December 1980 to July 1981.

GAGE.--Water-stage recorder. Elevation of gage is 710 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional diurnal fluctuation at low flow by mill upstream prior to 1960.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 17	2045	1,940	6.19	Apr. 24	0615	* 2,630	* 6.84

Minimum discharge, 18 ft<sup>3</sup>/s, August 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	80	224	e155	e69	e86	e98	517	108	48	25	144
2	47	81	189	e145	e68	e84	e99	493	111	50	24	132
3	44	78	174	e135	e66	e82	e100	441	174	46	23	72
4	42	73	153	e124	e64	e80	e105	382	202	41	22	50
5	43	150	e130	e120	e64	e80	e140	326	182	52	21	40
6	77	260	e118	e118	e65	e81	e180	271	141	50	21	35
7	153	207	e105	e115	e66	e82	e195	225	112	45	21	33
8	198	157	e93	e112	e72	e80	e230	194	91	43	20	31
9	183	132	e86	e108	e78	e79	e300	169	76	43	20	27
10	135	165	e80	e105	e87	e78	e380	152	68	51	22	26
11	114	464	e77	e100	e155	e76	e495	139	63	72	20	24
12	112	374	e86	e98	e130	e77	902	134	60	88	21	23
13	100	256	e128	e95	e108	e78	1320	186	59	82	21	22
14	87	195	e109	e90	e103	e78	1400	191	56	89	19	21
15	79	414	e98	e88	e102	e79	1290	145	51	93	18	21
16	73	330	e92	e84	e100	e81	1260	127	48	74	18	21
17	69	249	657	e81	e98	e84	1260	116	175	67	21	21
18	84	204	1300	e80	e97	e84	1120	111	203	70	24	20
19	140	170	928	e79	e96	e84	960	172	131	68	23	20
20	128	148	803	e78	e98	e89	883	147	80	54	25	20
21	102	140	738	e76	e93	e93	1110	119	64	46	28	26
22	88	132	630	e75	e91	e97	1810	101	55	41	29	31
23	79	128	498	e74	e90	e99	2390	92	55	38	27	39
24	76	117	e460	e74	e90	e110	2480	89	67	36	26	36
25	83	119	e385	e74	e90	e95	2120	86	63	34	24	40
26	73	119	e340	e72	e89	e93	1430	78	55	34	22	e105
27	69	374	e300	e70	e93	e98	1100	74	50	33	26	e57
28	66	425	e265	e68	e89	e96	895	85	47	30	26	e46
29	65	360	e230	e67	---	e97	727	152	46	29	33	e40
30	66	288	e200	e68	---	e105	587	146	45	27	35	e38
31	74	---	e175	e69	---	e98	---	117	---	26	37	---
TOTAL	2799	6389	9851	2897	2511	2703	27366	5777	2738	1600	742	1261
MEAN	90.3	213	318	93.5	89.7	87.2	912	186	91.3	51.6	23.9	42.0
MAX	198	464	1300	155	155	110	2480	517	203	93	37	144
MIN	42	73	77	67	64	76	98	74	45	26	18	20
CFSM	.74	1.75	2.60	.77	.74	.71	7.48	1.53	.75	.42	.20	.34
IN.	.85	1.95	3.00	.88	.77	.82	8.34	1.76	.83	.49	.23	.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2001, BY WATER YEAR (WY)

MEAN	150	196	178	129	122	274	657	281	144	99.9	88.6	90.9
MAX	512	421	473	426	534	611	1164	709	412	405	334	280
(WY)	1991	1960	1984	1998	1981	1976	1969	1972	1973	1973	1976	1977
MIN	28.4	54.6	58.1	43.4	29.1	63.1	196	90.5	43.9	29.1	23.9	19.9
(WY)	1954	1979	1979	1954	1980	1956	1995	1987	1988	1991	2001	1953

SUMMARY STATISTICS

FOR 2000 CALENDAR YEAR

FOR 2001 WATER YEAR

WATER YEARS 1952 - 2001

ANNUAL TOTAL	94072	66634	
ANNUAL MEAN	257	183	201
HIGHEST ANNUAL MEAN			301
LOWEST ANNUAL MEAN			113
HIGHEST DAILY MEAN	1510	Apr 5	2480
LOWEST DAILY MEAN	41	Sep 12	a 18
ANNUAL SEVEN-DAY MINIMUM	46	Sep 8	20
MAXIMUM PEAK FLOW			2630
MAXIMUM PEAK STAGE			6.84
INSTANTANEOUS LOW FLOW			a 18
ANNUAL RUNOFF (CFSM)	2.11	1.50	1.64
ANNUAL RUNOFF (INCHES)	28.68	20.32	22.34
10 PERCENT EXCEEDS	720	381	467
50 PERCENT EXCEEDS	130	88	105
90 PERCENT EXCEEDS	60	26	41

a Also occurred on August 16.  
b Also occurred on August 30 to September 1, 1953.  
e Estimated.

## ST. LAWRENCE RIVER BASIN

## 04296500 CLYDE RIVER AT NEWPORT, VT

**LOCATION.**--Lat 44°56'25", long 72°11'23", Orleans County, Hydrologic Unit 01110000, on right bank, 100 ft upstream of small right-bank tributary, 600 ft upstream of Clyde Street bridge, 0.8 mi east of US 5 and Main Street intersection in Newport, 0.9 mi downstream of Clyde Pond Dam, and 0.9 mi upstream of mouth.

**DRAINAGE AREA.**--142 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Discharge records: May 1909 to December 1911, April 1912 to September 1919; May 1920 to August 1922, October 1922 to September 1924, November 1928 to May 1936, September 1938 to current year. Prior to November 1928, published as "at West Derby."

**PERIOD OF DAILY WATER-QUALITY RECORD.**--Water years 1975 to 1978.

**SPECIFIC CONDUCTANCE:** October 1974 to October 1977.

**WATER TEMPERATURE:** October 1974 to October 1977.

**REVISED RECORDS.**--WSP 744: 1913(M), drainage area. WSP 924: 1940. WSP 1307: 1913-15(M).

**GAGE.**--Water-stage recorder. Datum of gage is 682.36 ft above sea level. May 25, 1909 to September 20, 1915, nonrecording gage, and September 21, 1915 to September 30, 1924, November 16, 1928 to May 4, 1936, water-stage recorder, at site 0.65 mi upstream at different datum. March 6, 1957 to May 11, 1994, water-stage recorder and records of power generation. No instantaneous peak stage available for period of March 6, 1957 to May 11, 1994, due to diversion of flow around station through canal and penstock of Newport No. 11 power plant.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Flow regulated by power plant and reservoirs upstream.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge, 3,900 ft<sup>3</sup>/s, March 20, 1936, gage height, 5.76 ft, site and datum then in use; maximum daily, 3,610 ft<sup>3</sup>/s, March 20, 1936; minimum daily discharge, 2.6 ft<sup>3</sup>/s, June 18, 1956.

**EXTREMES FOR CURRENT YEAR.**--Maximum discharge, 2,410 ft<sup>3</sup>/s, April 26, gage height, 8.15 ft; minimum daily discharge, 40 ft<sup>3</sup>/s, August 25, 26.

## DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

## DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	103	357	375	153	e154	104	961	188	70	77	44
2	131	93	357	354	150	e127	104	889	189	70	77	41
3	130	93	356	304	150	e130	104	847	230	69	68	61
4	174	93	303	257	e152	e142	105	842	379	70	57	114
5	201	131	275	245	117	e104	105	821	380	70	57	108
6	167	183	242	244	96	e105	106	773	367	70	57	94
7	165	208	207	244	96	e105	106	710	367	69	57	95
8	166	208	207	217	96	e105	297	649	370	69	57	94
9	165	268	207	201	97	106	278	593	366	81	56	93
10	166	304	186	201	e104	106	240	531	293	92	54	81
11	186	313	167	188	e189	106	254	466	247	92	54	61
12	192	386	168	e161	e215	106	359	432	221	92	54	47
13	192	405	165	e167	178	106	394	422	162	92	54	122
14	192	405	163	158	e189	106	701	416	147	92	53	59
15	192	408	163	158	191	104	870	406	119	92	44	57
16	173	409	164	159	169	104	937	395	96	92	41	57
17	167	409	245	159	e161	104	992	402	99	124	41	47
18	168	408	410	195	e170	105	958	350	96	142	41	46
19	167	406	727	159	161	106	885	313	121	142	41	46
20	164	404	826	157	161	106	818	310	144	141	41	46
21	164	373	832	144	e123	106	831	365	143	120	41	47
22	164	360	762	105	e165	132	1040	381	142	151	41	46
23	127	304	690	104	103	155	1340	375	142	88	41	46
24	102	226	619	102	e104	156	1810	338	114	89	41	46
25	106	201	546	107	104	156	2220	273	95	96	40	47
26	111	204	476	136	e134	156	2290	252	95	100	40	47
27	111	335	439	106	154	149	1940	251	82	87	41	47
28	112	402	425	106	154	146	1550	170	69	77	41	47
29	112	400	416	149	---	145	1280	151	69	77	42	47
30	113	370	400	107	---	117	1080	150	69	77	41	47
31	113	---	390	142	---	104	---	161	---	77	44	---
TOTAL	4745	8812	11890	5611	4036	3759	24098	14395	5601	2870	1534	1880
MEAN	153	294	384	181	144	121	803	464	187	92.6	49.5	62.7
MAX	201	409	832	375	215	156	2290	961	380	151	77	122
MIN	102	93	163	102	96	104	104	150	69	69	40	41
CFSM	1.08	2.07	2.70	1.27	1.02	.85	5.66	3.27	1.31	.65	.35	.44
IN.	1.24	2.31	3.11	1.47	1.06	.98	6.31	3.77	1.47	.75	.40	.49

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909-24, 28-36, 38-01, BY WATER YEAR (WY)

	1909-24	28-36	38-01	1909-24	28-36	38-01	1909-24	28-36	38-01			
MEAN	179	234	225	186	159	280	694	494	238	149	128	130
MAX	576	560	599	452	477	1136	1192	1042	545	464	369	523
(WY)	1946	1919	1984	1998	1981	1936	1933	1972	1978	1973	1976	1924
MIN	50.7	79.5	80.4	62.9	19.1	72.8	186	151	74.0	47.2	39.6	41.9
(WY)	1962	1923	1923	1948	1979	1911	1979	1998	1988	1991	1909	1984

## SUMMARY STATISTICS

## FOR 2000 CALENDAR YEAR

## FOR 2001 WATER YEAR

## WATER YEARS 1909-24, 28-36, 38-01

ANNUAL TOTAL	113433	89231										
ANNUAL MEAN	310	244								256		
HIGHEST ANNUAL MEAN										394		1974
LOWEST ANNUAL MEAN										153		1979
HIGHEST DAILY MEAN										3610		Mar 20 1936
LOWEST DAILY MEAN										2.6		Jun 18 1956
ANNUAL SEVEN-DAY MINIMUM										14		Oct 9 1961
MAXIMUM PEAK FLOW										bc 3900		Mar 20 1936
MAXIMUM PEAK STAGE										bc 8.15		Apr 26 1936
ANNUAL RUNOFF (CFSM)										2.18		1.81
ANNUAL RUNOFF (INCHES)										29.72		23.38
10 PERCENT EXCEEDS										786		450
50 PERCENT EXCEEDS										188		151
90 PERCENT EXCEEDS										96		54

a Also occurred August 26.

b No instantaneous peak stage or discharge available for period of March 6, 1957 to May 11, 1994, as explained above in remarks.

c Site and datum then in use.

e Estimated.

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.

#### 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.

Maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum			
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	
<b>MERRIMACK RIVER BASIN</b>									
Pemigewasset River at Woodstock, NH (01075000)	Lat 43°58'34", Long 71°40'48", Grafton County, Hydrologic Unit 01070001, on right bank, 300 ft upstream of southern State Highway 175 bridge, 0.2 mi east of Woodstock, 0.7 mi upstream from Eastman Brook, and 4.8 mi south of Town Hall in Lincoln <b>(revised)</b> . Drainage area is 193 mi <sup>2</sup> .	1940-77+, 1978-80, 1985-2001	12-17-00	12.11	21,900	10-24-59	16.13	47,000	
Baker River near Rumney, NH (01076000)	Lat 43°47'46", Long 71°50'42", Grafton County, Hydrologic Unit 01070001, on right bank, 200 ft upstream from small right bank tributary, 0.3 mi upstream from Halls Brook, 1.8 mi southeast of West Rumney <b>(revised)</b> , and 1.8 mi southwest of Rumney. Drainage area is 143 mi <sup>2</sup> .	1928-77+, 1978-81, 1985-93, 1995-2001	12-18-00	8.79	5800	06-15-42	15.50	21,400	
Merrimack River at Franklin Junction, NH (01081500)	Lat 43°25'22", Long 71°39'12", Merrimack County, Hydrologic Unit 01070002, on right bank, at Franklin Junction, 1.0 mi downstream from confluence of Pemigewasset and Winnipesau- kee Rivers, 1.5 mi south of Post Office in Franklin, and 3.5 mi southwest of Tilton, <b>(revised)</b> . Drainage area is 1,507 mi <sup>2</sup> .	1903-78+, 1983-2001	04-25-01	13.78	17,600	03-19-36	36.4	83,000	
Contoocook River at Peterbor- ough, NH (01082000)	Lat 42°51'45", Long 71°57'35", Hillsborough County, Hydro- logic Unit 01070003, on left bank, 1,200 ft downstream from milldam, 0.3 mi northwest of Noone, 1.2 mi south of Town Hall in Peterborough, and 1.3 mi upstream from Nubanusit Brook, <b>(revised)</b> . Drainage area is 68.1 mi <sup>2</sup> .	1938, 1945-77+, 1978-2001	04-14-01	4.62	1,340	04-06-87	6.62	2,860	

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>MERRIMACK RIVER BASIN--Continued</b>								
Nubanusit Brook below Edward MacDowell Dam near Peter- borough, NH (01083000)	Lat 42°53'43", Long 71°59'13", Hillsborough County, Hydro- logic Unit 01070003, on left bank, 300 ft downstream from Edward Macdowell Reservoir, 2.2 mi northwest of Peterbor- ough, and 2.7 mi upstream from mouth. Drainage area is 44.0 mi <sup>2</sup> .	1921-31†b, 1945-89†b, 1990-97b, 1998-2001	04-17-01	5.66	619	04-11-31	b	1,130
Contoocook River near Henniker, NH (01085000)	Lat 43°09'10", Long 71°51'24", Merrimack County, Hydrologic Unit 01070003, on right bank, 1.6 mi downstream from Sand Brook, 2.6 mi southwest of Post Office in Henniker, and 3.3 mi northeast of State Highway 149 and US 202 intersection in Hillsborough, <b>(revised)</b> . Drainage area is 368 mi <sup>2</sup> .	1938, 1940-77†, 1989-2001	04-23-01	11.81	6,750	09-21-38	21.30	22,200
Contoocook River below Hopkinton Dam, at West Hopkinton, NH (01085500)	Lat 43°11'34", Long 71°44'52", Merrimack County, Hydrologic Unit 01070003, on right bank 400 ft downstream from covered bridge at West Hopkinton, 0.2 mi downstream from Hopkin- ton Dam, 2.6 mi southwest of State Highways 103 and 127 intersection in Contoocook, 3.6 mi west of State Highway 103 and US 202 intersection in Hopkinton, and 6.0 mi upstream from Warner River, <b>(revised)</b> . Drainage area is 427 mi <sup>2</sup> .	1903-07†, 1964-89†, 1990-2001	04-25-01	9.15	5,960	04-08-87	10.89	7,530
Warner River at Davisville, NH (01086000)	Lat 43°15'03", Long 71°43'59", Merrimack County, Hydrologic Unit 01070003, on left bank, 60 ft downstream from bridge on State Highway 127 at Davis- ville, 2.2 mi northwest of State Highways 103 and 127 intersection in Contoocook, 2.3 mi upstream from mouth, and 4.8 mi southeast of Warner, <b>(revised)</b> . Drainage area is 146 mi <sup>2</sup> .	1938, 1940-78, 1999-2001	04-24-01	8.10	2,450	03-27-53	9.88	4,510
Blackwater River near Webster, NH (01087000)	Lat 43°17'49", Long 71°41'41", Merrimack County, Hydrologic Unit 01070003, on left bank 0.2 mi west of Dingit corner, 0.4 mi downstream of Clothspin Bridge Road, 2.4 mi downstream from Blackwater Dam, 2.5 mi southeast of Webster, 4.4 mi east of US Highways 3 and 4 intersection in Boscawen, and 6.6 mi upstream from mouth <b>(revised)</b> . Drainage area is 129 mi <sup>2</sup> .	1918-20†, 1927-89†, 1990-2001	05-03-01	6.73	1,990	03-19-36	11.78	11,000

## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>MERRIMACK RIVER BASIN--Continued</b>								
Piscataquog River below Everett Dam near East Weare, NH (01090800)	Lat 43°05'29", Long 71°39'36", Hillsborough County, Hydro- logic Unit 01070002, on right bank, 500 ft downstream from Everett Dam, 1.4 mi southeast of East Weare, 2.3 mi west of Dunbarton Center, 3.6 mi east of Weare, and 5.9 mi northwest of Goffstown, <b>(revised)</b> . Drainage area is 63.1 mi <sup>2</sup> .	1963-89†, 1990-2001	04-15-01	7.47	776	06-12-84	9.09	1,770
Piscataquog River near Goffstown, NH (01091500)	Lat 43°01'00", Long 71°33'04", Hillsborough County, Hydro- logic Unit 01070002, on left bank, 300 ft upstream from Henry Bridge Road bridge, 0.3 mi upstream from Harry Brook, 0.4 mi southwest of Grasmere, 0.9 mi downstream from Glen Lake, and 2.5 mi east of Goffstown Town Hall, <b>(revised)</b> . Drainage area is 202 mi <sup>2</sup> .	1936, 1938, 1940-78†, 1983-2001	04-14-01	7.94	2,950	04-06-87	11.28	7,600
Souhegan River at Merrimack, NH (01094000)	Lat 42°51'27", Long 71°30'24", Hillsborough County, Hydro- logic Unit 01070002, on left bank, at head of Wildcat Falls, 0.6 mi upstream from south bound bridge on Everett Turnpike, 0.9 mi southwest of Merrimack Town Hall, 1.3 mi upstream from mouth, and 1.7 mi northwest of Litchfield Town Hall, <b>(revised)</b> . Drainage area is 171 mi <sup>2</sup> .	1909-76†, 1980, 1982-2001	03-23-01	6.75	2,510	03-19-36	16.2	16,900
Spicket River near Methuen, MA (01100561)	Lat 42°44'35", Long 71°12'32", Rockingham County, Hydrologic Unit 01070002, on left bank, at bridge on Hampshire Road, on Massachusetts-New Hampshire border, 800 ft downstream from Policy Brook, 0.5 mi west of Hampshire Road, 1.5 mi north- west of Massachusetts Stage Highways 113 and 213 intersec- tion in Methuen MA, and 2.6 mi south of Town Hall in Salem NH. Drainage area is 62.1 mi <sup>2</sup> .	2001	03-24-01	9.07	1,140	03-24-01	9.07	1,140
<b>CONNECTICUT RIVER BASIN</b>								
Paul Stream Tributary near Brunswick Springs, VT (01129700)	Lat 44°41'06", Long 71°37'18", Essex County, Hydrologic Unit 01080101, at culvert on Maidstone Lake Road, 400 ft upstream of mouth at Paul Stream, 1.7 mi west of Mason, NH, 1.9 mi northeast of Maidstone Lake outlet, 3.5 mi south of Brunswick Springs, and 4.6 mi south of North Strat- ford, NH, <b>(revised)</b> . Drainage area is 1.29 mi <sup>2</sup> .	1966-78, 1999-2001	04-24-01	11.22	45	03-18-68 06-30-73	bc 9.06 b 10.18	93 60

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>CONNECTICUT RIVER BASIN--Continued</b>								
Kirby Brook at Concord, VT (01134800)	Lat 44°26'31", long 71°52'43", Essex County, Hydrologic Unit 01080102, at culvert on U.S. Highway 2, 600 ft south- west of Kirby Road and US 2 intersection, 700 ft upstream from mouth, 1.1 mi northeast of High Street and US 2 intersec- tion in Concord, 2.1 mi south- west of Victory Road and US 2 intersection in North Concord, and 7.2 west of Town Hall in St. Johnsbury, <b>(revised)</b> . Drainage area is 8.05 mi <sup>2</sup> .	1964-74†, 1999-2001	12-18-00	8.57	496	06-30-73	b 6.35	1,600
Joes Brook Tributary near East Barnet, VT (01135700)	Lat 44°20'40", long 72°03'52", Caledonia County, Hydrologic Unit 01080102, at culvert on Joes Brook Road, 100 ft upstream of mouth, 1.8 mi northwest of East Barnet, 3.4 mi north of Barnet, 5.3 mi east of Peacham. Drainage area is 0.76 mi <sup>2</sup> .	1964-74, 1999-2001	12-17-00	13.60	103	12-17-00	13.60	103
Ompompanoosuc River at Union Village, VT (01141500)	Lat 43°47'24", Long 72°15'19", Orange County, Hydrologic Unit 01080103, on right bank, 400 ft downstream from Avery Brook, 600 ft upstream from covered bridge at Union Village, 0.2 mi downstream from Union Village Reservoir, 3.5 mi upstream from mouth, and 3.7 mi southwest of State Highway 113 and US 5 intersection in East Theford, <b>(revised)</b> . Drainage area is 130 mi <sup>2</sup> .	1927, 1940-89†, 1990-2001	04-22-01 04-27-01	9.77 9.77	1,870 1,870	06-03-47	b	4,800
Third Branch White River Tributary at Randolph, VT (01142400)	Lat 43°55'54", long 72°40'54", Orange County, Hydrologic Unit 01080105, at culvert on State 12A, 0.3 mi upstream of mouth, 0.8 mi west of junctions of State Highways 12 and 12A in Randolph, and 0.8 mi northwest of Town Hall in Randolph <b>(revised)</b> . Drainage area is 0.77 mi <sup>2</sup> .	1964-74, 1999-2001	12-17-00	10.25	34	06-27-98	d 16.61	b 327
Mascoma River at West Canaan, NH (01145000)	Lat 43°39'04", Long 72°05'07", Grafton County, Hydrologic Unit 01080104, on right bank, 45 ft downstream from Boston and Maine Railroad bridge, 0.6 mi east of US 4 and South Road intersection in West Canaan, 1.4 mi downstream from Indian River, 3.0 mi east of City Hall in Enfield, 3.7 mi west of Post Office in Canaan, and 19.3 mi upstream of mouth <b>(revised)</b> . Drainage area is 80.5 mi <sup>2</sup> .	1938, 1939-78†, 1985-2001	04-23-01	7.15	2,330	d 03-27-53 09-22-38	8.94 9.60	3,780 4,310

## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>CONNECTICUT RIVER BASIN--Continued</b>								
Kent Brook near Killington, VT (01150800)	Lat 43°40'24", long 72°48'33", Rutland County, Hydrologic Unit 01080105, at culvert on State Highway 100, 0.4 mi north of junction of State Highway 100N and US 4W, 1.6 mi upstream from mouth, 2.0 mi northwest of River Road and US 4 intersec- tion in Sherburme Center, 2.7 mi northwest of Killings- ton, 9.3 mi east of US 4E and 7N intersection in Rutland, <b>(revised)</b> . Drainage area is 3.31 mi <sup>2</sup> .	1964-74†, 1999-2001	04-22-01	7.92	222	06-30-73	b 12.81	600
Ottauquechee River Tributary near Quechee, VT (01151200)	Lat 43°39'37", long 72°25'55", Windsor County, Hydrologic Unit 01080106, at culvert on West Hartford-Quechee Road, 0.2 mi upstream of mouth, and 1.2 mi northwest of Quechee Main Street, Deweys Mills Road and Waterman Hill Road inter- section in Quechee, and 2.8 mi northeast of Happy Valley Road and US 4 intersection in Tafts- ville, <b>(revised)</b> . Drainage area is 0.82 mi <sup>2</sup> .	1964-74, 1999-2001	12-17-00	10.12	22	06-30-73	13.35	93
Black River at North Springfield, VT (01153000)	Lat 43°20'00", Long 72°30'55", Windsor County, Hydrologic Unit 01080106, on right bank, 600 ft upstream of State High- way 106, 0.3 mi upstream from Great Brook, 0.6 mi downstream from North Springfield Dam, 0.9 mi east of State Highway 10 and 106 intersection in North Springfield, 2.9 mi northwest of State Highway 11 and 143 intersection in Springfield, and 7.8 mi upstream of mouth, <b>(revised)</b> . Drainage area is 158 mi <sup>2</sup> .	1929-89†, 1990-2001	04-28-01	7.69	3,690	09-22-38	17.68	15,500
Middle Branch Williams River Tributary at Chester, VT (01153300)	Lat 43°16'13", long 72°36'32", Windsor County, Hydrologic Unit 01080107, at culvert on Lovers Lane Road, 0.2 mi from Lovers Lane Road and State Highway 11 intersection, 0.8 mi northeast of junction of State Highways 11 and 35 in Chester, 1.5 mi upstream of mouth, and 6.7 mi west of Springfield <b>(revised)</b> . Drainage area is 3.16 mi <sup>2</sup> .	1964-78, 1999-2001	06-11-01	20.13	145	08-10-76	e	f 367

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>CONNECTICUT RIVER BASIN--Continued</b>								
West River Tributary near Jamaica, VT (01155350)	Lat 43°07'33", long 72°48'46", Windham County, Hydrologic Unit 01080107, at culvert on State Highway 30/100, 800 ft north of Stratton Gate Road and State Highway 100 intersec- tion, 0.5 mi upstream of mouth, 1.9 mi west of Ball Mountain Dam, 2.0 mi southeast of State Highway 30W and 100N intersec- tion in Rawsonville, and 2.5 mi northwest of Depot Street and State Highway 30/100 intersec- tion in Jamaica ( <b>revised</b> ). Drainage area is 0.90 mi <sup>2</sup> .	1964-78, 1999-2001	04-22-01	9.64	68	06-30-73	b 15.14	320
West River below Townshend Dam near Townshend, VT (01155910)	Lat 43°03'04", long 72°42'02", Windham County, Hydrologic Unit 01080107, on left bank opposite mouth of Pair Brook, 150 ft below Townshend Dam, 1.7 mi west of State Highway 30 and 35 intersection in Townsh- end, 2.4 mi south of Windham Hill Road and State Highway 30 intersection in West Townsh- end, 2.7 mi upstream from Mills Brook, and 18.9 mi upstream from mouth. Drainage area is 282 mi <sup>3</sup> .	1995-2000+, g 2001	04-29-01	7.83	6,380	04-24-96	8.89	8,050
Whetstone Brook Tributary near Marlboro, VT (01156300)	Lat 42°52'42", long 72°42'32", Windham County, Hydrologic Unit 01080104, at culvert on State Highway 9, 600 ft south- west of Sunset Lake Road and State Highway 9 intersection, 800 ft upstream of mouth, 0.5 mi southwest of mouth of Hidden Lake, 1.5 mi northeast of Marlboro, and 7.6 mi west of Town Hall in Brattleboro <b>(revised)</b> . Drainage area is 1.05 mi <sup>2</sup> .	1963-74, 1999-2001	04-22-01	9.57	92	07-29-69	b 7.65	230
Connecticut River Tributary near Vernon, VT (01156450)	Lat 42°47'01", long 72°31'57", Windham County, Hydrologic Unit 01080104, at downstream culvert on Tyler Hill Road, 0.3 mi west of Tyler Hill Road and State Highway 142 intersec- tion, 0.6 mi upstream of mouth, 1.3 mi northwest of Vernon Dam, and 1.8 mi northwest of West Road and State Highway 142 intersection in Vernon <b>(revised)</b> . Drainage area is 1.12 mi <sup>2</sup> .	1964-74, 1999-2001	12-17-00	7.24	42	04-25-70	10.91	128



## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>HUDSON RIVER BASIN</b>								
Tanner Brook near Sunderland, VT (01328900)	Lat 43°07'48", long 73°05'44", Bennington County, Hydrologic Unit 02020003, at culvert on State Highway 7A, 400 ft south of State Highway 7A and Muddy Lane intersection, 1.3 mi northeast of Sunderland Borough Road and North Road intersection in Sunderland, 2.5 mi southwest of Courthouse in Manchester <b>(revised)</b> . Drainage area is 2.60 mi <sup>2</sup> .	1964-74, 1999-2001	12-16-00	10.41	34	02-05-70	11.84	84
Paran Creek near South Shaftsbury, VT (01333900)	Lat 42°58'13", long 73°11'19", Bennington County, Hydrologic Unit 02020003, at culvert on Hallow Road, 400 ft upstream of right bank tributary, 400 ft north of Hallow Road and Air- port Road intersection, 1.3 mi southeast of State Highway 7A and West Mount Road intersec- tion in Shaftsbury Center, and 1.8 mi northeast of State High- ways 7A-N and 67N intersection in South Shaftsbury <b>(revised)</b> . Drainage area is 2.38 mi <sup>2</sup> .	1964-78, 1999-2001	04-22-01	6.90	47	06-30-73	11.52	d 193
<b>ST. LAWRENCE RIVER BASIN</b>								
Poultney River Tributary at East Poultney, VT (04279400)	Lat 43°32'13", long 73°12'33", Rutland County, Hydrologic Unit 02010001, at culvert on Lewis Road, 0.5 mi west of Town Hill, 0.5 mi northwest of Lewis, Thrall and Hillside Roads intersection, 0.8 mi north of State Highway 140 and Thrall Road intersection in East Poultney, and 1.8 mi northeast of Town Hall in Poultney <b>(revised)</b> . Drainage area is 1.13 mi <sup>2</sup> .	1964-78, 1999-2001	12-17-00	8.30	52	04-14-64	b 12.36	98
Brandy Brook at Bread Loaf, VT (04282300)	Lat 43°57'19", long 72°59'47", Addison County, Hydrologic Unit 02010002, at culvert on State Highway 125, 300 ft southeast of Kirby Road and State Highway 125 intersec- tion, 0.2 mi west of Bread Loaf, 0.3 mi upstream of South Branch Middlebury River, 2.3 mi southeast of National Turnpike and State Highway 125 in Ripton, and 9.5 mi southeast of Town Hall in Middlebury <b>(revised)</b> . Drainage area is 2.24 mi <sup>2</sup> .	1963-78, 2000-2001	12-17-00	12.88	157	07-16-00	17.98	546

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>ST. LAWRENCE RIVER BASIN--Continued</b>								
Little Otter Creek Tributary near Bristol, VT (04282600)	Lat 44°08'35", long 73°07'03", Addison County, Hydrologic Unit 02010002, at culvert on Plank Road, 300 ft east of East Road and Plank Road intersec- tion, 2.0 mi northwest of Town Hall in Bristol, 2.2 mi north- east of North Street, South Street, and State Highway 17 intersection in New Haven, and 9.1 mi northeast of State High- way 125 and US 7 intersection in Middlebury ( <b>revised</b> ). Drainage area is 1.48 mi <sup>2</sup> .	1964-78, 1999-2001	12-17-00	11.51	51	06-30-73	13.16	64
Lewis Creek Tributary at Starksboro, VT (04282700)	Lat 44°13'00", long 72°03'21", Addison County, Hydrologic Unit 02010002, at culvert on State Highway 116, 0.4 mi upstream of mouth, 0.7 mi south of Big Hollow Road and State Highway 116 intersection in Starksboro, 0.9 mi west of East Mountain, and 5.9 mi north of Town Hall in Bristol ( <b>revised</b> ). Drainage area is 5.31 mi <sup>2</sup> .	1963-74+, 1999-2001	04-13-01	16.73	225	12-21-73	b 5.25	1,350
Sunny Brook near Montpelier, VT (04287300)	Lat 44°16'05", long 72°37'28", Washington County, Hydrologic Unit 02010003, at culvert on U.S. Highway 2, 600 ft north- east of Interstate 89 overpass over US Highway 2, 0.3 mi upstream from mouth, 0.7 mi east of the mouth of Jones Brook, and 2.2 mi west of Vermont State Capitol Building in Montpelier ( <b>revised</b> ). Drainage area is 2.31 mi <sup>2</sup> .	1964-74+, 1999-2001	12-17-00	7.04	283	06-13-73	b 7.40	342
Winooski River Tributary near Richmond, VT (04289600)	Lat 44°26'09", long 72°58'46", Chittenden County, Hydrologic Unit 02010003, at culvert on Browns Trace Road, 1400 ft north of Jerico-Richmond Town Line, 0.3 mi south of Browns Trace Road and Governor Peck Road intersection, 2.2 mi north of Jerico Road and US 2 inter- section in Richmond, and 2.3 mi south of Browns Trace Road and Bolger Hill Road intersection in Jerico Center ( <b>revised</b> ). Drainage area is 0.71 mi <sup>2</sup> .	1964-74, 1999-2001	12-17-00	11.88	34	06-15-72	b 14.59	102
Bailey Brook at East Hardwick, VT (04290700)	Lat 44°31'41", long 72°18'16", Caldonia County, Hydrologic Unit 02010005, at culvert on Hardwick Street, 800 ft north of railroad crossing, 0.4 mi upstream of mouth, and 0.5 mi northeast of Brochu Road and Church Street intersection in East Hardwick, and 3.6 mi northeast of Town Hall in Hardwick ( <b>revised</b> ). Drainage area is 2.52 mi <sup>2</sup> .	1964-78, 1999-2001	04-24-01	11.42	74	06-30-73	15.92	285

## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>ST. LAWRENCE RIVER BASIN--Continued</b>								
Stony Brook near Eden, VT (04292100)	Lat 44°41'37", long 72°34'58", Lamoille County, Hydrologic Unit 02010005, at culvert on State Highway 100, 500 ft upstream of mouth, 2.0 mi southwest of State Highways 100 and 118 intersection in Eden, 2.2 mi northeast of State High- ways 100 and 100C intersection in North Hyde Park, and 6.2 mi northeast of State Highways 15 and 100C intersection in Johnson ( <b>revised</b> ). Drainage area is 4.21 mi <sup>2</sup> .	1964-74†, 1999-2001	04-22-01	6.46	253	06-30-73	b 3.64	890
Whittaker Brook at Richford, VT (04293400)	Lat 44°59'14", long 72°39'15", Franklin County, Hydrologic Unit 02010007, at culvert on State Highway 105, 100 ft upstream of mouth, 0.3 mi east of a Canadian Pacific Railroad bridge over State Highway 105, and 1.0 mi southeast of the junction of State Highways 105 and 139 in Richford. Drainage area is 0.64 mi <sup>2</sup> .	1963-78, 1999-2001	04-22-01	8.58	28	04-14-64	12.49	190
Missisquoi River Tributary at Sheldon Junction, VT (04293800)	Lat 44°54'01", long 72°57'40", Franklin County, Hydrologic Unit 02010007, at culvert on State Highway 105, 40 ft west of the State Highway 105 and Bergeron Road (TH21) intersec- tion, 0.5 mi upstream of mouth, 0.8 mi west of State Highways 78 and 105 intersection in Sheldon Junction, and 0.9 mi east of Catholic Church Road and Mill Road intersection in Sheldon Springs ( <b>revised</b> ). Drainage area is 1.69 mi <sup>2</sup> .	1963-78, 1999-2001	04-22-01	13.47	98	06-30-73	13.63	108
Saxe Brook near Highgate Springs, VT (04294200)	Lat 44°59'38", long 73°03'59", Franklin County, Hydrologic Unit 02010007, at culvert on Ballard Road, 100 ft north of Ballard Road and St. Armand Road intersection, 0.4 mi upstream of mouth at Rock River, 1.5 mi south of US- Canada Border Bench Mark 629A, 2.3 mi northeast of US 7 Tyler Road intersection in Highgate Springs and 4.0 mi north of State Highways 78E and 207N intersection in Highgate Center ( <b>revised</b> ). Drainage area is 2.79 mi <sup>2</sup> .	1963-74, 1999-2001	04-22-01	13.69	93	04-03-74	14.28	117

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 2001 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)	Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
<b>ST. LAWRENCE RIVER BASIN--Continued</b>								
Lord Brook near Evansville, VT (04296150)	Lat 44°46'59", long 72°07'08", Orleans County, Hydrologic Unit 01110000, at culvert on State Highway 16, 0.2 mi east of State Highway 16 and Fiske Road intersection, 1.2 mi upstream of mouth, 1.5 mi south of Chase Road and State Highway 58 intersection in Evansville, and 3.6 mi northeast of US 5 and State Highway 58 intersec- tion in Barton ( <b>revised</b> ). Drainage area is 4.76 mi <sup>2</sup> .	1964-78, 1999-2001	04-24-01	12.69	192	05-20-69	15.26	410
Brownington Branch near Evansville, VT (04296200)	Lat 44°50'02", long 72°04'00", Orleans County, Hydrologic Unit 01110000, at culvert on State Highway 5A, 0.5 mi upstream of mouth of Moody Brook, 2.8 mi north of State Highways 5A and 58 intersec- tion, 3.8 mi northeast of Chase Road and State Highway 58 intersection in Evansville, and 10.0 mi east of Loop Road and Main Street intersection in Coventry ( <b>revised</b> ). Drainage area is 2.15 mi <sup>2</sup> .	1964-74†, 1999-2001	04-24-01	8.72	166	12-21-73	b 7.91	170
Pherrins River Tributary near Island Pond, VT (04296300)	Lat 44°50'34", long 71°54'31", Essex County, Hydrologic Unit 01110000, at culvert on State Highway 114, 200 ft upstream of mouth, 800 ft south of State Highway 111 and 114 junction, 2.3 mi northwest of State High- ways 105 and 114 intersection in Island Pond, and 4.0 mi east of Echo Pond Road and State Highway 105 intersection in East Charleston ( <b>revised</b> ). Drainage area is 1.05 mi <sup>2</sup> .	1964-78, 1999-2001	04-24-01	10.63	39	05-20-69	12.53	140

† Operated as a continuous-record gaging station.

a From maximum indicator clip.

b At a different site and datum.

c Different culvert at site.

d Extreme outside period of record.

e Not determined.

f Discharge is an estimate.

g Maximum discharge during period February 2001 to September 2001.

