01117000 HUNT RIVER NEAR EAST GREENWICH, RI

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

DRAINAGE AREA.--22.9 mi^2.

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

REVISED RECORDS.--WSP 1621: 1957-58; 1995.

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

REMARKS.--Records good. Flow affected by diversions for supply of East Greenwich, North Kingstown, Warwick, and Quonset Point (formerly U.S. Naval establishments).

AVERAGE DISCHARGE.--59 years, 46.8 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft^3/s, June 6, 1982, gage height, 3.73 ft, from rating curve extended above 440 ft^3/s; maximum gage height of 6.78 ft, Aug. 31, 1954 (backwater from hurricane tidal wave); no flow at times in water years 1948, 1960, 1971, 1975-77, 1983, 1986-87, caused by closing of gate at Old Forge Dam.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 462 ft^3/s, Feb. 3, gage height, 2.68 ft; minimum, 2.3 ft^3/s, Aug. 6, 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

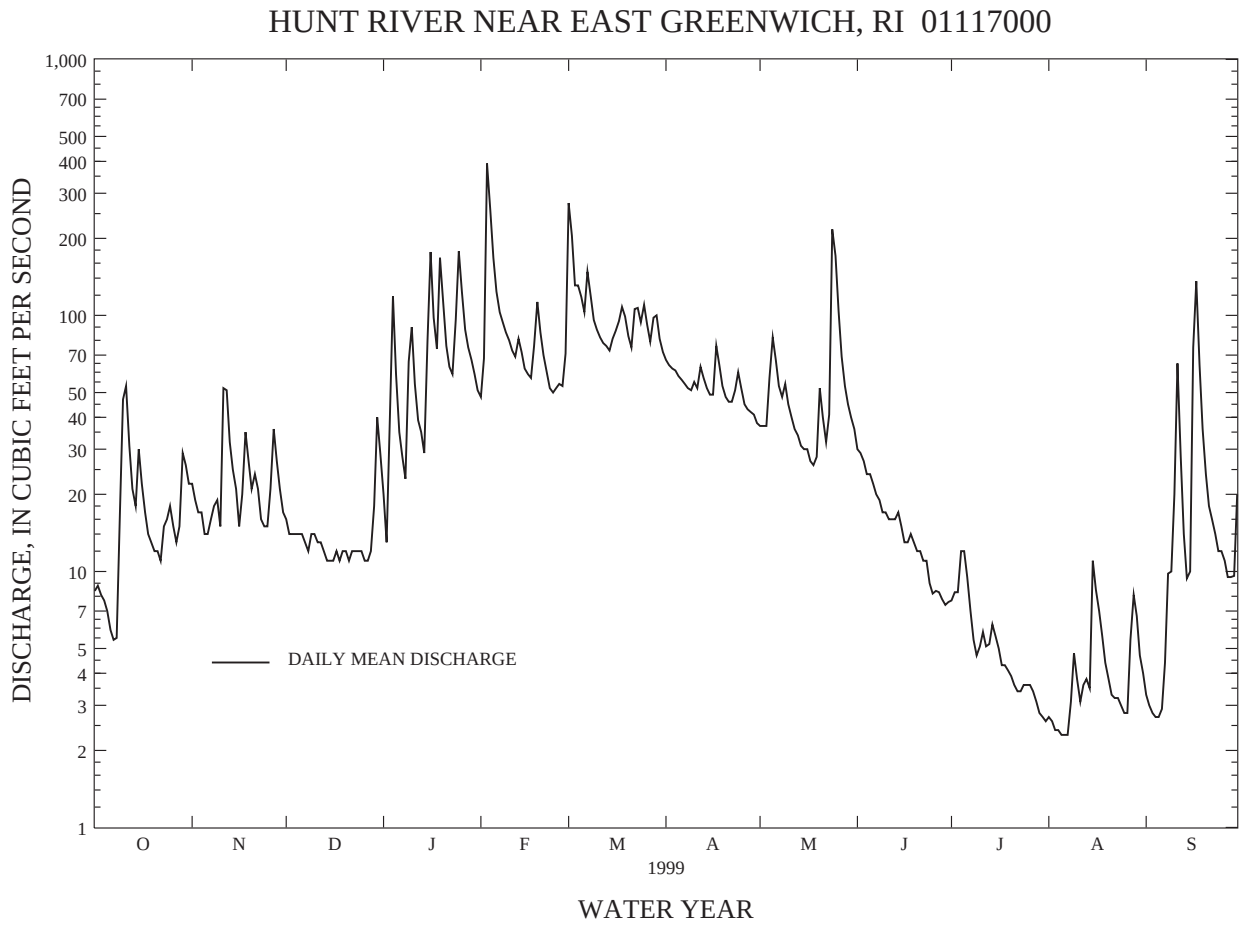
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	22	16	20	48	275	67	37	30	7.7	2.7	3.3
2	8.8	19	14	13	68	205	64	37	29	8.3	2.6	3.0
3	8.1	17	14	40	392	131	62	37	27	8.3	2.4	2.8
4	7.7	17	14	119	258	131	61	57	24	12	2.4	2.7
5	7.0	14	14	59	168	118	58	82	24	12	2.3	2.7
6	5.9	14	14	35	124	103	56	67	22	9.5	2.3	2.9
7	5.4	16	13	28	103	148	54	53	20	7.0	2.3	4.4
8	5.5	18	12	23	94	119	52	48	19	5.4	3.1	9.8
9	17	19	14	66	86	96	51	54	17	4.7	4.8	10
10	47	15	14	90	80	88	55	45	17	5.1	3.8	20
11	53	52	13	54	73	82	52	40	16	5.8	3.1	65
12	31	51	13	39	69	78	63	36	16	5.1	3.6	28
13	21	32	12	35	81	76	57	34	16	5.2	3.8	14
14	18	25	11	29	72	73	52	31	17	6.2	3.5	9.4
15	30	21	11	80	62	81	49	30	15	5.6	11	10
16	22	15	11	177	59	87	49	30	13	5.0	8.5	75
17	17	20	12	98	57	95	76	27	13	4.3	7.0	136
18	14	35	11	74	76	108	64	26	14	4.3	5.6	64
19	13	27	12	168	113	99	53	28	13	4.1	4.4	36
20	12	21	12	114	86	83	48	52	12	3.9	3.8	24
21	12	24	11	76	70	75	46	40	12	3.6	3.3	18
22	11	21	12	63	60	106	46	32	11	3.4	3.2	16
23	15	16	12	59	52	107	51	41	11	3.4	3.2	14
24	16	15	12	96	50	94	60	217	9.0	3.6	3.0	12
25	18	15	12	178	52	110	52	171	8.2	3.6	2.8	12
26	15	21	11	124	54	92	45	104	8.4	3.6	2.8	11
27	13	36	11	88	53	79	43	69	8.3	3.4	5.4	9.5
28	15	27	12	75	71	98	42	53	7.8	3.1	8.1	9.5
29	29	21	18	67	---	100	41	45	7.4	2.8	6.7	9.6
30	26	17	40	59	---	81	38	40	7.6	2.7	4.7	20
31	22	---	29	51	---	72	---	36	---	2.6	4.0	---
TOTAL	543.8	683	437	2297	2631	3290	1607	1699	464.7	165.3	130.2	654.6
MEAN	17.5	22.8	14.1	74.1	94.0	106	53.6	54.8	15.5	5.33	4.20	21.8
MAX	53	52	40	178	392	275	76	217	30	12	11	136
MIN	5.4	14	11	13	48	72	38	26	7.4	2.6	2.3	2.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1999, BY WATER YEAR (WY)

MEAN	18.8	36.8	53.6	64.0	71.6	88.9	83.4	61.3	37.3	18.1	15.4	14.0
MAX	70.1	108	151	186	122	169	230	114	182	56.3	65.1	73.6
(WY)	1956	1956	1987	1979	1970	1983	1983	1989	1982	1984	1946	1954
MIN	1.76	8.05	5.53	7.19	17.5	30.0	25.2	23.8	10.8	5.23	3.06	1.59
(WY)	1969	1950	1966	1966	1944	1981	1966	1992	1957	1994	1965	1968

01117000 HUNT RIVER NEAR EAST GREENWICH, RI--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1940 - 1999	
ANNUAL TOTAL	23743.7		14602.6			
ANNUAL MEAN	65.1		40.0		46.8	
HIGHEST ANNUAL MEAN					81.5	1984
LOWEST ANNUAL MEAN					17.7	1966
HIGHEST DAILY MEAN	490	Mar 10	392	Feb 3	861	Jun 6 1982
LOWEST DAILY MEAN	5.4	Oct 7	2.3	Aug 5	.00	Oct 25 1947
ANNUAL SEVEN-DAY MINIMUM	6.7	Sep 15	2.4	Aug 1	.10	Sep 13 1943
INSTANTANEOUS PEAK FLOW			462	Feb 3	1020	Jun 6 1982
INSTANTANEOUS PEAK STAGE			2.68	Feb 3	6.78	Aug 31 1954
INSTANTANEOUS LOW FLOW			2.3	Aug 6	.00	Oct 24 1947
10 PERCENT EXCEEDS	141		94		102	
50 PERCENT EXCEEDS	43		21		34	
90 PERCENT EXCEEDS	9.4		3.8		6.1	



01117350 CHIPUXET RIVER AT WEST KINGSTON, RI

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

DRAINAGE AREA.--9.99 mi^2.

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

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

REMARKS.--Records fair. Diversion upstream for supply of University of Rhode Island.

AVERAGE DISCHARGE.--27 years (water years 1959, 1974-99), 21.3 ft^3/s.

EXTREMES FOR PERIOD OF RECORD SINCE 1973.--Maximum discharge, about 250 ft^3/s, June 6, 1982; minimum, 0.47 ft^3/s, Nov. 6, 7, 1994. Instantaneous maximum and minimum discharges not available prior to Sept. 14, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 104 ft^3/s, Feb. 4, gage height, 6.46 ft; minimum, 0.68 ft^3/s, Aug. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

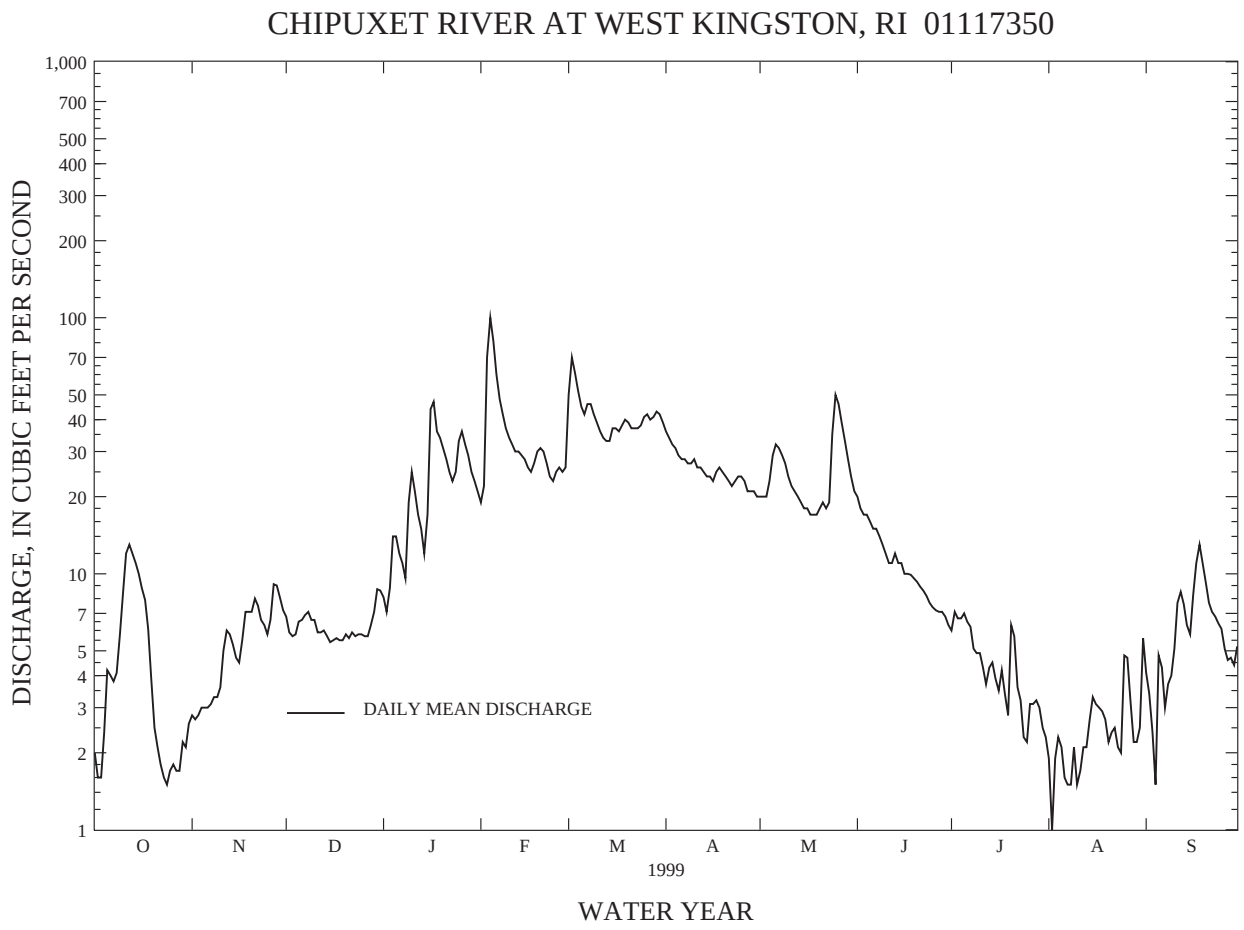
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.8	6.8	8.1	19	50	36	20	20	6.0	1.9	4.1
2	1.6	2.7	5.9	7.1	22	70	34	20	18	7.1	1.0	3.4
3	1.6	2.8	5.7	8.8	70	61	32	20	17	6.7	1.9	2.4
4	2.4	3.0	5.8	14	100	52	31	23	17	6.7	2.3	1.5
5	4.2	3.0	6.5	14	81	45	29	29	16	7.0	2.1	4.8
6	4.0	3.0	6.6	12	60	42	28	32	15	6.5	1.6	4.3
7	3.8	3.1	6.9	11	48	46	28	31	15	6.2	1.5	3.0
8	4.1	3.3	7.1	9.6	42	46	27	29	14	5.1	1.5	3.7
9	5.8	3.3	6.6	19	37	42	27	27	13	4.9	2.1	4.0
10	8.4	3.6	6.6	25	34	39	28	24	12	4.9	1.5	5.1
11	12	5.0	5.9	21	32	36	26	22	11	4.3	1.7	7.7
12	13	6.0	5.9	17	30	34	26	21	11	3.7	2.1	8.5
13	12	5.8	6.0	15	30	33	25	20	12	4.3	2.1	7.6
14	11	5.3	5.7	12	29	33	24	19	11	4.5	2.7	6.3
15	10	4.7	5.4	17	28	37	24	18	11	3.9	3.3	5.8
16	8.8	4.5	5.5	44	26	37	23	18	10	3.5	3.1	8.3
17	7.9	5.5	5.6	47	25	36	25	17	10	4.2	3.0	11
18	6.1	7.1	5.5	36	27	38	26	17	9.9	3.4	2.9	13
19	3.9	7.1	5.5	34	30	40	25	17	9.6	2.8	2.7	11
20	2.5	7.1	5.8	31	31	39	24	18	9.3	6.3	2.2	9.2
21	2.1	8.0	5.6	28	30	37	23	19	8.9	5.7	2.4	7.7
22	1.8	7.5	5.9	25	27	37	22	18	8.6	3.6	2.5	7.1
23	1.6	6.6	5.7	23	24	37	23	19	8.2	3.2	2.1	6.8
24	1.5	6.3	5.8	25	23	38	24	35	7.7	2.3	2.0	6.4
25	1.7	5.8	5.8	33	25	41	24	50	7.4	2.2	4.8	6.1
26	1.8	6.6	5.7	36	26	42	23	46	7.2	3.1	4.7	5.1
27	1.7	9.1	5.7	32	25	40	21	39	7.1	3.1	3.2	4.6
28	1.7	9.0	6.3	29	26	41	21	33	7.1	3.2	2.2	4.7
29	2.2	8.1	7.1	25	---	43	21	28	6.8	3.0	2.2	4.4
30	2.1	7.2	8.7	23	---	42	20	24	6.3	2.5	2.5	5.2
31	2.6	---	8.6	21	---	39	---	21	---	2.3	5.6	---
TOTAL	145.9	162.9	192.2	702.6	1007	1293	770	774	337.1	136.2	77.4	182.8
MEAN	4.71	5.43	6.20	22.7	36.0	41.7	25.7	25.0	11.2	4.39	2.50	6.09
MAX	13	9.1	8.7	47	100	70	36	50	20	7.1	5.6	13
MIN	1.5	2.7	5.4	7.1	19	33	20	17	6.3	2.2	1.0	1.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1999, BY WATER YEAR (WY)

MEAN	9.50	14.8	22.2	28.2	29.9	36.2	35.3	27.6	21.0	13.3	10.5	9.17
MAX	29.1	43.4	59.4	64.2	48.4	64.0	85.4	47.6	70.4	35.3	24.5	32.4
(WY)	1990	1990	1987	1979	1998	1983	1983	1998	1982	1982	1982	1985
MIN	2.88	4.32	5.11	3.54	10.4	9.14	12.7	11.5	7.89	3.94	1.65	1.50
(WY)	1998	1995	1981	1981	1981	1981	1985	1981	1976	1976	1993	1993

01117350 CHIPUXET RIVER AT WEST KINGSTON, RI--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1958 - 1999	
ANNUAL TOTAL	10514.5		5781.1			
ANNUAL MEAN	28.8		15.8		21.3	
HIGHEST ANNUAL MEAN					32.8	1984
LOWEST ANNUAL MEAN					6.89	1981
HIGHEST DAILY MEAN	114	Jun 17	100	Feb 4	235	Jun 6 1982
LOWEST DAILY MEAN	1.5	Oct 24	1.0	Aug 2	.51	Nov 6 1994
ANNUAL SEVEN-DAY MINIMUM	1.7	Oct 22	1.7	Oct 22	.57	Nov 3 1994
INSTANTANEOUS PEAK FLOW			104	Feb 4	250	Jun 6 1982
INSTANTANEOUS PEAK STAGE			6.46	Feb 4	6.92	Apr 1 1997
INSTANTANEOUS LOW FLOW			.68	Aug 8	.47	Nov 6 1994
10 PERCENT EXCEEDS	61		37		43	
50 PERCENT EXCEEDS	23		8.7		17	
90 PERCENT EXCEEDS	4.9		2.4		5.4	



01117370 QUEEN RIVER AT LIBERTY ROAD AT LIBERTY, RI

LOCATION.--Lat 41°32'20", long 71°34'09", Washington County, Hydrologic Unit 01090005, on left bank 2ft downstream from bridge on Liberty Road, at Liberty, RI.

DRAINAGE AREA.--19.1 mi^2.

PERIOD OF RECORD.--Discharge: October 1998 to September 1999.

GAGE.--Water-stage recorder. Datum of gage is 120 ft above sea level, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 189 ft^3/s, Feb. 3, gage height, 4.57 ft; minimum, 1.6 ft^3/s, Aug. 4, 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e7.2	9.7	13	13	49	145	55	24	25	12	2.1	2.2
2	e6.7	11	13	9.9	58	132	53	24	24	12	1.9	2.1
3	e5.8	7.1	11	23	169	97	50	25	23	9.3	1.9	2.0
4	e5.3	6.6	11	62	155	96	49	34	21	13	1.8	1.9
5	e4.9	6.6	10	40	121	89	47	51	20	14	1.8	1.9
6	e4.2	6.8	10	26	102	80	45	44	19	10	1.8	3.0
7	4.3	6.6	10	22	92	105	44	34	19	7.8	1.7	2.9
8	4.5	6.4	9.9	19	87	90	42	31	18	6.1	6.5	7.5
9	12	6.3	11	47	80	78	41	34	18	5.7	6.0	5.5
10	31	6.4	11	56	76	73	42	30	19	5.9	2.9	27
11	38	22	9.9	38	71	68	39	27	18	5.5	2.5	83
12	25	34	9.4	31	66	66	41	25	17	4.7	2.8	29
13	18	22	9.8	29	72	64	39	23	18	6.8	2.4	15
14	16	16	9.6	25	67	61	37	21	18	6.9	2.8	9.7
15	19	15	9.3	56	60	72	35	21	17	5.8	10	8.6
16	18	13	9.9	123	56	71	35	20	16	4.6	8.3	50
17	14	18	10	69	55	72	46	19	16	3.9	3.8	88
18	12	29	9.8	58	63	82	42	20	16	3.5	3.0	42
19	11	22	9.0	103	82	79	37	20	16	3.4	2.5	25
20	10	18	6.9	75	67	69	34	27	15	3.6	e2.3	18
21	13	19	7.1	59	58	62	33	25	14	3.0	e3.1	15
22	9.3	17	7.9	56	52	75	32	21	13	3.2	e2.7	14
23	6.4	14	7.5	53	47	75	35	26	12	3.2	e2.3	13
24	6.7	13	7.7	76	46	70	39	111	11	3.6	e2.1	12
25	7.3	12	7.2	119	48	84	34	90	10	3.4	e2.0	11
26	6.8	16	6.7	86	49	70	31	58	10	3.2	e6.2	9.7
27	6.8	26	6.5	71	47	62	29	43	9.4	2.9	e13	9.1
28	7.5	21	7.9	65	54	75	27	36	9.2	2.6	e8.5	8.4
29	14	17	12	65	---	78	26	32	9.8	2.4	e3.9	7.9
30	12	15	24	57	---	66	24	29	9.8	2.4	e2.4	16
31	9.5	---	19	51	---	59	---	27	---	2.3	e2.3	---
TOTAL	366.2	452.5	317.0	1682.9	2049	2465	1163	1052	481.2	176.7	117.3	540.4
MEAN	11.8	15.1	10.2	54.3	73.2	79.5	38.8	33.9	16.0	5.70	3.78	18.0
MAX	38	34	24	123	169	145	55	111	25	14	13	88
MIN	4.2	6.3	6.5	9.9	46	59	24	19	9.2	2.3	1.7	1.9
CFSM	.62	.79	.54	2.84	3.83	4.16	2.03	1.78	.84	.30	.20	.94
IN.	.71	.88	.62	3.28	3.99	4.80	2.27	2.05	.94	.34	.23	1.05

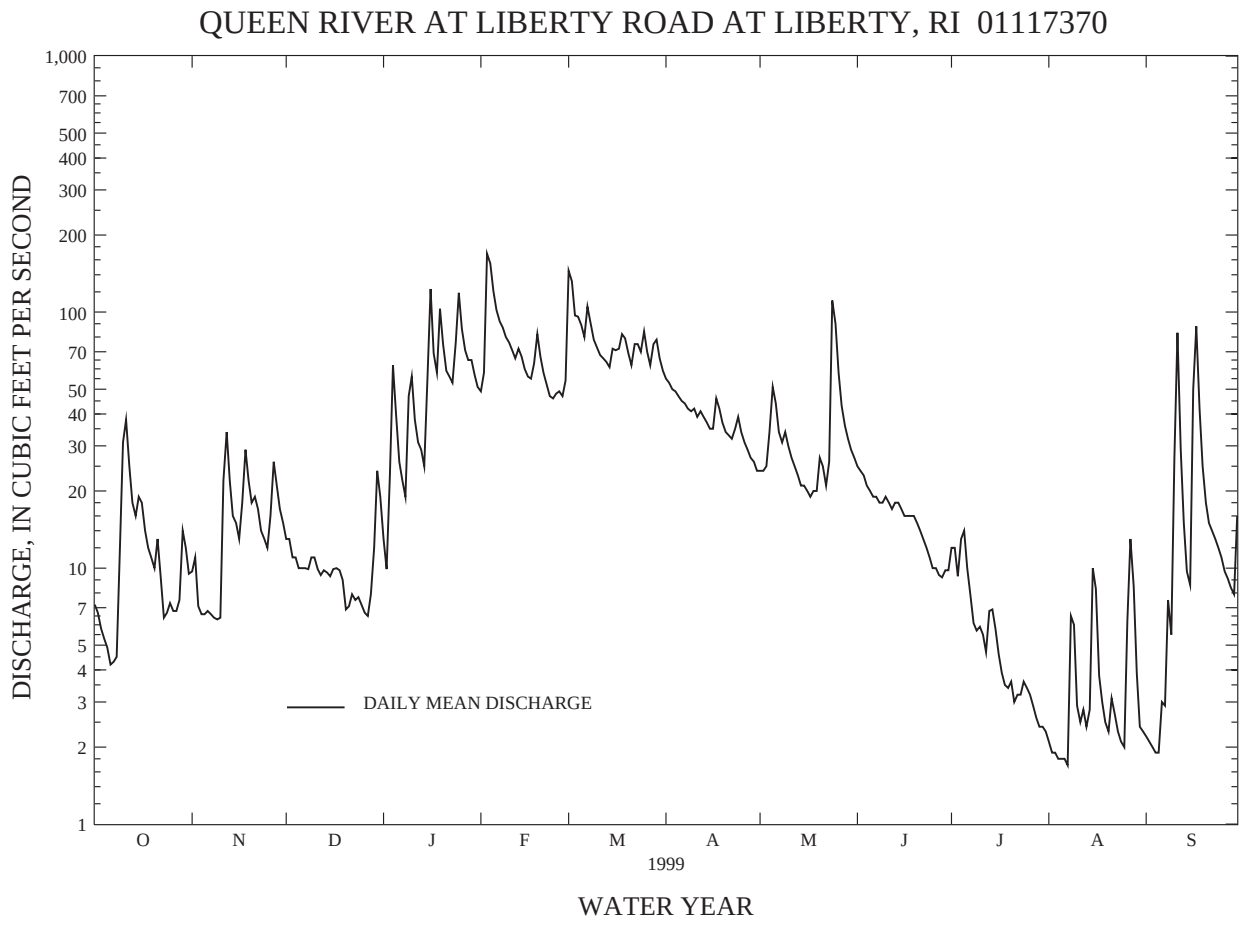
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

MEAN	11.8	15.1	10.2	54.3	73.2	79.5	38.8	33.9	16.0	5.70	3.78	18.0
MAX	11.8	15.1	10.2	54.3	73.2	79.5	38.8	33.9	16.0	5.70	3.78	18.0
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	11.8	15.1	10.2	54.3	73.2	79.5	38.8	33.9	16.0	5.70	3.78	18.0
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999

01117370 QUEEN RIVER AT LIBERTY ROAD AT LIBERTY, RI--Continued

SUMMARY STATISTICS	FOR 1999 WATER YEAR	
ANNUAL TOTAL	10863.2	
ANNUAL MEAN	29.8	
HIGHEST DAILY MEAN	169	Feb 3
LOWEST DAILY MEAN	1.7	Aug 7
ANNUAL SEVEN-DAY MINIMUM	1.9	Aug 1
INSTANTANEOUS PEAK FLOW	189	Feb 3
INSTANTANEOUS PEAK STAGE	4.57	Feb 3
INSTANTANEOUS LOW FLOW	1.6	Aug 4
ANNUAL RUNOFF (CFSM)	1.56	
ANNUAL RUNOFF (INCHES)	21.16	
10 PERCENT EXCEEDS	72	
50 PERCENT EXCEEDS	18	
90 PERCENT EXCEEDS	3.2	

e Estimated



01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI

LOCATION.--Lat 41°28'36", long 71°36'19", Washington County, Hydrologic Unit 01090005, on left bank at upstream side of Heaton Orchard Bridge on State Highway 2 in South Kingstown, 1.2 mi upstream from Chickasheen Brook, 1.8 mi south of Usquepaug, and 2.6 mi west of West Kingston.

DRAINAGE AREA.--36.1 mi^2.

PERIOD OF RECORD.--Discharge: February 1958 to July 1960 in Rhode Island Water Resources Board Geologic Bulletin 13. December 1974 to current year.
Water-quality records: Water years 1975-83.

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

REMARKS.--Records good except those for estimated daily discharge, which are poor. Flow affected at times by irrigation upstream.