## Miscellaneous Sites

Discharge measurements in the following table were made at miscellaneous sites throughout New Hampshire and Vermont.

## Discharge measurements made at miscellaneous sites

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
<b>SACO RIVER BASIN</b>						
01065000 Ossipee River at Effingham Falls, NH	Saco River	Lat 43°47'44", Long 71°03'36", Carroll County, Hydrologic Unit 01060002, 0.3 mi upstream from State Highway 153 at Effingham Falls, 0.3 mi downstream from the outlet of Ossipee Lake (Berry Bay), and 4 mi northwest of Effingham.	330	1924-90†, 1998-2000	11-15-00	744
<b>PISCATAQUA RIVER BASIN</b>						
a 01072850 Mohawk Brook near Center Strafford, NH	Isinglass River	Lat 43°15'47", Long 71°05'50", Strafford County, Hydrologic Unit 01070002, on left bank 0.5 mi downstream from bridge on State Highway 202A, and 1.2 mi east of Center Strafford.	8.87	1964-77	06-05-00 06-20-00 07-20-00 09-18-00	3.90 5.99 3.12 1.07
<b>MERRIMACK RIVER BASIN</b>						
01075000 Pemigewasset River at Woodstock, NH	Merrimack River	Lat 43°58'34", Long 71°40'48", Grafton County, Hydrologic Unit 01070001, 300 ft upstream of southern State Highway 175 bridge, 0.2 mi east of Woodstock, 0.7 mi upstream from Eastman Brook, and 4.8 mi south of Town Hall in Lincoln ( <b>revised</b> ).	193	1940-77†, 1978-2000	11-14-00 07-18-01 08-15-01 08-16-01	395 147 40.8 37.9
01076000 Baker River near Rumney, NH	Pemigewasset River	Lat 43°47'46", Long 71°50'42", Grafton County, Hydrologic Unit 01070001, 200 ft upstream from small-right bank tributary, 0.3 mi upstream from Halls Brook, 1.8 mi southeast of West Rumney ( <b>revised</b> ), and 1.8 mi southwest of Rumney.	143	1929-77†, 1978-2000	11-14-00 07-03-01 07-19-01 08-28-01	144 81.6 53.7 10.8
01077510 Newfound River, at Newfound Lake outlet, near Bristol, NH	Pemigewasset River	Lat 43°37'05", Long 71°44'25", Grafton County, Hydrologic Unit 01070001, at outlet of Newfound Lake, 500 ft south of West Shore Road, 800 ft west of West Shore Road and State Highway 3A intersection, and 1.8 mi north of Post Office in Bristol.	98	1974-76, 1991-2000	07-19-01	23
01081500 Merrimack River at Franklin Junction, NH	Atlantic Ocean	Lat 43°25'22", Long 71°39'12", Merrimack County Hydrologic Unit 01070002, at Franklin Junction, 1.0 mi downstream from confluence of Pemigewasset and Winnepesaukee Rivers, 1.5 mi south of Post Office in Franklin, and 3.5 mi southwest of Tilton ( <b>revised</b> ).	1,507	1903-78†, 1979-2000	11-16-00 11-16-00 04-17-01 05-09-01 06-25-01	2,980 3,380 9,690 3,230 1,500
01082000 Contoocook River at Peterborough, NH	Merrimack River	Lat 42°51'45", Long 71°57'35", Hillsborough County, Hydrologic Unit 01070003, 1,200 ft downstream of mill-dam, 0.3 mi northwest of Noone, 1.2 mi south of Town Hall in Peterborough, and 1.3 mi upstream of Nubanusit Brook ( <b>revised</b> ).	68.1	1945-77†, 1978, 1980-2000	10-25-00 04-02-01 06-04-01	58.9 169 368
01083000 Nubanusit Brook near Peterborough, NH	Contoocook River	Lat 42°53'43", Long 71°59'13", Hillsborough County, Hydrologic Unit 01070003, on left bank 300 ft downstream from Edward MacDowell Reservoir, 2.2 mi northwest of Town Hall in Peterborough, and 2.7 mi upstream from mouth.	44.0	1920-31†b, 1945-89†b, 1990-97b, 1999-2000	10-25-00 02-12-01 02-14-01 04-02-01 06-04-01 07-31-01	41.3 60.4 49.6 143 351 7.59

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## Discharge measurements made at miscellaneous sites--Continued

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
<b>MERRIMACK RIVER BASIN--Continued</b>						
01085000	Merrimack River	Lat 43°09'10", Long 71°51'24", Merrimack County, Hydrologic Unit 01070003, 1.6 mi downstream from Sand Brook, 2.6 mi southwest of Post Office in Henniker, and 3.3 mi northeast of State Highway 149 and US 202 intersection in Hillsborough <b>(revised)</b> .	368	1939-77‡, 1978-2000	11-15-00 04-10-01 04-25-01 07-02-01	915 1,950 5,150 127
01085500	Merrimack River	Lat 43°11'34", Long 71°44'52", Merrimack County, Hydrologic Unit 01070003, 400 ft downstream from covered bridge at West Hopkinton, 0.2 mi downstream from Hopkinton Dam, 2.6 mi southwest of State Highways 103 and 127 intersection in Contoocook, 3.6 mi west of State Highway 103 and US 202 intersection in Hopkinton, and 6.0 mi upstream from Warner River <b>(revised)</b> .	427	1903-07‡, 1963-89‡, 1990-2000	11-20-00 04-10-01 04-26-01 07-06-01	530 3,030 5,750 244
01086000	Merrimack River	Lat 43°15'03", Long 71°43'59", Merrimack County, Hydrologic Unit 01070003, 60 ft downstream from bridge on State Highway 127 at Davisville, 2.2 mi northwest of State Highways 103 and 127 intersection in Contoocook, 2.3 mi upstream from mouth, 4.8 mi southeast of Warner. <b>(revised)</b> .	146	1939-78, 1999-2000	11-14-00 04-13-01 04-24-01 07-05-01	140 1,280 2,390 75.6
01087000	Merrimack River	Lat 43°17'49", Long 71°41'41", Merrimack County, Hydrologic Unit 01070003, 0.2 mi west of Dingit Corner, 0.4 mi downstream of Clothspin Bridge Road, 2.4 mi downstream from Blackwater Dam, 2.5 mi southeast of Webster, 4.4 mi east of US 3 and 4 intersection in Boscawan, and 6.6 mi upstream from mouth <b>(revised)</b> .	129	1927-89‡, 1990-2000	11-14-00 04-13-01 08-17-01	158 868 13.9
01088400	Merrimack River	Lat 43°12'32", Long 71°31'51", Merrimack County, Hydrologic Unit 01070002, at state Highway 9 bridge in Concord, 0.4 mi east of the State Capitol Building in Concord, 1.0 mi downstream of Interstate 393 bridge, and 1.3 mi upstream of US 3 bridge <b>(revised)</b> .	2,300	1979-82‡, 1999-2000	04-20-01	15,200
01090800	Merrimack River	Lat 43°05'29", Long 71°39'36", Hillsborough County, Hydrologic Unit 01070002, 500 ft downstream from Everett Dam, 1.4 mi southeast of East Weare, 2.3 mi west of Dunbarton Center, 3.6 mi east of Weare, and 5.9 mi northwest of Goffstown <b>(revised)</b> .	63.1	1963-89‡, 1990-2000	10-19-00 04-16-01 06-20-01 08-17-01	104 778 54.2 3.82
01091500	Merrimack River	Lat 43°01'00", Long 71°33'04", Hillsborough County, Hydrologic Unit 01070002, 300 ft upstream of Henry Road bridge, 0.3 mi upstream from Harry Brook, 0.4 mi southwest of Grasmere, 0.9 mi downstream from Glen Lake, and 2.5 mi east of Town Hall in Goffstown, <b>(revised)</b> .	202	1939-78‡, 1979-2000	11-13-00 04-11-01 07-09-01	300 1,920 145
01094000	Merrimack River	Lat 42°51'27", Long 71°30'24", Hillsborough County, Hydrologic Unit 01070002, at head of Wildcat Falls, 0.6 mi upstream from south bound bridge on Everett Turnpike, 0.9 mi southwest of Town Hall in Merrimack, 1.3 mi upstream from mouth, and 1.7 mi northwest of Town Hall in Litchfield, <b>(revised)</b> .	171	1909-76‡, 1979-2000	11-13-00 04-11-01 07-03-01	263 2,160 183

## Discharge measurements made at miscellaneous sites--Continued

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
<b>MERRIMACK RIVER BASIN--Continued</b>						
01100561	Merrimack River	Lat 42°44'35", Long 71°12'32", Rockingham County, Hydrologic Unit 01070002, at bridge on Hampshire Road, 800 ft downstream from Policy Brook, 0.5 mi west of Hampshire Road, 1.5 mi northwest of Massachusetts State Highways 113 and 213 in Methuen MA, and 2.6 mi south of Town Hall in Salem NH.	62.1	1998	10-12-00 10-18-00 10-20-00 10-25-00 11-03-00 03-23-01 06-15-01	10.9 210 227 216 75.4 1,060 37.1
<b>CONNECTICUT RIVER BASIN</b>						
01141500	Connecticut River	Lat 44°47'24", Long 71°15'19", Coos County, Hydrologic Unit 01080103, 400 ft downstream from Avery Brook, 600 ft upstream from covered bridge at Union Village, 0.2 mi downstream from Union Village Reservoir, 3.5 mi upstream from mouth, and 3.7 mi southwest of State Highway 113 and US 5 intersection in East Theford <b>(revised)</b> .	130	1940-89†, 1990-2000	10-18-00 10-27-00 04-04-01 04-16-01 06-18-01 08-08-01	64.3 41.6 106 989 80.1 12.0
01145000	Connecticut River	Lat 43°39'04", Long 72°05'07", Grafton County, Hydrologic Unit 01080104, 45 ft downstream from Boston and Maine Railroad bridge, 0.6 east of US 4 and South Road intersection in West Cannaan, 1.4 mi downstream from Indian River, 3.0 mi east of City Hall in Enfield, 3.7 mi west of Post Office in Cannaan, and 19.3 mi upstream of mouth <b>(revised)</b> .	80.5	1939-78†, 1979-2000	04-17-01 06-13-01 06-14-01 08-16-01	852 123 82.8 3.42
01152010	Connecticut River	Lat 43°23'10", Long 72°05'30", Sullivan County, Hydrologic Unit 01080104, behind Crutch Factory at Sunapee, and 0.2 mi downstream from State Highway 11, and 0.6 mi downstream of outlet of Lake Sunapee <b>(revised)</b> .	46	1976, 1979, 1983-87, 1991-2000	10-19-00 06-18-01 08-16-01	78.8 199 19.9
01153000	Connecticut River	Lat 43°20'00", Long 72°30'55", Windsor County, Hydrologic Unit 01080106, at North Springfield, 600 ft upstream of State Highway 106, 0.3 mi upstream from Great Brook, 0.6 mi downstream from North Springfield Dam, 0.9 mi east of State Highway 10 and 106 intersection in North Springfield, 2.9 mi northeast of State Highway 11 and 143 intersection in Springfield, and 7.8 mi upstream from mouth <b>(revised)</b> .	158	1929-89†, 1990-2000	12-12-00 04-11-01 04-13-01 06-19-01 08-06-01	123 1,380 1,900 311 41.9
01155910	Connecticut River	Lat 43°03'04", long 72°42'02", Windham County, Hydrologic Unit 01080107, on left bank opposite mouth of Fair Brook, 150 ft below Townshend Dam, 1.7 mi west of State Highway 30 and 35 intersection in Townshend, 2.4 mi south of Windham Hill Road and State Highway 30 intersection in West Townshend, 2.7 mi upstream from Mills Brook, and 18.9 mi upstream from mouth.	282	1995-2000†	04-05-01 05-01-01 05-07-01 05-07-01 08-14-01	333 5,160 716 1,960 49.2

† Operated as a continuous-record gaging station.

a Published in error under wrong station number in Water Year 2000.

b At different site and datum.

MISCELLANEOUS SURFACE-WATER QUALITY DATA FOR SITES IN NEW HAMPSHIRE

WATER QUALITY AT MISCELLANEOUS SURFACE-WATER SITES

New England Coastal Basin National Water-Quality Assessment Program Surface-Water Synoptic Sampling,  
June 6 - September 14, 2001

Miscellaneous water-quality sites are locations where non-routine water-quality data are collected during one year for use in hydrologic analyses. Data are collected either intermittently or systematically for a limited period of time. Water-quality data presented in this table were collected by the New England Coastal Basin National Water-Quality Assessment Program (NAWQA) as part of a study to provide further information on nutrient/chlorophyll relations in streams.

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM HG) (00025)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	TUR-BIDITY FIELD WATER UNFLTRD (NTU) (61028)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
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MERRIMACK RIVER BASIN

01090477 BLACK BROOK, AT DUNBARTON RD, NEAR MANCHESTER, NH (LAT 43 01 31N LONG 071 30 17W)

DATE	TIME	SODIUM DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA DIS-SOLVED (MG/L AS SI <sub>2</sub> ) (00955)	SULFATE DIS-SOLVED (MG/L AS S <sub>4</sub> ) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
JUN	13... 1445	26	752	80	1.5	8.4	6.4	125	22.0	3.36	.849	.56		
JUL	04... 1200	10	754	86	1.3	8.8	6.8	113	20.5	3.42	.839	.52		
	25... 0800	3.0	748	61	1.1	7.7	7.0	101	24.0	3.40	.834	.51		
AUG	15... 0900	2.4	756	51	1.0	8.6	6.9	94	19.0	3.27	.836	.57		
SEP	06... 0900	.71	760	78	.7	11.1	7.2	140	14.0	4.09	1.04	.74		
	14... 0730	--	--	--	--	--	--	--	--	--	--	--		

01090477 BLACK BROOK, AT DUNBARTON RD, NEAR MANCHESTER, NH (LAT 43 01 31N LONG 071 30 17W)

DATE	TIME	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	PERI-PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI-PHYTON BIOMASS DRY WEIGHT (G/SQ M) (00573)	PHEO-PHYTIN A, PERI-PHYTON (MG/M <sub>2</sub> ) (62359)	PHEO-PHYTIN A, PHYTO-PHYTON (MG/M <sub>2</sub> ) (62360)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M <sub>2</sub> ) (70957)	CHLOR-A PHYTO-PLANK-TON CHROMO-FLUOROM (MG/M <sub>2</sub> ) (70953)	IRON DIS-SOLVED (µG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)
JUN	13... 6.7	7.9	54.6	58.1	1.6	1.0	2.3	1.4	280	22.9	
JUL	04... 6.4	7.5	231.8	238.3	4.1	1.2	3.8	.6	540	19.4	
	25... 5.5	6.7	255.7	262.0	1.7	2.6	5.5	4.1	290	21.3	
AUG	15... 4.8	5.8	209.8	218.0	6.1	1.0	10.0	.7	290	17.7	
SEP	06... 3.7	4.3	--	--	--	--	--	--	110	22.1	
	14... --	--	133.9	140.5	9.1	1.0	7.2	.4	--	--	

01090477 BLACK BROOK, AT DUNBARTON RD, NEAR MANCHESTER, NH (LAT 43 01 31N LONG 071 30 17W)

DATE	TIME	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	PERI-PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI-PHYTON BIOMASS DRY WEIGHT (G/SQ M) (00573)	PHEO-PHYTIN A, PERI-PHYTON (MG/M <sub>2</sub> ) (62359)	PHEO-PHYTIN A, PHYTO-PHYTON (MG/M <sub>2</sub> ) (62360)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M <sub>2</sub> ) (70957)	CHLOR-A PHYTO-PLANK-TON CHROMO-FLUOROM (MG/M <sub>2</sub> ) (70953)	IRON DIS-SOLVED (µG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)
JUN	13... 6.7	7.9	54.6	58.1	1.6	1.0	2.3	1.4	280	22.9	
JUL	04... 6.4	7.5	231.8	238.3	4.1	1.2	3.8	.6	540	19.4	
	25... 5.5	6.7	255.7	262.0	1.7	2.6	5.5	4.1	290	21.3	
AUG	15... 4.8	5.8	209.8	218.0	6.1	1.0	10.0	.7	290	17.7	
SEP	06... 3.7	4.3	--	--	--	--	--	--	110	22.1	
	14... --	--	133.9	140.5	9.1	1.0	7.2	.4	--	--	



WATER QUALITY AT MISCELLANEOUS GROUND-WATER WELLS  
(WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001)

Remarks: STATE ID NO., State-assigned number to water-utility system and well subject to change); G/M, gallons per minute; "E", estimated concentration; "<", less than; "M", presence verified, not quantified; 112SRFD, unconsolidated, surficial aquifers. Organic pesticide compounds, analyzed by NWQL Schedule 2001, and volatile organic compounds (VOCs), analyzed by NWQL Schedule 2020, are listed with laboratory reporting levels in the section "EXPLANATION OF RECORDS". Only pesticides and VOCs identified by the analyses (either as estimated values or values measured at or above the laboratory reporting level) for one or more samples are listed in the water-quality tables. Water-quality data presented in this table were collected by the New England Coastal Basins National Water-Quality Assessment Program (NAWQA) as part of a ground water study in unconsolidated, surficial (stratified-drift) aquifers. Water-quality samples were collected from gravel-packed wells used to provide municipal drinking water. Locations of wells are shown in figure 4. Accurate latitude and longitudinal data are available for the public-supply wells, but are omitted from this table. Anyone interested in obtaining this locational data should contact the USGS Information Officer, NH/VT District, at dc\_nh@usgs.gov.

LOCAL IDENTIFIER	STATE ID NO.	TOWN	GEO-LOGIC UNIT	DATE	TIME	DEPTH BELOW LAND			DEPTH TO TOP OF SCREEN (FT)	DEPTH TO BOTTOM OF SCREEN (FT)	WELL DEPTH (FT)	SAMPLE FLOW RATE (G/M)	WELL YIELD (G/M)
						SURFACE (FEET)	TOP OF SCREEN (FT)	BOTTOM OF SCREEN (FEET)					

HILLSBOROUGH COUNTY

NH-PCW 126	NH1871010-003	Peterborough	112SRFD	07-10-01	1100	29.0	42	52	51.5	4	194
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MERRIMACK COUNTY

NH-WCW 5	NH2411010-003	Warner	112SRFD	07-09-01	1100	10.83	30	38	38	2	150
NH-BUW 11	NH0266010-001	Bow	112SRFD	08-02-01	1100	33.80	40	49	48.7	3.5	91
NH-LSW 246	NH1407020-002	Loudon	112SRFD	08-09-01	1100	7.50	21	28	28	3	250

CARROLL COUNTY

NH-CWW 9	NH0511030-003	Conway	112SRFD	08-15-01	1100	10.37	57	77	77	5	900
NH-B3W 11	NH2391010-002	Brookfield	112SRFD	08-13-01	1100	14.80	25	30	30	4.5	125

COOS COUNTY

NH-BRW 1	NH0231010-004	Berlin	112SRFD	08-14-01	1100	16.27	35	41	41	6	700
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LOCAL IDENTIFIER	DATE	ELEV. OF LAND SURFACE DATUM (FT.)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	TURBIDITY FIELD WATER UNFLTRD (NTU)	OXYGEN, (PERCENT) DIS-SOLVED (MG/L)	PH (PERCENT) SATURATED UNITS	WATER WHOLE FIELD (STANDARD)	SPE-CIFIC CONDUCTANCE (µS/CM)	TEMPERATURE (DEG C)	NITROGEN GAS DISS. (MG/L AS N <sub>2</sub> )	HARDNESS TOTAL (MG/L AS CaCO <sub>3</sub> )

HILLSBOROUGH COUNTY

NH-PCW 126	07-10-01	730	101	.1	9.2	80.8	6.0	148	8.0	20.1	27.9
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MERRIMACK COUNTY

NH-WCW 5	07-09-01	410	78	.1	1.7	16.1	6.0	113	11.8	18.1	19.5
NH-BUW 11	08-02-01	210	143	.4	9.0	80	5.6	235	10.6	35.8	39.5
NH-LSW 246	08-09-01	470	124	.2	.2	2	5.8	168	13.9	25.3	44.1

CARROLL COUNTY

NH-CWW 9	08-15-01	470	37	.1	3.9	36	5.9	58	9.1	19.3	14.2
NH-B3W 11	08-13-01	520	218	.2	3.0	27	6.1	383	7.5	20.5	72.9

COOS COUNTY

NH-BRW 1	08-14-01	1130	105	.3	2.8	25	5.8	160	7.8	22.8	37.4
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MISCELLANEOUS GROUND-WATER QUALITY DATA FOR WELLS IN NEW HAMPSHIRE

LOCAL IDENTIFICATION	DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM DIS-SOLVED (MG/L AS K) (00935)	ALKALINITY WATER TOTAL FIELD (MG/L AS CaCO <sub>3</sub> ) (39086)	BICARBONATE WATER DIS-SOLVED FIELD (MG/L AS HCO <sub>3</sub> ) (00453)	CARBONATE WATER DIS-SOLVED FIELD (MG/L AS CO <sub>3</sub> ) (00452)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
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HILLSBOROUGH COUNTY

NH-PCW 126	07-10-01	8.70	1.49	15.3	1.26	53.1	1.25	12	15	0	.01
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MERRIMACK COUNTY

NH-WCW 5	07-09-01	6.25	.932	14.3	1.41	59.7	1.24	12	15	0	<.01
NH-BUW 11	08-02-01	11.2	2.73	28.0	1.95	59.8	1.36	17	21	0	.04
NH-LSW 246	08-09-01	11.2	3.85	13.5	.886	38.7	2.00	30	36	0	.10

CARROLL COUNTY

NH-CWW 9	08-15-01	4.54	.685	5.7	.662	44.6	1.01	10	13	0	<.01
NH-B3W 11	08-13-01	25.1	2.47	35.0	1.78	50.1	2.48	30	36	0	.03

COOS COUNTY

NH-BRW 1	08-14-01	10.5	2.67	17.4	1.24	49.3	1.28	22	27	0	.02
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LOCAL IDENTIFICATION	DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO <sub>2</sub> ) (00955)	SULFATE DIS-SOLVED (MG/L AS SO <sub>4</sub> ) (00945)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOSPHORUS, PHOSPHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHOPHOSPHORUS DIS-SOLVED (MG/L AS P) (00671)
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HILLSBOROUGH COUNTY

NH-PCW 126	07-10-01	31.6	<.2	12.1	4.7	E.031	<.10	.162	.011	.009	<.020
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MERRIMACK COUNTY

NH-WCW 5	07-09-01	22.6	<.2	7.6	4.4	E.032	E.07	.259	.011	.935	.582
NH-BUW 11	08-02-01	49.8	<.2	15.5	8.2	<.040	<.10	.938	<.006	<.006	<.020
NH-LSW 246	08-09-01	21.5	<.2	13.7	17.6	.165	.24	.093	<.006	<.006	<.020

CARROLL COUNTY

NH-CWW 9	08-15-01	6.5	1.3	11.8	4.6	E.024	<.10	.370	<.006	<.006	<.020
NH-B3W 11	08-13-01	83.7	<.2	11.4	5.1	E.025	<.10	1.21	<.006	<.006	<.020

COOS COUNTY

NH-BRW 1	08-14-01	28.1	<.2	13.4	12.3	<.040	<.10	.184	<.006	<.006	<.020
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LOCAL IDENT- I- FIER	DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO <sub>2</sub> ) (00405)	CARBON ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (µG/L AS SB) (01095)	ARGON (MG/L AS A) (82043)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (µG/L AS BE) (01010)	BORON, DIS- SOLVED (µG/L AS B) (01020)	CADIUM DIS- SOLVED (µG/L AS CD) (01025)
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**HILLSBOROUGH COUNTY**

NH-PCW 126	07-10-01	21	E.21	<1	E.03	.740	<.2	3.2	<.06	E4	E.03
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**MERRIMACK COUNTY**

NH-WCW 5	07-09-01	19	1.4	17	E.04	.660	.2	4.5	<.06	11	<.04
NH-BUW 11	08-02-01	75	.39	17	<.05	1.02	E.2	13.6	<.06	35	E.03
NH-LSW 246	08-09-01	103	.79	10	<.05	.690	.6	27.9	<.06	E7	.14

**CARROLL COUNTY**

NH-CWW 9	08-15-01	15	E.27	118	<.05	.720	E.1	1.9	.24	<7	.04
NH-B3W 11	08-13-01	45	.67	3	<.05	.710	E.1	10.5	<.06	9	E.03

**COOS COUNTY**

NH-BRW 1	08-14-01	49	.63	5	<.05	.790	<.2	14.9	<.06	E5	<.04
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LOCAL IDENT- I- FIER	DATE	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (µG/L AS MO) (01060)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)
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**HILLSBOROUGH COUNTY**

NH-PCW 126	07-10-01	<.8	.12	.5	<10	.65	.4	81.6	<.2	<.06	<.3
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**MERRIMACK COUNTY**

NH-WCW 5	07-09-01	<.8	.18	10.0	50	1.93	.3	23.5	E.1	<.06	<.3
NH-BUW 11	08-02-01	<.8	.40	8.1	140	.16	1.2	68.5	<.2	.51	<.3
NH-LSW 246	08-09-01	E.5	2.81	<.2	850	<.08	E.3	1430	E.1	1.82	<.3

**CARROLL COUNTY**

NH-CWW 9	08-15-01	<1.6	E.01	.7	M	<.08	2.6	1.5	.4	.33	<.3
NH-B3W 11	08-13-01	<.8	.12	77.2	20	5.69	6.3	5.9	<.2	.34	<.3

**COOS COUNTY**

NH-BRW 1	08-14-01	<.8	.03	.4	M	.20	.6	1.6	.2	E.04	<.3
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MISCELLANEOUS GROUND-WATER QUALITY DATA FOR WELLS IN NEW HAMPSHIRE

LOCAL IDENTIFIER	DATE	SILVER, DIS-SOLVED (µG/L AS AG) (01075)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	THALLIUM, DIS-SOLVED (µG/L AS TL) (01057)	VANADIUM, DIS-SOLVED (µG/L AS V) (01085)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	METHANE DISS. REC (µG/L AS CH <sub>4</sub> ) (76994)	PROTON, WATER, DISS. REC (µG/L) (04037)	SILICA, WATER, DISS. REC (µG/L) (04035)	1,1,1-TRICHLOROETHANE TOTAL (µG/L) (34506)	BENZENE 1,4-DICHLOROPENTANE TOTAL (µG/L) (34571)
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HILLSBOROUGH COUNTY

NH-PCW 126	07-10-01	<1.0	50.7	.08	<.2	4	0	<.015	<.011	<.03	<.05
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MERRIMACK COUNTY

NH-WCW 5	07-09-01	<1.0	44.2	<.04	E.1	4	0	E.003	E.004	<.03	<.05
NH-BUW 11	08-02-01	<1.0	120	<.04	<.2	3	0	<.015	<.011	E.02	<.05
NH-LSW 246	08-09-01	<1.0	136	<.04	<.2	1	164.0	<.015	<.011	<.03	E.02

CARROLL COUNTY

NH-CWW 9	08-15-01	<1.0	21.5	<.04	E.2	3	0	<.015	<.011	<.03	<.05
NH-B3W 11	08-13-01	<1.0	126	<.04	<.2	8	4.80	<.015	<.011	<.03	<.05

COOS COUNTY

NH-BRW 1	08-14-01	<1.0	63.2	<.04	<.2	<1	0	<.015	<.011	<.03	<.05
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LOCAL IDENTIFIER	DATE	CHLOROFORM TOTAL (µG/L) (32106)	DI-CHLOROFLUOROMETHANE TOTAL (µG/L) (34668)	METHYL TERT-BUTYL ETHER WAT UNF REC (µG/L) (78032)	TETRA-CHLOROETHYL-ENE TOTAL (µG/L) (34475)	TRI-CHLOROETHYL-ENE TOTAL (µG/L) (39180)	ALPHA RADIO. WATER DISS TH-230 (PCI/L) (04126)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	H-2/H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18/O-16 STABLE ISOTOPE RATIO PER MIL (82085)	RADIUM 226, DIS-SOLVED (PCI/L) (09503)
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HILLSBOROUGH COUNTY

NH-PCW 126	07-10-01	E.02	<.3	E.1	<.1	<.04	.27	1.43	--	--	M
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MERRIMACK COUNTY

NH-WCW 5	07-09-01	E.06	<.3	<.2	<.1	<.04	.47	1.63	--	--	.01
NH-BUW 11	08-02-01	<.02	<.3	E.1	M	E.02	2.79	3.38	--	--	.05
NH-LSW 246	08-09-01	<.02	E.4	.6	<.1	<.04	.82	3.27	--	--	.16

CARROLL COUNTY

NH-CWW 9	08-15-01	<.02	<.3	<.2	<.1	<.04	1.76	2.49	--	--	.04
NH-B3W 11	08-13-01	E.02	<.3	.2	M	<.04	1.59	3.92	--	--	.15

COOS COUNTY

NH-BRW 1	08-14-01	<.02	E.1	<.2	<.1	<.04	.57	3.06	-74.56	-10.89	.05
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LOCAL IDENTIFIER	DATE	RADIUM 228 DIS-SOLVED (PCI/L AS RA-228) (81366)	RA-224 WATER FLTRD (PCI/L) (50833)	RADON 222 TOTAL (PCI/L) (82303)	URANIUM NATURAL DIS-SOLVED (µG/L AS U) (22703)
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**HILLSBOROUGH COUNTY**

NH-PCW 126	07-10-01	.54	M	387	<.02
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**MERRIMACK COUNTY**

NH-WCW 5	07-09-01	.73	.03	419	.04
NH-BUW 11	08-02-01	.30	M	2190	.21
NH-LSW 246	08-09-01	.40	.09	1350	.06

**CARROLL COUNTY**

NH-CWW 9	08-15-01	1.04	.08	3740	.56
NH-B3W 11	08-13-01	1.02	.17	1520	.77

**COOS COUNTY**

NH-BRW 1	08-14-01	.53	M	2270	.16
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GROUND-WATER LEVELS IN NEW HAMPSHIRE

BELKNAP COUNTY

431916071125901. Local number, BAW 10, Town of Barnstead.

LOCATION.--Lat 43°19'16", long 71°12'59", Hydrologic Unit 01070002. Barnstead: about 0.8 mi north-northeast from junction of Rt. 126 and French Road and 1.6 mi west-southwest from Strafford, N.H.

Owner: Francesca Latawiec.

AQUIFER.--Sandy till of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in, depth 25 ft.

DATUM.--Altitude of land-surface datum is 530 ft. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--June 1995 to October 1997, February 2000 to current year.

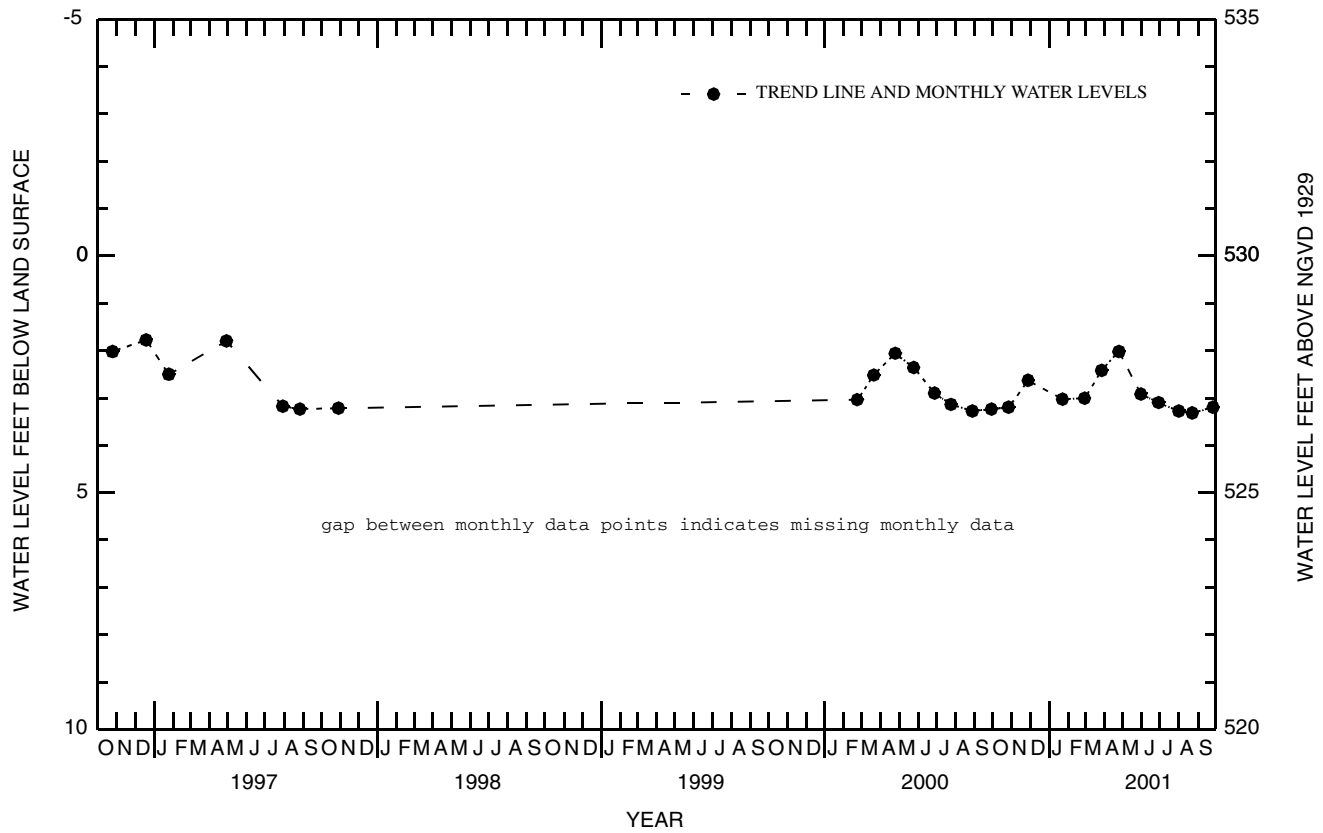
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.78 ft below land-surface datum, December 19, 1996; lowest measured, 3.41 ft below land-surface datum, August 28, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	3.20	MAR 28	2.42	AUG 01	3.28
NOV 28	2.63	APR 25	2.02	23	3.32
JAN 23	3.03	MAY 31	2.92	SEP 26	3.20
FEB 28	3.01	JUN 29	3.10		

WATER YEAR 2001 HIGHEST 2.02 APR 25, 2001 LOWEST 3.32 AUG 23, 2001

BAW 10



CARROLL COUNTY

435948071220301. Local number, ADW 14, Town of Albany.

LOCATION.--Lat 43°59'48", long 71°22'03", Hydrologic Unit 01060002, approximately 1.5 mi west of Passaconaway and about 50 ft west of University of New Hampshire trail off Route 112 in Albany.

Owner: U.S. Department of Agriculture - Forest Service.

AQUIFER.--Silt, sand, and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 79.5 ft.

DATUM.--Elevation of land-surface datum is 1,250 ft above sea level from topographic map. Measuring point: Top of casing, 2.2 ft above land-surface datum.

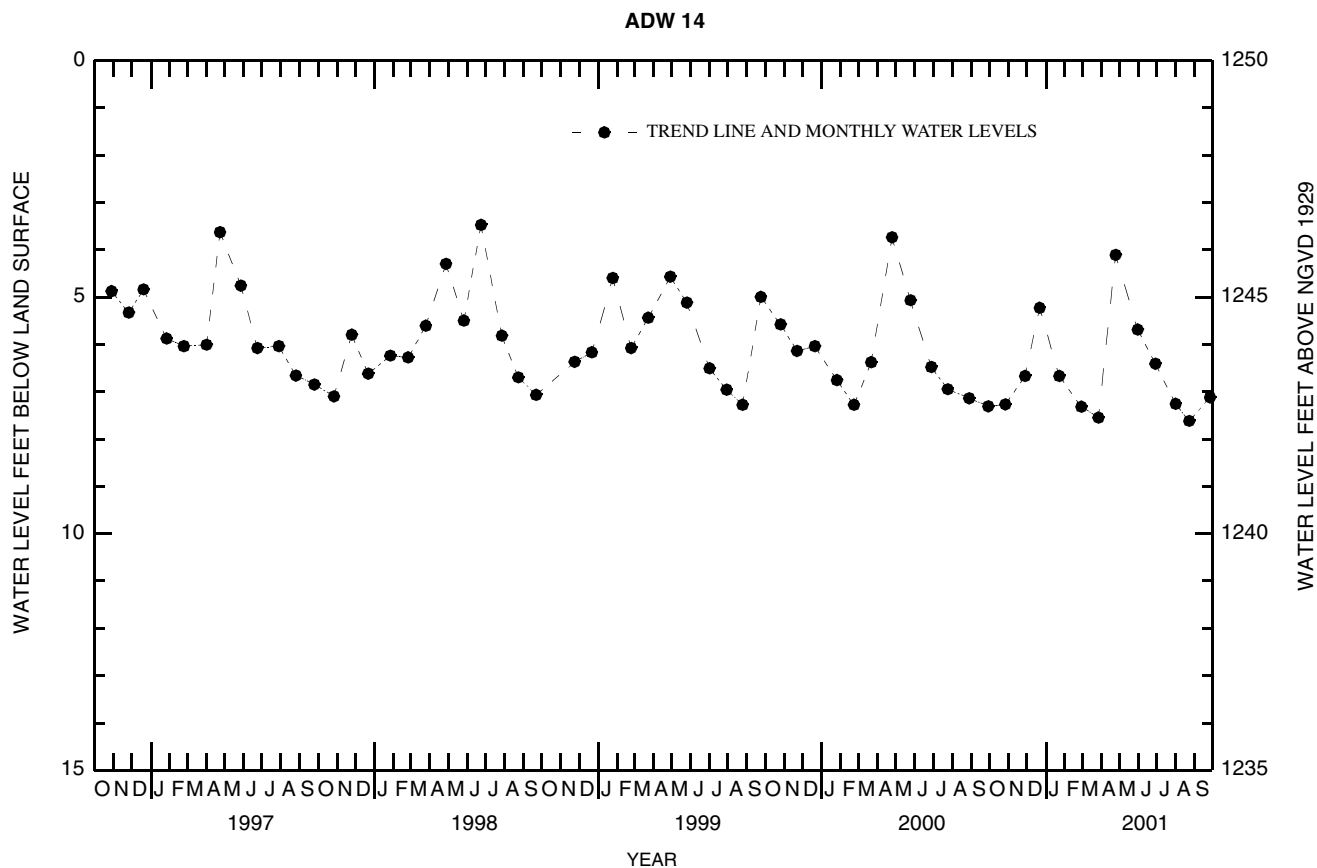
PERIOD OF RECORD.--April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.36 ft below land-surface datum, April 24, 1996; lowest measured, 7.62 ft below land-surface datum, August 23, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	7.27	FEB 28	7.32	JUN 29	6.41
NOV 28	6.67	MAR 28	7.55	AUG 01	7.26
DEC 22	5.23	APR 25	4.11	23	7.62
JAN 23	6.67	MAY 31	5.69	SEP 26	7.12

WATER YEAR 2001    HIGHEST    4.11    APR 25, 2001    LOWEST    7.62    AUG 23, 2001



GROUND-WATER LEVELS IN NEW HAMPSHIRE

CARROLL COUNTY

435948071220302. Local number, ADW 15, Town of Albany.

LOCATION.--Lat 43°59'48", long 71°22'03", Hydrologic Unit 01060002, approximately 1.5 mi west of Passaconaway and about 50 ft west of University of New Hampshire trail off Route 112 in Albany.

Owner: U.S. Department of Agriculture - Forest Service.

AQUIFER.--Silt, sand, and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 18 ft.

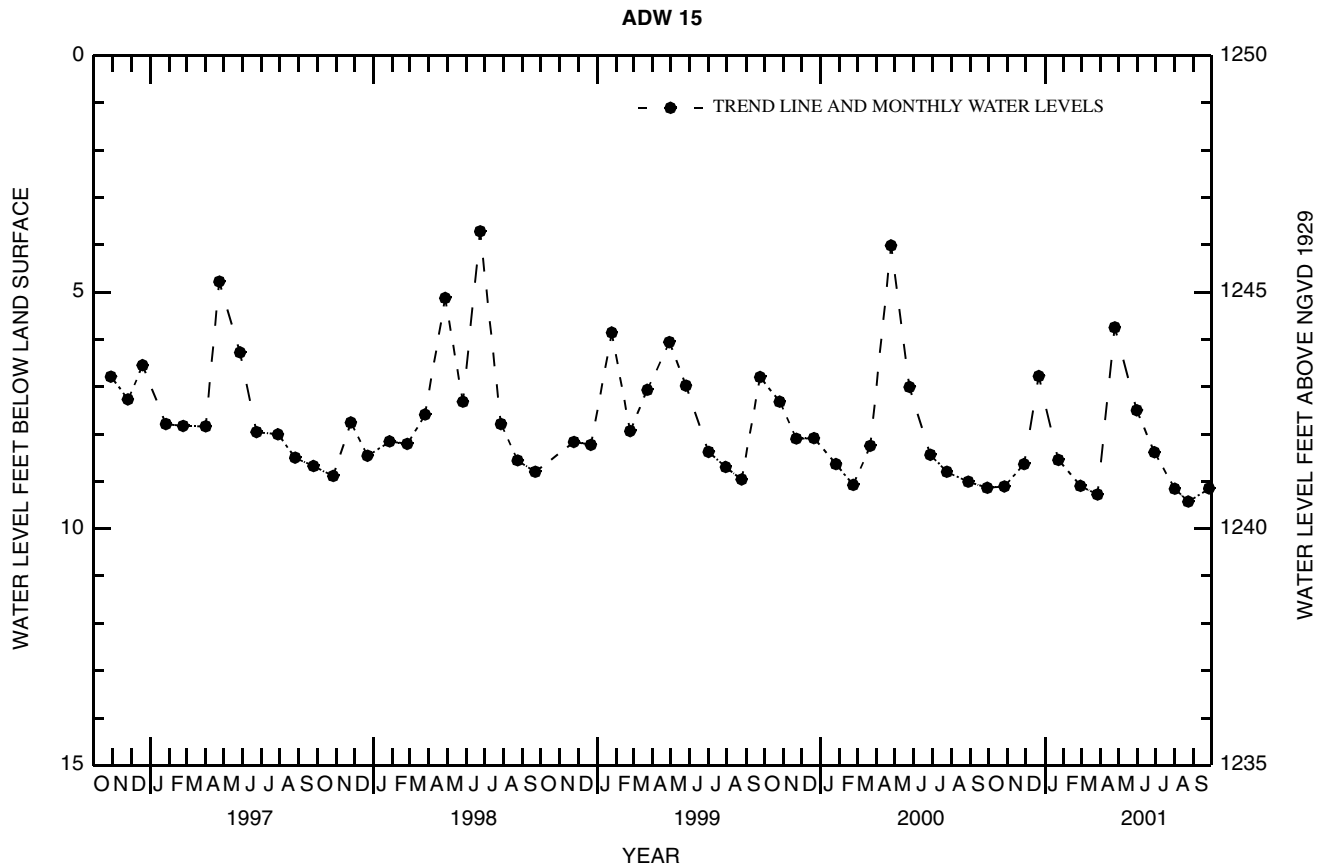
DATUM.--Elevation of land-surface datum is 1,250 ft above sea level from topographic map. Measuring point: Top of casing, 2.6 ft above land-surface datum.

PERIOD OF RECORD.--August 1992, April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.54 ft below land-surface datum, April 24, 1996; lowest measured, 9.43 ft below land-surface datum, August 23, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	9.11	FEB 28	9.10	JUN 29	8.39
NOV 28	8.64	MAR 28	9.28	AUG 01	9.16
DEC 22	6.78	APR 25	5.75	23	9.43
JAN 23	8.55	MAY 31	7.50	SEP 26	9.15
WATER YEAR 2001 HIGHEST 5.75 APR 25, 2001		LOWEST 9.43 AUG 23, 2001			





CARROLL COUNTY

434221071051501. Local number, OXW 38, Town of Ossipee.

LOCATION.--Lat 43°42'21", long 71°05'15", Hydrologic Unit 01060002, in Pine River State Forest, 2 mi northeast of Ossipee and 1.2 mi east from junction of Routes 16 and 28.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 115 ft.

DATUM.--Elevation of land-surface datum is 550 ft above sea level from topographic map. Measuring point: Top of casing, 3.4 ft above land-surface datum.

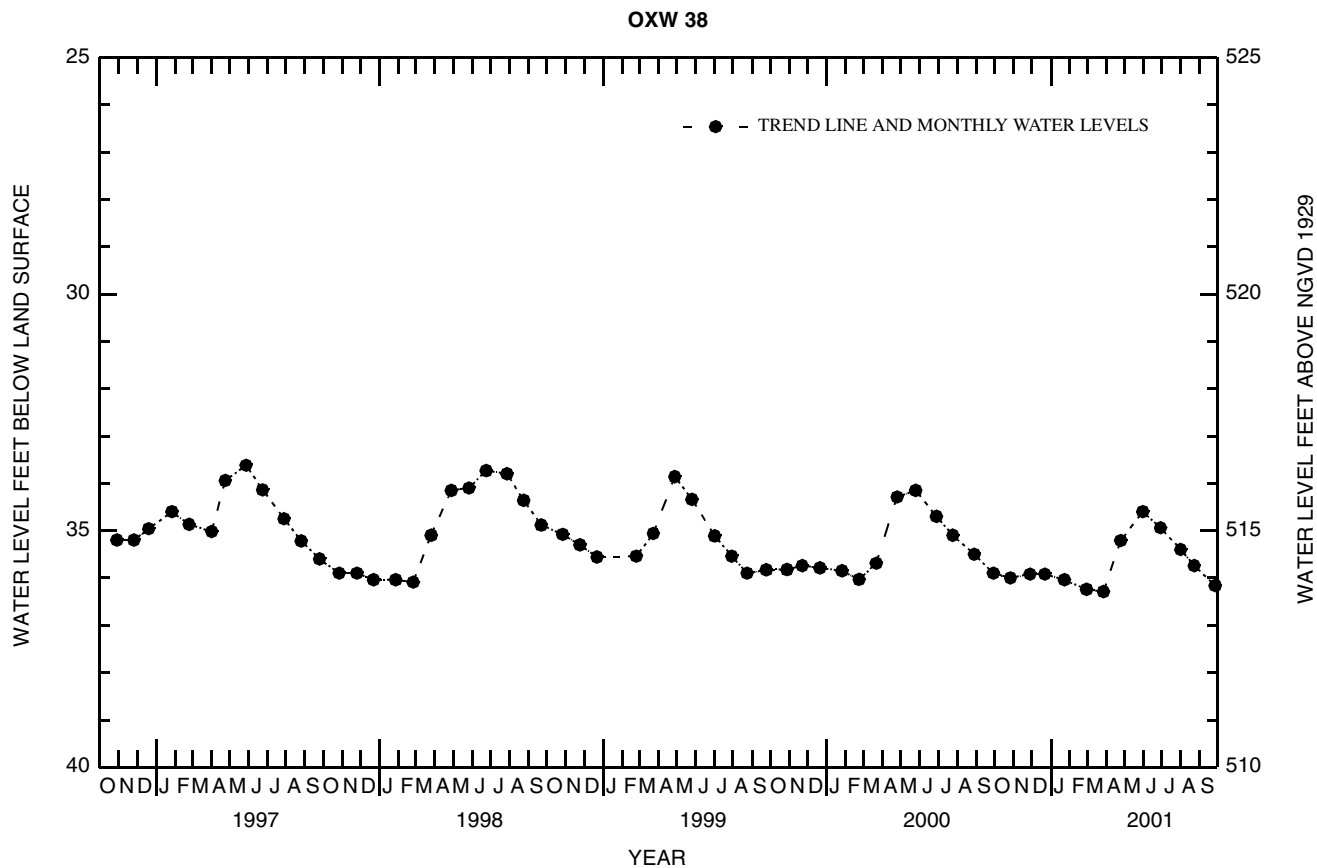
PERIOD OF RECORD.--September 1991, April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.98 ft below land-surface datum, May 29, 1996; lowest measured, 37.00 ft below land-surface datum, September 23, 1991.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	36.00	FEB 28	36.24	JUN 29	34.94
NOV 28	35.92	MAR 28	36.29	AUG 01	35.40
DEC 22	35.92	APR 25	35.21	23	35.74
JAN 23	36.04	MAY 31	34.60	SEP 26	36.16

WATER YEAR 2001    HIGHEST    34.60    MAY 31, 2001    LOWEST    36.29    MAR 28, 2001



GROUND-WATER LEVELS IN NEW HAMPSHIRE

CHESHIRE COUNTY

425543072175801. Local number, KEW 2, Town of Keene.

LOCATION.--Lat 42°55'43", long 72°17'58", Hydrologic Unit 01080201, east side of State Highway 12, about 0.5 mi north of State Highway 9, and 1.1 mi southwest of the center of Keene.

Owner: New Hampshire Department of Transportation.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 18 ft.

DATUM.--Elevation of land-surface datum is 470 ft above sea level from topographic map. Measuring point: Top of casing, 4.5 ft above land-surface datum.

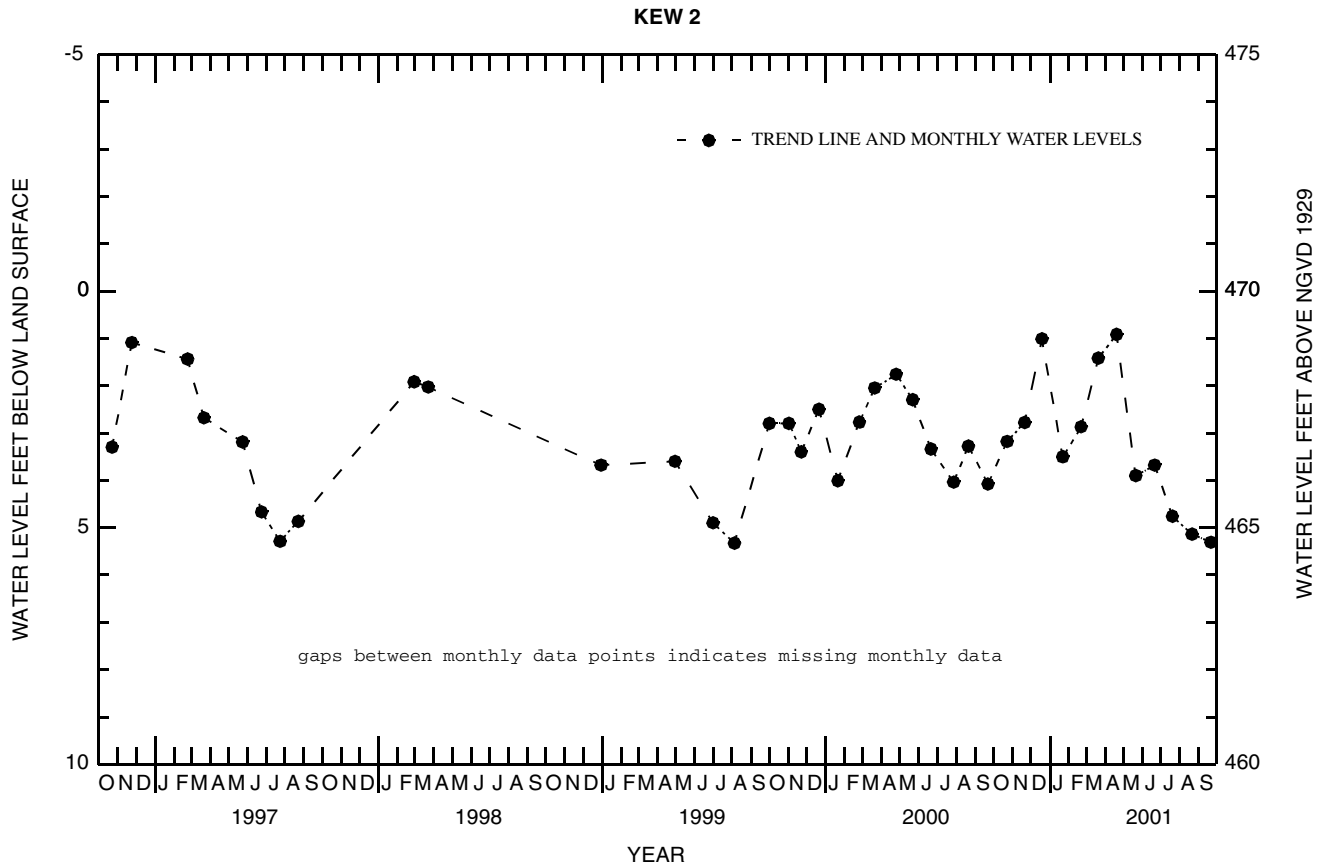
PERIOD OF RECORD.--August 1963 to current year. Prior to January 1973, published in New Hampshire Hydrologic-Data Report No. 3.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.17 ft below land-surface datum, May 31, 1984; lowest measured, 6.23 ft below land-surface datum, September 27, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	3.18	FEB 21	2.87	JUN 21	3.68
NOV 21	2.78	MAR 21	1.42	JUL 20	4.76
DEC 19	1.01	APR 20	.92	AUG 21	5.14
JAN 22	3.50	MAY 21	3.90	SEP 21	5.31

WATER YEAR 2001 HIGHEST .92 APR 20, 2001 LOWEST 5.31 SEP 21, 2001



COOS COUNTY

445334071291701. Local number, CTW 73, Town of Colebrook.

LOCATION.--Lat 44°53'34", long 71°29'17", Hydrologic Unit 01080101, 0.5 mi east from the junction of Routes 3 and 26 in Colebrook, approximately 450 ft south of Route 26, and 100 ft south of the Mohawk River.  
 Owner: Lemieux's Ski-Doo Shop.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 27 ft.

DATUM.--Elevation of land-surface datum is 1,030 ft above sea level from topographic map. Measuring point: Top of casing, 3.2 ft above land-surface datum.

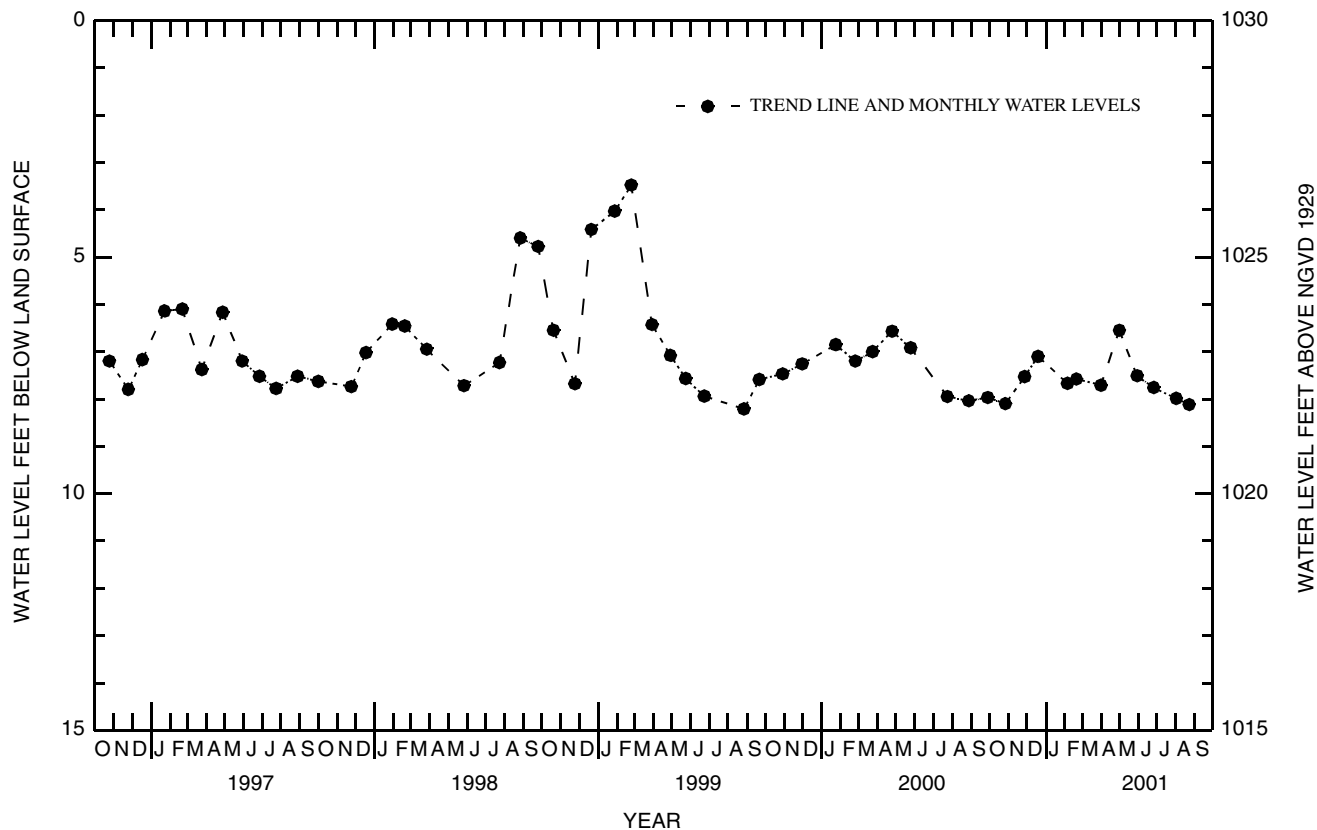
PERIOD OF RECORD.--June 1992, April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.48 ft below land-surface datum, February 24, 1999; lowest measured, 8.21 ft below land-surface datum, August 27, 1999.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	8.10	FEB 20	7.58	JUN 26	7.76
NOV 27	7.53	APR 01	7.71	AUG 02	7.99
DEC 19	7.10	MAY 01	6.55	23	8.12
FEB 05	7.67	30	7.51		
WATER YEAR 2001      HIGHEST    6.55    MAY 01, 2001      LOWEST    8.12    AUG 23, 2001					

CTW 73



GROUND-WATER LEVELS IN NEW HAMPSHIRE

COOS COUNTY

444733071094901. Local number, ETW 1, Town of Errol.

LOCATION.--Lat 44°47'33", long 71°09'49", Hydrologic Unit 01040001, southwest side of State Highway 26, 1.8 mi northwest of the center of Errol.

Owner: U.S. Geological Survey.

AQUIFER.--Very fine sand and silt of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 1.25 in., depth 30 ft.

DATUM.--Elevation of land-surface datum is 1,245 ft above sea level from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

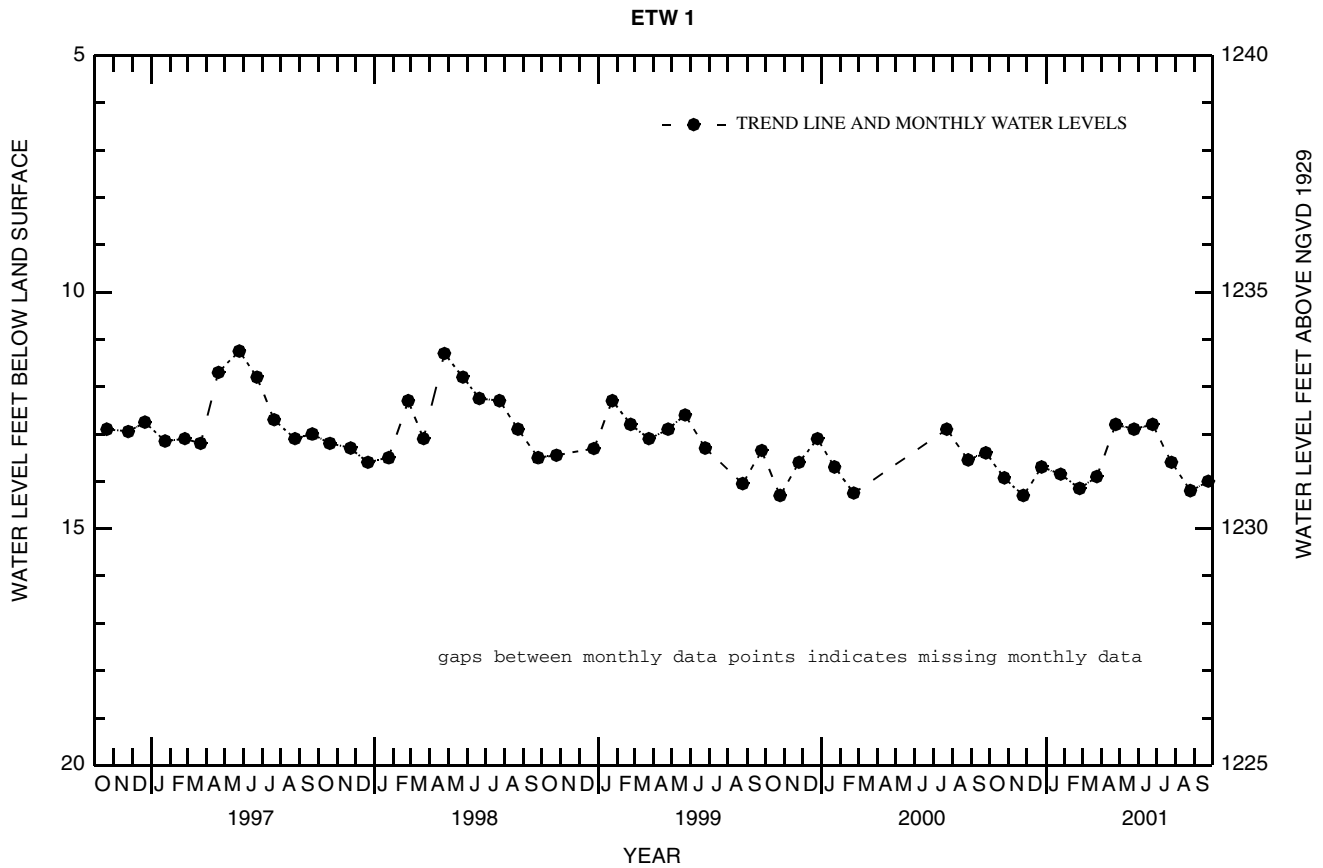
PERIOD OF RECORD.--November 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.4 ft below land-surface datum, May 22, 1969; lowest measured, 14.30 ft below land-surface datum, October 25, 1999, November 25, 2000.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	13.93	FEB 25	14.15	JUN 24	12.80
NOV 25	14.30	MAR 25	13.90	JUL 25	13.60
DEC 25	13.70	APR 25	12.80	AUG 25	14.20
JAN 25	13.85	MAY 25	12.90	SEP 23	14.00

WATER YEAR 2001    HIGHEST 12.80 APR 25, 2001    JUN 24, 2001    LOWEST 14.30 NOV 25, 2000



COOS COUNTY

442830071321001. Local number, LCW 1, Town of Lancaster.

LOCATION.--Lat 44°28'30", long 71°32'10", Hydrologic Unit 01080101, in gravel pit about 1,100 ft southwest of Middle Street, 2.2 mi southeast of U.S. Highway 3, and 2.0 mi southeast of the center of Lancaster.

Owner: Forbes Farm Partnership.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven, unused test well, diameter 2.5 in., depth 30 ft.

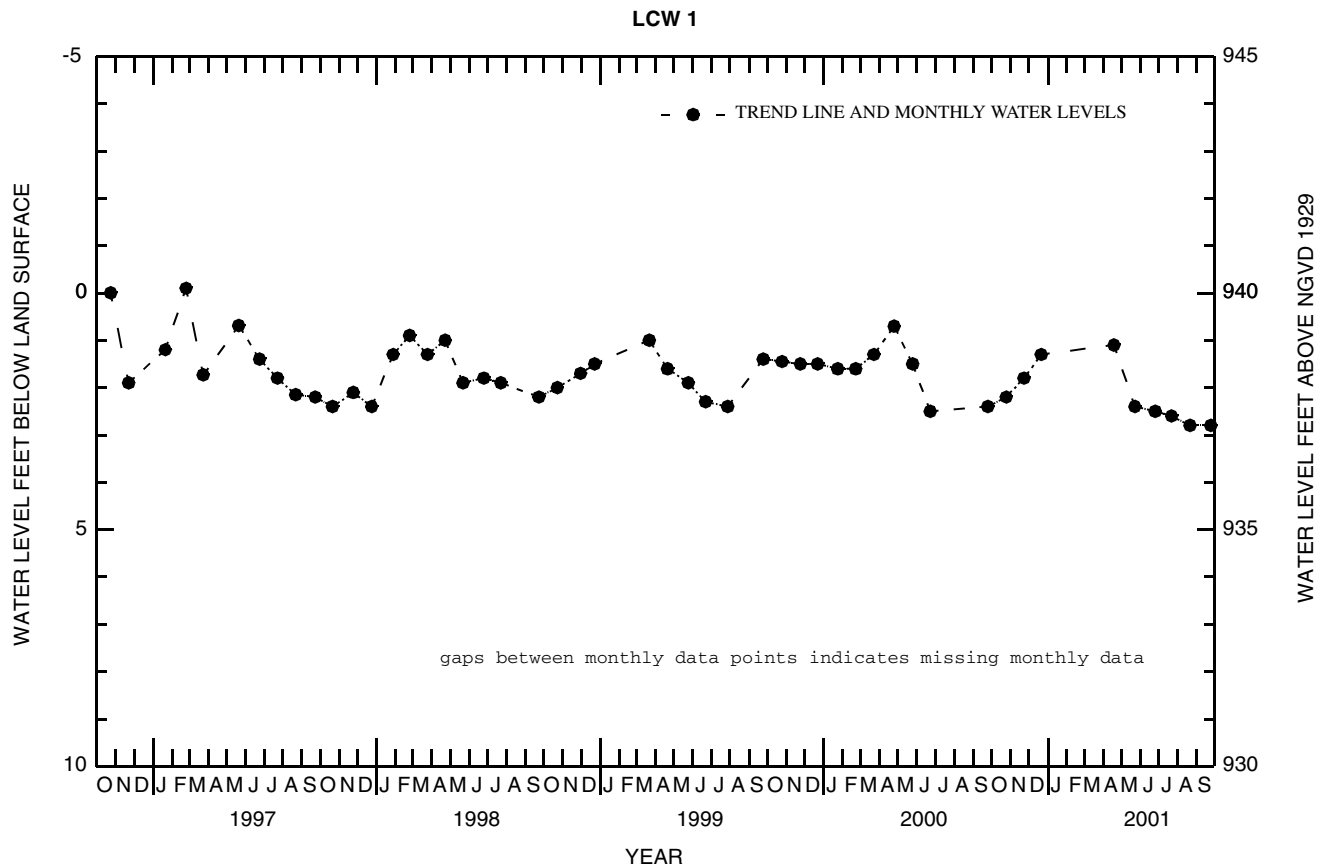
DATUM.--Elevation of land-surface datum is 940 ft above sea level from topographic map. Measuring point: Top of casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--November 1966 to May 1980, April 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, flowing at 1.0 ft above land-surface datum, April 26, 1970, April 28, 1972, December 21, 1982, February 21, March 21, 1986, March 27, 1987; lowest measured, 2.80 ft below land-surface datum, August 21, 2001, September 24, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	2.20	APR 19	1.10	JUL 22	2.60
NOV 23	1.80	MAY 23	2.40	AUG 21	2.80
DEC 21	1.30	JUN 25	2.50	SEP 24	2.80
WATER YEAR 2001    HIGHEST    1.10    APR 19, 2001    LOWEST    2.80    AUG 21, 2001    SEP 24, 2001					



GROUND-WATER LEVELS IN NEW HAMPSHIRE

COOS COUNTY

442450071052301. Local number, SJW 2, Town of Shelburne.

LOCATION.--Lat 44°24'50", long 71°05'23", Hydrologic Unit 01040001, 1.2 mi northwest of Shelburne, approximately 300 ft south of North Rd., and 1,000 ft north of the Androscoggin River.