AVERAGE DISCHARGE.--25 years (water years 1959, 1976-99), 76.8 ft^3/s, 28.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,060 ft^3/s, June 6, 1982, gage height, 9.23 ft; no flow part of Sept. 13, 1995. Instantaneous maximum and minimum discharges not available prior to Dec. 5, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 475 ft^3/s, Feb. 4, gage height, 6.62 ft; minimum, 4.0 ft^3/s, Aug. 4, 5, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	29	32	70	237	109	52	53	21	8.4	6.7
2	18	20	28	24	81	328	101	51	51	24	7.8	5.8
3	17	19	27	33	285	258	94	51	49	21	5.9	5.5
4	16	18	27	82	445	208	91	64	45	23	5.3	6.3
5	15	18	26	e66	343	199	88	89	42	27	5.3	6.6
6	16	19	25	e48	252	176	84	90	41	22	5.4	9.4
7	15	19	24	e40	210	198	82	72	40	19	5.1	13
8	17	19	24	32	188	205	79	64	38	16	11	18
9	26	19	25	62	171	173	77	67	e36	14	18	23
10	41	19	24	86	157	151	79	62	e36	15	12	34
11	49	28	23	63	145	140	76	56	33	15	10	119
12	39	38	21	51	136	131	76	52	32	14	10	96
13	31	33	23	48	134	125	74	50	32	17	10	36
14	30	29	21	43	134	119	71	47	33	17	11	27
15	33	27	20	64	120	123	68	46	31	16	16	24
16	31	26	20	145	108	136	67	44	29	14	21	54
17	28	28	21	155	102	139	81	43	29	13	15	119
18	26	36	21	107	106	151	81	42	29	13	12	121
19	24	34	20	124	140	158	72	44	27	12	9.7	57
20	23	31	19	144	144	143	67	56	26	12	8.1	39
21	22	31	17	111	121	128	65	54	25	11	9.8	34
22	24	30	19	90	102	127	63	47	24	10	10	33
23	20	28	19	81	89	142	66	50	22	11	10	31
24	19	27	20	90	85	139	76	174	21	11	8.8	29
25	18	26	19	176	86	156	69	238	20	12	7.5	28
26	19	28	18	185	89	155	64	178	19	10	7.3	28
27	19	38	18	131	88	133	60	112	20	10	17	26
28	18	34	20	107	96	131	58	78	19	8.4	18	26
29	25	31	27	96	---	155	56	67	20	7.3	14	26
30	25	30	45	87	---	144	54	62	20	7.4	10	35
31	21	---	41	76	---	123	---	57	---	7.6	8.4	---
TOTAL	744	802	731	2679	4227	5031	2248	2259	942	450.7	327.8	1116.3
MEAN	24.0	26.7	23.6	86.4	151	162	74.9	72.9	31.4	14.5	10.6	37.2
MAX	49	38	45	185	445	328	109	238	53	27	21	121
MIN	15	18	17	24	70	119	54	42	19	7.3	5.1	5.5
CFSM	.66	.74	.65	2.39	4.18	4.50	2.08	2.02	.87	.40	.29	1.03
IN.	.77	.83	.75	2.76	4.36	5.18	2.32	2.33	.97	.46	.34	1.15

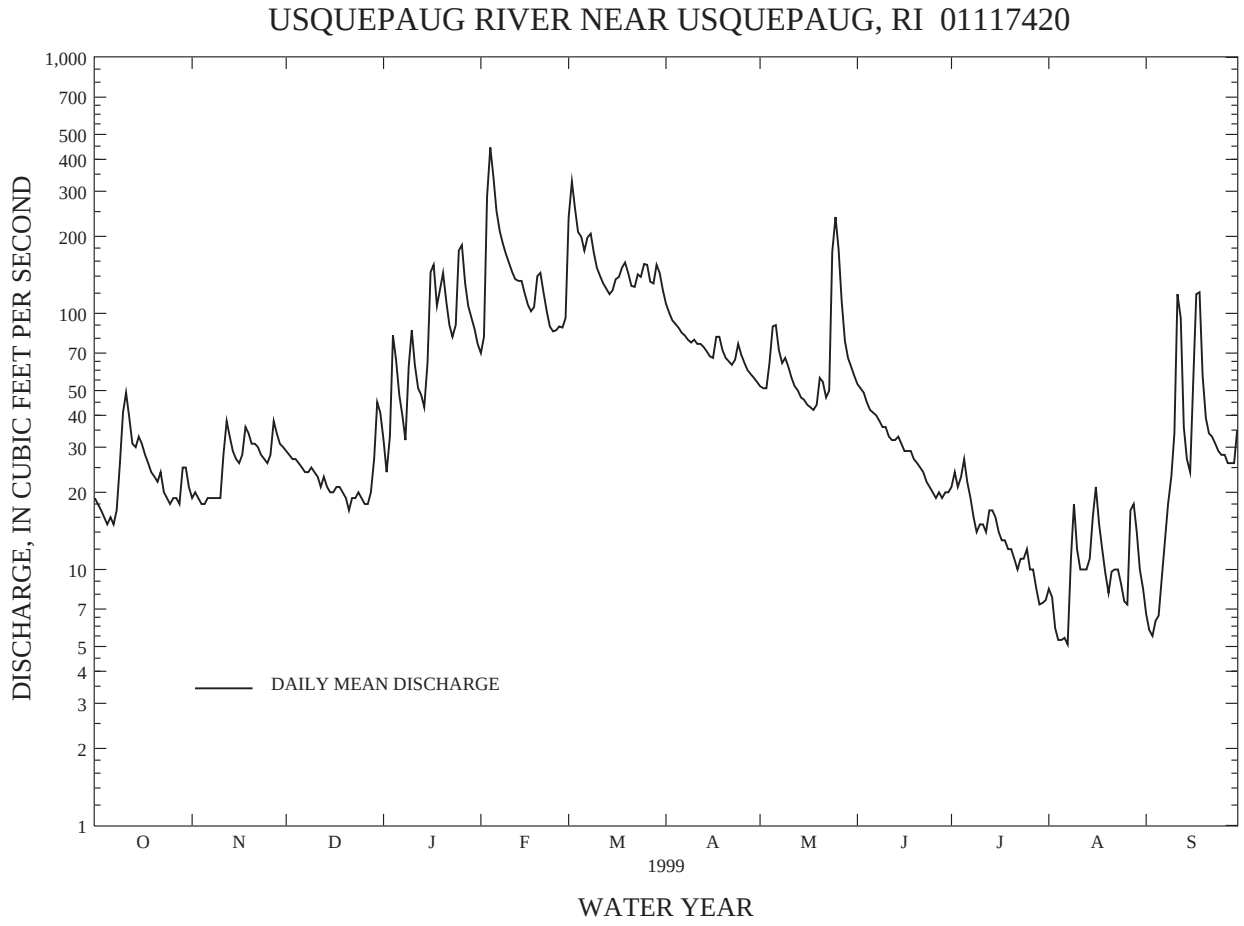
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1999, BY WATER YEAR (WY)

MEAN	36.1	60.1	86.6	106	111	133	135	95.4	69.6	35.7	29.6	26.4
MAX	85.7	150	212	266	180	250	335	179	276	80.1	56.1	75.7
(WY)	1990	1990	1987	1979	1982	1998	1983	1978	1982	1998	1979	1985
MIN	12.1	20.8	21.1	16.9	39.1	56.2	46.3	45.5	30.4	13.3	10.6	7.40
(WY)	1995	1981	1981	1981	1980	1981	1985	1981	1994	1994	1999	1980

01117420 USQUEPAUG RIVER NEAR USQUEPAUG, RI--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1958 - 1999	
ANNUAL TOTAL	38575		21557.8			
ANNUAL MEAN	106		59.1		76.8	
HIGHEST ANNUAL MEAN					110	1984
LOWEST ANNUAL MEAN					30.6	1981
HIGHEST DAILY MEAN	538	Mar 11	445	Feb 4	1020	Jun 7 1982
LOWEST DAILY MEAN	14	Sep 19	5.1	Aug 7	1.1	Sep 14 1993
ANNUAL SEVEN-DAY MINIMUM	15	Sep 15	6.2	Aug 1	3.8	Sep 6 1995
INSTANTANEOUS PEAK FLOW			475	Feb 4	1060	Jun 6 1982
INSTANTANEOUS PEAK STAGE			6.62	Feb 4	9.23	Jun 6 1982
INSTANTANEOUS LOW FLOW			4.0	Aug 4	.00	Sep 13 1995
ANNUAL RUNOFF (CFSM)	2.93		1.64		2.13	
ANNUAL RUNOFF (INCHES)	39.75		22.21		28.90	
10 PERCENT EXCEEDS	237		141		160	
50 PERCENT EXCEEDS	66		33		58	
90 PERCENT EXCEEDS	19		11		17	

e Estimated



01117468 BEAVER RIVER NEAR USQUEPAUG, RI

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

DRAINAGE AREA.--8.87 mi^2.

PERIOD OF RECORD.--Discharge: December 1974 to current year.
Water-quality records: Water years 1979-83.

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

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

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

AVERAGE DISCHARGE.--24 years (water years 1976-99), 21.3 ft^3/s, 32.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 370 ft^3/s, June 6, 1982, gage height, 3.83 ft; minimum, 1.1 ft^3/s, Sept. 7, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 169 ft^3/s, Feb. 3, gage height, 3.08 ft; minimum, 1.4 ft^3/s, Aug. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	5.2	7.8	e6.2	33	85	30	15	16	8.9	2.4	2.1
2	4.6	4.9	7.5	e6.2	35	64	29	15	16	7.8	2.2	2.0
3	4.3	4.9	7.2	17	135	47	28	15	15	7.2	2.0	2.0
4	4.3	4.8	6.9	32	91	46	27	18	15	9.3	1.9	2.0
5	4.1	4.6	6.8	e16	69	43	27	26	14	8.2	1.9	1.9
6	4.0	4.6	6.5	e12	57	41	25	21	14	6.5	1.8	2.1
7	3.9	4.6	6.5	e9.1	51	54	26	19	13	5.9	1.7	2.5
8	4.2	4.5	6.7	e12	49	45	24	17	13	5.3	5.0	5.0
9	6.6	4.4	6.9	e25	45	40	23	17	12	5.2	3.8	4.1
10	17	4.4	6.6	31	42	38	23	16	12	5.4	2.7	21
11	17	9.7	6.5	e17	40	36	23	15	11	5.1	2.6	41
12	11	11	6.2	e15	38	35	24	14	11	4.7	2.6	14
13	8.8	7.7	6.2	16	39	34	22	14	11	5.3	2.4	10
14	8.3	6.8	6.2	18	37	32	21	13	12	5.2	2.6	8.8
15	9.4	6.4	6.2	39	32	37	20	13	12	4.8	4.4	8.5
16	8.1	5.9	6.1	57	31	38	19	13	10	4.5	3.5	28
17	7.3	7.6	6.0	38	31	39	25	13	10	4.4	2.8	36
18	6.8	11	6.1	33	35	39	22	12	10	4.2	2.4	16
19	6.5	8.5	5.9	49	40	36	20	13	9.8	4.1	2.2	12
20	6.1	7.7	5.9	39	34	33	19	24	9.4	4.1	2.1	10
21	5.8	8.5	5.9	33	32	30	19	17	9.3	3.6	2.4	9.8
22	5.6	7.8	6.1	33	29	38	18	15	8.9	3.5	2.3	9.9
23	5.6	7.5	5.8	31	26	36	20	19	8.6	3.5	2.2	8.9
24	5.5	7.8	5.9	42	25	35	22	50	8.3	3.3	2.0	8.2
25	5.4	7.5	e4.4	65	25	39	19	41	8.0	3.3	1.9	7.7
26	5.3	8.3	e4.1	48	27	33	17	29	7.8	3.2	2.6	7.2
27	5.1	10	e4.4	40	26	30	17	24	7.4	3.1	5.8	6.9
28	5.2	9.2	5.9	37	32	38	16	21	7.2	2.7	4.0	6.7
29	7.3	8.9	6.9	35	---	36	16	19	9.0	2.5	2.9	6.7
30	6.2	8.3	e6.2	32	---	32	15	18	9.5	2.5	2.4	9.6
31	5.5	---	e6.4	e28	---	30	---	17	---	2.5	2.3	---
TOTAL	209.7	213.0	192.7	911.5	1186	1239	656	593	330.2	149.8	83.8	310.6
MEAN	6.76	7.10	6.22	29.4	42.4	40.0	21.9	19.1	11.0	4.83	2.70	10.4
MAX	17	11	7.8	65	135	85	30	50	16	9.3	5.8	41
MIN	3.9	4.4	4.1	6.2	25	30	15	12	7.2	2.5	1.7	1.9
CFSM	.76	.80	.70	3.31	4.78	4.51	2.47	2.16	1.24	.54	.30	1.17
IN.	.88	.89	.81	3.82	4.97	5.20	2.75	2.49	1.38	.63	.35	1.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, BY WATER YEAR (WY)

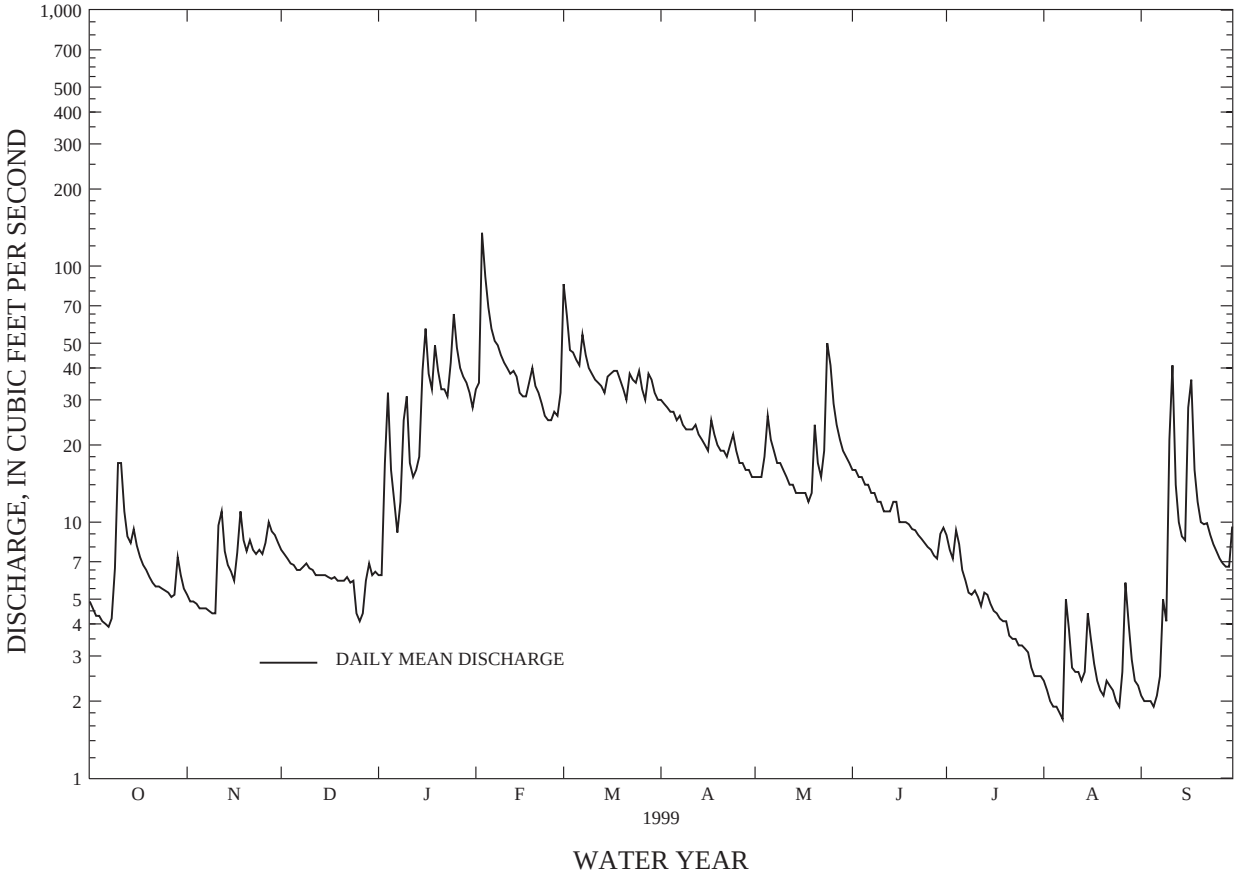
MEAN	8.87	16.6	24.6	29.3	29.4	36.3	37.2	27.6	20.8	10.2	7.95	6.92
MAX	25.5	43.5	60.8	74.0	46.2	62.9	102	48.3	82.1	23.9	16.4	25.2
(WY)	1990	1990	1987	1979	1982	1983	1983	1979	1982	1998	1989	1985
MIN	3.01	4.59	4.43	3.17	11.5	18.9	13.9	13.7	9.02	3.70	2.21	1.90
(WY)	1995	1981	1981	1981	1985	1981	1985	1981	1994	1994	1993	1980

01117468 BEAVER RIVER NEAR USQUEPAUG, RI--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1975 - 1999	
ANNUAL TOTAL	9928.6		6075.3			
ANNUAL MEAN	27.2		16.6		21.3	
HIGHEST ANNUAL MEAN					30.4	1983
LOWEST ANNUAL MEAN					8.67	1981
HIGHEST DAILY MEAN	152	Mar 10	135	Feb 3	324	Jun 6 1982
LOWEST DAILY MEAN	3.9	Oct 7	1.7	Aug 7	1.2	Sep 7 1993
ANNUAL SEVEN-DAY MINIMUM	4.2	Oct 2	2.0	Aug 1	1.3	Sep 1 1993
INSTANTANEOUS PEAK FLOW			169	Feb 3	370	Jun 6 1982
INSTANTANEOUS PEAK STAGE			3.08	Feb 3	3.83	Jun 6 1982
INSTANTANEOUS LOW FLOW			1.4	Aug 7	1.1	Sep 7 1993
ANNUAL RUNOFF (CFSM)	3.07		1.88		2.40	
ANNUAL RUNOFF (INCHES)	41.64		25.48		32.65	
10 PERCENT EXCEEDS	57		38		43	
50 PERCENT EXCEEDS	19		9.8		17	
90 PERCENT EXCEEDS	5.3		3.0		4.2	

e Estimated

BEAVER RIVER NEAR USQUEPAUG, RI 01117468



01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI

LOCATION.--Lat 41°26'42", long 71°40'53", Washington County, Hydrologic Unit 01090005, on right bank 10 ft downstream from bridge on Alton-Carolina road, 0.8 mi northeast of Wood River Junction, 1.5 mi southwest of Carolina, and 2.9 mi upstream from Wood River.

DRAINAGE AREA.--100 mi^2.

PERIOD OF RECORD.--October 1940 to current year. October and November 1940, monthly discharge only, published in WSP 1301. Prior to October 1943, published as Charles River at Wood River Junction.

REVISED RECORDS.--WSP 1051: Drainage area. WSP 1201: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 43.86 ft above sea level. Prior to June 19, 1984, at site 10 ft upstream at same datum.

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

AVERAGE DISCHARGE.--58 years, 196 ft^3/s, 26.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft^3/s, June 7, 1982, gage height, 8.75 ft; minimum, 7.4 ft^3/s, Oct. 10, 1947; minimum daily, 15 ft^3/s, Oct. 11, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 829 ft^3/s, Feb. 5, gage height, 4.91 ft; minimum, 17 ft^3/s, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	63	79	81	222	439	296	151	177	60	26	23
2	56	61	75	67	237	556	277	146	165	62	25	22
3	55	60	73	83	567	571	259	145	154	59	23	20
4	53	59	72	139	779	530	247	163	143	60	21	18
5	52	58	69	156	815	468	236	230	133	65	20	22
6	50	58	68	127	734	437	229	256	127	58	20	23
7	50	58	66	112	621	460	222	233	120	52	20	28
8	49	58	66	92	536	445	214	204	113	46	33	39
9	66	56	69	155	475	416	207	191	105	45	45	45
10	130	55	67	212	421	392	208	186	102	45	36	84
11	167	65	65	191	380	361	203	175	101	45	31	174
12	151	94	64	160	348	337	204	170	99	44	30	182
13	118	94	63	147	337	321	198	157	100	46	30	138
14	97	82	63	131	324	308	192	146	101	49	30	80
15	93	73	62	165	305	312	185	137	98	45	35	64
16	89	69	62	252	283	339	179	133	89	40	40	114
17	82	71	62	302	267	350	199	131	89	37	37	172
18	76	89	62	292	275	360	209	126	89	38	32	181
19	71	93	61	315	313	357	199	126	86	38	28	161
20	68	85	62	305	322	345	187	167	83	40	26	111
21	66	87	61	291	308	325	179	172	81	37	27	82
22	64	83	60	264	276	327	174	153	77	33	28	73
23	68	78	60	240	242	320	179	153	73	34	27	67
24	66	75	61	262	227	325	200	374	71	34	24	62
25	61	76	59	358	216	372	197	474	69	35	23	58
26	60	80	58	403	213	368	184	464	64	34	25	56
27	59	96	57	388	233	348	173	393	63	31	29	53
28	59	99	60	339	254	342	167	307	61	29	36	52
29	67	90	73	304	---	347	162	246	58	26	33	52
30	69	85	99	269	---	344	156	215	60	24	29	63
31	67	---	93	237	---	321	---	194	---	24	25	---
TOTAL	2341	2250	2071	6839	10530	11843	6121	6518	2951	1315	894	2319
MEAN	75.5	75.0	66.8	221	376	382	204	210	98.4	42.4	28.8	77.3
MAX	167	99	99	403	815	571	296	474	177	65	45	182
MIN	49	55	57	67	213	308	156	126	58	24	20	18
CFSM	.76	.75	.67	2.21	3.76	3.82	2.04	2.10	.98	.42	.29	.77
IN.	.87	.84	.77	2.54	3.92	4.41	2.28	2.42	1.10	.49	.33	.86

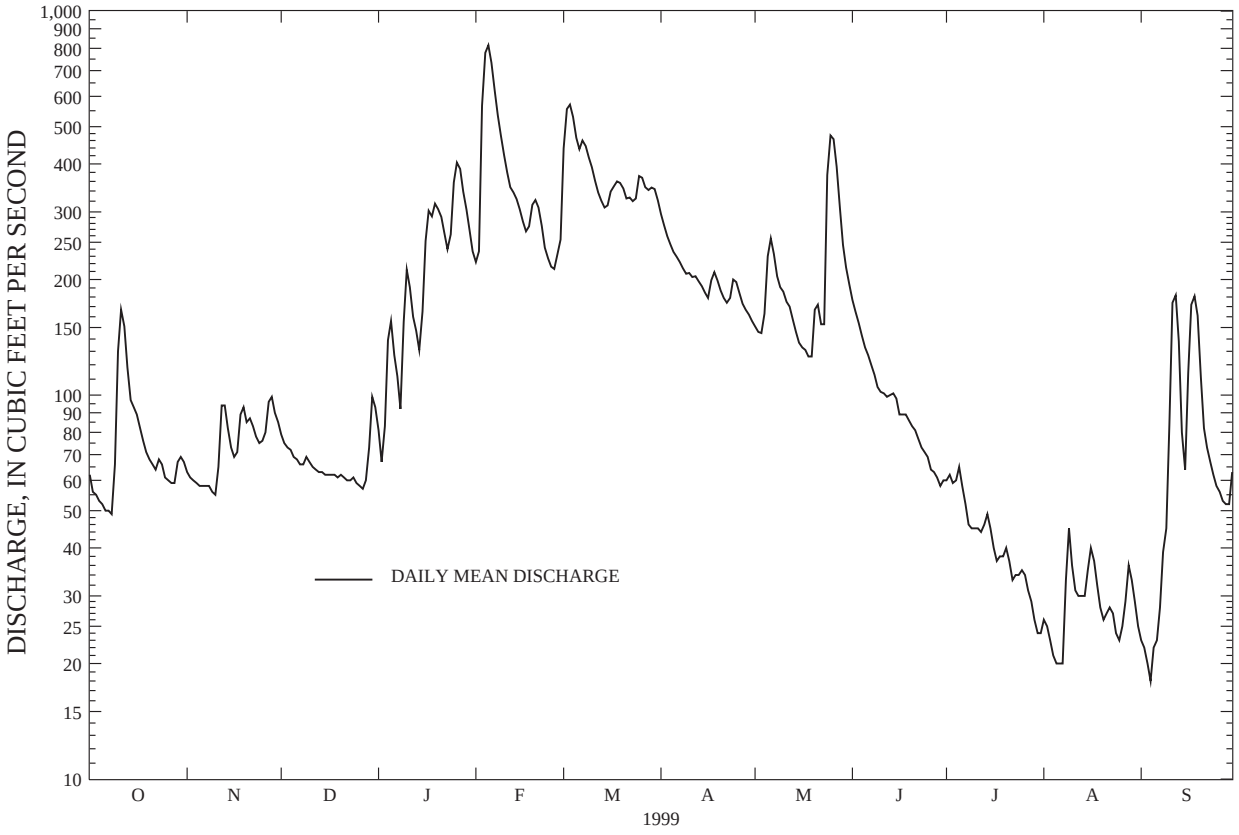
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

MEAN	88.3	144	209	248	276	347	335	253	181	99.5	84.4	78.7
MAX	332	471	543	655	453	598	908	464	718	249	275	374
(WY)	1956	1956	1987	1979	1970	1953	1983	1983	1982	1984	1946	1954
MIN	31.1	42.2	49.8	51.8	104	145	124	130	82.3	38.2	28.8	29.5
(WY)	1950	1966	1966	1981	1944	1981	1985	1981	1957	1957	1999	1980

01117500 PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999	
ANNUAL TOTAL	97896		55992			
ANNUAL MEAN	268		153		196	
HIGHEST ANNUAL MEAN					311	1984
LOWEST ANNUAL MEAN					84.4	1981
HIGHEST DAILY MEAN	924	Mar 11	815	Feb 5	1830	Jun 7 1982
LOWEST DAILY MEAN	49	Sep 21	18	Sep 4	15	Oct 11 1947
ANNUAL SEVEN-DAY MINIMUM	52	Sep 15	22	Aug 31	20	Sep 1 1995
INSTANTANEOUS PEAK FLOW			829	Feb 5	1860	Jun 7 1982
INSTANTANEOUS PEAK STAGE			4.91	Feb 5	8.75	Jun 7 1982
INSTANTANEOUS LOW FLOW			17	Sep 4	7.4	Oct 10 1947
ANNUAL RUNOFF (CFSM)	2.68		1.53		1.96	
ANNUAL RUNOFF (INCHES)	36.42		20.83		26.58	
10 PERCENT EXCEEDS	624		344		397	
50 PERCENT EXCEEDS	171		93		155	
90 PERCENT EXCEEDS	61		33		50	

PAWCATUCK RIVER AT WOOD RIVER JUNCTION, RI 01117500



01117800 WOOD RIVER NEAR ARCADIA, RI

LOCATION.--Lat 41°34'26", long 71°43'16", Washington County, Hydrologic Unit 01090005, on left bank at upstream side of bridge on Ten Rod Road, 1.8 mi northwest of Arcadia, and 4.5 mi north of Hope Valley.

DRAINAGE AREA.--35.2 mi^2.

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

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

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

AVERAGE DISCHARGE.--34 years (water years 1965-81, 1983-99), 76.7 ft^3/s, 29.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 896 ft^3/s, Mar. 18, 1968, gage height, 8.64 ft; minimum, 4.1 ft^3/s, Sept. 1, 1995.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 6, 1982, reached a discharge of 1,010 ft^3/s, gage height, 8.97 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 412 ft^3/s, Feb. 3, gage height, 6.11 ft; minimum, 5.1 ft^3/s, Aug. 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	21	37	33	e99	318	115	55	46	15	6.9	9.6
2	18	25	36	29	130	296	110	54	43	17	6.4	8.6
3	17	23	33	66	376	226	105	53	39	16	6.1	8.0
4	16	22	30	e143	334	212	104	61	37	23	5.8	7.8
5	17	29	26	e113	267	188	100	84	34	23	5.8	7.8
6	15	25	25	e92	210	174	96	84	33	16	5.8	8.6
7	14	20	23	e67	182	201	93	75	32	14	5.5	9.4
8	14	18	23	e61	166	167	89	69	31	12	14	13
9	27	17	24	e72	151	157	87	70	28	11	13	13
10	56	16	23	e72	142	145	87	63	27	11	8.8	60
11	73	41	23	e72	134	138	83	56	25	10	7.9	156
12	52	50	22	e74	129	134	89	51	25	9.6	7.9	61
13	44	40	22	e79	133	130	84	48	25	11	7.5	41
14	45	38	22	70	125	127	80	48	27	10	8.1	31
15	49	48	24	133	118	140	76	46	26	9.8	9.5	27
16	39	35	24	218	114	135	75	45	24	9.6	9.1	103
17	35	36	24	189	111	139	88	41	23	9.1	7.9	191
18	32	40	25	162	127	149	85	40	23	8.6	7.5	124
19	28	34	24	218	152	147	80	41	22	8.6	6.9	97
20	25	31	24	186	141	137	76	67	21	9.2	6.5	63
21	23	33	23	153	131	128	73	62	20	8.2	7.0	52
22	26	31	24	136	118	158	72	53	20	7.9	7.1	48
23	29	30	23	125	107	156	76	56	19	7.6	7.0	43
24	23	31	23	158	102	151	82	109	18	7.5	6.6	37
25	20	29	22	231	106	154	75	122	17	11	6.4	34
26	19	37	22	203	106	139	71	103	17	15	18	32
27	18	54	22	169	103	130	66	88	15	11	42	30
28	18	46	22	150	118	144	63	75	15	9.2	26	28
29	22	41	25	134	---	142	61	64	15	8.0	19	27
30	26	39	42	121	---	131	58	57	14	7.6	15	39
31	27	---	37	112	---	121	---	51	---	7.4	12	---
TOTAL	885	980	799	3841	4232	5014	2499	1991	761	353.9	323.0	1409.8
MEAN	28.5	32.7	25.8	124	151	162	83.3	64.2	25.4	11.4	10.4	47.0
MAX	73	54	42	231	376	318	115	122	46	23	42	191
MIN	14	16	22	29	99	121	58	40	14	7.4	5.5	7.8
CFSM	.81	.93	.73	3.52	4.29	4.59	2.37	1.82	.72	.32	.30	1.34
IN.	.94	1.04	.84	4.06	4.47	5.30	2.64	2.10	.80	.37	.34	1.49