Owner: Oxford Paper Company.

AQUIFER.-- Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 40.7 ft.

DATUM.--Elevation of land-surface datum is 700 ft above sea level from topographic map. Measuring point: Top of casing, 2.2 ft above land-surface datum.

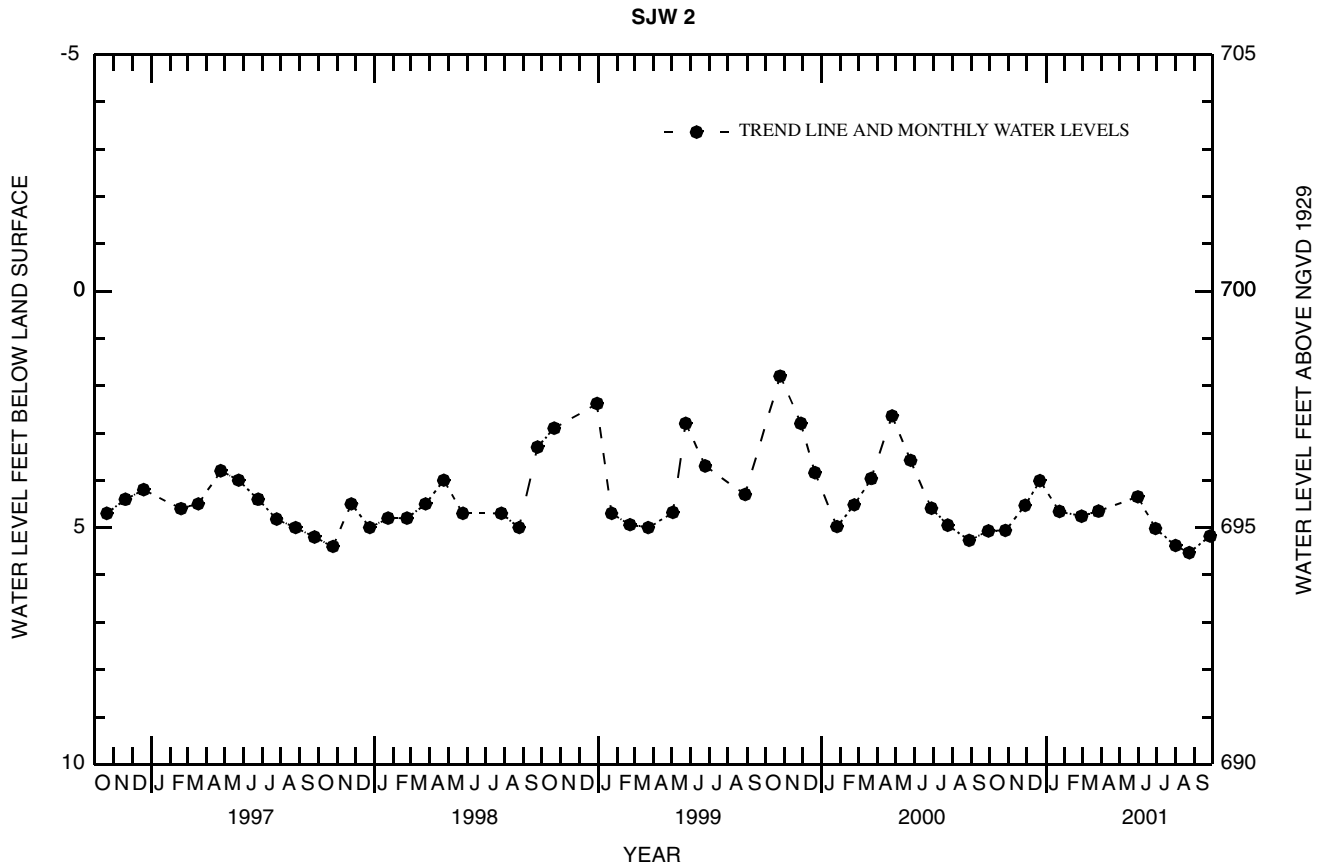
PERIOD OF RECORD.--September 1991, April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.00 ft below land-surface datum (at land-surface), November 28, 1995; lowest measured, 5.53 ft below land-surface datum, August 23, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	5.06	FEB 28	4.76	AUG 01	5.38
NOV 28	4.53	MAR 28	4.65	23	5.53
DEC 22	4.01	MAY 31	4.35	SEP 26	5.18
JAN 23	4.66	JUN 29	5.02		

WATER YEAR 2001    HIGHEST    4.01    DEC 22, 2000    LOWEST    5.53    AUG 23, 2001



GRAFTON COUNTY

434952071390901. Local number, CBW 34, Town of Campton.

LOCATION.--Lat 43°49'52", long 71°39'09", Hydrologic Unit 01070001, approximately 600 ft northeast of Beebe River Station on east side of railroad tracks in Campton, about 1,000 ft east from I-93.

Owner: Beebe River Wood Products.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, depth 107 ft.

DATUM.--Elevation of land-surface datum is 541 ft above sea level. Measuring point: Top of casing, 2.6 ft above land-surface datum.

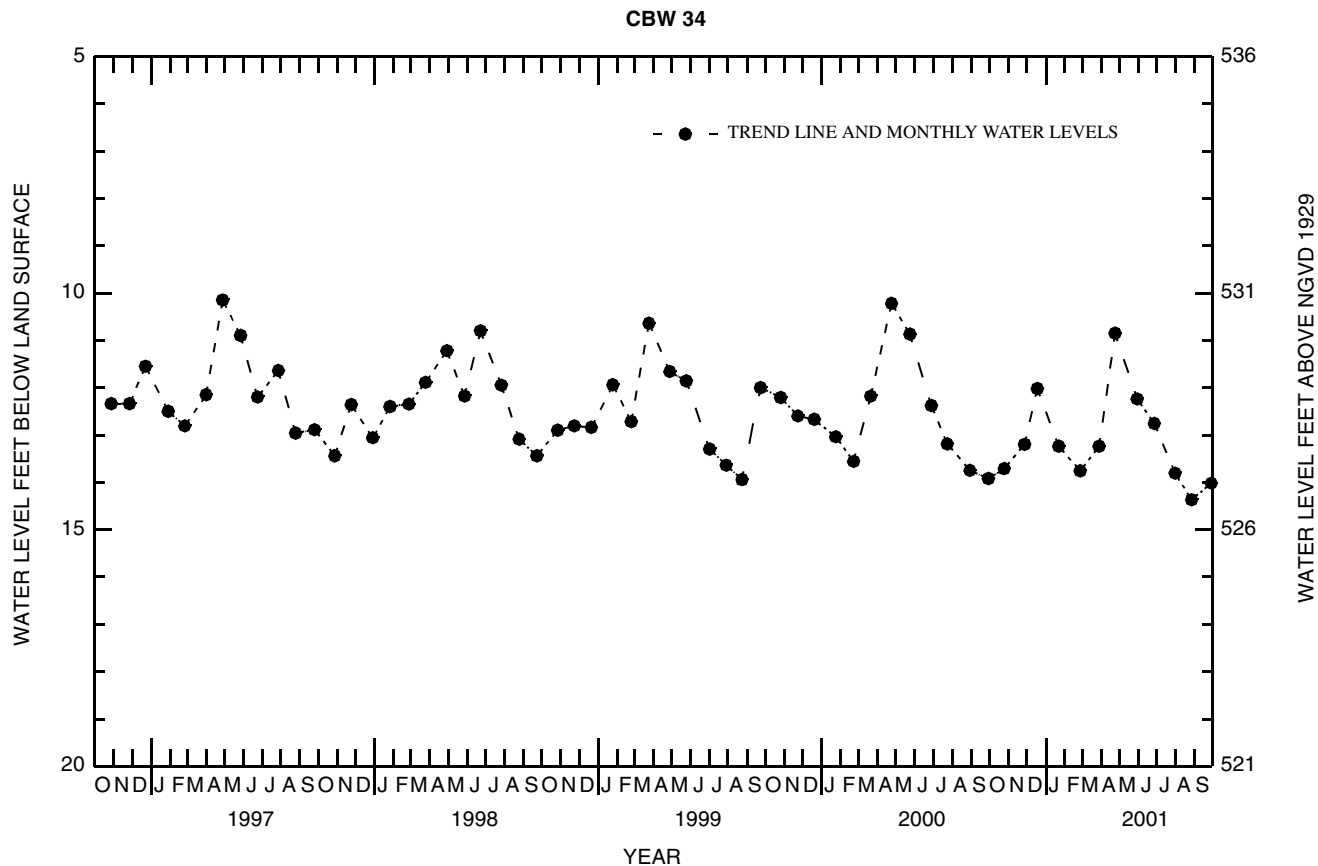
PERIOD OF RECORD.--June 1988, to August 1989, May 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.15 ft below land-surface datum, April 28, 1997; lowest measured, 14.37 ft below land-surface datum, August 27, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	13.71	FEB 26	13.76	JUN 27	12.76
NOV 27	13.20	MAR 29	13.24	JUL 31	13.81
DEC 18	12.02	APR 24	10.85	AUG 27	14.37
JAN 22	13.24	MAY 30	12.24	SEP 28	14.02

WATER YEAR 2001      HIGHEST    10.85    APR 24, 2001      LOWEST    14.37    AUG 27, 2001



GROUND-WATER LEVELS IN NEW HAMPSHIRE

GRAFTON COUNTY

433616072074001. Local number, ENW 30, Town of Enfield.

LOCATION.--Lat 43°36'16", long 72°07'40", Hydrologic Unit 01080104, 50 ft north from the junction of Route 4A and Lakeview Drive in Enfield, and about 600 ft from the southeastern corner of Mascoma Lake.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 37.5 ft.

DATUM.--Elevation of land-surface datum is 758 ft above sea level. Measuring point: Top of casing, 2.8 ft above land-surface datum.

PERIOD OF RECORD.--May 1990 to October 1991, April 1995 to current year.

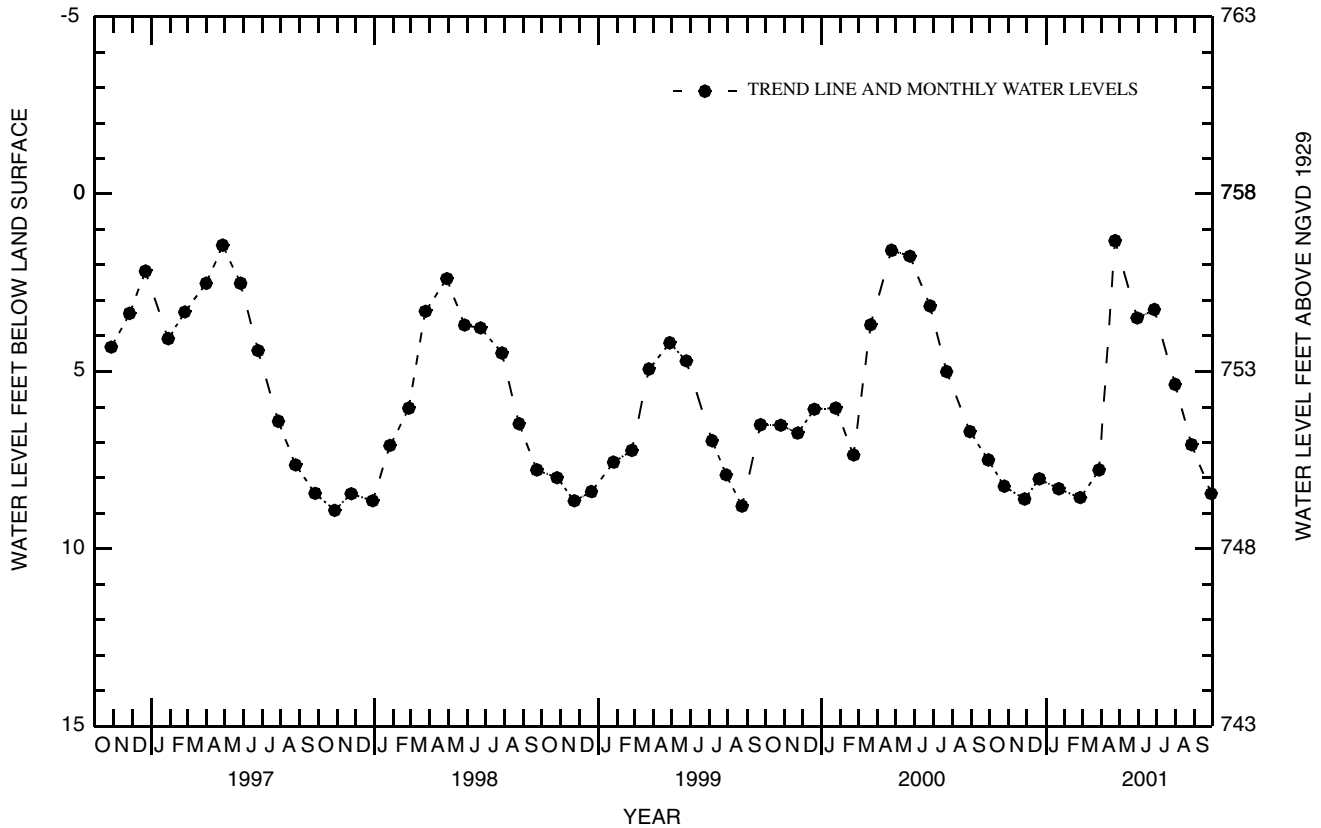
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.32 ft below land-surface datum, April 24, 2001; lowest measured, 8.92 ft below land-surface datum, October 28, 1997.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	8.24	FEB 26	8.56	JUN 27	3.26
NOV 27	8.60	MAR 29	7.78	JUL 31	5.37
DEC 21	8.03	APR 24	1.32	AUG 27	7.07
JAN 22	8.31	MAY 30	3.50	SEP 28	8.45

WATER YEAR 2001    HIGHEST    1.32    APR 24, 2001    LOWEST    8.60    NOV 27, 2000

ENW 30





GRAFTON COUNTY

441401071531501. Local number, LLW 19, Town of Lisbon.

LOCATION.--Lat 44°14'01", long 71°53'15", Hydrologic Unit 01080101, 0.4 mi southwest from the junction of Routes 302 and 117 in Lisbon, and approximately 75 ft east of Route 302.

Owner: Lester Presby.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 42 ft.

DATUM.--Elevation of land-surface datum is 590 ft above sea level from topographic map. Measuring point: Top of casing, 2.7 ft above land-surface datum.

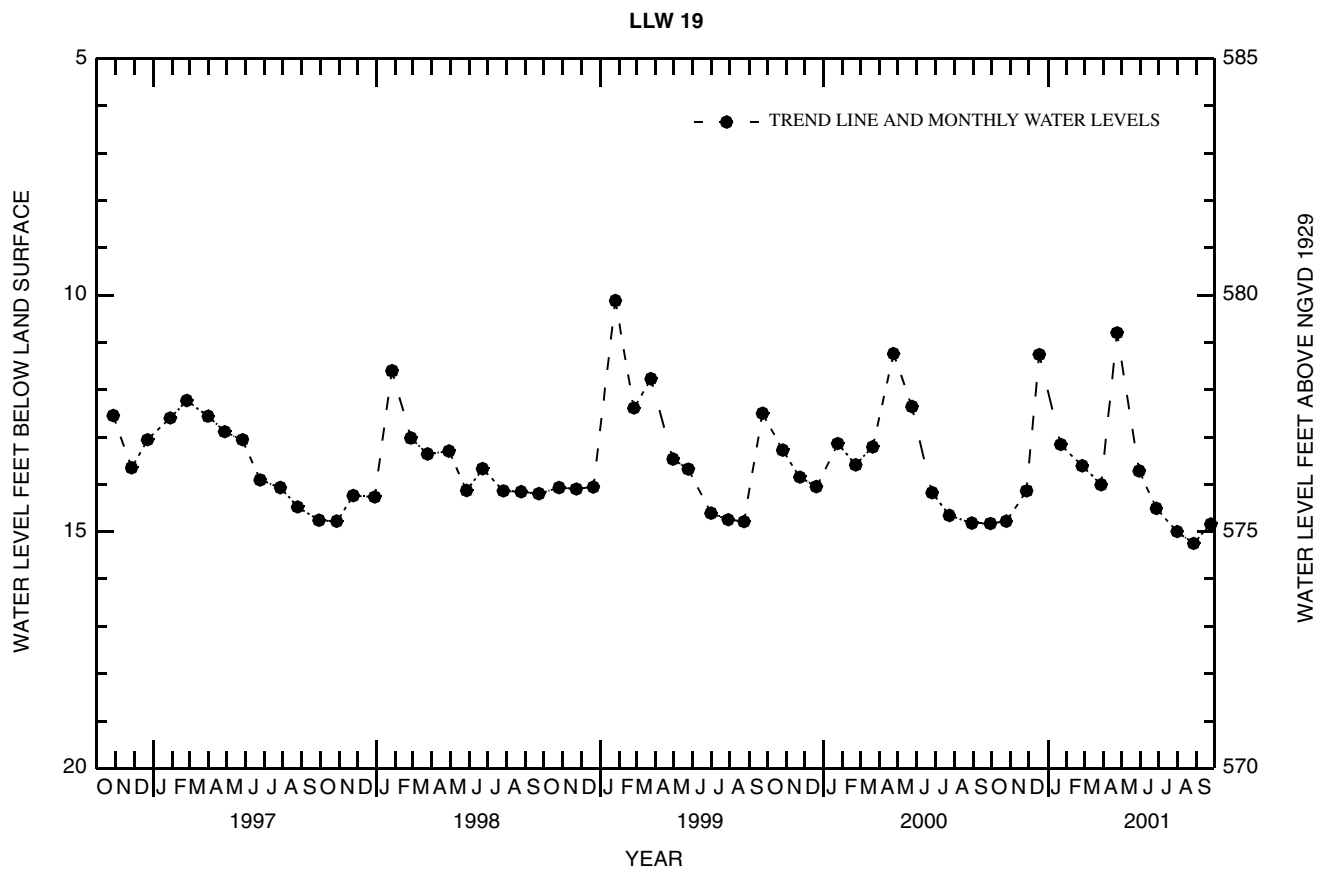
PERIOD OF RECORD.--December 1990 to October 1991, May 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.12 ft below land-surface datum, January 26, 1999; lowest measured, 15.25 ft below land-surface datum, August 27, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	14.78	FEB 26	13.61	JUN 27	14.51
NOV 27	14.14	MAR 29	14.01	JUL 31	15.00
DEC 18	11.26	APR 24	10.80	AUG 27	15.25
JAN 22	13.16	MAY 30	13.72	SEP 24	14.84

WATER YEAR 2001    HIGHEST    10.80    APR 24, 2001    LOWEST    15.25    AUG 27, 2001



GROUND-WATER LEVELS IN NEW HAMPSHIRE

HILLSBOROUGH COUNTY

425744071532001. Local number, GSW 75, Town of Greenfield.

LOCATION.--Lat 42°57'44", long 71°53'20", Hydrologic Unit 01070003, in Greenfield State Park, 1.1 mi northwest from Greenfield and about 0.2 mi southwest from Route 31.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused test well, diameter 2 in., depth 68 ft.

DATUM.--Elevation of land-surface datum is 882 ft above sea level. Measuring point: Top of casing, 0.9 ft above land-surface datum.

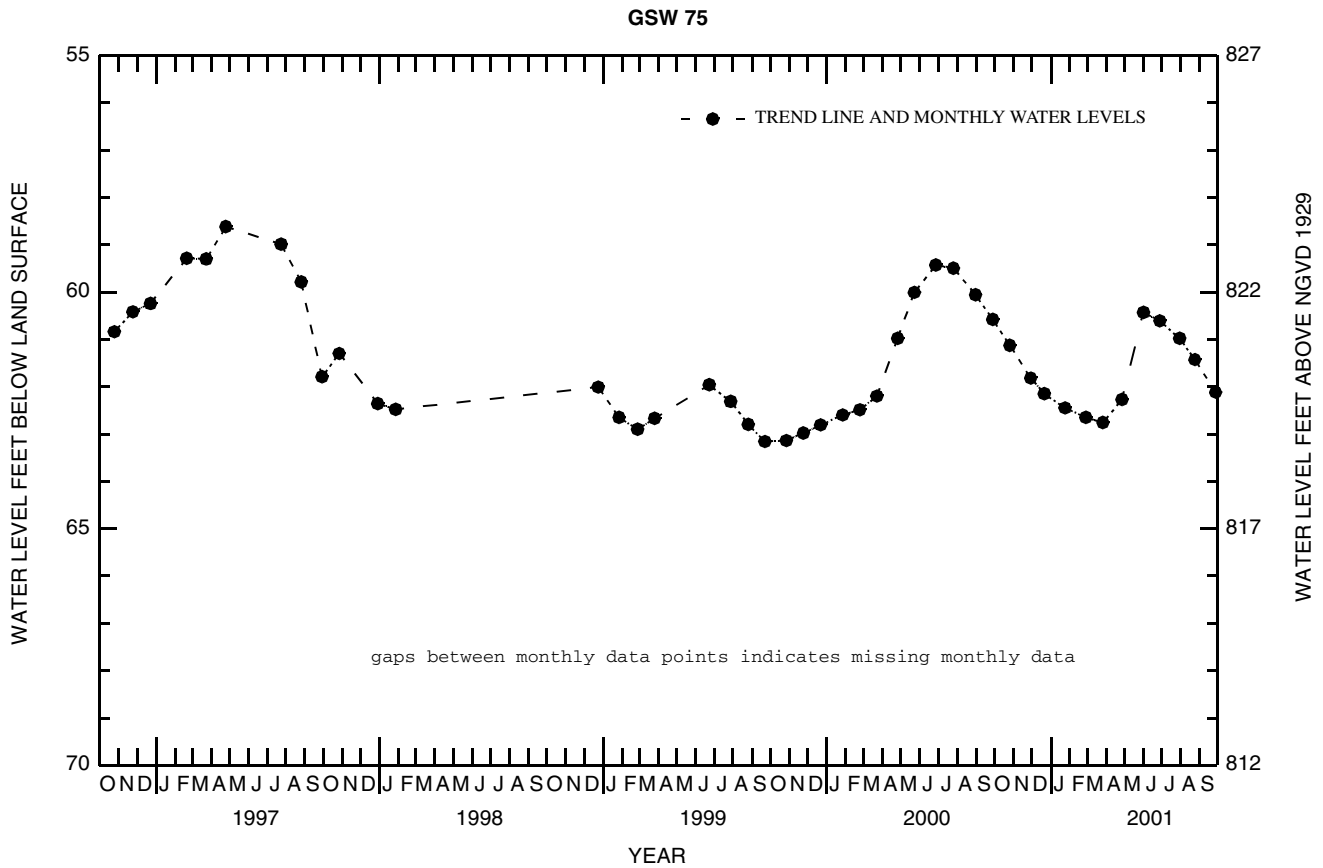
PERIOD OF RECORD.--July 1989, July 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.60 ft below land-surface datum, August 26, 1996; lowest measured, 62.76 ft below land-surface datum, March 27, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	61.13	FEB 27	62.65	JUN 28	60.61
NOV 29	61.82	MAR 27	62.76	JUL 30	60.98
DEC 21	62.15	APR 27	62.27	AUG 24	61.43
JAN 24	62.45	JUN 01	60.43	SEP 27	62.12

WATER YEAR 2001    HIGHEST    60.43    JUN 01, 2001    LOWEST    62.76    MAR 27, 2001



HILLSBOROUGH COUNTY

425024071413001. Local number, MOW 36, Town of Milford.

LOCATION.--Lat 42°50'24", long 71°41'30", Hydrologic Unit 01070002, 85 ft from north side of Old Wilton Road, about 550 ft west of the intersection of State Highway 101, and 2.2 mi west of the center of Milford.  
Owner: Leonard Cushing.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Dug, unused water-table well, diameter 36 in., depth 14.6 ft, lined with concrete.

INSTRUMENTATION.--Electronic water-level recorder with hourly readings. Prior to October 1994, monthly readings were published.

DATUM.--Elevation of land-surface datum is 263 ft above sea level (levels by U.S. Geological Survey). Previously published as about 265 ft above sea level. Measuring point: Top of concrete casing on south side of well, 1.60 ft above land-surface datum, elevation 264.34 ft above sea level (levels by U.S. Geological Survey).

REMARKS.--Record complete.

PERIOD OF RECORD.--January 1962 to current year. Prior to May 1966, published in New Hampshire Basic-Data Report No.2, Ground-Water Series.

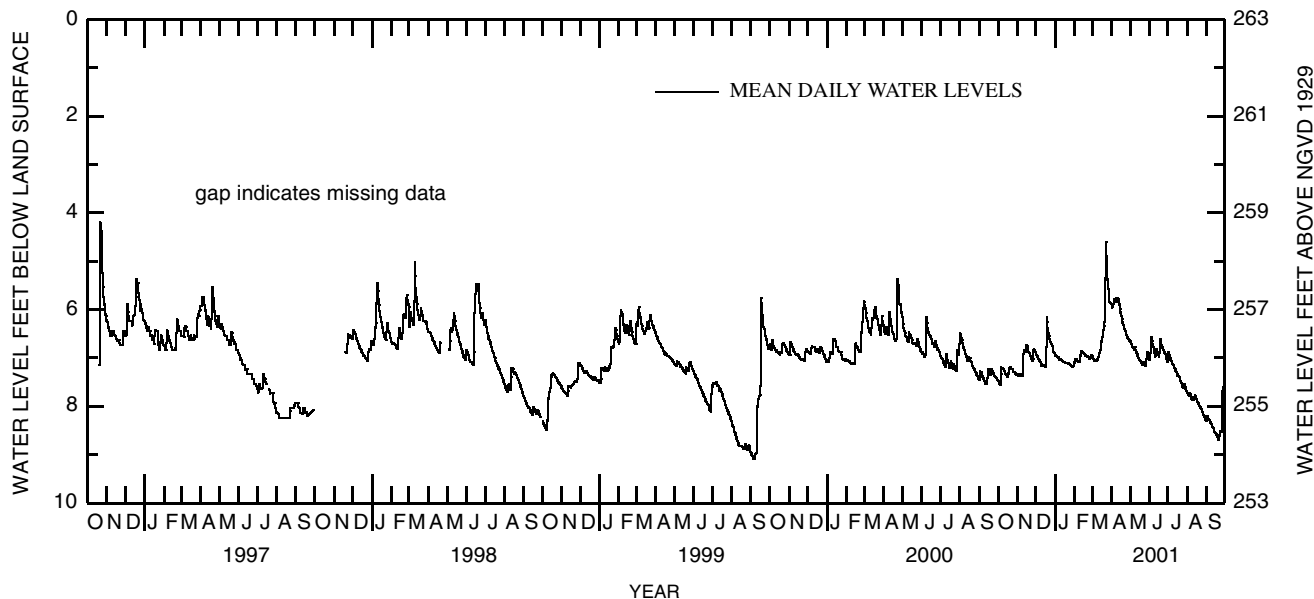
REVISED RECORDS.-- WRD NH-VT-00-1: 1999.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.94 ft below land-surface datum, October 22, 1996; lowest measured, 12.30 ft below land-surface datum, November 18, 1978.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.48	7.33	6.91	6.95	7.08	6.96	5.9	6.66	7.04	7.05	7.73	8.22
2	7.49	7.35	6.94	6.97	7.03	6.98	5.95	6.68	6.91	6.89	7.76	8.2
3	7.51	7.37	6.97	6.97	7.03	7.02	5.96	6.71	6.64	6.95	7.79	8.26
4	7.54	7.37	7	6.98	7.05	7.05	5.9	6.73	6.58	7.01	7.74	8.29
5	7.56	7.37	7.02	6.99	7.06	7.05	5.8	6.77	6.65	7.04	7.75	8.28
6	7.34	7.34	7.05	7	7.07	7.05	5.78	6.8	6.72	7.06	7.79	8.32
7	7.20	7.35	7.06	7.02	7.08	7.07	5.85	6.82	6.78	7.1	7.81	8.34
8	7.20	7.37	7.08	7.03	7.09	7.07	5.78	6.84	6.84	7.13	7.84	8.37
9	7.22	7.38	7.12	7.03	7.07	7.05	5.76	6.78	6.89	7.14	7.87	8.4
10	7.24	7.26	7.16	7.04	6.96	7.02	5.77	6.84	6.94	7.17	7.87	8.44
11	7.27	6.93	7.17	7.05	6.87	6.99	5.85	6.89	6.97	7.2	7.82	8.46
12	7.31	6.84	7.15	7.06	6.86	6.96	5.85	6.93	6.81	7.23	7.84	8.49
13	7.33	6.85	7.17	7.07	6.88	6.9	5.79	6.97	6.82	7.26	7.77	8.53
14	7.35	6.87	7.15	7.08	6.89	6.84	5.9	7	6.89	7.29	7.79	8.54
15	7.39	6.75	7.18	7.09	6.9	6.78	5.99	7.03	6.94	7.33	7.85	8.55
16	7.4	6.73	7.18	7.09	6.91	6.67	6.06	7.05	6.99	7.37	7.89	8.57
17	7.34	6.76	6.77	7.1	6.92	6.58	6.13	7.07	6.9	7.37	7.92	8.6
18	7.32	6.83	6.17	7.1	6.95	6.51	6.2	7.08	6.61	7.37	7.94	8.64
19	7.21	6.87	6.26	7.1	6.96	6.43	6.27	7.1	6.66	7.41	7.96	8.67
20	7.19	6.9	6.38	7.11	6.97	6.35	6.33	7.13	6.74	7.44	7.99	8.7
21	7.19	6.93	6.48	7.11	6.96	6.26	6.38	7.15	6.77	7.48	8.01	8.61
22	7.22	6.96	6.54	7.13	6.98	5.35	6.41	7.15	6.79	7.51	8.03	8.51
23	7.24	7	6.61	7.13	6.98	4.61	6.45	7.09	6.83	7.56	8.06	8.51
24	7.24	7.03	6.67	7.14	7.01	4.89	6.48	7.1	6.86	7.59	8.09	8.53
25	7.26	7.06	6.7	7.15	7.02	5.14	6.53	7.14	6.89	7.63	8.12	8.23
26	7.29	7.03	6.71	7.15	7	5.38	6.57	7.16	6.93	7.59	8.15	7.69
27	7.3	6.84	6.76	7.16	6.96	5.59	6.58	7.02	6.97	7.55	8.18	7.63
28	7.32	6.83	6.82	7.17	6.95	5.75	6.61	6.92	7.02	7.6	8.21	7.6
29	7.34	6.84	6.87	7.18	---	5.84	6.63	6.89	7.06	7.65	8.24	7.58
30	7.36	6.87	6.9	7.17	---	5.87	6.65	6.93	7.09	7.68	8.28	7.57
31	7.33	---	6.92	7.1	---	5.88	---	6.98	---	7.7	8.31	---
MEAN	7.32	7.04	6.87	7.08	6.98	6.38	6.14	6.95	6.85	7.33	7.95	8.31
MAX	7.56	7.38	7.18	7.18	7.09	7.07	6.65	7.16	7.09	7.70	8.31	8.70
MIN	7.19	6.73	6.17	6.95	6.86	4.61	5.76	6.66	6.58	6.89	7.73	7.57
CAL YR 2000	MEAN 6.86	HIGH 5.37	LOW 7.56									
WTR YR 2001	MEAN 7.10	HIGH 4.61	LOW 8.70									

MOW 36



GROUND-WATER LEVELS IN NEW HAMPSHIRE

HILLSBOROUGH COUNTY

424800071295301. Local number, NAW 218, City of Nashua.

LOCATION.--Lat 42°48'00", long 71°29'53", Hydrologic Unit 01070002, 57 ft east of edge of pavement of northbound lane of Everett Turnpike, about 0.63 mi north of Tinker Road overpass, and 2.8 mi northwest of the center of Nashua.

Owner: New Hampshire Department of Transportation.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 42.5 ft.

DATUM.--Elevation of land-surface datum is 205 ft above sea level from topographic map. Measuring point: Top of casing, 3.1 ft above land-surface datum.