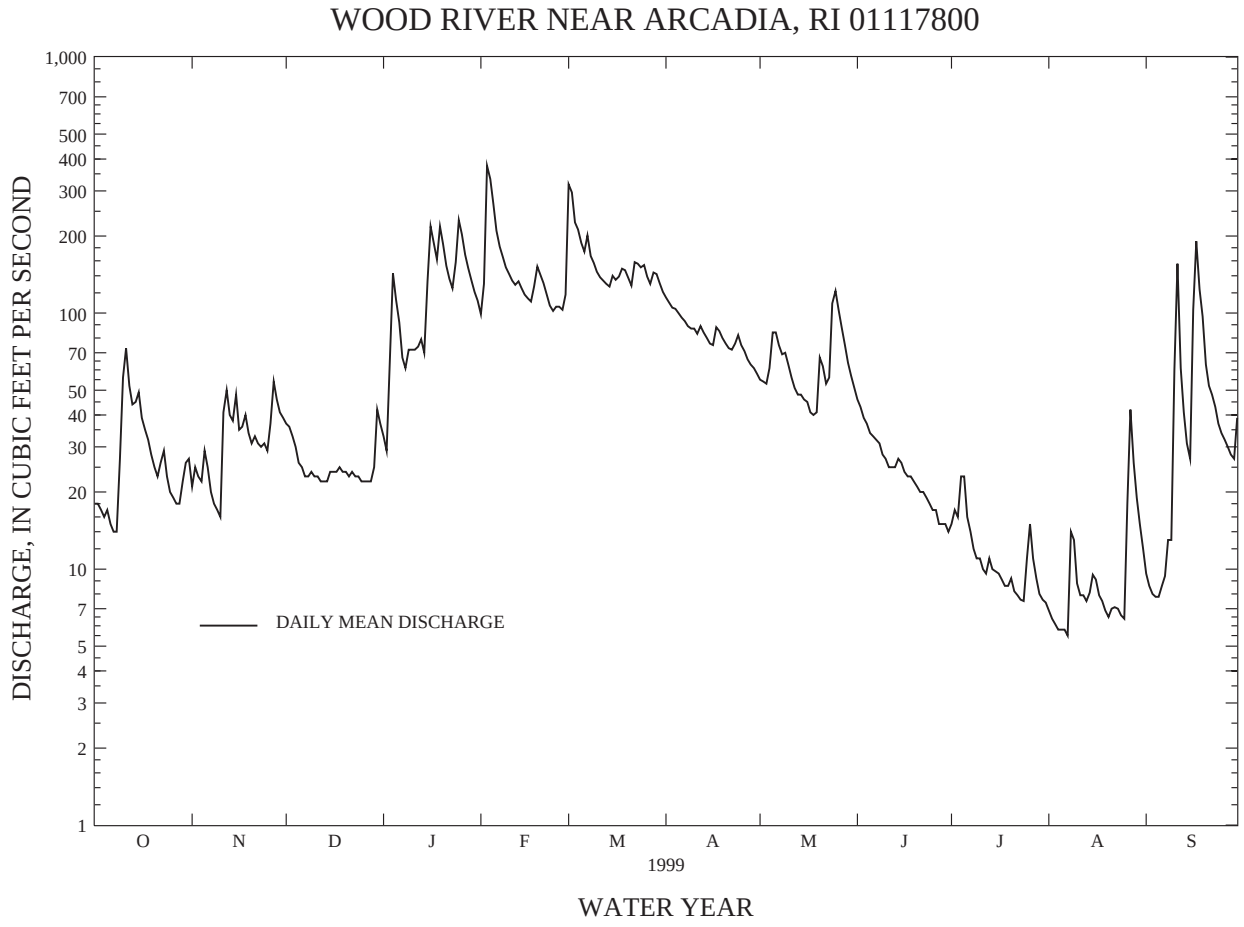
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

MEAN	36.1	65.4	97.9	104	110	136	132	91.9	60.0	32.8	29.1	24.0
MAX	112	163	229	310	187	256	320	153	182	89.3	90.0	55.1
(WY)	1990	1973	1973	1979	1970	1972	1983	1979	1998	1998	1979	1979
MIN	11.6	11.2	15.5	19.0	43.6	76.3	44.2	48.7	25.4	11.4	8.86	7.05
(WY)	1998	1966	1966	1966	1980	1985	1966	1986	1999	1999	1995	1980

01117800 WOOD RIVER NEAR ARCADIA, RI--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999	
ANNUAL TOTAL	36743		23088.7			
ANNUAL MEAN	101		63.3		76.7	
HIGHEST ANNUAL MEAN					114	1973
LOWEST ANNUAL MEAN					33.3	1966
HIGHEST DAILY MEAN	527	Mar 10	376	Feb 3	826	Jan 27 1978
LOWEST DAILY MEAN	14	Oct 7	5.5	Aug 7	4.2	Sep 1 1995
ANNUAL SEVEN-DAY MINIMUM	16	Oct 2	6.0	Aug 1	4.2	Aug 31 1995
INSTANTANEOUS PEAK FLOW			412	Feb 3	896	Mar 18 1968
INSTANTANEOUS PEAK STAGE			6.11	Feb 3	8.64	Mar 18 1968
INSTANTANEOUS LOW FLOW			5.1	Aug 7	4.1	Sep 1 1995
ANNUAL RUNOFF (CFSM)	2.86		1.80		2.18	
ANNUAL RUNOFF (INCHES)	38.83		24.40		29.61	
10 PERCENT EXCEEDS	208		146		158	
50 PERCENT EXCEEDS	81		39		58	
90 PERCENT EXCEEDS	22		9.1		15	

e Estimated



01118000 WOOD RIVER AT HOPE VALLEY, RI

LOCATION.--Lat 41°29'53", long 71°43'01", Washington County, Hydrologic Unit 01090005, on right bank 0.2 mi downstream from highway bridge at Hope Valley and 6.6 mi upstream from mouth.

DRAINAGE AREA.--72.4 mi^2.

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Records excellent except those for estimated daily discharge, which are poor. Some seasonal regulation by Locustville Pond on Brushy Brook since 1968. Some regulation at low flow by mills and ponds upstream until 1952; regulation greater prior to 1948.

AVERAGE DISCHARGE.--58 years, 156 ft^3/s, 29.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,390 ft^3/s, June 6, 1982, gage height, 10.26 ft; minimum, 4.0 ft^3/s, Sept. 9, 1987; minimum daily, 10 ft^3/s, Oct. 13, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1711, at least 12.4 ft in February 1886. Flood in November 1927 reached a stage of 11.7 ft, and flood in March 1936 reached a discharge of 1,540 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft^3/s, Feb. 3, gage height, 6.51 ft; minimum, 12 ft^3/s, Aug. 4, 6, 7, but may have been lower during period of estimated daily discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	48	63	74	201	691	209	100	104	32	e15	21
2	38	55	63	49	237	699	201	102	96	34	e14	19
3	36	67	72	89	943	496	193	103	87	34	e13	18
4	34	67	65	335	830	438	188	119	80	35	e12	17
5	33	64	51	254	622	402	182	156	75	43	e13	17
6	32	64	51	192	485	347	175	169	70	e35	e12	17
7	30	53	61	174	395	445	171	150	66	e30	e12	19
8	31	47	47	135	346	370	166	143	63	e27	e15	24
9	45	44	51	180	304	312	162	147	58	e24	e25	28
10	93	43	52	255	279	281	152	131	55	e24	e21	92
11	153	78	56	208	258	264	136	106	52	e22	e19	377
12	118	121	67	186	245	252	154	103	51	e21	18	180
13	81	94	43	172	249	244	153	98	51	e23	18	95
14	77	88	43	150	237	233	145	96	52	e24	18	69
15	89	83	43	274	217	260	139	93	53	e21	19	62
16	81	68	47	609	206	257	138	91	49	e20	19	181
17	68	68	48	443	202	263	165	85	47	e20	18	441
18	63	90	50	347	219	290	163	83	47	e19	16	289
19	58	79	52	522	298	281	152	84	45	e19	15	190
20	53	70	47	451	267	255	143	140	44	e19	14	144
21	49	73	48	336	240	236	139	146	43	e18	15	118
22	45	72	49	289	216	281	134	118	42	e17	15	102
23	49	66	49	261	194	304	143	121	40	e16	15	74
24	47	65	49	339	186	279	169	274	38	e16	15	70
25	43	64	47	596	191	296	155	304	37	e20	14	69
26	40	74	45	478	192	266	142	234	36	e24	21	66
27	39	124	45	368	188	242	134	192	35	e28	59	61
28	39	106	51	311	208	260	128	163	33	e21	49	57
29	47	85	48	275	---	274	122	144	32	e18	36	55
30	49	81	85	242	---	245	102	130	32	e17	29	70
31	52	---	90	218	---	222	---	115	---	e16	24	---
TOTAL	1752	2201	1678	8812	8655	9985	4655	4240	1613	737	618	3042
MEAN	56.5	73.4	54.1	284	309	322	155	137	53.8	23.8	19.9	101
MAX	153	124	90	609	943	699	209	304	104	43	59	441
MIN	30	43	43	49	186	222	102	83	32	16	12	17
CFSM	.78	1.01	.75	3.93	4.27	4.45	2.14	1.89	.74	.33	.28	1.40
IN.	.90	1.13	.86	4.53	4.45	5.13	2.39	2.18	.83	.38	.32	1.56

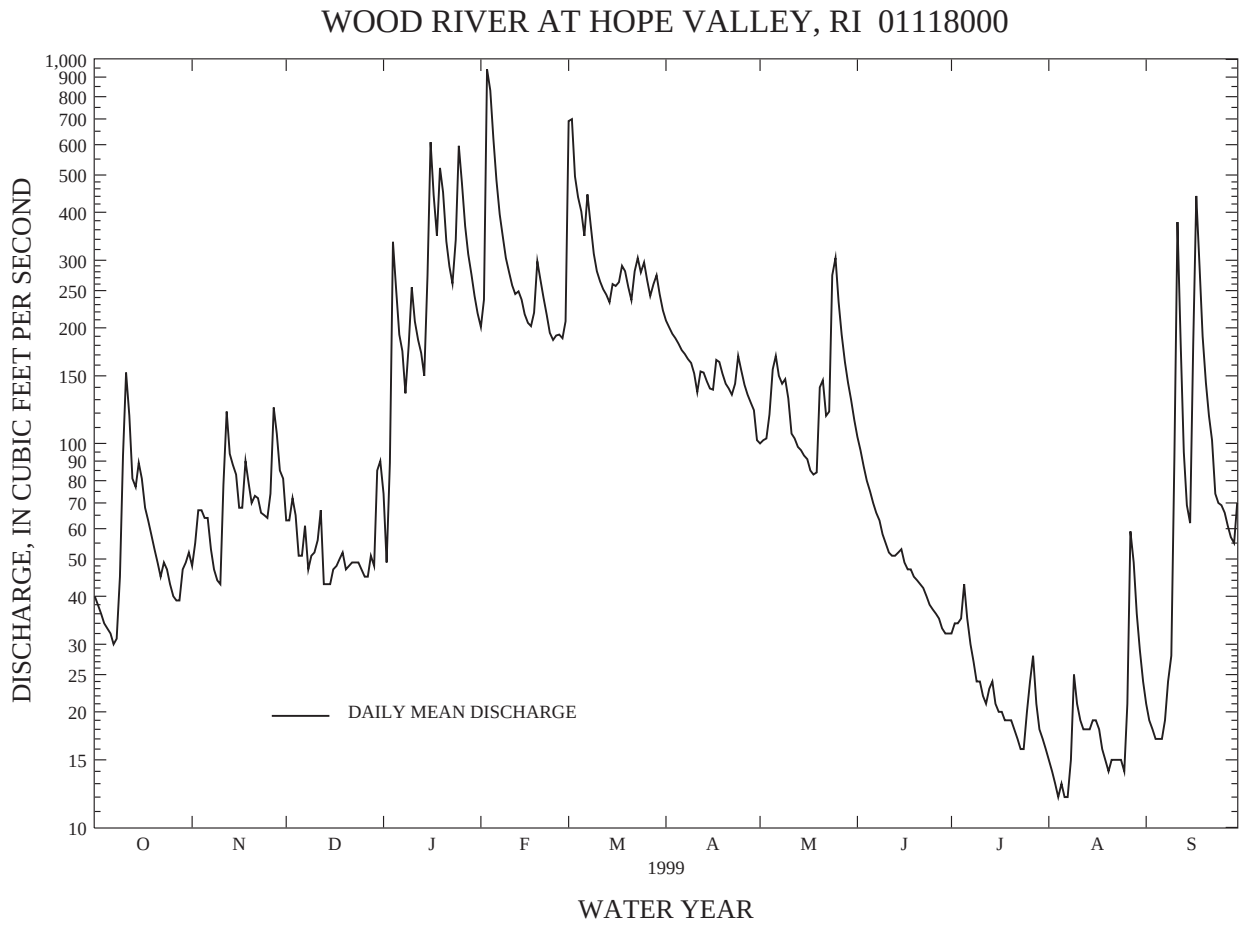
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

MEAN	75.7	130	186	205	221	279	263	191	130	70.0	61.8	59.5
MAX	341	386	477	666	398	465	664	365	540	178	183	311
(WY)	1956	1956	1987	1979	1970	1972	1983	1979	1982	1998	1979	1954
MIN	22.6	24.9	35.1	36.8	87.6	147	89.4	91.9	48.3	23.8	19.9	17.4
(WY)	1958	1966	1966	1981	1980	1981	1966	1986	1957	1999	1999	1957

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999	
ANNUAL TOTAL	77448		47988			
ANNUAL MEAN	212		131		156	
HIGHEST ANNUAL MEAN					235	1973
LOWEST ANNUAL MEAN					71.2	1966
HIGHEST DAILY MEAN	1150	Mar 10	943	Feb 3	2200	Jun 6 1982
LOWEST DAILY MEAN	30	Oct 7	12	Aug 4	10	Oct 13 1941
ANNUAL SEVEN-DAY MINIMUM	33	Oct 2	13	Aug 1	13	Aug 1 1999
INSTANTANEOUS PEAK FLOW			1100	Feb 3	2390	Jun 6 1982
INSTANTANEOUS PEAK STAGE			6.51	Feb 3	10.26	Jun 6 1982
INSTANTANEOUS LOW FLOW					4.0	Sep 9 1987
ANNUAL RUNOFF (CFSM)	2.93		1.82		2.15	
ANNUAL RUNOFF (INCHES)	39.79		24.66		29.26	
10 PERCENT EXCEEDS	460		289		316	
50 PERCENT EXCEEDS	139		78		120	
90 PERCENT EXCEEDS	45		19		34	

e Estimated



01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1977 to current year.
WATER TEMPERATURE: October 1977 to current year.

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

REMARKS.--Records good except those for estimated values, which are fair. Interruptions in the record are due to malfunctions of the instrument. Extremes for period of daily record and current year are for those values reported.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 298 µS/cm, Feb. 12, 1988; minimum, 21 µS/cm, Jan. 23, 1979.
WATER TEMPERATURE: Maximum recorded, 29.5°C, July 24, 1987, July 26, 27, 28, 1989; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 288 µS/cm, Jan. 15; minimum, 32 µS/cm, Jan. 2.
WATER TEMPERATURE: Maximum recorded, 28.1°C, July 6; minimum, 0.7°C, Jan. 1.

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	111	107	109	100	97	98	e94	e92	e93	98	42	93
2	111	109	110	97	89	94	93	92	93	168	32	110
3	111	110	111	89	88	89	94	86	90	e186	e99	---
4	112	110	111	88	87	88	95	87	91	110	72	86
5	112	109	111	96	87	88	98	95	97	73	69	71
6	110	108	109	96	85	91	100	98	99	72	68	70
7	110	106	108	103	90	95	100	92	96	80	71	74
8	110	108	109	116	103	110	e105	e98	e102	192	70	79
9	110	105	108	122	116	120	104	101	102	e220	e94	e141
10	108	97	103	124	122	123	102	100	101	94	79	84
11	98	90	93	e123	e118	e121	102	89	100	81	78	80
12	97	90	92	122	114	119	98	90	92	110	79	85
13	98	96	97	114	111	112	106	98	104	84	80	82
14	98	95	97	115	112	114	107	106	106	84	80	81
15	96	90	93	122	115	119	108	107	108	e288	e81	e136
16	91	90	90	122	112	118	107	105	106	103	84	89
17	93	90	91	---	---	---	e106	e102	e104	84	77	79
18	95	92	94	103	97	99	108	102	104	94	76	80
19	97	95	96	97	95	96	103	96	101	89	78	80
20	98	96	97	97	95	96	104	100	103	78	74	76
21	98	96	97	97	96	97	103	102	103	85	73	74
22	98	96	97	98	97	98	e103	e99	e101	83	75	77
23	97	96	97	99	98	99	106	103	105	79	76	77
24	96	94	94	99	98	98	106	102	104	84	76	79
25	96	91	93	99	97	98	105	102	104	80	73	75
26	97	94	96	e97	e88	e95	107	103	105	73	71	72
27	99	97	98	96	89	92	109	102	106	74	71	72
28	103	99	100	89	87	88	109	101	106	79	74	76
29	104	101	102	89	89	89	e113	e107	e111	82	77	79
30	101	99	100	92	87	88	126	96	110	81	76	79
31	102	99	100	---	---	---	98	95	97	83	78	81
MONTH	112	90	100	---	---	---	---	---	101	---	---	---

e Estimated

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	88	81	84	104	75	88	89	87	88	102	99	100
2	135	85	101	75	65	69	91	88	90	101	97	99
3	102	70	83	68	65	66	91	89	90	e99	e96	e97
4	70	64	66	76	68	72	e92	e88	e90	e98	e95	e96
5	68	65	66	74	72	73	92	89	90	e98	e94	e96
6	70	68	69	94	74	78	93	90	91	98	93	95
7	79	70	72	92	77	81	96	91	93	94	94	94
8	88	76	79	81	76	79	96	93	95	e94	e90	e92
9	78	76	77	81	76	80	e96	e94	e95	e93	e90	e91
10	80	78	79	84	81	82	102	94	98	99	90	92
11	82	79	80	85	83	84	101	98	99	99	96	97
12	96	81	82	86	85	85	98	95	96	100	96	97
13	96	84	87	85	84	84	97	93	95	97	95	96
14	87	84	85	88	83	84	98	94	96	96	95	96
15	87	85	86	e106	e86	e95	100	97	98	97	95	96
16	88	86	87	93	84	88	98	95	96	97	94	96
17	88	87	88	87	84	85	e97	e93	e94	97	95	96
18	e110	e88	e93	84	83	83	e94	e91	e93	98	96	97
19	89	79	84	83	82	82	97	93	95	e100	e98	e99
20	82	80	81	84	82	83	e95	e92	e94	e103	e94	e100
21	82	81	82	86	83	84	97	92	94	103	95	97
22	84	82	83	99	85	90	e97	e94	e95	100	96	98
23	86	80	84	85	83	84	e96	e93	e95	98	86	95
24	89	85	87	e93	e83	e85	96	91	94	e95	e83	e89
25	94	86	89	85	83	84	92	90	91	e86	e78	e86
26	142	93	111	84	82	83	95	90	93	78	76	77
27	102	93	96	85	83	84	93	92	92	78	77	77
28	e120	e91	e99	e88	e84	e85	93	91	92	79	78	79
29	---	---	---	85	82	84	97	91	93	82	79	81
30	---	---	---	88	85	86	104	97	100	84	80	82
31	---	---	---	88	85	87	---	---	---	89	83	86
MONTH	---	---	84	---	---	82	---	---	94	---	---	93

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	90	85	88	---	---	---	---	---	---	102	99	100
2	92	88	90	---	---	---	---	---	---	104	102	103
3	99	91	94	---	---	---	---	---	---	105	104	104
4	102	94	95	---	---	---	---	---	---	e108	e105	e107
5	102	93	96	---	---	---	---	---	---	109	108	108
6	110	94	99	---	---	---	---	---	---	e110	e109	e110
7	---	---	---	---	---	---	---	---	---	e114	e109	e112
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	e118	e114	e115
10	e116	e102	e108	---	---	---	---	---	---	---	---	---
11	114	101	103	---	---	---	---	---	---	106	91	98
12	e118	e106	e111	---	---	---	e109	e108	e109	97	92	94
13	---	---	---	---	---	---	e112	e109	e111	101	97	99
14	e113	e103	e107	e117	e114	e116	e112	e110	e111	---	---	---
15	---	---	---	---	---	---	e113	e110	e112	e102	e100	e102
16	---	---	---	---	---	---	e115	e113	e115	---	---	---
17	e114	e105	e108	---	---	---	---	---	---	e95	e81	e86
18	e120	e106	e111	---	---	---	---	---	---	82	81	81
19	121	105	112	---	---	---	---	---	---	82	79	80
20	115	105	108	---	---	---	e115	e113	e114	84	80	82
21	e120	e105	e111	---	---	---	116	112	113	88	84	86
22	e120	e105	e109	---	---	---	e119	e116	e118	e96	e87	e90
23	---	---	---	---	---	---	e121	e119	e120	98	96	97
24	---	---	---	---	---	---	---	---	---	98	95	96
25	e116	e109	e111	---	---	---	---	---	---	95	94	95
26	---	---	---	---	---	---	---	---	---	95	94	95
27	---	---	---	---	---	---	e135	e106	e116	96	94	95
28	---	---	---	---	---	---	106	90	98	97	95	96
29	---	---	---	---	---	---	95	88	92	98	97	97
30	---	---	---	---	---	---	95	95	95	e102	e94	e98
31	---	---	---	---	---	---	99	95	97	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.5	1.5	1.5	4.0	3.5	3.5	11.0	10.0	10.5	16.5	12.0	14.0
2	3.5	2.0	2.5	4.0	3.0	3.5	12.0	10.0	11.0	16.5	12.5	14.5
3	3.5	3.0	3.0	5.0	3.0	4.0	11.5	10.0	11.0	14.5	14.0	14.0
4	3.0	2.5	2.5	6.5	5.0	6.0	11.5	9.5	10.5	14.0	13.5	14.0
5	4.0	3.0	3.5	5.5	4.5	5.0	11.5	8.5	10.0	14.0	13.0	13.5
6	3.0	2.0	2.5	4.5	4.0	4.0	12.0	9.0	10.5	16.5	14.0	15.0
7	2.5	2.0	2.5	4.0	2.5	3.5	14.0	10.5	12.0	17.0	15.5	16.5
8	3.5	2.5	3.0	2.5	1.0	1.5	15.0	12.0	13.0	16.5	16.0	16.0
9	3.0	2.0	2.5	2.5	1.0	1.5	13.5	12.0	13.0	18.5	15.5	17.0
10	4.0	2.5	3.0	3.5	2.0	2.5	13.0	11.0	11.5	20.0	17.0	18.5
11	4.5	3.0	3.5	4.0	3.0	3.0	12.5	10.0	11.0	20.0	17.0	18.0
12	5.5	4.0	4.5	4.0	3.0	3.5	12.5	10.0	11.0	19.5	16.5	17.5
13	6.0	5.0	5.5	5.5	3.5	4.5	12.5	10.0	11.0	19.5	16.5	17.5
14	5.0	3.0	4.0	5.5	4.5	5.0	12.5	10.0	11.0	19.5	15.5	17.0
15	3.5	2.0	2.5	4.5	3.0	3.5	13.5	10.0	11.5	19.0	15.0	17.0
16	3.5	2.0	3.0	4.5	2.0	3.0	12.0	11.0	11.5	19.0	15.0	17.0
17	4.0	3.0	3.5	6.5	4.0	5.0	12.0	10.5	11.0	19.5	15.5	17.0
18	5.0	4.0	4.5	7.5	6.0	6.5	12.5	10.5	11.5	18.0	16.5	17.5
19	5.5	4.5	5.0	7.5	6.5	7.0	13.0	10.5	12.0	18.5	17.0	17.5
20	5.0	4.5	4.5	8.0	6.0	7.0	12.5	11.0	12.0	19.0	17.0	18.0
21	4.5	3.5	4.0	7.5	6.0	6.5	13.5	10.5	12.0	20.0	17.0	18.5
22	3.5	2.0	3.0	8.0	6.5	7.5	12.5	11.5	12.0	20.5	17.5	18.5
23	2.5	1.0	1.5	8.0	6.5	7.0	12.0	11.5	12.0	18.5	17.5	18.0
24	2.5	1.0	2.0	7.5	7.0	7.0	13.5	10.0	11.5	17.5	17.0	17.0
25	2.0	1.0	1.5	9.0	7.0	8.0	14.0	10.5	12.0	18.0	16.5	17.5
26	2.5	1.0	1.5	9.0	7.5	8.0	14.0	11.5	13.0	18.5	17.0	17.5
27	4.0	2.0	3.0	9.0	7.5	8.0	14.5	12.0	13.5	19.0	17.0	17.5
28	3.5	2.5	3.0	8.0	7.5	7.5	14.5	12.0	13.0	20.0	17.0	18.5
29	---	---	---	10.0	7.5	8.5	14.5	12.0	13.0	20.5	17.5	19.0
30	---	---	---	11.0	9.5	10.0	15.5	12.0	13.5	22.0	19.0	20.0
31	---	---	---	11.5	9.0	10.5	---	---	---	23.0	19.5	21.0
MONTH	6.0	1.0	3.0	11.5	1.0	5.5	15.5	8.5	11.5	23.0	12.0	17.0

01118000 WOOD RIVER AT HOPE VALLEY, RI--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	23.0	20.0	21.0	23.0	22.5	23.0	26.5	25.0	25.5	21.0	19.0	20.0
2	23.0	21.0	21.5	23.0	22.0	22.5	26.5	24.0	25.0	20.5	19.0	20.0
3	23.5	20.5	22.0	25.0	21.5	23.5	25.5	23.5	24.5	20.5	19.0	19.5
4	23.0	20.5	22.0	24.5	22.5	23.5	25.0	23.0	24.0	21.5	19.5	20.5
5	22.5	19.5	21.0	27.5	23.5	25.5	---	---	---	22.0	20.0	21.0
6	22.0	19.0	20.5	28.0	25.0	26.5	---	---	---	22.5	21.0	21.5
7	24.0	19.5	21.5	27.5	25.0	26.5	---	---	---	22.5	22.0	22.0
8	25.0	21.5	23.0	26.5	24.0	25.5	---	---	---	22.5	21.5	22.0
9	23.0	21.5	22.5	25.0	23.0	23.5	---	---	---	22.5	21.5	22.0
10	23.0	20.0	21.5	24.0	23.0	23.5	---	---	---	22.5	22.0	22.0
11	22.5	19.0	21.0	23.5	21.5	23.0	---	---	---	23.0	21.5	22.0
12	21.5	19.0	20.0	23.0	21.0	22.0	23.0	21.0	21.5	22.5	21.0	21.5
13	22.0	20.0	21.0	22.5	21.0	21.5	23.0	22.0	22.5	22.0	20.0	21.0
14	22.0	20.0	21.0	22.0	20.0	21.0	23.0	22.5	22.5	20.5	20.0	20.0
15	23.0	20.0	21.5	22.5	20.0	21.5	22.5	21.5	22.0	20.5	19.5	20.0
16	23.0	20.0	21.5	24.0	21.0	22.5	22.5	20.5	21.5	20.5	19.5	20.0
17	22.0	20.0	20.5	25.0	22.5	23.5	23.5	21.5	22.5	20.5	19.0	20.0
18	21.0	19.0	20.0	25.5	23.5	24.5	24.5	23.0	23.5	19.0	18.0	18.5
19	21.5	18.0	20.0	25.5	24.0	25.0	24.0	22.5	23.0	18.5	17.0	18.0
20	21.0	18.0	19.5	25.5	23.5	24.5	22.5	21.0	22.0	18.0	16.5	17.5
21	20.5	18.0	19.5	24.5	23.0	24.0	21.5	20.0	20.5	18.0	17.0	17.5
22	22.0	18.0	20.0	24.5	23.5	24.0	20.5	19.5	20.0	18.0	16.5	17.5
23	22.5	19.0	21.0	25.0	23.0	24.0	21.5	19.5	20.5	17.5	15.5	16.5
24	23.0	20.0	21.5	25.5	24.0	25.0	21.5	19.5	20.5	18.0	15.5	16.5
25	22.5	19.5	21.5	26.5	24.5	25.5	22.0	20.0	21.0	18.5	16.5	17.5
26	24.5	21.0	22.5	26.0	24.5	25.0	21.5	20.5	21.0	18.0	16.0	17.0
27	25.0	21.5	23.5	26.5	24.0	25.0	22.5	20.5	21.5	17.5	15.5	16.5
28	25.5	23.0	24.0	26.0	24.0	25.0	23.0	21.0	22.0	17.0	15.5	16.5
29	25.0	23.0	24.0	25.5	23.5	24.5	23.5	21.0	22.0	17.0	16.5	16.5
30	24.0	22.5	23.0	26.5	25.0	25.5	22.5	20.5	21.0	17.5	16.0	16.5
31	---	---	---	26.0	24.5	25.5	21.0	19.5	20.0	---	---	---
MONTH	25.5	18.0	21.5	28.0	20.0	24.0	---	---	---	23.0	15.5	19.5

e Estimated

01118500 PAWCATUCK RIVER AT WESTERLY, RI

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

DRAINAGE AREA.--295 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1051: Drainage area.