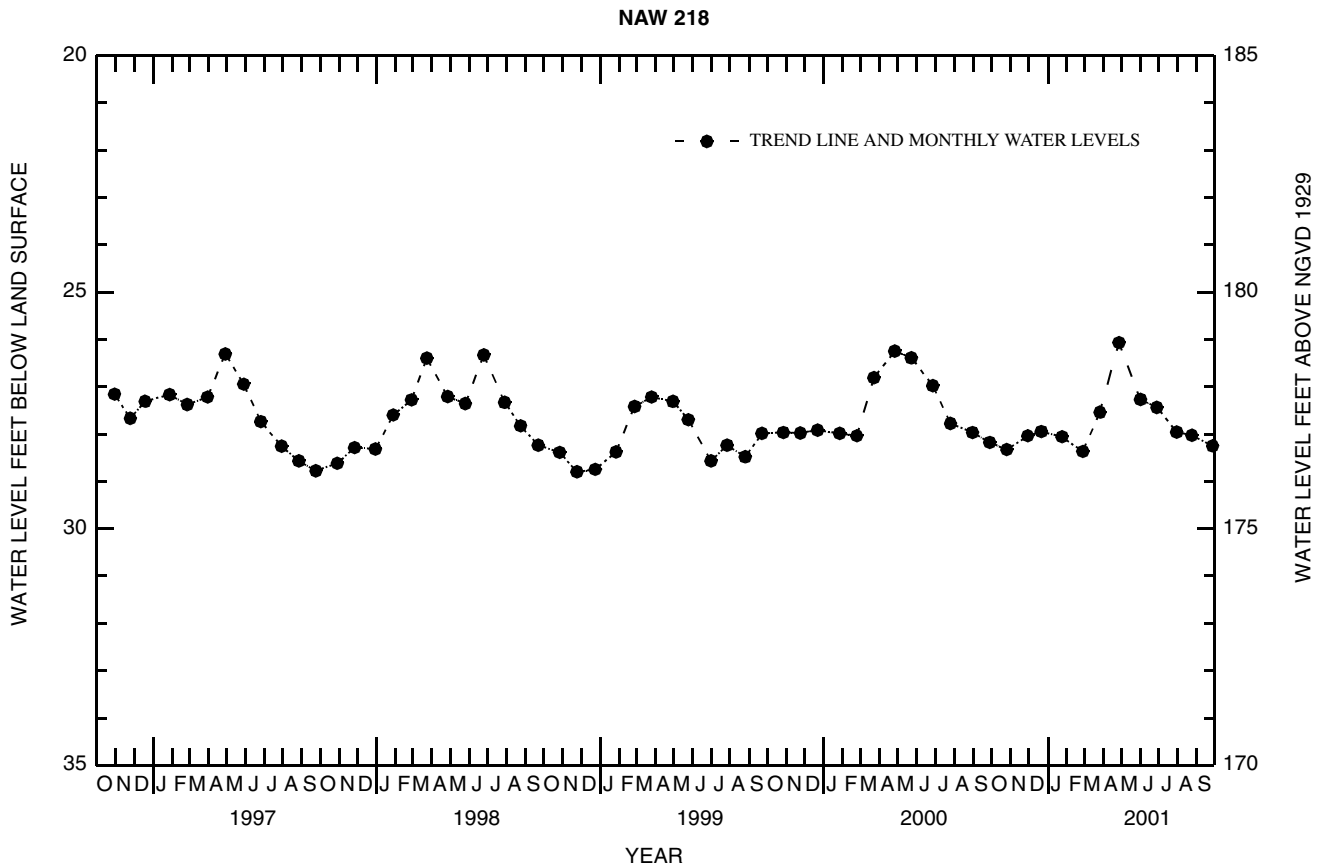
PERIOD OF RECORD.--October 1964 to current year. Prior to June 1966, published in New Hampshire Basic-Data Report No. 2, Ground-Water Series.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.07 ft below land-surface datum, April 27, 2001; lowest measured, 33.10 ft below land-surface datum, November 25, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	28.33	FEB 27	28.37	JUN 28	27.44
NOV 29	28.04	MAR 27	27.54	JUL 30	27.96
DEC 21	27.95	APR 27	26.07	AUG 24	28.03
JAN 24	28.06	JUN 01	27.27	SEP 27	28.25

WATER YEAR 2001    HIGHEST    26.07    APR 27, 2001    LOWEST    28.37    FEB 27, 2001



MERRIMACK COUNTY

431224071303601. Local number, CVW 2, City of Concord.

LOCATION.--Lat 43°12'24", long 71°30'36", Hydrologic Unit 01070002, about 100 ft north of the Federal Aeronautics Administration Building at Concord Municipal Airport.

Owner: U.S. Geological Survey.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 60 ft.

DATUM.--Elevation of land-surface datum is 340 ft above sea level from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

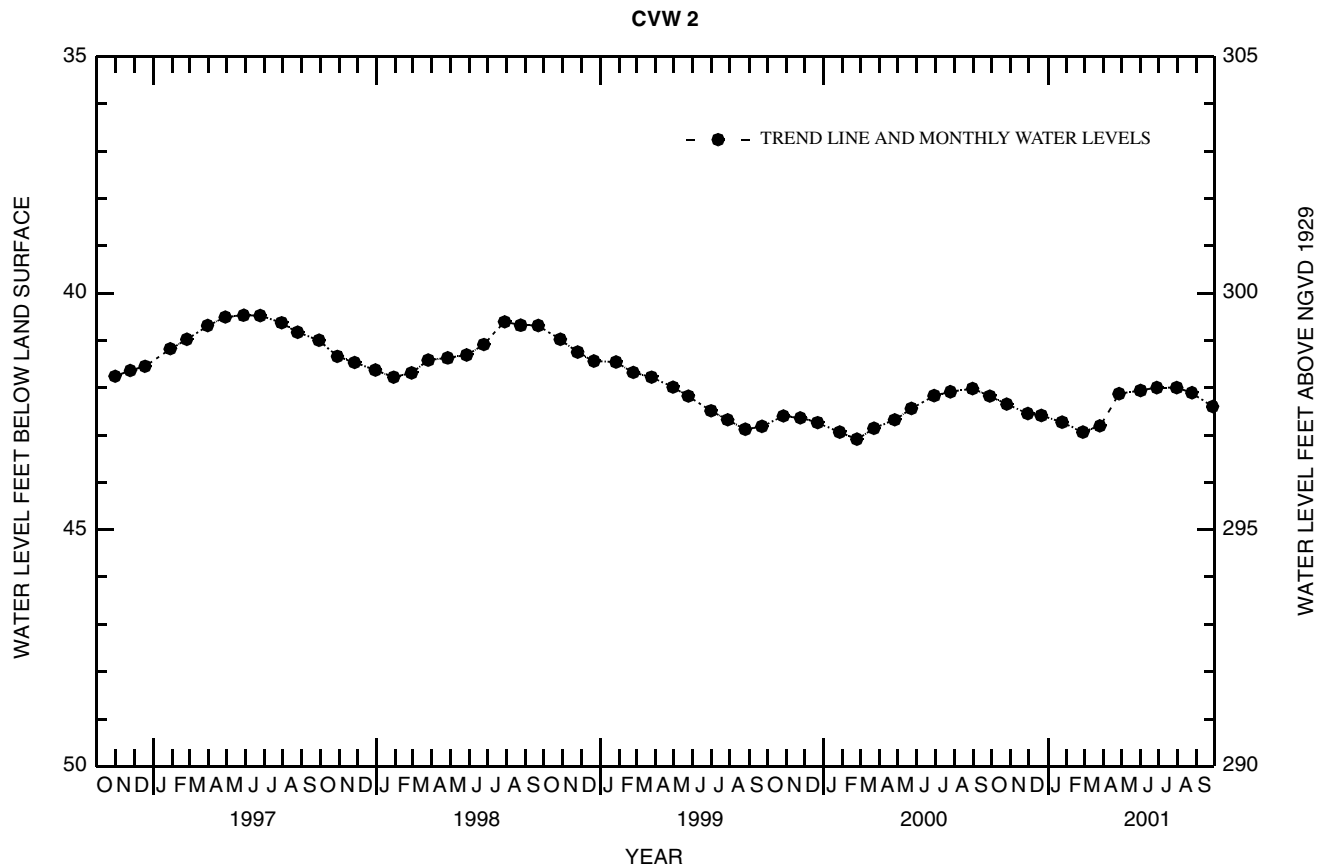
PERIOD OF RECORD.--August 1963 to May 1965, August 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.85 ft below land-surface datum, August 27, 1973; lowest measured, 42.94 ft below land-surface datum, February 27, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	42.35	FEB 27	42.94	JUN 28	42.00
NOV 29	42.55	MAR 27	42.81	JUL 30	42.00
DEC 21	42.59	APR 27	42.13	AUG 24	42.11
JAN 24	42.73	JUN 01	42.06	SEP 27	42.40

WATER YEAR 2001    HIGHEST    42.00    JUN 28, 2001    JUL 30, 2001    LOWEST    42.94    FEB 27, 2001



GROUND-WATER LEVELS IN NEW HAMPSHIRE

MERRIMACK COUNTY

431049071324301. Local number, CVW 4, City of Concord.

LOCATION.--Lat 43°10'49", long 71°32'43", Hydrologic Unit 01070002, north side of Iron Works Road, about 700 ft west of South Street, and 1.8 mi southwest of the State House in Concord.

Owner: U.S. Geological Survey.

AQUIFER.--Lacustrine silty fine sands and clays of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 1.25 in., depth 40.71 ft.

DATUM.--Elevation of land-surface datum is 285 ft above sea level from topographic map. Measuring point: Top of casing, 3.8 ft above land-surface datum.

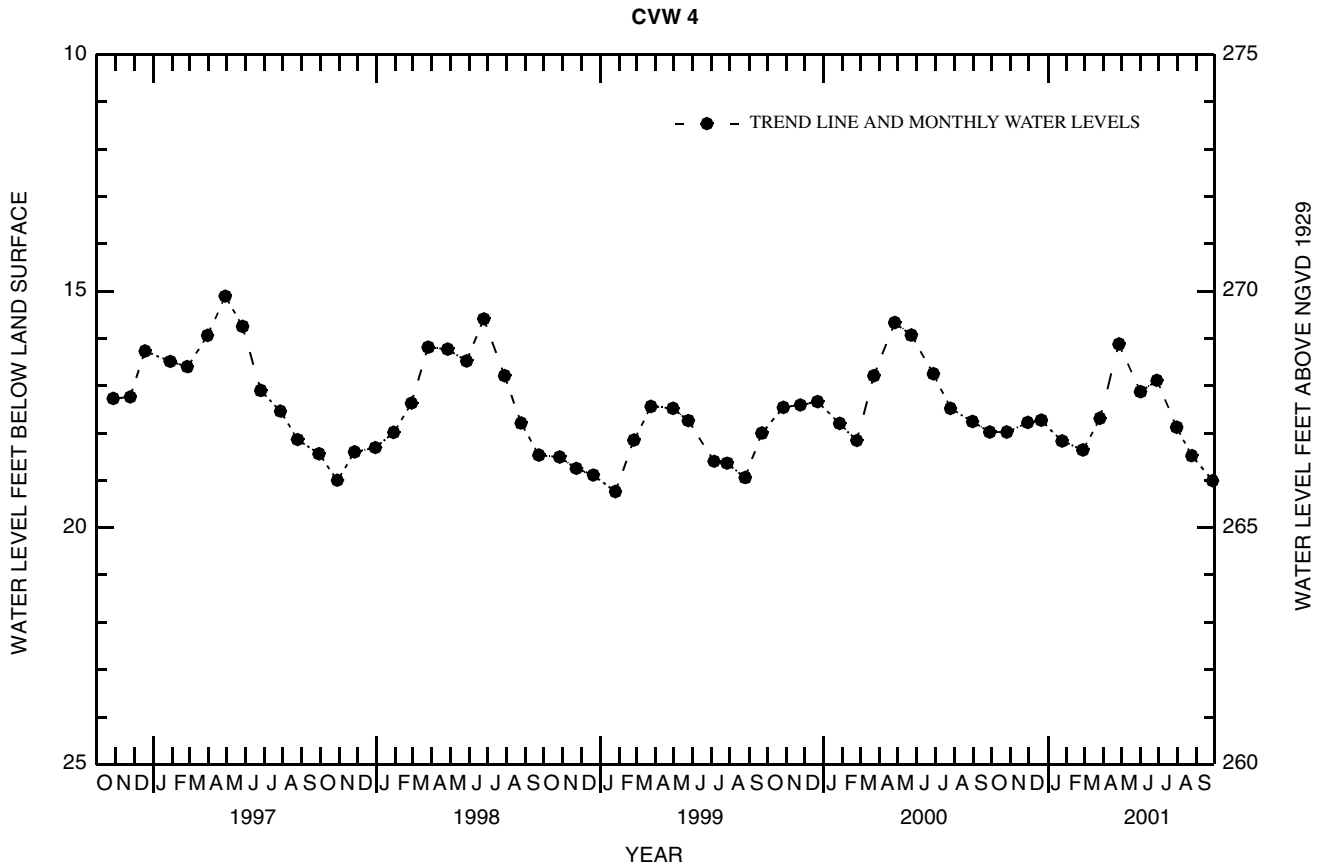
PERIOD OF RECORD.--November 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.94 ft below land-surface datum, June 5, 1984; lowest measured, 20.30 ft below land-surface datum, January 26, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	17.98	FEB 27	18.36	JUN 28	16.89
NOV 29	17.78	MAR 27	17.69	JUL 30	17.88
DEC 21	17.73	APR 27	16.12	AUG 24	18.48
JAN 24	18.17	JUN 01	17.13	SEP 27	19.01

WATER YEAR 2001    HIGHEST    16.12    APR 27, 2001    LOWEST    19.01    SEP 27, 2001



MERRIMACK COUNTY

432428071390701. Local number, FKW 1, Town of Franklin.

LOCATION.--Lat 43°24'28", long 71°39'09", Hydrologic Unit 01070002, about 700 ft northeast from entrance to Holy Cross Convent on U.S. Highway 3, and 2.5 mi south of Franklin.

Owner: Holy Cross Convent.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Unused water-table well, diameter 2.5 in., depth 52.3 ft.

DATUM.--Elevation of land-surface datum is 290 ft above sea level from topographic map. Measuring point: Top of casing, 1.80 ft above land-surface datum.

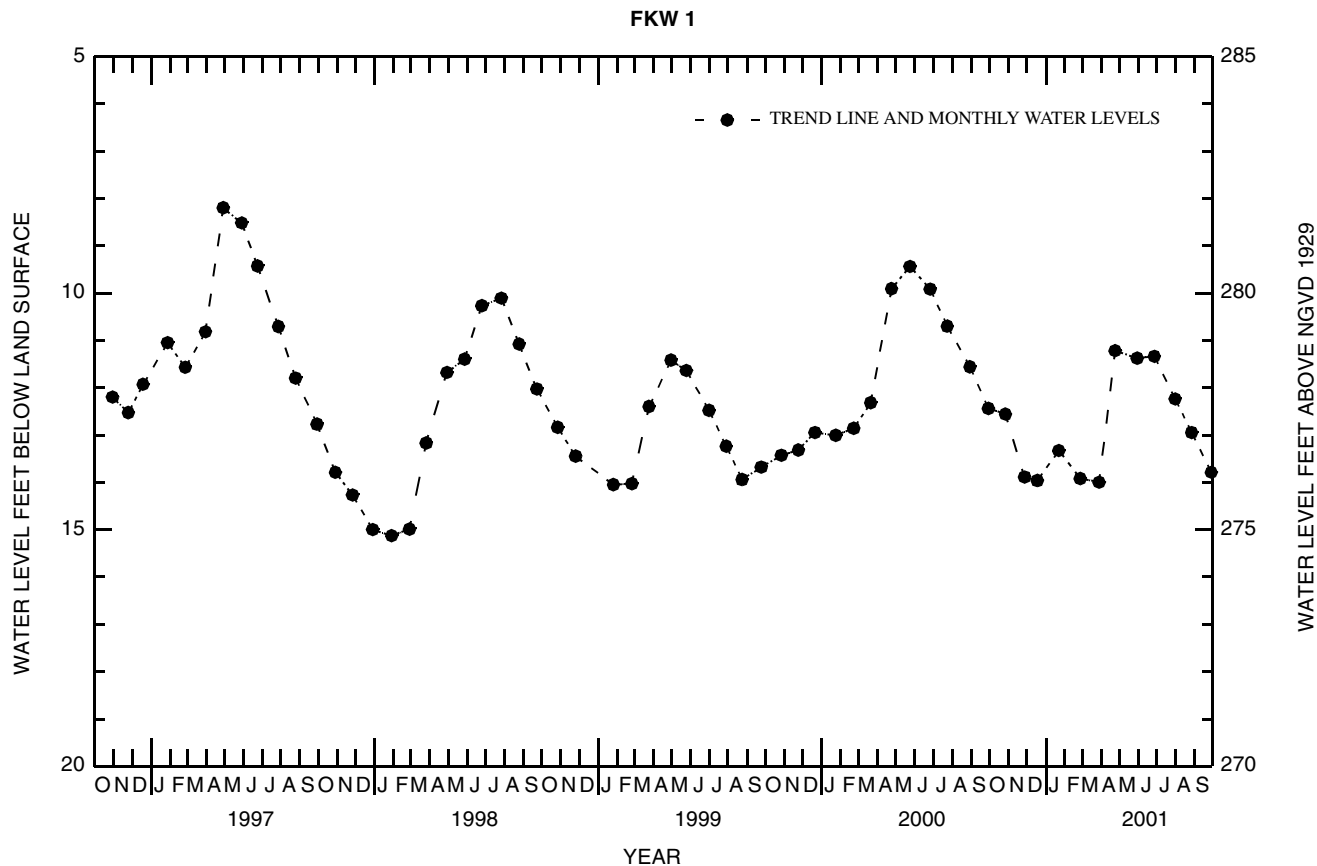
PERIOD OF RECORD.--October 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.18 ft below land-surface datum, June 5, 1984; lowest measured, 16.27 ft below land-surface datum, January 26, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	12.56	FEB 26	13.92	JUN 27	11.34
NOV 27	13.89	MAR 29	14.00	JUL 31	12.24
DEC 18	13.96	APR 24	11.22	AUG 27	12.95
JAN 22	13.33	MAY 30	11.38	SEP 28	13.79

WATER YEAR 2001      HIGHEST    11.22    APR 24, 2001      LOWEST    14.00    MAR 29, 2001



GROUND-WATER LEVELS IN NEW HAMPSHIRE

MERRIMACK COUNTY

430235071275501. Local number, HTW 5, Town of Hooksett.

LOCATION.--Lat 43°02'35", long 71°27'55", Hydrologic Unit 01070002, within southeastern cloverleaf of intersection of U.S. Highway 3A and Interstate Highway 93, 3.7 mi south of the center of Hooksett.

Owner: New Hampshire Department of Transportation.

AQUIFER.--Crystalline rock of Devonian age.

WELL CHARACTERISTICS.--Drilled, unused bedrock well, diameter 6 in., depth 102.73 ft.

DATUM.--Elevation of land-surface datum is 258.93 ft above sea level from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

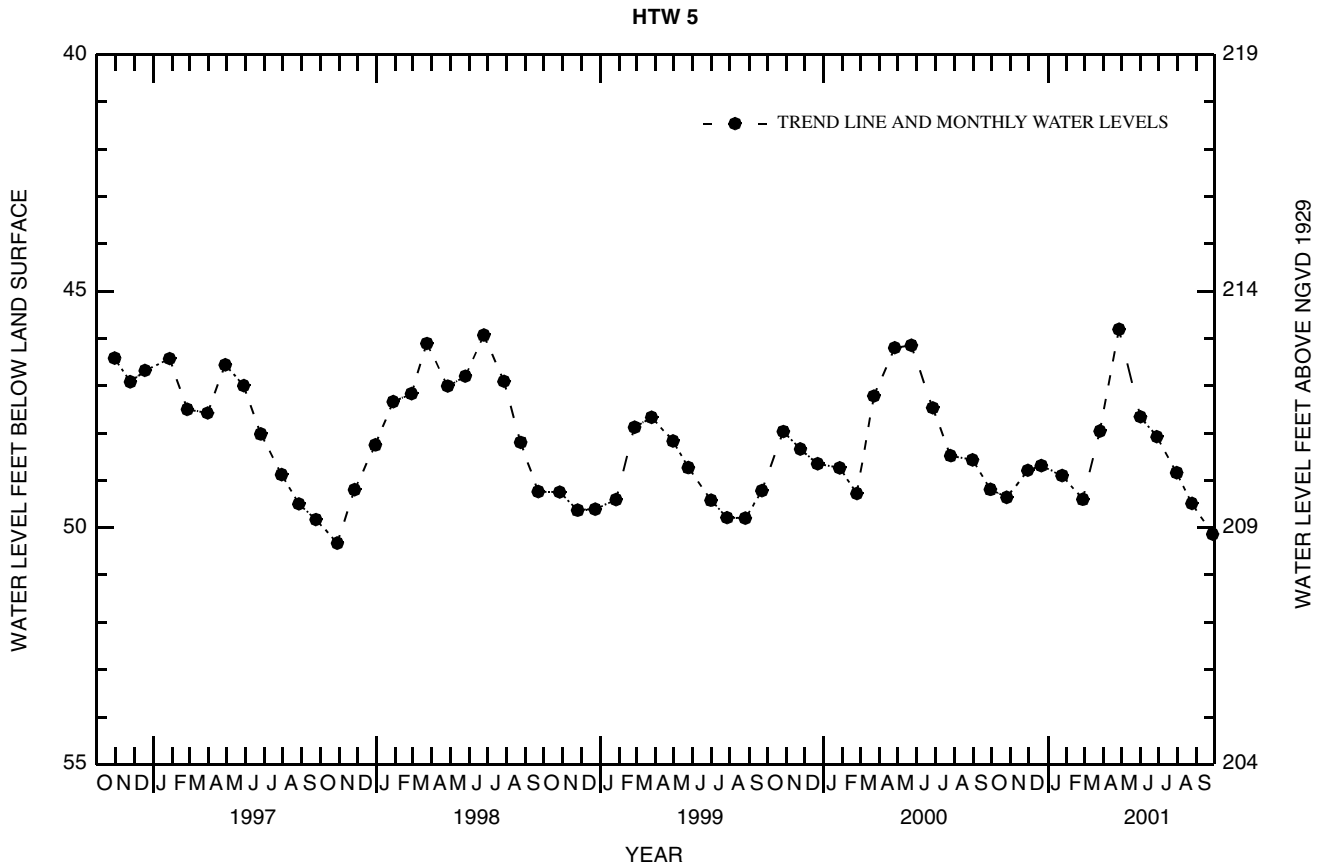
PERIOD OF RECORD.--April 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.69 ft below land-surface datum, April 28, 1967; lowest measured, 51.96 ft below land-surface datum, February 10, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	49.36	FEB 27	49.40	JUN 28	48.08
NOV 29	48.79	MAR 27	47.96	JUL 30	48.84
DEC 21	48.69	APR 27	45.81	AUG 24	49.49
JAN 24	48.90	JUN 01	47.66	SEP 27	50.14

WATER YEAR 2001      HIGHEST    45.81    APR 27, 2001      LOWEST    50.14    SEP 27, 2001





MERRIMACK COUNTY

432343071570901. Local number, NLW 1, Town of New London.

LOCATION.--Lat 43°23'43", long 71°57'09", Hydrologic Unit 01070003, at north side of Golf Course Road, about 500 ft east of intersection of State Highway 114 and Golf Course Road, and 2.1 mi southeast of New London.

Owner: Peter Danforth.

AQUIFER.--Sandy till of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 36 in., depth 21 ft, lined with stone to 21 ft, open end.

DATUM.--Elevation of land-surface datum is 1,020 ft above sea level from topographic map. Measuring point: Edge of 0.75-in. hole in wooden cover, 2.9 ft above land-surface datum.

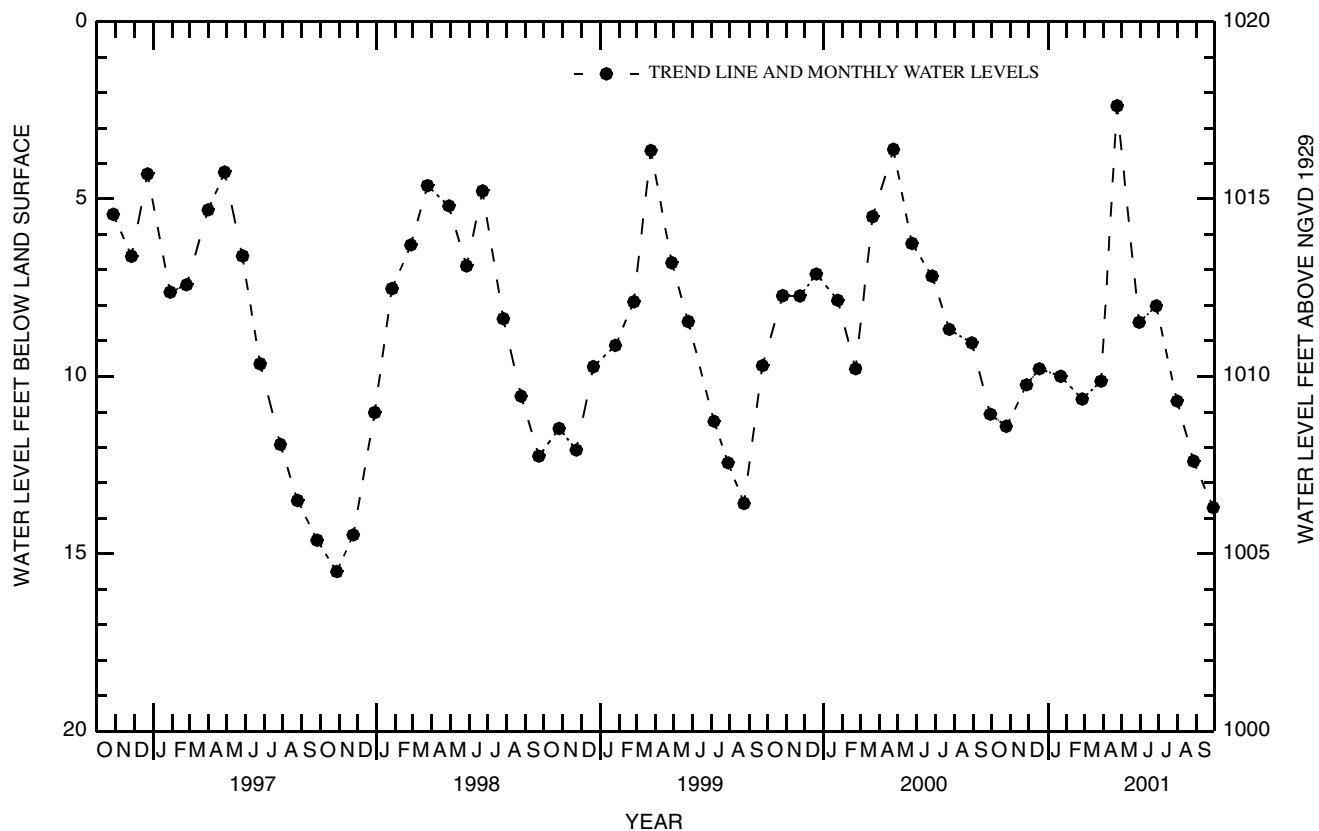
PERIOD OF RECORD.--October 1947 to current year. Prior to January 1956, published in Water Levels and Artesian Pressures in Observation Wells in the United States: Part 1. Northeastern States; U.S. Geological Survey Water-Supply Paper Series. January 1956 to November 1972, published in Ground-Water Levels in the United States, Northeastern States; U.S. Geological Survey Water-Supply Paper Series.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.80 ft below land-surface datum, April 2, 1963; lowest measured, 16.90 ft below land-surface datum, December 28, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	11.41	FEB 26	10.64	JUN 27	8.02
NOV 27	10.24	MAR 29	10.14	JUL 31	10.70
DEC 18	9.79	APR 24	2.38	AUG 27	12.39
JAN 22	10.00	MAY 30	8.48	SEP 28	13.70
WATER YEAR 2001 HIGHEST 2.38 APR 24, 2001		LOWEST 13.70 SEP 28, 2001			

NLW 1



GROUND-WATER LEVELS IN NEW HAMPSHIRE

MERRIMACK COUNTY

431540071452801. Local number, WCW 1, Town of Warner.

LOCATION.--Lat 43°15'40", long 71°45'28", Hydrologic Unit 01070003, 44 ft northeast of edge of pavement of northbound lane of Interstate Highway 89, about 2 mi southeast of State Highway 103 overpass in Warner.  
 Owner: New Hampshire Department of Transportation.

AQUIFER.--Sand and fine gravel of Pleistocene age.

WELL CHARACTERISTICS.--Driven, unused water-table well, diameter 2 in., depth 42.8 ft.

INSTRUMENTATION.--Electronic water-level recorder with hourly readings. Prior to March 1999, monthly readings were published.

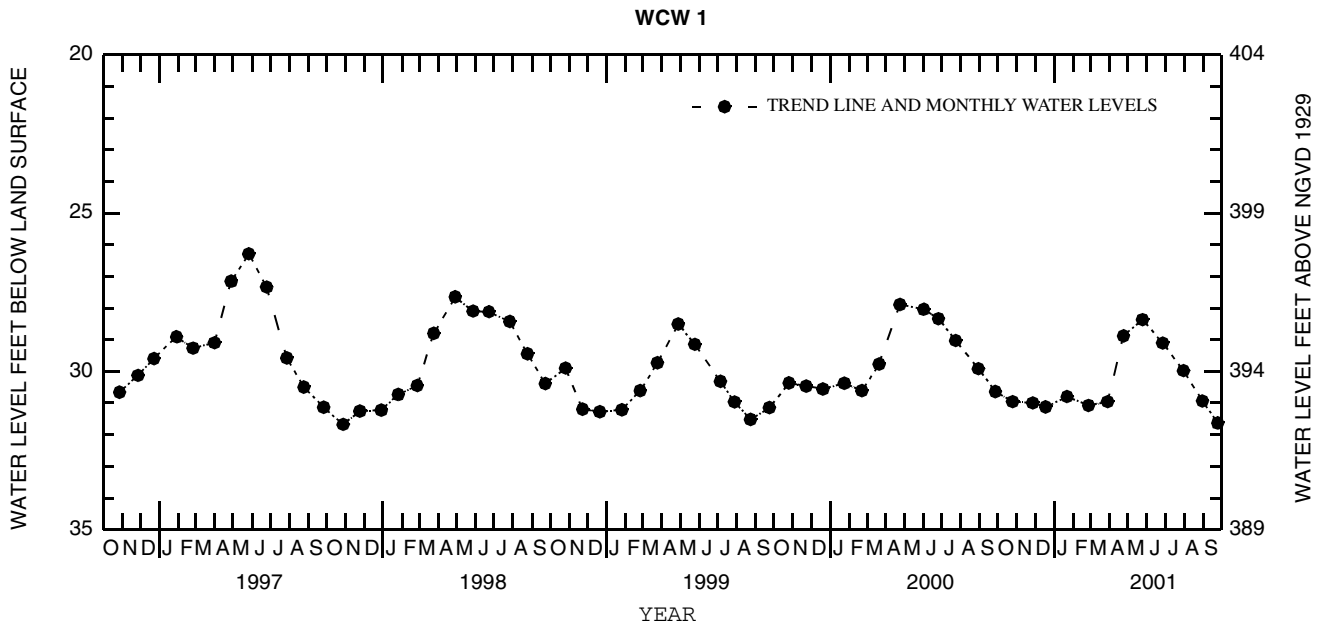
DATUM.--Elevation of land-surface datum is 424 ft above sea level from topographic map. Measuring point: Top of casing, 3.2 ft above land-surface datum.

PERIOD OF RECORD.--December 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.94 ft below land-surface datum, May 5, 1969; lowest measured, 33.82 ft below land-surface datum, December 17, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.72	31.12	31.08	30.68	30.91	31.11	30.84	28.23	28.58	29.20	30.01	30.96
2	30.74	31.13	31.08	30.67	30.92	31.12	30.81	28.17	28.61	29.23	30.03	30.99
3	30.76	31.14	31.08	30.66	30.93	31.13	30.78	28.12	28.63	29.26	30.06	31.02
4	30.78	31.15	31.07	30.66	30.94	31.14	30.75	28.07	28.65	29.28	30.09	31.05
5	30.80	31.16	31.06	30.65	30.94	31.14	30.72	28.04	28.67	29.30	30.12	31.08
6	30.82	31.17	31.06	30.65	30.95	31.15	30.69	28.03	28.69	29.33	30.15	31.11
7	30.84	31.18	31.06	30.65	30.96	31.16	30.66	28.01	28.71	29.36	30.17	31.14
8	30.85	31.19	31.07	30.65	30.98	31.17	30.62	27.99	28.72	29.39	30.20	31.17
9	30.87	31.20	31.09	30.65	30.98	31.18	30.57	27.98	28.74	29.41	30.23	31.20
10	30.88	31.20	31.10	30.66	30.98	31.19	30.52	27.97	28.77	29.43	30.26	31.22
11	30.90	31.21	31.10	30.66	30.99	31.20	30.46	27.98	28.79	29.44	30.30	31.25
12	30.92	31.22	31.10	30.68	31.00	31.21	30.38	27.98	28.81	29.47	30.33	31.28
13	30.93	31.22	31.13	30.69	31.00	31.21	30.28	28.03	28.82	29.50	30.36	31.31
14	30.94	31.22	31.13	30.70	31.00	31.22	30.17	28.04	28.84	29.52	30.39	31.34
15	30.96	31.22	31.15	30.70	31.00	31.23	30.05	28.06	28.86	29.55	30.42	31.37
16	30.98	31.21	31.16	30.71	31.01	31.24	29.91	28.11	28.87	29.58	30.45	31.40
17	30.99	31.20	31.14	30.73	31.02	31.25	29.77	28.13	28.89	29.61	30.48	31.42
18	31.00	31.20	31.12	30.74	31.03	31.26	29.63	28.16	28.91	29.64	30.51	31.45
19	31.01	31.19	31.06	30.74	31.04	31.27	29.50	28.18	28.93	29.66	30.55	31.48
20	31.02	31.17	31.01	30.76	31.04	31.27	29.37	28.22	28.95	29.69	30.58	31.51
21	31.03	31.15	30.97	30.77	31.05	31.28	29.25	28.25	28.97	29.71	30.61	31.54
22	31.04	31.14	30.92	30.80	31.06	31.25	29.13	28.28	28.99	29.74	30.64	31.56
23	31.05	31.14	30.89	30.80	31.06	31.22	29.01	28.31	29.01	29.76	30.67	31.59
24	31.05	31.14	30.85	30.81	31.08	31.16	28.89	28.34	29.04	29.79	30.71	31.61
25	31.06	31.13	30.82	30.83	31.08	31.12	28.78	28.37	29.06	29.81	30.74	31.63
26	31.07	31.12	30.79	30.84	31.08	31.07	28.68	28.40	29.09	29.84	30.77	31.66
27	31.08	31.10	30.77	30.84	31.09	31.02	28.57	28.42	29.11	29.87	30.80	31.68
28	31.09	31.10	30.74	30.86	31.10	30.99	28.48	28.45	29.13	29.90	30.83	31.70
29	31.09	31.09	30.72	30.88	---	30.95	28.39	28.48	29.16	29.93	30.86	31.71
30	31.10	31.08	30.70	30.88	---	30.91	28.31	28.51	29.18	29.95	30.90	31.73
31	31.11	---	30.69	30.89	---	30.87	---	28.55	---	29.98	30.92	---
MEAN	30.95	31.16	30.99	30.74	31.01	31.15	29.80	28.19	28.87	29.58	30.46	31.37
MAX	31.11	31.22	31.16	30.89	31.10	31.28	30.84	28.55	29.18	29.98	30.92	31.73
MIN	30.72	31.08	30.69	30.65	30.91	30.87	28.31	27.97	28.58	29.20	30.01	30.96
CAL YR 2000	MEAN 29.79	HIGH 27.69	LOW 31.22									
WTR YR 2001	MEAN 30.35	HIGH 27.97	LOW 31.73									



ROCKINGHAM COUNTY

430527071140101. Local number, DDW 46, Town of Deerfield.

LOCATION.--Lat 43°05'27", long 71°14'02", Hydrologic Unit 01060003, approximately 1.3 mi south from junction of Routes 107 and 43 and 25 ft east from Route 107, and about 4 mi south of Deerfield.

Owner: New Hampshire Department of Transportation.

AQUIFER.--Sand and fine gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 47.5 ft.

DATUM.--Elevation of land-surface datum is 272 ft above sea level from topographic map. Measuring point: Top of casing, 2.8 ft above land-surface datum.

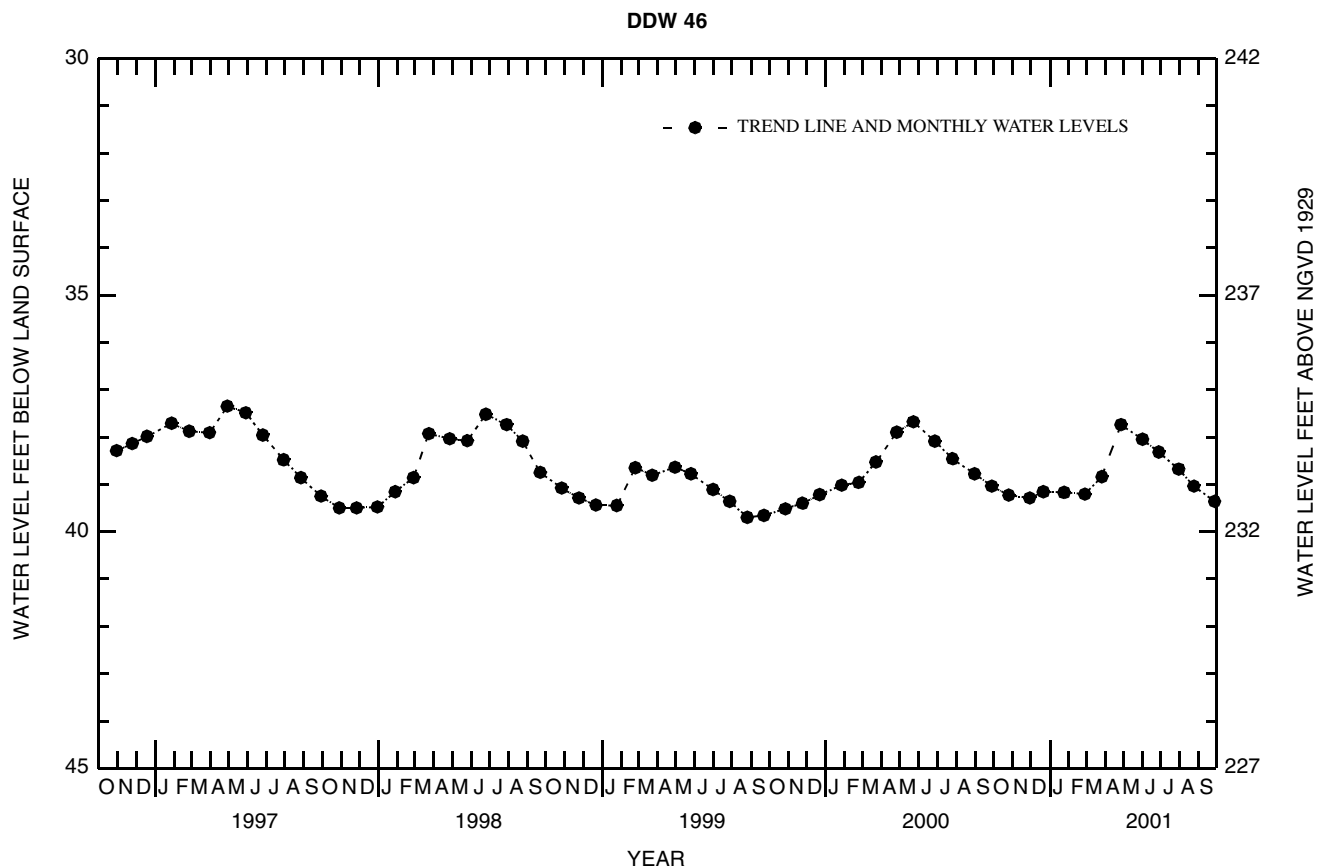
PERIOD OF RECORD.--November 1984 to May 1986, April 1989, April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.35 ft below land-surface datum, April 29, 1997; lowest measured, 39.89 ft below land-surface datum, September 29, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	39.23	FEB 27	39.21	JUN 28	38.32
NOV 29	39.29	MAR 27	38.84	JUL 30	38.68
DEC 21	39.16	APR 27	37.74	AUG 24	39.04
JAN 24	39.17	JUN 01	38.05	SEP 27	39.36

WATER YEAR 2001      HIGHEST    37.74    APR 27, 2001      LOWEST    39.36    SEP 27, 2001



GROUND-WATER LEVELS IN NEW HAMPSHIRE

STRAFFORD COUNTY

430721071005001. Local number, LIW 1, Town of Lee.

LOCATION.--Lat 43°07'21", long 71°00'50", Hydrologic Unit 01060003, southwest side of Bennett Road about 200 ft from the west corner of the Lee Town Green.

Owner: Brenda Nye.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 40 in., depth 32.8 ft, lined with stone to 32.8 ft.

DATUM.--Elevation of land-surface datum is 190 ft above sea level from topographic map. Measuring point: Top edge of board across well opening, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1953 to current year. Prior to January 1958, published in New Hampshire Basic-Data Report No. 1, Ground-Water Series. Prior to January 1956, published in Water Levels and Artesian Pressures in Observation Wells in the United States: Part 1. Northeastern States; U.S. Geological Survey Water-Supply Paper Series. January 1956 to December 1972, published in Ground-Water Levels in the United States, Northeastern States; U.S. Geological Survey Water-Supply Paper Series.

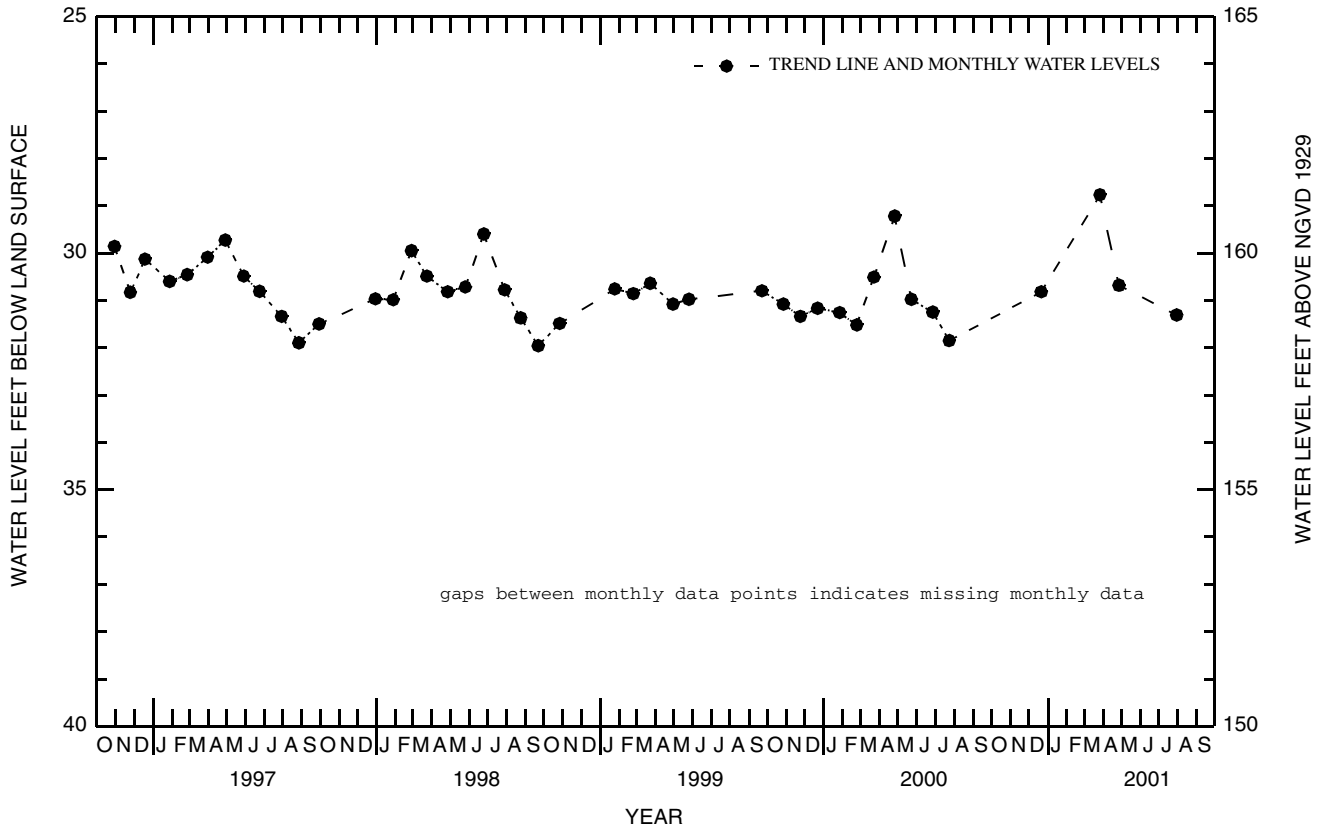
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.66 ft below land-surface datum, March 22, 1983; lowest measured, 32.40 ft below land-surface datum, December 18, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 21	30.82	APR 27	30.68
MAR 27	28.77	JUL 30	31.31

WATER YEAR 2001    HIGHEST    28.77    MAR 27, 2001       LOWEST    31.31    JUL 30, 2001

LIW 1



STRAFFORD COUNTY

432534071095601. Local number, NFW 53, Town of New Durham.

LOCATION.--Lat 43°25'36", long 71°09'55", Hydrologic Unit 01060003, at the northwest corner of the Ridge Road and Stockbridge Corner Road intersection, approximately 0.25 mi south of Route 11, and 0.5 mi south of New Durham.  
Owner: Town of New Durham.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused water-table well, diameter 2 in., depth 60 ft.

DATUM.--Elevation of land-surface datum is 545 ft above sea level from topographic map. Measuring point: Top of casing, 2.5 ft above land-surface datum.

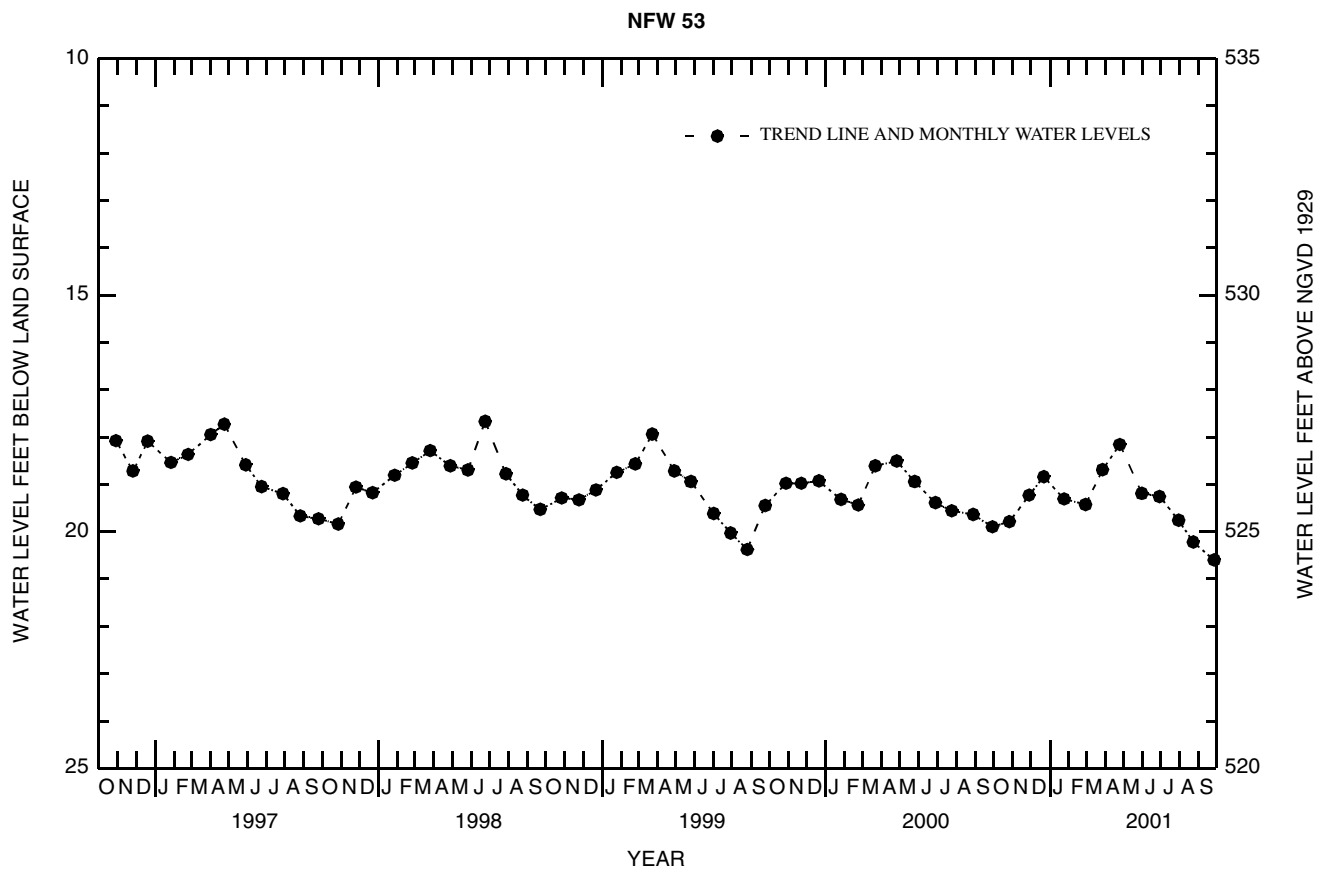
PERIOD OF RECORD.--December 1986 to May 1988, March, April 1991, April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.67 ft below land-surface datum, June 24, 1998; lowest measured, 21.35 ft below land-surface datum, June 9, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	19.79	FEB 28	19.43	JUN 29	19.26
NOV 28	19.23	MAR 28	18.69	JUL 30	19.76
DEC 22	18.84	APR 25	18.16	AUG 23	20.22
JAN 24	19.31	MAY 31	19.19	SEP 26	20.60

WATER YEAR 2001    HIGHEST    18.16    APR 25, 2001    LOWEST    20.60    SEP 26, 2001



GROUND-WATER LEVELS IN NEW HAMPSHIRE

SULLIVAN COUNTY

432322072112401. Local number, NPW 3, Town of Newport.

LOCATION.--Lat 43°23'23", long 72°11'08", Hydrologic Unit 01080104, approximately 300 ft south of Corbin Road, 0.2 mi west of Route 10, and 1.8 mi north from the center of Newport.

Owner: U.S. Geological Survey.

AQUIFER.-- Sand and fine gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused test well, diameter 2 in., depth 57 ft.

DATUM.--Elevation of land-surface datum is 777 ft above sea level from topographic map. Measuring point: Top of casing, 3.5 ft above land-surface datum.

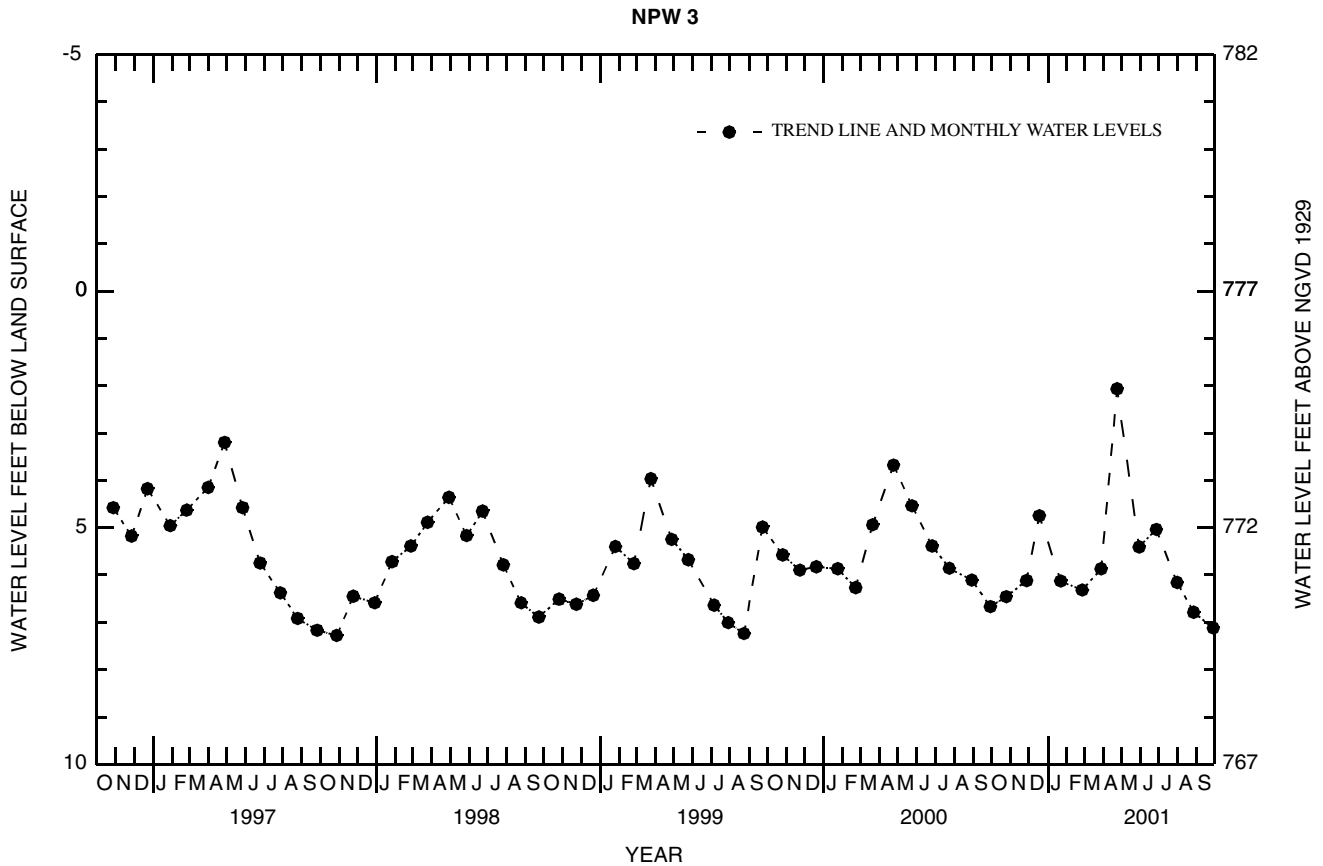
PERIOD OF RECORD.--April 1988, April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.07 ft below land-surface datum, April 24, 2001; lowest measured, 7.28 ft below land-surface datum, October 28, 1997.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	6.46	FEB 26	6.32	JUN 27	5.04
NOV 27	6.12	MAR 29	5.87	JUL 31	6.16
DEC 18	4.75	APR 24	2.07	AUG 27	6.79
JAN 22	6.13	MAY 30	5.41	SEP 28	7.12

WATER YEAR 2001    HIGHEST    2.07    APR 24, 2001    LOWEST    7.12    SEP 28, 2001



SULLIVAN COUNTY

432322072112402. Local number, NPW 6, Town of Newport.

LOCATION.--Lat 43°23'23", long 72°11'08", Hydrologic Unit 01080104, approximately 300 ft south of Corbin Road, 0.2 mi west of Route 10, and 1.8 mi north from the center of Newport.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and fine gravel of Pleistocene age.

WELL CHARACTERISTICS.--Bored, unused test well, diameter 2 in., depth 57 ft.

DATUM.--Elevation of land-surface datum is 787 ft above sea level from topographic map. Measuring point: Top of casing, 3.4 ft above land-surface datum.

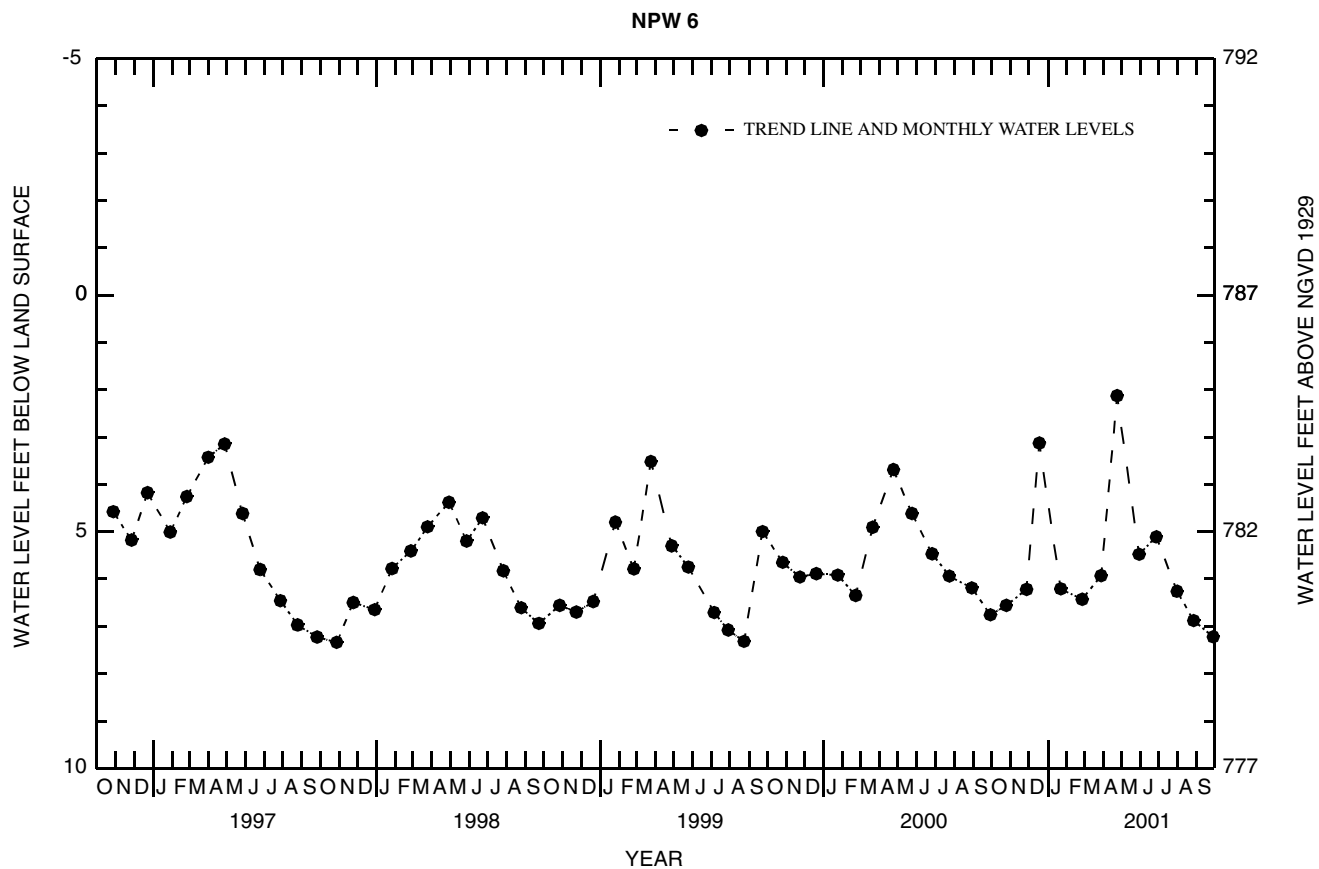
PERIOD OF RECORD.--April 1988, April 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.13 ft below land-surface datum, April 24, 2001; lowest measured, 7.34 ft below land-surface datum, October 28, 1997.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	6.56	FEB 26	6.43	JUN 27	5.11
NOV 27	6.22	MAR 29	5.93	JUL 31	6.26
DEC 18	3.13	APR 24	2.13	AUG 27	6.88
JAN 22	6.21	MAY 30	5.48	SEP 28	7.22

WATER YEAR 2001    HIGHEST    2.13    APR 24, 2001    LOWEST    7.22    SEP 28, 2001



GROUND-WATER LEVELS IN VERMONT

BENNINGTON COUNTY

424810073160401. Local number, PQW 1, Town of North Pownal.

LOCATION.--Lat 42°48'10", long 73°16'04", Hydrologic Unit 02020003, in front of residence on west side of State Highway 346 and 0.15 mi south of post office at North Pownal.

Owner: James Burden

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Dug observation water-table well, diameter 24 in, depth 18 ft, cased with stone to 18 ft, open end.

DATUM.--Altitude of land-surface datum is 515 ft. Measuring point: Top of 0.75-in diameter hole drilled in center of 0.38-in thick steel cover at land-surface datum.

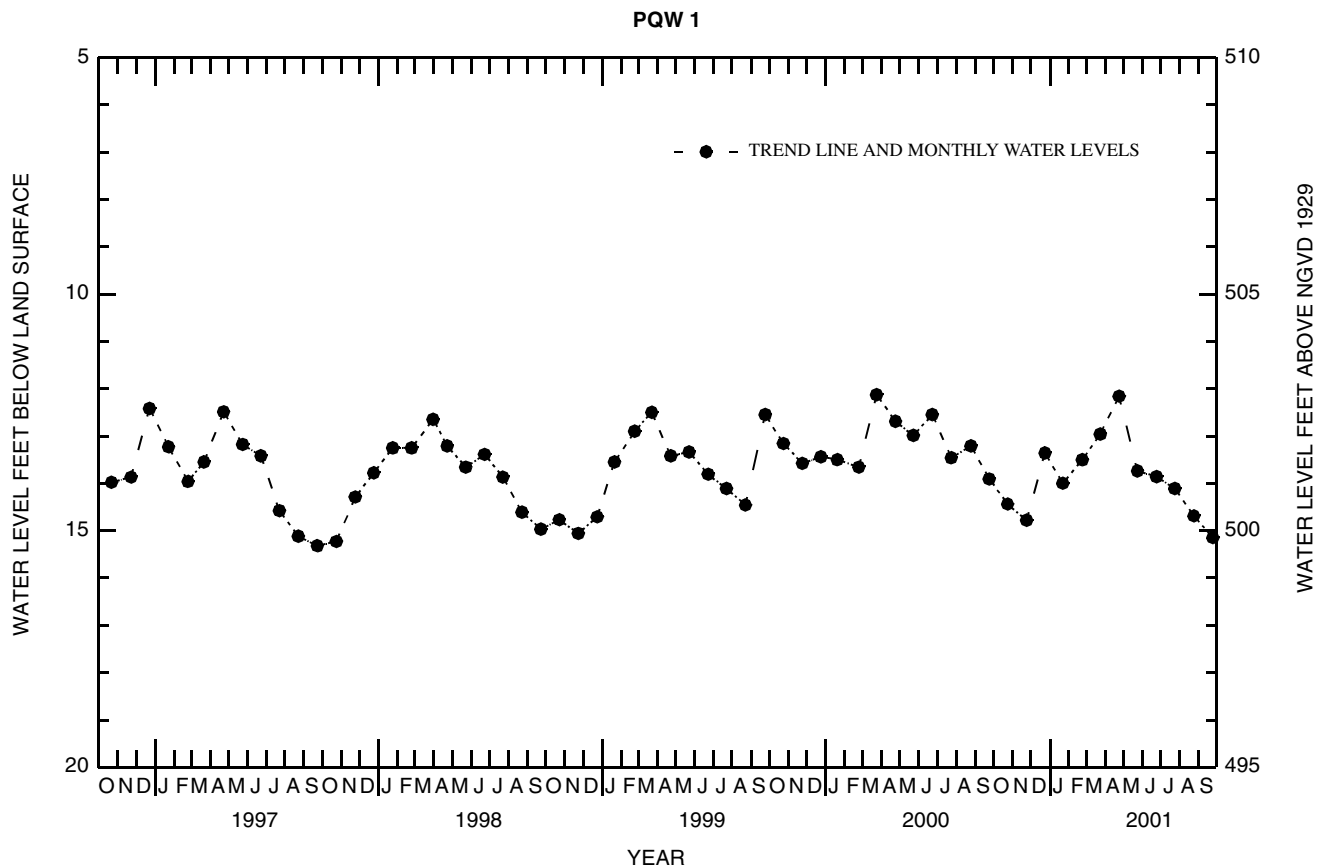
PERIOD OF RECORD.--October 1964 to current year. Prior to October 1977, published as Pownal 1.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.98 ft below land-surface datum, June 1, 1984; lowest measured, 16.59 ft below land-surface datum, October 19, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	14.44	FEB 23	13.50	JUN 24	13.86
NOV 24	14.78	MAR 24	12.96	JUL 24	14.11
DEC 24	13.36	APR 24	12.16	AUG 24	14.69
JAN 22	14.00	MAY 24	13.74	SEP 24	15.15

WATER YEAR 2001    HIGHEST    12.16    APR 24, 2001    LOWEST    15.15    SEP 24, 2001





## CHITTENDEN COUNTY

**443646073124901.** Local number, MJW 3, Town of Milton.

**LOCATION.**--Lat 44°36'46", long 73°12'49", Hydrologic Unit 02010005, about 600 ft south of manager's residence at Vermont Sandbar Waterfowl Development Area, about 400 ft west of former U.S. Highway 2, and 0.9 mi northwest of Lamoille River bridge at Milton.

Owner: U.S. Geological Survey.

**AQUIFER.**--Sand and gravel of Pleistocene age.

**WELL CHARACTERISTICS.**--Driven observation water-table well, diameter 1.25 in, depth 40 ft, screened 38 to 40 ft.

**DATUM.**--Altitude of land-surface datum is 160 ft. Measuring point: Top of casing, 4.00 ft above land-surface datum.

**PERIOD OF RECORD.**--November 1956 to September 1995, July 2001 to current year. Prior to October 1977, published as Milton 3.

**EXTREMES FOR PERIOD OF RECORD.**--Highest water level measured, 21.97 ft below land-surface datum, May 29, 1974; lowest measured, 39.10 ft below land-surface datum, March 23, 1989.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 24	31.96	AUG 30	33.35	SEP 26	34.26
WATER YEAR 2001    HIGHEST    31.96    JUL 24, 2001    LOWEST    34.26    SEP 26, 2001					

GROUND-WATER LEVELS IN VERMONT

ESSEX COUNTY

444731071514701. Local number, BIW 1, Town of Brighton.

LOCATION.--Lat 44°47'31", long 71°51'47", Hydrologic Unit 01110000, south of road and just west of parking lot for Brighton State Park Beach at Brighton.

Owner: U.S. Geological Survey.

AQUIFER.--Medium and coarse sand of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 35 ft, screened 33 to 35 ft.

DATUM.--Altitude of land-surface datum is 1,180 ft. Measuring point: Top of casing, 4.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1966 to current year. Prior to October 1977, published as Brighton 1.

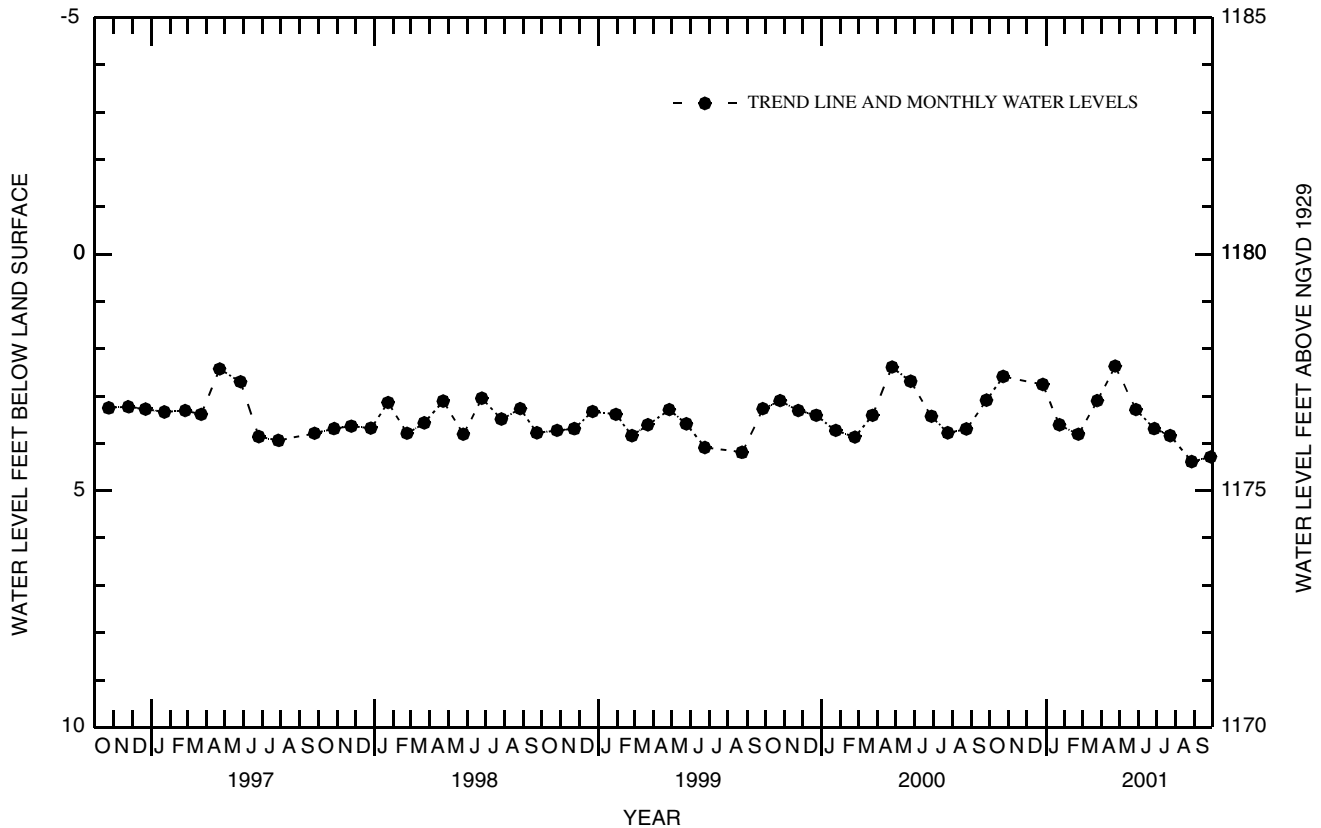
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.68 ft below land-surface datum, April 21, 2000; lowest measured, 4.95 ft below land-surface datum, August 21, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	2.59	MAR 26	3.10	JUL 23	3.84
DEC 27	2.76	APR 24	2.37	AUG 27	4.39
JAN 23	3.61	MAY 28	3.29	SEP 27	4.29
FEB 23	3.81	JUN 27	3.69		

WATER YEAR 2001    HIGHEST    2.37    APR 24, 2001    LOWEST    4.39    AUG 27, 2001

BIW 1



## FRANKLIN COUNTY

**445603072422901.** Local number, BKW 1, Town of East Berkshire.

**LOCATION.**--Lat 44°56'03", long 72°42'29", Hydrologic Unit 02010007, at southeast end of State Highway 118 bridge on Missisquoi River at East Berkshire.