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

REMARKS.--Records good, many days are adjusted for tidal backwater, which lasts as much as 4 hours during times of high tide. Diurnal fluctuation at low flow prior to 1962 by mills upstream; regulation much greater prior to 1958. Diversion upstream for municipal supply of Westerly.

AVERAGE DISCHARGE.--58 years (water years 1942-99), 577 ft^3/s, 26.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,070 ft^3/s, June 6, 1982, gage height, 12.86 ft; minimum daily, 25 ft^3/s, Aug. 17, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a discharge of 3,150 ft^3/s, by computation of flow over dam 1.5 mi upstream. Maximum discharge since 1886 occurred in November 1927 and was possibly more than twice that in March 1936. Maximum stage since at least 1635, 15.0 ft Sept. 21, 1938, due to hurricane tidal wave.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,540 ft^3/s, Feb. 5, gage height, 7.44 ft; minimum, 44 ft^3/s, Sept. 3, 4, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

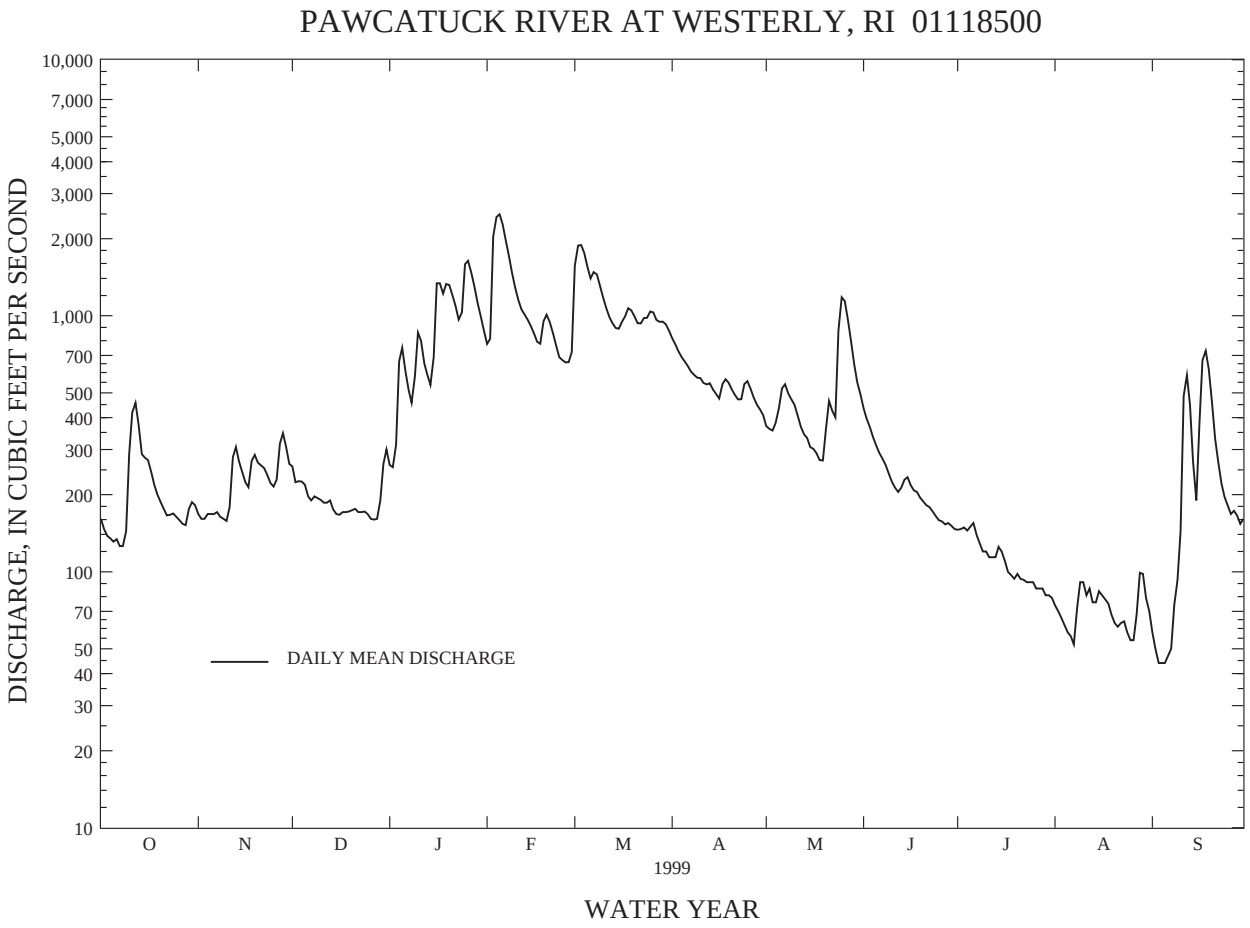
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	168	258	261	776	1570	817	371	435	146	74	58
2	147	161	224	256	813	1880	775	361	396	147	70	50
3	138	161	226	313	2040	1890	726	356	367	149	66	44
4	135	168	225	664	2430	1760	690	382	336	145	62	44
5	131	168	219	750	2490	1550	663	436	311	150	58	44
6	134	168	197	606	2280	1400	635	520	291	155	56	47
7	126	171	190	515	1960	1480	605	540	277	139	52	50
8	126	164	197	458	1710	1450	588	496	261	129	72	74
9	144	161	194	579	1470	1310	573	471	242	120	91	93
10	289	158	191	860	1280	1180	571	449	225	120	91	144
11	419	179	186	799	1150	1070	547	407	213	114	81	485
12	457	280	186	652	1060	989	539	369	205	114	86	586
13	375	307	190	588	1010	935	545	344	213	114	76	448
14	288	270	175	537	963	896	515	333	229	125	76	269
15	279	245	168	689	911	890	495	307	234	120	84	190
16	273	224	167	1340	851	945	475	302	218	110	81	376
17	245	214	171	1340	791	995	541	290	208	100	78	670
18	218	271	171	1220	777	1070	565	273	205	97	75	730
19	200	286	172	1330	952	1050	548	272	195	94	68	617
20	187	267	174	1320	1010	994	515	361	188	98	63	455
21	176	260	176	1200	946	936	490	465	182	94	61	331
22	166	254	171	1090	857	933	471	425	179	93	63	269
23	167	239	171	966	768	980	472	401	172	91	64	221
24	169	222	172	1030	689	982	541	874	165	91	58	196
25	164	215	168	1590	672	1040	555	1180	159	91	54	182
26	159	229	161	1640	658	1030	517	1140	157	86	54	168
27	154	317	160	1470	659	964	479	968	153	86	68	173
28	152	348	161	1300	722	946	450	792	155	86	99	166
29	176	308	190	1120	---	948	430	648	151	81	98	154
30	187	264	264	996	---	926	409	550	147	81	79	161
31	182	---	300	879	---	873	---	492	---	79	70	---
TOTAL	6324	6847	5975	28358	32695	35862	16742	15575	6869	3445	2228	7495
MEAN	204	228	193	915	1168	1157	558	502	229	111	71.9	250
MAX	457	348	300	1640	2490	1890	817	1180	435	155	99	730
MIN	126	158	160	256	658	873	409	272	147	79	52	44
CFSM	.69	.77	.65	3.10	3.96	3.92	1.89	1.70	.78	.38	.24	.85
IN.	.80	.86	.75	3.58	4.12	4.52	2.11	1.96	.87	.43	.28	.95

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

MEAN	259	451	660	761	826	1046	981	715	495	264	232	218
MAX	1186	1450	1789	2151	1377	1775	2603	1274	2246	642	763	1233
(WY)	1956	1956	1987	1979	1982	1994	1983	1948	1982	1959	1946	1954
MIN	87.2	93.2	115	131	325	495	371	325	210	98.5	71.9	65.7
(WY)	1950	1966	1966	1981	1980	1981	1966	1986	1942	1957	1999	1964

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999	
ANNUAL TOTAL	275672		168415			
ANNUAL MEAN	755		461		577	
HIGHEST ANNUAL MEAN					871	1973
LOWEST ANNUAL MEAN					251	1981
HIGHEST DAILY MEAN	2740	Mar 11	2490	Feb 5	6220	Jun 6 1982
LOWEST DAILY MEAN	114	Sep 21	44	Sep 3	25	Aug 17 1941
ANNUAL SEVEN-DAY MINIMUM	123	Sep 15	48	Sep 1	47	Sep 2 1995
INSTANTANEOUS PEAK FLOW			2540	Feb 5	7070	Jun 6 1982
INSTANTANEOUS PEAK STAGE			7.44	Feb 5	12.86	Jun 6 1982
INSTANTANEOUS LOW FLOW			44	Sep 3		
ANNUAL RUNOFF (CFSM)	2.56		1.56		1.96	
ANNUAL RUNOFF (INCHES)	34.76		21.24		26.58	
10 PERCENT EXCEEDS	1720		1050		1200	
50 PERCENT EXCEEDS	494		269		450	
90 PERCENT EXCEEDS	161		83		127	



01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1978 to September 1992.
WATER TEMPERATURE: June 1978 to September 1992.

INSTRUMENTATION.--Water-quality monitor, June 1978 to September 1992.

REMARKS.--Instantaneous records are representative of the cross section while continuous records are based on point samples.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 354 µS/cm, June 25, 1985; minimum, 27 µS/cm, June 7, 1982.
WATER TEMPERATURE: Maximum recorded , 30.0°C Aug. 9, 1980, Aug. 17, 18, 1987; minimum, 0.0°C on many days during the winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)
DEC												
01...	1315	246	115	7.2	13.0	8.0	70	1.8	760	11.7	99	10
MAR												
23...	1145	979	87	6.6	10.0	7.5	40	1.4	765	11.9	99	16
JUN												
01...	1155	436	94	6.7	25.5	20.5	110	2.2	765	8.4	93	--
AUG												
30...	1350	79	200	8.2	22.5	22.0	39	.85	765	10.7	122	--

DATE	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)
DEC												
01...	1.0	17	4.6	1.4	14	61	1	1.3	11	0	9	11
MAR												
23...	1.0	--	--	--	--	--	--	--	5	0	4	5
JUN												
01...	1.0	15	4.1	1.2	11	60	1	1.0	9	0	7	9
AUG												
30...	1.0	23	6.2	1.9	30	72	3	1.6	32	0	26	27

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)
DEC												
01...	13	15	0.14	9.9	83	66	--	88	<0.010	0.355	0.025	0.03
MAR												
23...	--	--	--	--	--	--	<1	70	<.010	.226	<.020	--
JUN												
01...	8.5	15	<.10	6.0	75	53	3	77	<.010	.288	.059	.08
AUG												
30...	28	19	.14	7.5	121	113	1	119	<.010	.554	<.020	--

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)
DEC												
01...	0.33	0.35	0.31	0.71	<0.050	<0.050	0.012	110	68	<1.0	--	11
MAR												
23...	--	.22	.21	.45	.012	.005	<.010	120	66	<1.0	<1	10
JUN												
01...	--	<.10	.44	--	.038	.021	.036	150	109	<1.0	--	11
AUG												
30...	--	.28	.26	.84	.027	.025	<.010	40	23	<1.0	<1	8.5

DATE	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)
DEC												
01...	<1.0	<1.0	<1.0	<1.0	1.7	380	240	<1.0	33	27	<0.10	<1.0
MAR												
23...	<1.0	<1.0	<1.0	<1.0	<1.0	170	--	<1.0	24	21	<.10	<1.0
JUN												
01...	<1.0	<1.0	<1.0	<1.0	<1.0	640	370	<1.0	63	53	<.10	<1.0
AUG												
30...	<1.0	<1.0	<1.0	<1.0	<1.0	300	230	<1.0	8	3.9	<.10	<1.0

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	PHENOLS TOTAL (UG/L) (32730)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39519)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39333)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39351)	P,P'-DDD, RECOVER IN BOT-TOM MA-TERIAL (UG/KG) (39363)	P,P'-DDE, RECOVER IN BOT-TOM MA-TERIAL (UG/KG) (39368)	P,P'-DDT, RECOVER IN BOT-TOM MA-TERIAL (UG/KG) (39373)
DEC												
01...	<1.0	<1.0	3.2	<1.0	7.8	<1	--	--	--	--	--	--
MAR												
23...	<1.0	<1.0	4.4	<1.0	4.7	12	--	--	--	--	--	--
JUN												
01...	<1.0	<1.0	4.2	<1.0	11	--	--	--	--	--	--	--
AUG												
30...	<1.0	<1.0	<1.0	<1.0	4.9	--	<5.00	<0.200	<3.00	<0.500	<0.200	E0.260

01118500 PAWCATUCK RIVER AT WESTERLY, RI--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	DI-ELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG) (39383)	ENDOSULFAN I TOTAL IN BOTTOM MATERIAL (UG/KG) (39389)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG) (39393)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG) (39413)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG) (39343)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG) (39481)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG) (39758)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG) (39403)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
30...	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<2.50	<0.200	<50.0	2	77
DEC											
01...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	--	--	--	--	--	--	--	--	--	3	85
JUN											
01...	--	--	--	--	--	--	--	--	--	6	73
AUG											
30...	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<2.50	<0.200	<50.0	2	77

DATE	TIME	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80115)
DEC		
01...	1315	4.0
MAR		
23...	1145	7.9
JUN		
01...	1155	7.1
AUG		
30...	1350	.43

USGS Toxic Substances Hydrology Research Site, Falmouth, Cape Cod, Massachusetts--array of wells and multi-level samplers used to investigate processes controlling the fate and transport of contaminants in ground water. (photo by D. R. LeBlanc)

01162000 MILLERS RIVER NEAR WINCHENDON, MA

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

DRAINAGE AREA.--81.8 mi^2.