Owner: U.S. Geological Survey.

**AQUIFER.**--Fine sand and gravel of Pleistocene age.

**WELL CHARACTERISTICS.**--Augered observation water-table well, diameter 1.25 in., depth 51 ft, screened 49 to 51 ft.

**DATUM.**--Altitude of land-surface datum is 425 ft. Measuring point: Top of casing, 4.00 ft above land-surface datum.

**PERIOD OF RECORD.**--November 1966 to September 1995, July 2001 to current year. Prior to October 1977, published as Berkshire 1.

**EXTREMES FOR PERIOD OF RECORD.**--Highest water level measured, 8.55 ft below land-surface datum, April 23, 1992; lowest measured, 16.43 ft below land-surface datum, August 26, 1975.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 24	14.80	AUG 30	15.81	SEP 26	15.84
WATER YEAR 2001	HIGHEST 14.80	JUL 24, 2001	LOWEST 15.84	SEP 26, 2001	

GROUND-WATER LEVELS IN VERMONT

LAMOILLE COUNTY

443405072323501. Local number, MPW 1, Town of Morrisville.

LOCATION.--Lat 44°34'05", long 72°32'35", Hydrologic Unit 02010005, Vermont Highway Department right-of-way off State Highway 15 and 3 mi east of Morrisville.

Owner: U.S. Geological Survey.

AQUIFER.--Silty, fine to medium sand of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 50 ft, screened 48 to 50 ft.

DATUM.--Altitude of land-surface datum is 660 ft. Measuring point: Top of casing, 4.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1966 to current year. Prior to October 1977, published as Morrystown 1.

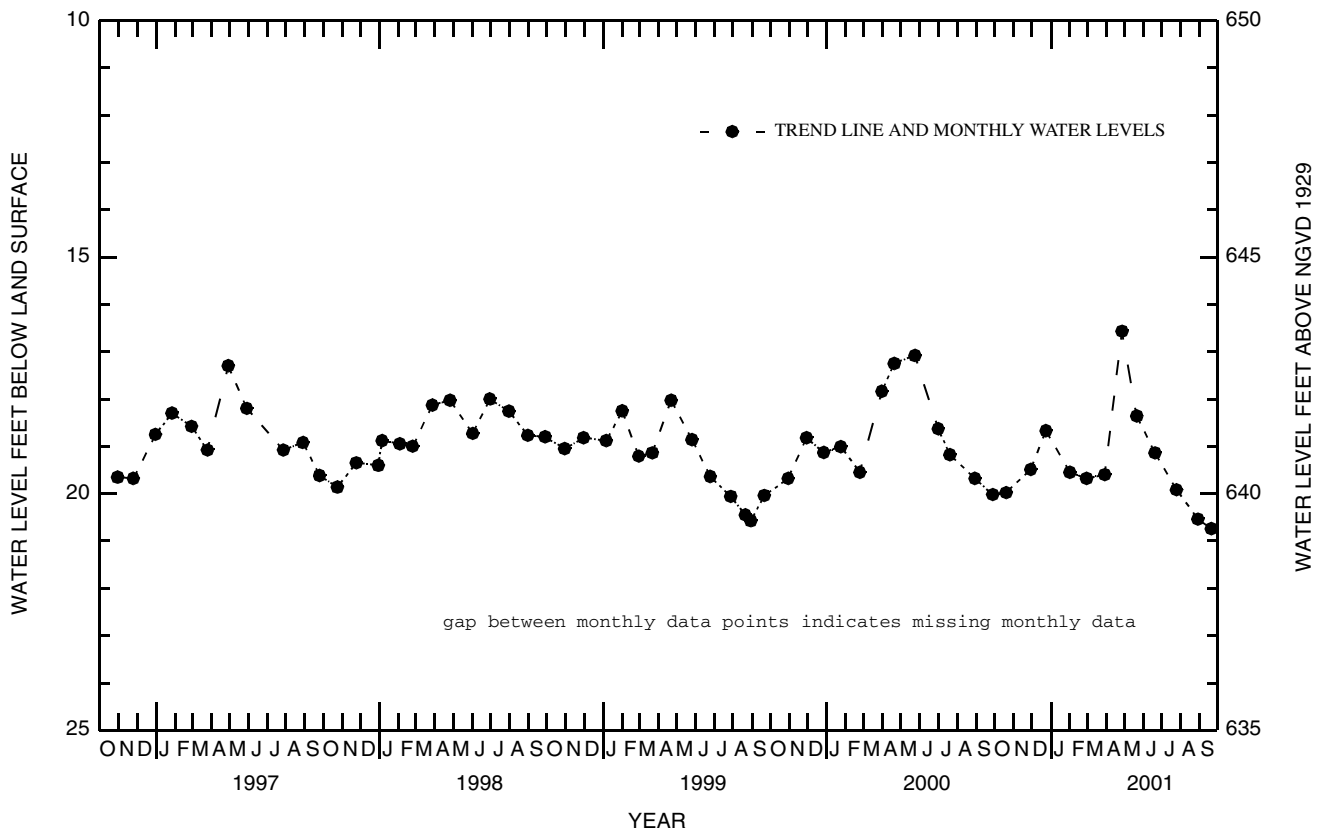
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.87 ft below land-surface datum, January 27, 1978; lowest measured, 20.74 ft below land-surface datum, September 20, 2001.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	19.98	FEB 28	19.68	JUN 20	19.14
NOV 29	19.49	MAR 30	19.60	JUL 25	19.92
DEC 24	18.67	APR 27	16.57	AUG 29	20.54
FEB 01	19.55	MAY 21	18.36	SEP 20	20.74

WATER YEAR 2001    HIGHEST    16.57    APR 27, 2001    LOWEST    20.74    SEP 20, 2001

MPW 1



ORANGE COUNTY

435343072151801. Local number, WOW 1, Town of West Fairlee.

LOCATION.--Lat 43°53'43", long 72°15'18", Hydrologic Unit 01080103, 60 ft west of salt shed and 1.3 mi south southeast of West Fairlee Village.

Owner: U.S. Geological Survey.

AQUIFER.--Sand of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 54 ft, screened 52 to 54 ft.

DATUM.--Altitude of land-surface datum is 700 ft. Measuring point: Top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1966 to current year. Prior to October 1977, published as West Fairlee 1.

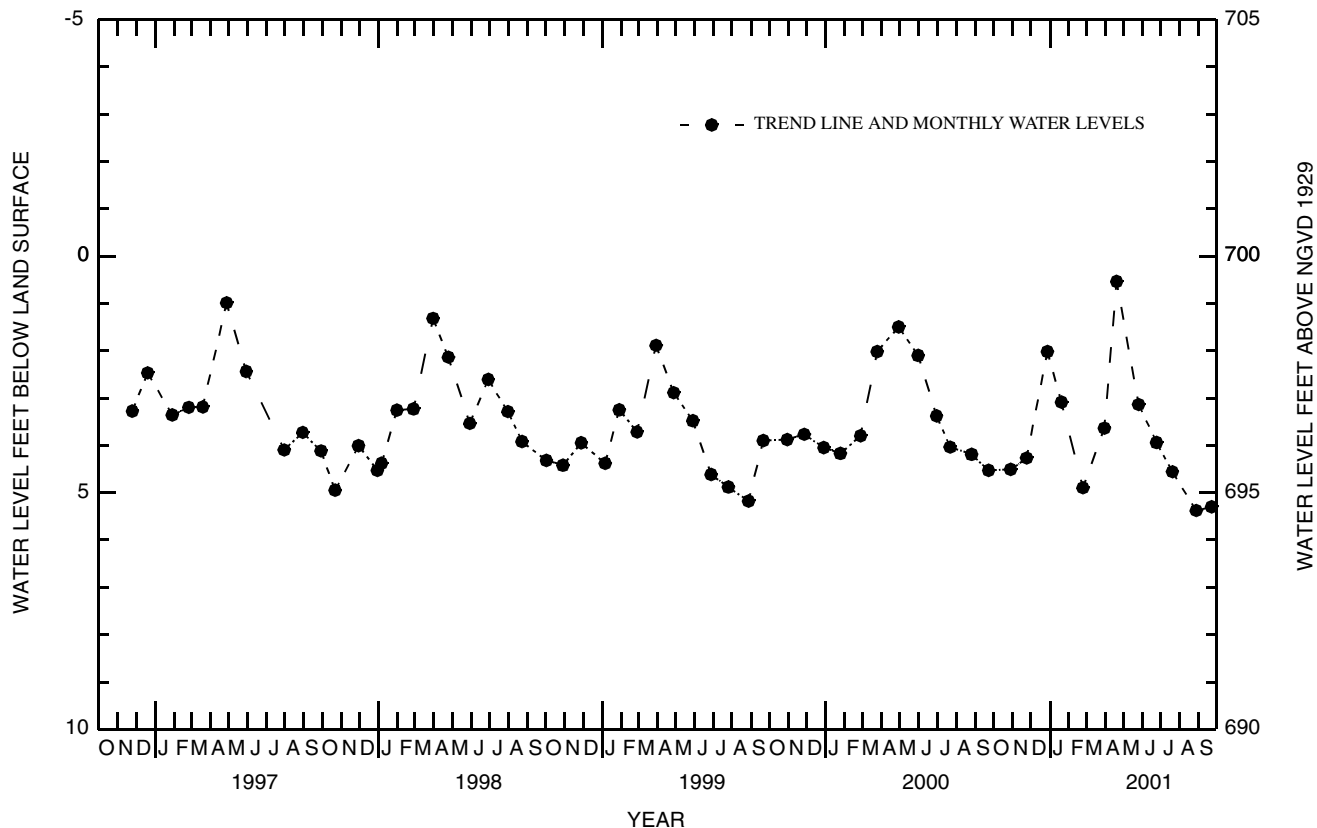
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.53 ft below land-surface datum, April 23, 1993; lowest measured, 5.56 ft below land-surface datum, September 26, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	4.51	FEB 24	4.90	JUN 24	3.94
NOV 24	4.27	MAR 31	3.64	JUL 20	4.56
DEC 28	2.02	APR 20	.54	AUG 28	5.38
JAN 20	3.09	MAY 26	3.14	SEP 22	5.30

WATER YEAR 2001    HIGHEST    .54    APR 20, 2001    LOWEST    5.38    AUG 28, 2001

WOW 1



GROUND-WATER LEVELS IN VERMONT

ORLEANS COUNTY

443952072114001. Local number, GLW 1, Town of Glover.

LOCATION.--Lat 44°39'52", long 72°11'40", Hydrologic Unit 01110000, at Vermont Highway Department salt shed west of State Highway 16 and 3 mi south of Glover Village.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 82 ft, screened 80 to 82 ft.

DATUM.--Elevation of land-surface datum is 1,200 ft above sea level from topographic map. Measuring point: Top of casing, .00 ft above land-surface datum.

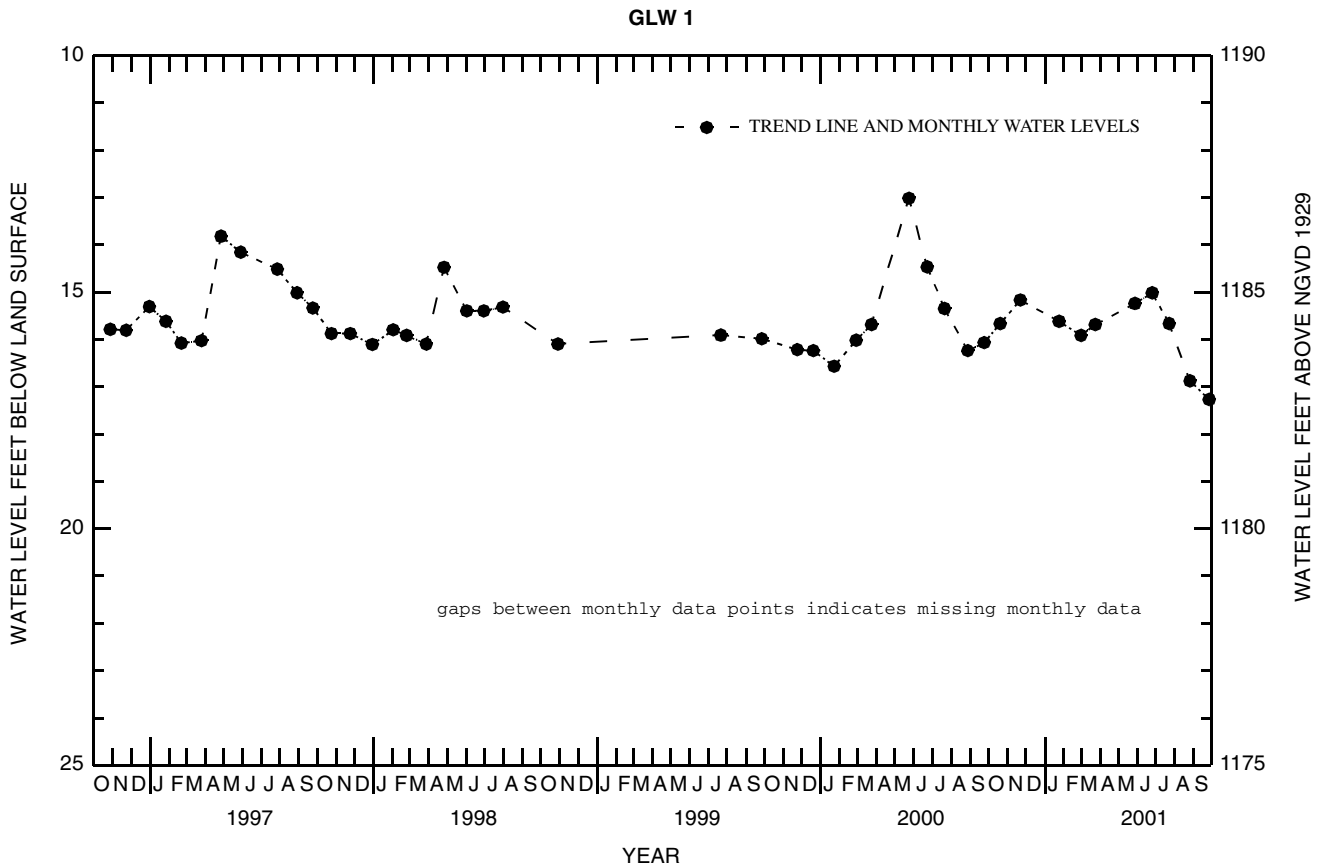
PERIOD OF RECORD.--November 1966 to current year. Prior to 1977, published as Glover 1.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.11 ft below land-surface datum, May 23, 1969; lowest measured, 18.95 ft below land-surface datum, March 28, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEARS OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	15.67	MAR 24	15.69	AUG 26	16.88
NOV 22	15.17	MAY 28	15.24	SEP 26	17.27
JAN 24	15.62	JUN 25	15.02		
MAR 01	15.92	JUL 23	15.67		

WATER YEAR 2001    HIGHEST    15.02    JUN 25, 2001    LOWEST    17.27    SEP 26, 2001



RUTLAND COUNTY

434217073010601. Local number, PFW 8, Town of Pittsford.

LOCATION.--Lat 43°42'17", long 73°01'06", Hydrologic Unit 02010002, 12 ft west of storage building at St. Alphonsus Cemetery at Pittsford.

Owner: U.S. Geological Survey.

AQUIFER.--Medium to fine sand of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 42 ft, screened 40 to 42 ft.

DATUM.--Elevation of land-surface datum is 490 ft above sea level from topographic map. Measuring point: Top of casing, 2.00 ft above land-surface datum.

REMARKS.--Well pulled November 8, 1968, point replaced, depth changed from 43 to 42 ft, old 3-ft point was completely encrusted.

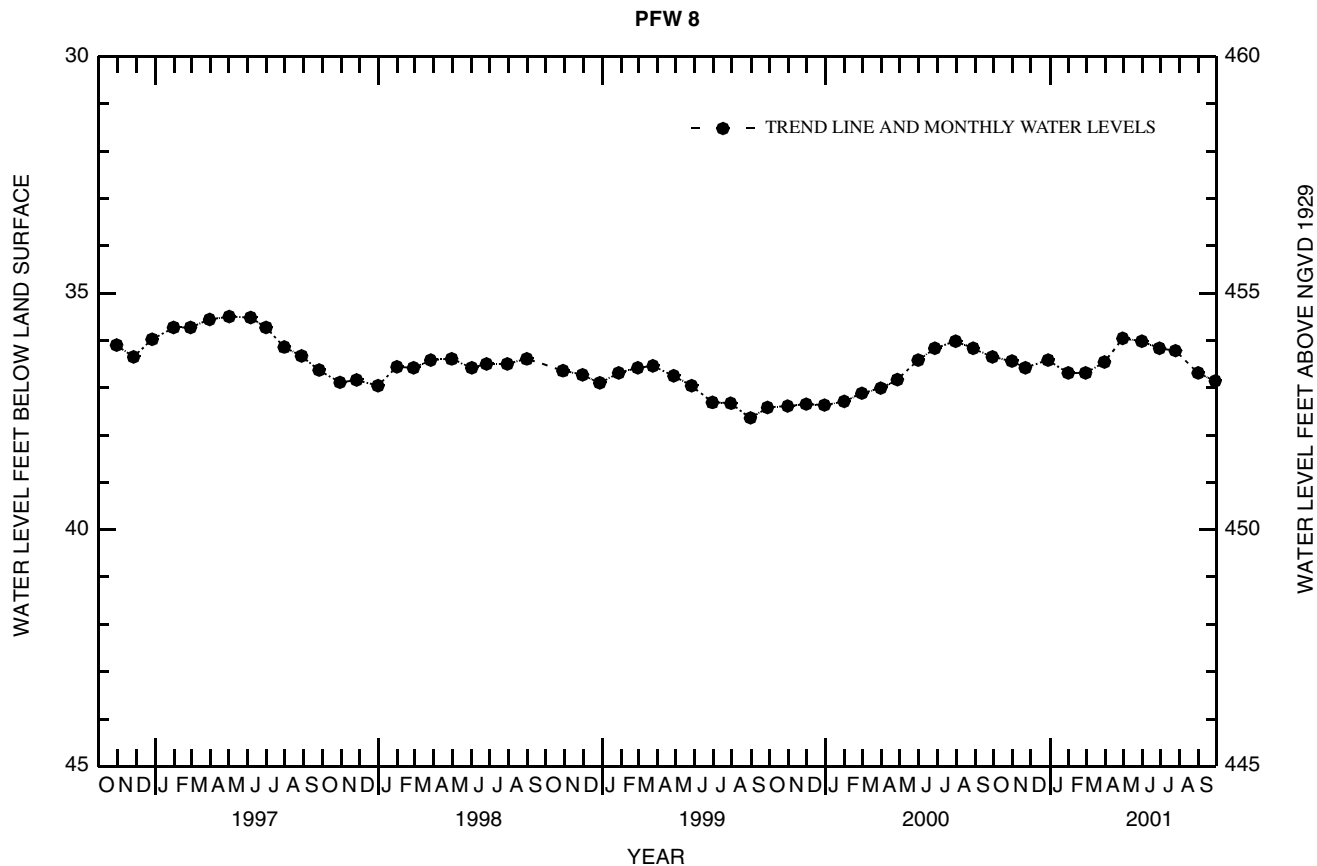
PERIOD OF RECORD.--October 1957 to September 1995, October 1996 to current year. Prior to October 1977, published as Pittsford 8.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.17 ft below land-surface datum, May 26, 1976; lowest measured, 39.59 ft below land-surface datum, October 18, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEARS OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	36.44	NOV 22	36.58	DEC 29	36.42
JAN 31	36.69	APR 30	35.96	JUL 25	36.22
FEB 28	36.69	MAY 31	36.02	AUG 31	36.69
MAR 31	36.46	JUN 29	36.17	SEP 28	36.86

WATER YEAR 2001      HIGHEST    35.96    APR 30, 2001      LOWEST    36.86    SEP 28, 2001



GROUND-WATER LEVELS IN VERMONT

WASHINGTON COUNTY

441215072483101. Local number, WAW 2, Town of Waitsfield.

LOCATION.--Lat 44°12'15", long 72°48'31", Hydrologic Unit 02010003, at rest area on east side of State Highway 100 and 1.3 mi northeast of Waitsfield Village.

Owner: U.S. Geological Survey.

AQUIFER.--Silty gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drive and wash observation water-table well, diameter 1.25 in, depth 45.5 ft, screened 43.5 to 45.5 ft.

DATUM.--Altitude of land-surface datum is 685 ft. Measuring point: Top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1975 to September 1995, July 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.25 ft below land-surface datum, December 14, 1983; lowest measured, 7.99 ft below land-surface datum, June 27, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 23	6.98	AUG 30	7.55	SEP 26	7.07
WATER YEAR 2001	HIGHEST 6.98	JUL 23, 2001	LOWEST 7.55	AUG 30, 2001	



WINDSOR COUNTY

431551072350601. Local number, CKW 1, Town of Chester.

LOCATION.--Lat 43°15'51", long 72°35'06", Hydrologic Unit 01080107, at Vermont Highway Department salt shed on Elm Street in Chester.

Owner: U.S. Geological Survey.

AQUIFER.--Boulders, coarse gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 22 ft, screened 20 to 22 ft.

DATUM.--Altitude of land-surface datum is 580 ft. Measuring point: Top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1966 to current year. Prior to October 1977, published as Chester 1.

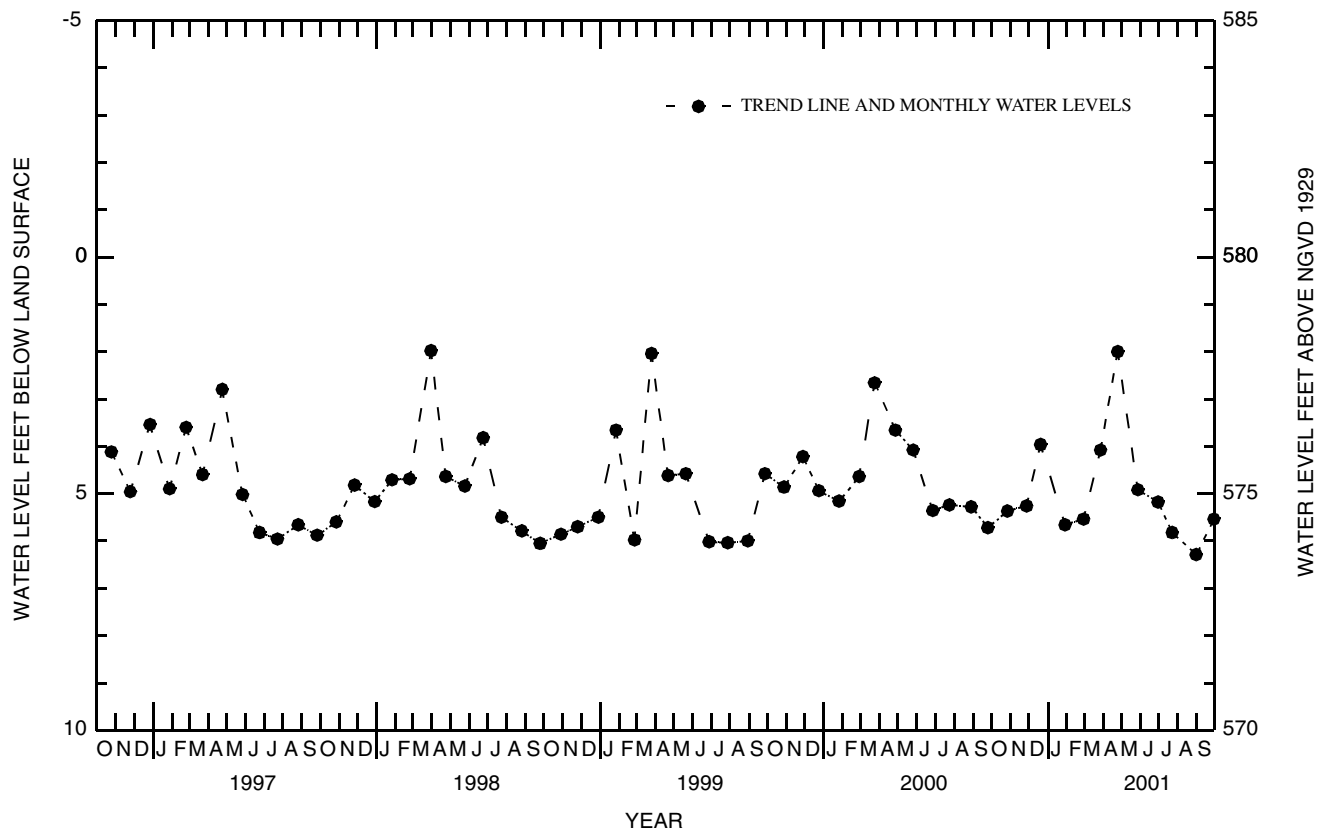
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.56 ft below land-surface datum, March 20, 1986; lowest measured, 6.31 ft below land-surface datum, September 28, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	5.37	FEB 28	5.54	JUN 30	5.18
NOV 27	5.26	MAR 28	4.08	JUL 23	5.82
DEC 20	3.96	APR 25	2.00	AUG 31	6.29
JAN 29	5.66	MAY 28	4.92	SEP 29	5.54

WATER YEAR 2001 HIGHEST 2.00 APR 25, 2001 LOWEST 6.29 AUG 31, 2001

CKW 1



GROUND-WATER LEVELS IN VERMONT

WINDSOR COUNTY

433240072242901. Local number, HLW 54, Town of Hartland.

LOCATION.--Lat 43°32'40", long 72°24'29", Hydrologic Unit 01080104, at northeast corner of fire station in Hartland.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 1.25 in, depth 51 ft, screened 49 to 51 ft.

DATUM.--Altitude of land-surface datum is 575 ft. Measuring point: Top of casing, 4.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1969 to current year.

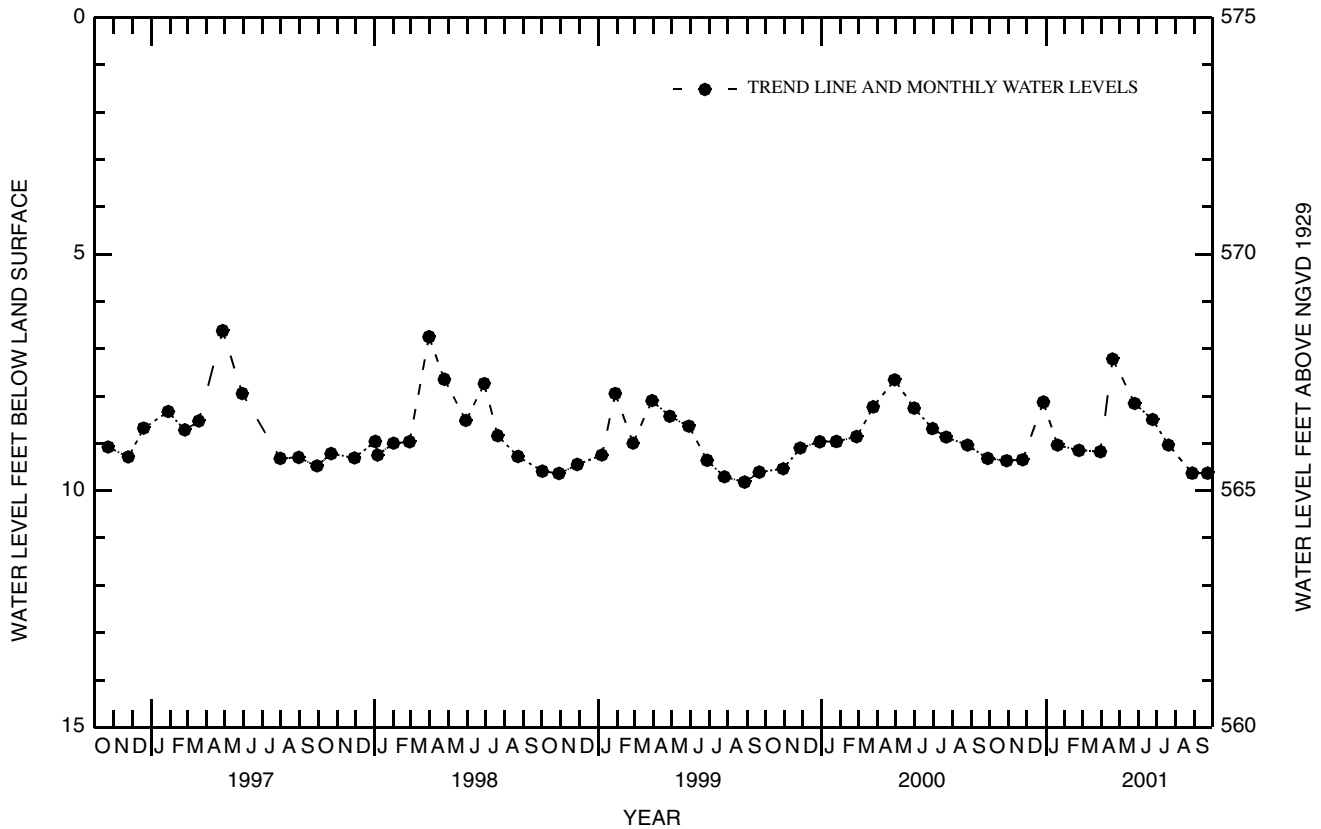
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.96 ft below land-surface datum, June 1, 1984; lowest measured, 10.75 ft below land-surface datum, January 24, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	9.37	FEB 24	9.15	JUN 24	8.50
NOV 24	9.35	MAR 31	9.18	JUL 20	9.04
DEC 28	8.13	APR 20	7.22	AUG 28	9.63
JAN 20	9.04	MAY 26	8.16	SEP 22	9.63

WATER YEAR 2001 HIGHEST 7.22 APR 20, 2001 LOWEST 9.63 AUG 28, 2001 SEP 22, 2001

HLW 54



## WINDSOR COUNTY

**435129072483301.** Local number, RJW 1, Town of Rochester.

**LOCATION.**--Lat 43°51'29", long 72°48'33", Hydrologic Unit 01080105, adjacent to salt shed at Vermont Highway Department garage 1.3 mi south of Rochester Village.

Owner: U.S. Geological Survey.

**AQUIFER.**--Sand of Pleistocene age.

**WELL CHARACTERISTICS.**--Augered observation water-table well, diameter 1.25 in, depth 73 ft, screened 71 to 73 ft.

**DATUM.**--Altitude of land-surface datum is 800 ft. Measuring point: Top of casing, 4.00 ft above land-surface datum.

**PERIOD OF RECORD.**--November 1966 to September 1995, July 2001 to current year. Prior to 1977, published as Rochester 1.

**EXTREMES FOR PERIOD OF RECORD.**--Highest water level measured, 4.50 ft below land-surface datum, March 26, 1968; lowest measured, 13.05 ft below land-surface datum, August 25, 1975, September 26, 2001.

**WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 23	12.14	AUG 30	12.88	SEP 26	13.05
WATER YEAR 2001	HIGHEST 12.14	JUL 23, 2001	LOWEST 13.05	SEP 26, 2001	

## INDEX

Numerics			
10 percent exceeds, explanation of .....	14		
50 percent exceeds, explanation of .....	14		
90 percent exceeds, explanation of .....	14		
A			
Access to USGS water data, explanation of .....	21		
Accuracy of the records, explanation of .....	15		
Acid neutralizing capacity, definition of .....	22		
Acre-foot, definition of .....	22		
Adenosine triphosphate, definition of .....	22		
Albany, NH, ground-water levels in .....	151, 152		
Algae,			
Blue-green, definition of .....	23		
Fire, definition of .....	26		
Green, definition of .....	26		
Algal growth potential, definition of .....	22		
Alkalinity, definition of .....	22		
Ammonoosuc River at Bethlehem Junction, NH .....	79		
Analyses of pesticides in surface-water and ground-water samples (schedule 2001), explanation of .....	19		
Analyses of volatile organic compounds in ground-water samples (schedule 2020/2021), explanation of .....	20		
Androscoggin River Basin,			
gaging-station records in .....	40-42		
lakes in, capacity of .....	41, 42		
Androscoggin River			
at Errol, NH .....	41		
near Gorham, NH .....	42		
Annual 7-day minimum,			
definition of .....	22		
explanation of .....	14		
Annual mean, explanation of .....	14		
Annual runoff,			
definition of .....	22		
explanation of .....	14		
Annual total, explanation of .....	14		
Aquifer,			
explanation of .....	18		
water table, definition of .....	34		
Aroclor, definition of .....	22		
Arrangement of records, explanation of .....	16		
Artificial substrate, definition of .....	22		
Ash mass, definition of .....	23		
Ashuelot River			
at Hinsdale, NH .....	96		
at West Swanzey, NH .....	95		
below Surry Mountain Dam near Keene, NH .....	93		
Ayers Brook at Randolph, VT .....	83		
B			
Bacteria,			
definition of .....	23		
Fecal coliform, definition of .....	26		
Fecal streptococcal, definition of .....	26		
Total coliform, definition of .....	33		
Bailey Brook at East Hardwick, VT .....	138		
Baker River near Rumney, NH .....	131, 141		
Barnstead, NH, ground-water levels in .....	150		
Base discharge (for peak discharge), definition of .....	23		
Base flow, definition of .....	23		
Bearcamp River at South Tamworth, NH .....	45		
Beaver Brook at North Pelham, NH .....	63, 64		
Bed material, definition of .....	23		
Bedload discharge, definition of .....	23		
Bedload, definition of .....	23		
Belknap County, ground-water levels in .....	150		
Bennington County, ground-water levels in .....	176		
Benthic organisms, definition of .....	23		
Bethlehem Junction, NH, Ammonoosuc River at .....	79		
Biochemical oxygen demand, definition of .....	23		
Biomass pigment ratio, definition of .....	23		
Biomass, definition of .....	23		
Black Brook, at Dunbarton Rd., near Manchester, NH .....	144		
Black River			
at Coventry, VT .....	129		
at North Springfield, VT .....	135, 143		
Blackwater River near Webster, NH .....	132, 142		
Blue-green algae, definition of .....	23		
Bottom material (see "Bed material") .....	23		
Bradford, NH, West Branch Warner River near .....	59		
Brandy Brook at Bread Loaf, VT .....	137		
Bread Loaf, VT, Brandy Brook at .....	137		
Brentwood, NH, Exeter River at Haigh Road near .....	50		
Brighton, VT, ground-water levels in .....	178		
Bristol, NH,			
Newfound River at Newfound River Outlet near .....	141		
Smith River near .....	53		
Bristol, VT, Little Otter Creek Tributary near .....	138		
Brownington Branch near Evansville, VT .....	140		
Brunswick Springs, VT, Paul Stream Tributary near .....	133		
Burlington, VT,			
Englesby Brook at .....	106-112		
Lake Champlain at .....	126		
C			
Campton, NH, ground-water levels in .....	159		
Carroll County,			
ground-water levels in .....	151-153		
miscellaneous ground-water quality data for wells in .....	145		
Cells volume .....	23		
Cells/volume, definition of .....	23		
Center Rutland, VT, Otter Creek at .....	100		
Center Strafford, NH, Mohawk Brook near .....	141		
Cfs-day (see "Cubic foot per second-day") .....	23		
Change in national trends network procedures,			
explanation of .....	39		
Chemical oxygen demand, definition of .....	23		
Cheshire County, ground-water levels in .....	154		
Chester, VT,			
ground-water levels in .....	185		
Middle Branch Williams River Tributary at .....	135		
Chittenden County, ground-water levels in .....	177		
Classification of records, explanation of .....	15		
Clostridium perfringens .....	23		
Clyde River at Newport, VT .....	130		
Cochecho River near Rochester, NH .....	47		
Colebrook, NH,			
ground-water levels in .....	155		
Mohawk River near .....	68		
Coliphages, definition of .....	24		
Color unit, definition of .....	24		
Common name, explanation of .....	19, 20		
Compound name, explanation of .....	19, 20		
Computation,			
data collection and .....	10		
data collection and, explanation of .....	18		
Concord, NH,			
ground-water levels in .....	165, 166		
Merrimack River in .....	142		
Soucook River at Pembroke Road near .....	60		
Concord, VT, Kirby Brook at .....	134		
Confined aquifer, definition of .....	24		
Connecticut River Basin,			
discharge measurements at miscellaneous sites .....	143		
Black River at North Springfield, VT .....	143		
Mascoma River at West Canaan, VT .....	143		
Ompompanoosuc River at Union Village, VT .....	143		
Sugar River at Sunapee, NH .....	143		
gaging-station records in .....	65-96		
lakes and reservoirs,			
capacity of .....	73, 80, 85, 91		
flow regulated by .....	69, 86, 88, 89, 95		
lakes, flow regulated by .....	65, 96		
maximum discharge at crest-stage partial-record stations .....	133-136		
Otter Brook Lake, flow regulated by .....	94		
Connecticut River Tributary near Vernon, VT .....	136		

## INDEX

Connecticut River			
at North Stratford, NH	69-71		
at North Walpole, NH	91		
at Wells River, VT	80		
at West Lebanon, NH	85		
below Indian Stream, near Pittsburg, NH	65-67		
near Dalton, NH	73		
Container requirements, explanation of	19, 20		
Contents, definition of	24		
Continuous-record station, definition of	24		
Contoocook River			
at Peterborough, NH	131, 141		
below Hopkinton Dam at West Hopkinton, NH	132, 142		
near Henniker, NH	132, 142		
Control structure, definition of	24		
Control, definition of	24		
Conway, NH, Saco River near	44		
Cooperation, explanation of	4, 12		
Coos County,			
ground-water levels in	155-158		
miscellaneous ground-water quality data for wells in	145		
Coventry, VT, Black River at	129		
Crest-stage partial-record stations, explanation of	131		
Cubic foot per second per square mile, definition of	24		
Cubic foot per second, definition of	24		
Cubic foot per second-day, definition of	24		
D			
Daily discharge, identifying estimated	15		
Daily mean suspended-sediment concentration, definition of	24		
Daily mean values, data table of	13		
Daily-record station, definition of	24		
Dalton, NH, Connecticut River near	73		
Data collection and computation, explanation of	10, 18		
Data collection platform, definition of	24		
Data logger, definition of	24		
Data presentation, explanation of	11, 17, 18		
Data table of daily mean values, explanation of	13		
Datum,			
definition of	24		
explanation of	18		
Davisville, NH, Warner River at	132, 142		
Deerfield, NH, ground-water levels in	171		
Definition of terms, explanation of	22		
Diamond River near Wentworth Location, NH	40		
Diatom, definition of	24		
Diel, definition of	24		
Discharge measurements at miscellaneous sites,			
Baker River at Rumney, NH	141		
Blackwater River near Webster, NH	142		
Connecticut River Basin	143		
Contoocook River			
at Peterborough, NH	141		
below Hopkinton Dam at West Hopkinton, NH	142		
near Henniker, NH	142		
Merrimack River			
at Franklin Junction, NH	141		
in Concord, NH	142		
Merrimack River Basin	141-143		
Mohawk Brook near Center Strafford, NH	141		
Newfound River at Bristol, NH	141		
Nubanusit Brook near Peterborough, NH	141		
Ossipee River at Effingham Falls, NH	141		
Pemigewasset River at Woodstock, NH	141		
Piscataqua River Basin	141		
Piscataquog River			
near East Weare, NH	142		
near Goffstown, NH	142		
Saco River Basin	141		
Souhegan River at Merrimack, NH	142, 143		
Warner River at Davisville, NH	142		
Discharge, definition of	24		
Dissolved, definition of	25		
Dissolved oxygen, definition of	25		
Dissolved trace-element concentrations, explanation of	39		
Dissolved-solids concentration, definition of	25		
Diversity index, definition of	25		
Dog River at Northfield Falls, VT	116		
Downstream order system, explanation of	9		
Drainage area,			
definition of	25		
explanation of	12, 17		
Drainage basin, definition of	25		
Droughts, floods and	6		
Dry mass, definition of	25		
Dry weight, definition of	25		
Durham, NH, Oyster River near	48		
E			
East Barnet, VT, Joes Brook Tributary near	134		
East Barre Detention Reservoir, VT, contents of	114		
East Berkshire, VT,			
ground-water levels in	179		
Missisquoi River near	124		
East Branch Passumpsic River near East Haven, VT	74		
East Branch Pemigewasset River at Lincoln, NH	51		
East Georgia, VT, Lamoille River at	122		
East Hardwick, VT, Bailey Brook at	138		
East Haven, VT, East Branch Passumpsic River near	74		
East Orange Branch at East Orange, VT	82		
East Orange, VT, East Orange Branch at	82		
East Poultney, VT, Poultney River Tributary at	137		
East Weare, NH,			
Piscataquog River below Everett Dam near	133		
Piscataquog River near	142		
Eden, VT, Stony Brook near	139		
Effingham Falls, NH, Ossipee River at	141		
Ellis River near Jackson, NH	43		
Enfield, NH, ground-water levels in	160		
Englesby Brook at Burlington, VT	106-112		
Enterococcus bacteria, definition of	25		
EPT Index, definition of	25		
Errol, NH,			
Androscoggin River at	41		
ground-water levels in	156		
Escherichia coli ( <i>E. coli</i> ), definition of	25		
Essex County, ground-water levels in	178		
Essex Junction, VT, Winooski River near	120		
Estimated (E) value, definition of	25		
Euglenoids, definition of	25		
Evansville, VT,			
Brownington Branch near	140		
Lord Brook near	140		
Exeter River at Haigh Road near Brentwood, NH	50		
Explanation of the records	9		
Extractable organic halides, definition of	25		
Extremes for period of record, explanation of	18		
Extremes outside period of record, explanation of	12		
Extremes, explanation of	17		
F			
Fair Haven, VT, Poultney River below	98		
Fecal coliform bacteria, definition of	26		
Fecal streptococcal bacteria, definition of	26		
Ferrisburg, VT, Little Otter Creek at	103		
Fire algae, definition of	26		
Floods and droughts, explanation of	6		
Flow-duration percentiles, definition of	26		
Franklin County, ground-water levels in	179		
Franklin Junction, NH, Merrimack River at	131, 141		
Franklin, NH, ground-water levels in	167		
G			
Gage, explanation of	12		
Gage datum, definition of	26		
Gage height, definition of	26		
Gage values, definition of	26		
Gaging station, definition of	26		

## INDEX

Gas chromatography/flare ionization detector, definition of .....	26	Lakeport, NH, Lake Winnepesaukee Outlet at .....	57
Gilford, NH, Poorfarm Brook at Ellacoya State Park near ....	54	Lakes and reservoirs,	
Glover, VT, ground-water levels in .....	182	East Barre Detention Reservoir, VT .....	114
Goffstown, NH, Piscataquog River near .....	133, 142	Mollys Falls Reservoir, VT .....	115
Gorham, NH, Androscoggin River near .....	42	Peacham Pond, VT .....	115
Grafton County, ground-water levels in .....	159-161	Wrightsville Detention Reservoir, VT .....	114
Green algae, definition of .....	26	Lamoille County, ground-water levels in .....	180
Greenfield, NH, ground-water levels in .....	162	Lamoille River	
Ground-water levels in		at East Georgia, VT .....	122
New Hampshire .....	150-176	at Johnson, VT .....	121
Vermont .....	177-187	Lamprey River near Newmarket, NH .....	49
Ground-water levels,		Lancaster, NH, ground-water levels in .....	157
explanation of .....	6	Land-surface datum, definition of .....	27
records of, explanation of .....	17	LaPlatte River at Shelburne Falls, VT .....	105
Ground-water quality, records of .....	18	Latitude-longitude system, explanation of .....	9
Groveton, NH, Upper Ammonoosuc River near .....	72	Lee, NH, ground-water levels in .....	172
H		Lewis Creek near North Ferrisburg, VT .....	104
Habitat quality index, definition of .....	26	Lewis Creek Tributary at Starksboro, VT .....	138
Hardness, definition of .....	26	Light-attenuation coefficient, definition of .....	27
Hartland, VT, ground-water levels in .....	186	Lincoln, NH, East Branch Pemigewasset River at .....	51
Henniker, NH, Contoocook River near .....	132, 142	Lipid, definition of .....	27
High tide, definition of .....	26	Lisbon, NH, ground-water levels in .....	161
Highest annual mean, explanation of .....	14	Little Otter Creek at Ferrisburg, VT .....	103
Highest daily mean, explanation of .....	14	Little Otter Creek Tributary near Bristol, VT .....	138
Highgate Springs, VT, Saxe Brook near .....	139	Little River near Waterbury, VT .....	119
Hillsborough County,		Location, explanation of .....	12, 17, 18
ground-water levels in .....	162-164	Long-term method detection level, definition of .....	27
miscellaneous ground-water quality data for wells in.....	145	Lord Brook near Evansville, VT .....	140
Hilsenhoff's Biotic Index, definition of .....	26	Low flow, 7-day 10-year, definition of .....	31
Hinsdale, NH, Ashuelot River at .....	96	Low tide, definition of .....	27
Hooksett, NH, ground-water levels in .....	168	Lowest annual mean, explanation of .....	14
Horizontal datum (See "Datum") .....	26	Lowest daily mean, explanation of .....	14
Hudson River Basin, gaging-station records in .....	97	LRL, explanation of .....	19, 20
Hydrologic benchmark station, definition of .....	26	M	
Hydrologic conditions, summary of .....	4	Macrophytes, definition of .....	27
Hydrologic index station, definition of .....	27	Mad River near Moretown, VT .....	117
Hydrologic unit, definition of .....	27	Manchester, NH,	
I		Black Brook, at Dunbarton Rd., near .....	144
Identifying estimated daily discharge, explanation of .....	15	Merrimack River near Goff's Falls below .....	61
Inch, definition of .....	27	Marlboro, VT, Whetstone Brook Tributary near .....	136
Instantaneous		Mascoma River	
discharge, definition of .....	27	at Mascoma, NH .....	86
low flow, explanation of .....	14	at West Canaan, NH .....	134, 143
peak flow, explanation of .....	14	Mascoma, NH, Mascoma River at .....	86
peak stage, explanation of .....	14	Maximum discharge at crest-stage partial-record stations .	131, 137-140
Instrumentation, explanation of .....	17	Connecticut River Basin .....	133-136
Introduction, explanation of .....	1	Black River at North Springfield, VT .....	135
Island Pond, VT, Pherrins River Tributary near .....	140	Connecticut River Tributary near Vernon, VT .....	136
J		Joes Brook Tributary near East Barnet, VT .....	134
Jackson, NH, Ellis River near .....	43	Kent Brook near Killington, VT .....	135
Jamaica, VT,		Kirby Brook at Concord, VT .....	134
West River at .....	92	Mascoma River at West Canaan, NH .....	134
West River Tributary near .....	136	Middle Branch Williams River Tributary at Chester, VT	135
Joes Brook Tributary near East Barnet, VT .....	134	Ompompanoosuc River at Union Village, VT .....	134
Johnson, VT, Lamoille River at .....	121	Ottauquechee River Tributary near Quechee, VT ....	135
K		Paul Stream Tributary near Brunswick Springs, VT	133
Keene, NH,		Third Branch White River Tributary at Randolph, VT	134
Ashuelot River below Surry Mountain Dam near .....	93	West River below Townshend Dam near Townshend, VT	136
ground-water levels in .....	154	West River Tributary near Jamaica, VT .....	136
Otter Brook below Otter Brook Dam near .....	94	Whetstone Brook Tributary near Marlboro, VT .....	136
Kent Brook near Killington, VT .....	135	Hudson River Basin .....	137
Killington, VT, Kent Brook near .....	135	Paran Creek near South Shaftsbury, VT .....	137
Kirby Brook at Concord, VT .....	134	Tanner Brook near Sunderland, VT .....	137
L		Merrimack River Basin .....	131-133
Laboratory measurements, explanation of .....	16	Baker River near Rumney, NH .....	131
Laboratory reporting level, definition of .....	27	Blackwater River near Webster, NH .....	132
Lake Champlain at Burlington, VT .....	126	Contoocook River	
Lake Mernepremagog at Newport, VT .....	128	at Peterborough, NH .....	131
Lake Winnepesaukee		below Hopkinton Dam .....	132
at Weirs Beach, NH .....	56	near Henniker, NH .....	132
Outlet at Lakeport, NH .....	57	Merrimack River at Franklin Junction, NH .....	131
contents in lakes and reservoirs .....	56	Nubanusit Brook near Peterborough, NH .....	132

## INDEX

Pemigewasset River at Woodstock, NH .....	131	Sunny Brook near .....	138
Piscataquog River		Winooski River at .....	115
below Everett Dam .....	133	Moose River at Victory, VT .....	75
near Goffstown, NH .....	133	Moretown, VT, Mad River near .....	117
Souhegan River at Merrimack, NH .....	133	Morrisville, VT, ground-water levels in.....	180
Warner River at Davisville, NH .....	132	Most probable number (MPN), definition of .....	28
St. Lawrence River Basin .....	137-140	Moultonborough, NH, Shannon Brook near .....	55
Bailey Brook at East Hardwick, VT .....	138	Multiple-plate samplers, definition of .....	28
Brandy Brook at Bread Loaf, VT .....	137	N	
Brownington Branch near Evansville, VT .....	140	Nanograms per liter, definition of .....	28
Lewis Creek Tributary at Starksboro, VT .....	138	Nashua, NH, ground-water levels in .....	164
Little Otter Creek Tributary near Bristol, VT .....	138	National Geodetic Vertical Datum of 1929, definition of .....	28
Lord Brook near Evansville, VT .....	140	National Water-Quality Assessment (NAWQA) Program, explanation of .....	8
Missisquoi River Tributary at Sheldon Junction, VT .....	139	Natural substrate, definition of .....	28
Pherrins River Tributary near Island Pond, VT .....	140	Nekton, definition of .....	28
Poultney River Tributary at East Poultney, VT .....	137	Nephelometric turbidity unit, definition of .....	28
Saxe Brook near Highgate Springs, VT .....	139	New Durham, NH, ground-water levels in 173	
Stony Brook near Eden, VT .....	139	New Haven River at Brooksville near Middlebury, VT .....	102
Sunny Brook near Montpelier, VT .....	138	New London, NH, ground-water levels in .....	169
Whittaker Brook at Richford, VT .....	139	Newfound River at Newfound River near Bristol, NH .....	141
Winooski River Tributary near Richmond, VT .....	138	Newmarket, NH, Lamprey River near .....	49
Mean concentration of suspended sediment, definition of .....	27	Newport, NH, ground-water levels in .....	174, 175
Mean discharge, definition of .....	27	Newport, VT,	
Mean high tide, definition of .....	27	Clyde River at .....	130
Mean low tide, definition of .....	27	Lake Memphremagog at .....	128
Mean sea level, definition of .....	27	NGVD of 1929 (see "National Geodetic Vertical Datum of 1929")	28
Measuring point, definition of .....	28	North American Vertical Datum of 1988 (NAVD 1988), definition of .....	28
Membrane filter, definition of .....	28	North Bennington, VT, Walloomsac River near .....	97
Merrimack County,		North Branch Winooski River at Wrightsville, VT .....	113
ground-water levels in .....	165-170	North Danville, VT, Pope Brook (site W-3) near .....	76
miscellaneous ground-water quality data for wells in.....	145	North Ferrisburg, VT, Lewis Creek at .....	104
Merrimack River at Franklin Junction, NH .....	131, 141	North Hartland, VT, Ottauquechee River at .....	88
Merrimack River Basin,		North Pelham, NH, Beaver Brook at .....	63, 64
discharge measurements at miscellaneous sites .....	141-143	North Pownal, NH, ground-water levels in.....	176
gaging station records in .....	51-64	North Springfield, VT, Black River at .....	135, 143
maximum discharge at crest-stage partial-record stations .....	131-133	North Stratford, NH, Connecticut River at .....	69-71
miscellaneous water-quality data for surface-water sites .....	144	North Troy, VT, Missisquoi River near .....	123
Merrimack River		North Walpole, NH, Connecticut River at .....	91
in Concord, NH .....	142	Northfield Falls, VT, Dog River at .....	116
near Goffs Falls below Manchester, NH .....	61	Nubanusit Brook near Peterborough, NH .....	132, 141
Merrimack, NH, Souhegan River at .....	133, 142, 143	Numbering system for wells, description of .....	9
Metamorphic stage, definition of .....	28	Numbers, station identification, explanation of .....	9
Method detection limit, definition of .....	28	O	
Methylene blue active substances, definition of .....	28	Ompompanoosuc River at Union Village, VT .....	134, 143
Mettawee River near Pawlet, VT .....	99	Onsite measurements and sample collection, explanation of .....	16
Micrograms per gram, definition of .....	28	Open or screened interval, definition of .....	29
Micrograms per kilogram, definition of .....	28	Orange County, ground-water levels in .....	181
Micrograms per liter, definition of .....	28	Order of listing stations .....	9
Microsiemens per centimeter, definition of .....	28	Organic carbon, definition of .....	29
Middle Branch Williams River Tributary at Chester, VT .....	135	Organic mass, definition of .....	29
Middlebury, VT,		Organism count, definition of	
New Haven River at Brooksville near .....	102	Area, definition of .....	29
Otter Creek at .....	101	Total, definition .....	33
Milford, NH, ground-water levels in .....	163	Volume, definition of .....	29
Milligrams per liter, definition of .....	28	Organochlorine compounds, definition of .....	29
Milton, NH, Salmon Falls River at .....	46	Orleans County, ground-water levels in .....	182
Milton, VT, ground-water levels in .....	177	Ossipee River at Effingham Falls, NH .....	141
Minimum reporting level, definition of .....	28	Ossipee, NH, ground-water levels in .....	153
Miscellaneous ground-water wells, water quality at .....	145	Other records available, explanation of .....	15
Miscellaneous site, definition of .....	28	Ottauquechee River	
Miscellaneous surface-water sites, water quality at .....	144	at North Hartland, VT .....	88
Miscellaneous water-quality data for surface-water sites .....	144	near West Bridgewater, VT .....	87
Missisquoi River		Ottauquechee River Tributary near Quechee, VT .....	135
at Swanton, VT .....	125	Otter Brook below Otter Brook Dam near Keene, NH .....	94
near East Berkshire, VT .....	124	Otter Creek	
near North Troy, VT .....	123	at Center Rutland, VT .....	100
Missisquoi River Tributary at Sheldon Junction, VT .....	139	at Middlebury, VT .....	101
Mohawk River near Colebrook, NH .....	68	Oyster River near Durham, NH .....	48
Mollys Falls Reservoir, VT, contents in .....	115		
Monthly mean data, statistics of .....	13		
Montpelier, VT,			
reservoirs in Winooski River Basin above .....	114		

## INDEX

P			
Parameter code, definition of .....	29	Recoverable, bed (bottom) material, definition of .....	30
Paran Creek near South Shaftsbury, VT .....	137	Recurrence interval, definition of .....	30
Partial-record station, definition of .....	29	Remark codes, explanation of .....	17, 39
Particle size, definition of .....	29	Remarks, explanation of .....	12, 17
Particle-size classification, definition of .....	29	Replicate samples, definition of .....	31
Passumpsic River at Passumpsic, VT .....	78	Reservoir storage, explanation of .....	6
Passumpsic, VT, Passumpsic River at .....	78	Reservoirs in Winooski River Basin above Montpelier, VT .....	114
Paul Stream Tributary near Brunswick Springs, VT .....	133	Return period (see "Recurrence interval") .....	31
Pawlet, VT, Mettawee River near .....	99	Revised records, explanation of .....	12
PCODE, explanation of .....	19, 20	Revisions, explanation of .....	12, 17
Peacham Pond, VT, contents in .....	115	Richelieu River (Lake Champlain) at Rouses Point, NY .....	127
Peak flow (peak stage), definition of .....	29	Richford, VT, Whittaker Brook at .....	139
Pemigewasset River		Richmond, VT, Winooski River Tributary near .....	138
at Plymouth, NH .....	52	River mileage, definition of .....	31
at Woodstock, NH .....	131, 141	Rochester, NH, Cocheo River near .....	47
Percent composition (percent of total), definition of .....	29	Rochester, VT, ground-water levels in .....	187
Percent shading, definition of .....	29	Rockingham County, ground-water levels in .....	171
Period of record, explanation of .....	12, 17, 18	Rockingham, VT, Williams River near .....	90
Periodic-record station, definition of .....	29	Rouses Point, NY, Richelieu River (Lake Champlain) at .....	127
Periphyton, definition of .....	29	Rumney, NH, Baker River near .....	131, 141
Pesticides,		Runoff, definition of .....	31
definition of .....	30	Rutland County, ground-water levels in .....	183
in surface-water and ground-water samples (schedule 2001),		S	
analyses of .....	19	Saco River Basin,	
Peterborough, NH,		discharge measurements at miscellaneous sites .....	141
Contoocook River at .....	131, 141	gaging-station records in .....	43-45
Nubanusit Brook near .....	132, 141	Saco River near Conway, NH .....	44
pH, definition of .....	30	Salmon Falls River at Milton, NH .....	46
Pherrins River Tributary near Island Pond, VT .....	140	Sample collection, onsite measurements and .....	16
Phytoplankton, definition of .....	30	Sample requirements, explanation of .....	19, 20
Picourie, definition of .....	30	Saxe Brook near Highgate Springs, VT .....	139
Piscataqua River Basin,		Schedule description, explanation of .....	19, 20
capacity of ponds in .....	49	Sea level, definition of .....	31
discharge measurements at miscellaneous sites .....	141	Sediment, definition of .....	31
gaging-station records in .....	46-50	Total load, definition of .....	33
lakes in, capacity of .....	46	Seven-day 10-year low flow, definition of .....	31
Piscataquog River		Shannon Brook near Moultonborough, NH .....	55
below Everett Dam near East Weare, NH .....	133	Shelburne Falls, VT, LaPlatte River at .....	105
near East Weare, NH .....	142	Shelburne, NH, ground-water levels in .....	158
near Goffstown, NH .....	133, 142	Sheldon Junction, VT, Missisquoi River Tributary at .....	139
Pittsburg, NH, Connecticut River below Indian Stream near	65-67	Sleepers River (site W-5) near St. Johnsbury, VT .....	77
Pittsford, VT, ground-water levels in .....	183	Smith River near Bristol, NH .....	53
Plankton, definition of .....	30	Sodium adsorption ratio, definition of .....	31
Plymouth, NH, Pemigewasset River at .....	52	Soucook River at Pembroke Road near Concord, NH .....	60
Polychlorinated biphenyls (PCB' s), definition of .....	30	Souhegan River at Merrimack, NH .....	133, 142, 143
Polychlorinated naphthalenes, definition of .....	30	South Shaftsbury, VT, Paran Creek near .....	137
Poorfarm Brook at Ellacoya State Park near Gilford, NH .....	54	South Tamworth, NH, Bearcamp River at .....	45
Pope Brook (Site W-3) near North Danville, VT .....	76	Special networks and programs, explanation of .....	8
Poultney River below Fair Haven, VT .....	98	Specific electrical conductance (conductivity), definition of ...	31
Poultney River Tributary at East Poultney, VT .....	137	Spicket River	
Primary productivity, definition of .....	30	at Island Pond, at North Salem, NH .....	64
Carbon method, definition of .....	30	near Methuen, MA .....	133, 143
Oxygen method, definition of .....	30	St. Johnsbury, VT, Sleepers River (Site W-5) near .....	77
Program, National Water-Quality Assessment (NAWQA) ....	8	St. Lawrence River Basin, gaging-station records in .....	98-130
Programs, Special networks and .....	8	Stable isotope ratio, definition of .....	31
Q		Stage (see Gage height) .....	31
Quechee, VT, Ottauquechee River Tributary near .....	135	Stage-discharge relation, definition of .....	31
R		Starksboro, VT, Lewis Creek Tributary at .....	138
Radioisotopes, definition of .....	30	Station manuscript, explanation of .....	12
Randolph, VT,		Station records, ground water .....	150-187
Ayers Brook at .....	83	Station-identification numbers, explanation of .....	9
Third Branch White River Tributary at .....	134	Statistics of monthly mean data, explanation of .....	13
Records of ground-water levels, explanation of .....	17	Stony Brook near Eden, VT .....	139
Records of ground-water quality, explanation of .....	18	Stony Brook Tributary near Temple, NH .....	62
Records of stage and water discharge, explanation of .....	10	Stafford County, ground-water levels in .....	172, 173
Records of surface-water quality, explanation of .....	15	Streamflow,	
Records,		definition of .....	31
accuracy of the .....	15	explanation of .....	4
arrangement of .....	16	Substrate,	
classification of .....	15	definition of .....	31
explanation of the .....	9	Artificial, definition of .....	22
		Embeddedness class, definition of .....	31



## INDEX

Natural, definition of .....	28	V	
Sugar River		Vernon, VT, Connecticut River Tributary near .....	136
at Sunapee, NH .....	143	Vertical datum (see "Datum") .....	34
at West Claremont, NH .....	89	Victory, VT, Moose River at .....	75
Sullivan County, ground-water levels in .....	174, 175	Volatile organic compounds,	
Summary of hydrologic conditions, explanation of .....	4	in ground-water samples (schedule 2020/2021), analyses of .....	20
Summary statistics, explanation of .....	13	definition of .....	34
Sunapee, NH, Sugar River at .....	143	W	
Sunderland, VT, Tanner Brook near .....	137	Waitsfield, VT, ground-water levels in .....	184
Sunny Brook near Montpelier, VT .....	138	Walloomsac River near North Bennington, VT .....	97
Surface area of a lake, definition of .....	32	Warner River at Davisville, NH .....	132, 142
Surface-water quality, records of .....	15	Warner, NH, ground-water levels in .....	170
Surface-water-discharge and surface-water-quality records ..	39	Washington County, ground-water levels in .....	184
Surficial bed material, definition of .....	32	Water discharge, records of stage and .....	10
Suspended sediment, definition of .....	32	Water quality at miscellaneous	
Mean concentration of, definition of .....	27	ground-water sites .....	145
Suspended solids, total residue, definition of .....	32	surface-water sites .....	144
Suspended, definition of .....	32	Water table, definition of .....	34
Recoverable, definition of .....	32	Water temperature, explanation of .....	16
Total, definition of .....	32	Water year, definition of .....	34
Suspended-sediment, definition of		Waterbury Reservoir near Waterbury, VT .....	118
Concentration .....	32	Waterbury, VT,	
Concentration, definition of .....	32	Little River near .....	119
Discharge, definition of .....	32	Waterbury Reservoir near .....	118
Load, definition of .....	32	Water-table aquifer, definition of .....	34
Swanton, VT, Missisquoi River at .....	125	WDR, definition of .....	34
Synoptic studies, definition of .....	32	Webster, NH, Blackwater River near .....	132, 142
System,		Weighted average, definition of .....	34
downstream order, explanation of .....	9	Weirs, Beach, NH, Lake Winnepesaukee at .....	56
latitude-longitude, explanation of .....	9	Well characteristics, explanation of .....	18
T		Wells in New Hampshire, miscellaneous ground-water	
Tanner Brook near Sunderland, VT .....	137	quality data for	
Taxa richness, definition of .....	32	Hillsborough County .....	145
Taxonomy, definition of .....	32	Merrimack County .....	145
Temperature preferences,		Carroll County .....	145
Cold, definition of .....	33	Coos County .....	145
Cool, definition of .....	33	Wells River, VT,	
Warm, definition of .....	33	Connecticut River at .....	80
Temple, NH, Stony Brook Tributary near .....	62	Wells River at .....	81
Terms, definition of .....	22	Wentworth Location, NH, Diamond River near .....	40
Thermograph, definition of .....	33	West Branch Warner River near Bradford, NH .....	59
Third Branch White River Tributary at Randolph, VT .....	134	West Bridgewater, VT, Ottauquechee River near .....	87
Tilton, NH, Winnepesaukee River at .....	58	West Canaan, NH, Mascoma River at .....	134, 143
Time-weighted average, definition of .....	33	West Claremont, NH, Sugar River at .....	89
Tons per acre-foot, definition of .....	33	West Fairlee, VT, ground-water levels in .....	181
Tons per day, definition of .....	33	West Hartford, VT, White River at .....	84
Total coliform bacteria, definition of .....	33	West Hopkinton, NH, Contoocook River below	
Total discharge, definition of .....	33	Hopkinton Dam at .....	132, 142
Total in bottom material, definition of .....	33	West Lebanon, NH, Connecticut River at .....	85
Total length, definition of .....	33	West River	
Total load, definition of .....	33	at Jamaica, VT .....	92
Total organism count, definition of .....	33	below Townshend Dam near Townshend, VT .....	136
Total recoverable, definition of .....	33	West River Tributary near Jamaica, VT .....	136
Total sediment discharge, definition of .....	33	West Swanzey, NH, Ashuelot River at .....	95
Total sediment load, definition of .....	33	Wet mass, definition of .....	34
Total, definition of .....	33	Wet weight, definition of .....	34
Bottom material .....	33	Whetstone Brook Tributary near Marlboro, VT .....	136
Coliform bacteria .....	33	White River at West Hartford, VT .....	84
Townshend, VT, West River below Townshend Dam near .....	136	Whittaker Brook at Richford, VT .....	139
Trophic group, definition of .....	34	Williams River near Rockingham, VT .....	90
Filter feeder .....	34	Windsor County, ground-water levels in .....	185-187
Herbivore .....	34	Winnepesaukee River at Tilton, NH .....	58
Invertivore .....	34	Winooski River	
Omnivore .....	34	at Montpelier, VT .....	115
Piscivore .....	34	near Essex Junction, VT .....	120
Turbidity, definition of .....	34	Winooski River Basin above Montpelier, VT, reservoirs in .....	114
U		Winooski River Tributary near Richmond, VT .....	138
Ultraviolet (UV) absorbance (absorption), definition of .....	34	Winooski River, VT, ponds and reservoirs, flow regulated by ..	120
Union Village, VT, Ompompanoosuc River at .....	134, 143	Woodstock, NH, Pemigewasset River at .....	131, 141
Upper Ammonoosuc River near Groveton, NH .....	72	Wrightsville Detention Reservoir, VT, contents of .....	114
USGS water data, access to .....	21	Wrightsville, VT, North Branch Winooski River at .....	113
		WSP, definition of .....	34
		Z	
		Zooplankton, definition of .....	34

## CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<b><i>Length</i></b>		
inch (in.)	$2.54 \times 10^1$	millimeter
	$2.54 \times 10^{-2}$	meter
foot (ft)	$3.048 \times 10^{-1}$	meter
mile (mi)	$1.609 \times 10^0$	kilometer
<b><i>Area</i></b>		
acre	$4.047 \times 10^3$	square meter
	$4.047 \times 10^{-1}$	square hectometer
	$4.047 \times 10^{-3}$	square kilometer
square mile (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometer
<b><i>Volume</i></b>		
gallon (gal)	$3.785 \times 10^0$	liter
	$3.785 \times 10^0$	cubic decimeter
	$3.785 \times 10^{-3}$	cubic meter
million gallons (Mgal)	$3.785 \times 10^3$	cubic meter
	$3.785 \times 10^{-3}$	cubic hectometer
cubic foot (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeter
	$2.832 \times 10^{-2}$	cubic meter
cubic-foot-per-second day [(ft <sup>3</sup> /s) d]	$2.447 \times 10^3$	cubic meter
	$2.447 \times 10^{-3}$	cubic hectometer
acre-foot (acre-ft)	$1.233 \times 10^3$	cubic meter
	$1.233 \times 10^{-3}$	cubic hectometer
	$1.233 \times 10^{-6}$	cubic kilometer
<b><i>Flow</i></b>		
cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liter per second
	$2.832 \times 10^1$	cubic decimeter per second
	$2.832 \times 10^{-2}$	cubic meter per second
gallon per minute (gal/min)	$6.309 \times 10^{-2}$	liter per second
	$6.309 \times 10^{-2}$	cubic decimeter per second
	$6.309 \times 10^{-5}$	cubic meter per second
million gallons per day (Mgal/d)	$4.381 \times 10^1$	cubic decimeter per second
	$4.381 \times 10^{-2}$	cubic meter per second
<b><i>Mass</i></b>		
ton (short)	$9.072 \times 10^{-1}$	megagram or metric ton

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