PERIOD OF RECORD.--Discharge: June 1916 to current year. March to May 1917, monthly discharge only, published in WSP 1301.
Water-quality records: Water years 1957, 1965-66, 1994-95.

REVISED RECORDS.--WSP 451: 1916. WSP 1051: 1919, 1920-21(M), 1922-24, 1928(M), 1933-34.
WDR MA-RI-84-1: Drainage area.

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

REMARKS.--Records poor. Flow affected for most of year by backwater from beaver dam located approximately 0.5 mi downstream from gage. Flow regulated by powerplant and by Lake Monomonac and other reservoirs upstream.

AVERAGE DISCHARGE.--83 years, 145 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,500 ft^3/s, Sept. 22, 1938, gage height, 21.55 ft, from floodmarks, from rating curve extended above 2,000 ft^3/s, on basis of computation of peak flow over dam; practically no flow because of regulation Sept. 20, 1918, Jan. 14, 1925.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 650 ft^3/s, Sept. 18 (estimated); gage height, 8.00 ft (affected by backwater from beaver dam); minimum discharge, 9.1 ft^3/s, Aug. 8, 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e17	e29	e47	e30	e100	e100	e220	e34	e40	e350	12	e10
2	e16	e28	e42	e40	e96	e230	e200	e30	e34	e300	11	e14
3	e17	e27	e38	e55	e200	e240	e170	e29	e27	e250	12	e15
4	e16	e29	e36	e60	e330	e400	e160	e29	e24	e220	11	e13
5	e15	e25	e35	e56	e300	e460	e140	e31	e21	e210	10	e12
6	e14	e21	e34	e45	e250	e400	e120	e33	e24	e190	9.7	e14
7	e14	e25	e32	e36	e210	e360	e110	e32	e26	e170	9.6	e24
8	e30	e29	e35	e33	e170	e280	e98	e31	e20	e140	9.5	e22
9	e45	e22	e40	e40	e150	e230	e90	e35	e17	e100	9.3	e20
10	e65	e25	e44	e62	e130	e190	e84	e32	e15	e80	9.1	e100
11	e100	e31	e44	e80	e120	e170	e75	e32	e14	e65	e9.0	e250
12	e90	e46	e42	e70	e120	e160	e58	e29	e15	e50	e8.8	e230
13	e82	e44	e37	e60	e150	e150	e56	e27	e17	e42	e9.6	e180
14	e76	e40	e35	e56	e160	e140	e54	e27	e14	e36	e10	e90
15	e94	e36	e33	e64	e150	e135	e52	e26	e16	e34	e15	e60
16	e86	e34	e32	e80	e130	e130	e54	e25	e13	e30	e13	e300
17	e74	e32	e35	e92	e120	e135	e60	e24	e12	e25	e12	e600
18	e64	e30	e40	e110	e140	e140	e66	e25	e14	e23	e12	e650
19	e54	e31	e35	e130	e175	e180	e64	e29	e12	e28	e9.0	e450
20	e44	e32	e32	e155	e160	e170	e63	e90	e11	31	e14	e300
21	e40	e32	e31	e160	e140	e150	e62	e95	e10	25	e13	e210
22	e36	e31	e35	e160	e120	e250	e62	e80	e9.2	20	e23	e250
23	e32	e30	e40	e150	e100	e360	e64	e66	e10	17	e19	e260
24	e29	e29	e37	e400	e90	e350	e58	e64	e9.0	14	e17	e190
25	e26	e28	e56	e450	e84	e300	e52	e66	e8.5	13	e14	e160
26	e25	e30	e45	e400	e80	e250	e48	e78	e7.8	12	e12	e140
27	e27	e50	e38	e350	e76	e240	e44	e70	e7.2	13	e12	e120
28	e30	e62	e32	e300	e80	e260	e42	e58	e100	15	e13	e100
29	e32	e56	e35	e230	---	e265	e38	e52	e450	15	e14	e96
30	e34	e52	e40	e170	---	e260	e35	e58	e420	14	e12	e120
31	e31	---	e37	e120	---	e240	---	e50	---	14	e11	---
TOTAL	1355	1016	1174	4244	4131	7325	2499	1387	1417.7	2546	375.6	5000
MEAN	43.7	33.9	37.9	137	148	236	83.3	44.7	47.3	82.1	12.1	167
MAX	100	62	56	450	330	460	220	95	450	350	23	650
MIN	14	21	31	30	76	100	35	24	7.2	12	8.8	10

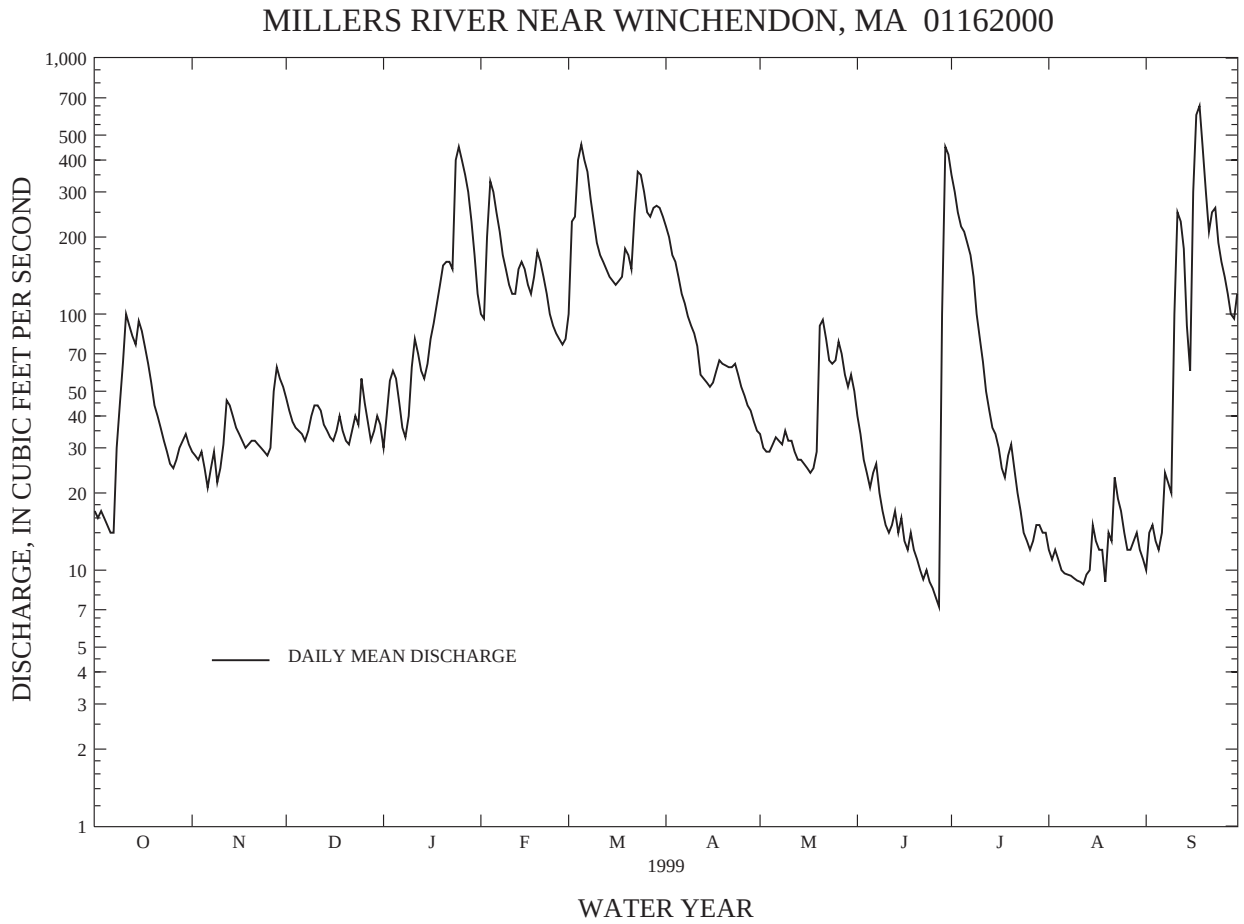
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1999, BY WATER YEAR (WY)

MEAN	93.8	119	141	142	137	261	375	181	113	61.4	51.4	66.4
MAX	520	416	500	385	400	931	788	412	515	261	249	752
(WY)	1956	1956	1997	1996	1976	1936	1960	1967	1984	1938	1928	1938
MIN	11.6	15.7	30.7	13.3	24.4	39.0	83.3	44.7	14.1	8.17	8.24	5.75
(WY)	1948	1979	1979	1981	1980	1965	1999	1999	1964	1965	1965	1964

01162000 MILLERS RIVER NEAR WINCHENDON, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1916 - 1999	
ANNUAL TOTAL	50763.7		32470.3			
ANNUAL MEAN	139		89.0		145	
HIGHEST ANNUAL MEAN					238	1996
LOWEST ANNUAL MEAN					38.5	1965
HIGHEST DAILY MEAN	1200	Jun 17	650	Sep 18	6130	Sep 22 1938
LOWEST DAILY MEAN	7.0	Sep 5	7.2	Jun 27	3.1	Oct 4 1930
ANNUAL SEVEN-DAY MINIMUM	7.7	Sep 4	8.8	Jun 21	4.5	Sep 24 1939
INSTANTANEOUS PEAK FLOW					8500	Sep 22 1938
INSTANTANEOUS PEAK STAGE					21.55	Sep 22 1938
INSTANTANEOUS LOW FLOW			9.1	Aug 8	.00	Sep 20 1918
10 PERCENT EXCEEDS	330		240		335	
50 PERCENT EXCEEDS	70		44		89	
90 PERCENT EXCEEDS	10		13		18	

e Estimated



01162500 PRIEST BROOK NEAR WINCHENDON, MA

LOCATION.--Lat 42°40'57", long 72°06'56", Worcester County, Hydrologic Unit 01080202, on right bank 100 ft downstream from highway bridge, 3 mi upstream from mouth, and 3.5 mi west of Winchendon.

DRAINAGE AREA.--19.4 mi^2.

PERIOD OF RECORD.--Discharge: May 1916 to current year. Monthly discharge only October 1917 to July 1918 (published in WSP 1301) and September 1935 to September 1936.
Water-quality records: August 1994.

REVISED RECORDS.--WSP 451: 1916. WSP 871: Drainage area. WSP 1051: 1919, 1922-24. WSP 1301: 1917(M), 1919-24(M), 1926-27(M), 1929(M), 1931-35(M).

GAGE.--Water-stage recorder. Concrete control since September 1936. Datum of gage is 849.67 ft above sea level. Prior to Sept. 11, 1936, nonrecording gage on left bank at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to 1962, occasional diurnal fluctuation at low flow by mill upstream; prior to 1953, regulation at low flow by mill and ponds. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--83 years, 33.0 ft^3/s, 23.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,000 ft^3/s, Sept. 21, 1938, gage height, 9.90 ft, from rating curve extended above 620 ft^3/s on basis of contracted-opening measurements at gage heights 8.4 ft and 9.90 ft; minimum, 0.08 ft^3/s, several times in September 1929.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 345 ft^3/s, June 29, gage height, 4.78 ft; minimum, 0.46 ft^3/s, June 27, 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.99	2.3	18	6.6	36	49	72	13	7.1	121	1.6	1.2
2	.87	2.4	15	13	35	77	66	11	5.4	79	1.5	1.1
3	.83	2.3	13	16	76	71	59	9.0	4.4	90	1.3	1.1
4	.80	2.3	11	17	107	188	53	8.3	3.3	87	1.1	1.1
5	.81	2.4	9.7	13	111	e222	47	9.2	2.6	97	1.1	1.4
6	.80	2.1	9.1	9.9	88	e155	42	9.2	2.5	65	.95	2.6
7	.72	2.3	8.1	8.6	75	e110	37	9.0	2.1	48	.97	4.4
8	1.4	1.9	8.1	7.8	61	e78	33	9.6	1.7	34	.97	3.4
9	4.8	1.9	8.9	11	50	e60	30	8.6	1.7	24	1.0	4.8
10	5.4	1.8	9.0	18	44	e49	27	9.1	1.3	20	.90	27
11	11	3.5	8.8	19	39	e43	25	8.4	1.3	16	.83	86
12	9.7	4.9	8.2	17	38	41	22	7.3	1.1	12	.86	69
13	7.3	5.4	7.7	16	49	38	18	6.4	1.1	9.8	.82	45
14	7.6	5.7	7.1	14	54	36	15	6.0	1.6	8.6	3.0	27
15	12	5.4	6.4	17	45	36	14	5.2	1.8	7.7	3.8	17
16	12	4.8	5.6	23	40	36	13	4.9	1.3	6.6	2.9	25
17	10	4.5	9.7	28	36	38	16	4.2	1.3	5.8	2.5	204
18	8.0	4.9	8.8	31	40	49	17	3.6	1.3	4.9	2.6	230
19	6.4	4.6	7.3	38	56	60	16	4.8	1.7	5.7	1.9	154
20	5.3	4.9	5.8	46	56	56	16	26	1.3	7.6	1.5	99
21	4.4	5.8	5.0	47	47	51	16	37	.93	5.9	2.6	69
22	3.9	5.9	6.5	45	e25	91	16	29	.84	4.7	6.5	83
23	3.6	6.1	6.9	40	e24	162	17	20	.76	4.4	7.5	89
24	3.2	5.9	5.9	60	e23	133	17	19	.64	3.5	7.1	69
25	3.1	5.9	6.0	168	23	108	16	21	.63	3.3	4.5	51
26	2.8	7.1	6.6	203	22	89	15	22	.66	2.8	3.2	38
27	2.5	15	6.7	148	21	77	14	19	.57	2.7	2.7	29
28	2.3	23	6.6	99	22	75	16	15	8.1	2.3	2.9	23
29	2.5	24	10	74	---	84	16	12	264	2.1	2.3	19
30	2.4	21	9.4	60	---	85	14	14	198	2.1	1.8	23
31	2.3	---	7.1	50	---	79	---	11	---	2.0	1.5	---
TOTAL	139.72	190.0	262.0	1363.9	1343	2526	795	391.8	521.03	785.5	74.70	1497.1
MEAN	4.51	6.33	8.45	44.0	48.0	81.5	26.5	12.6	17.4	25.3	2.41	49.9
MAX	12	24	18	203	111	222	72	37	264	121	7.5	230
MIN	.72	1.8	5.0	6.6	21	36	13	3.6	.57	2.0	.82	1.1
CFSM	.23	.33	.44	2.27	2.47	4.20	1.37	.65	.90	1.31	.12	2.57
IN.	.27	.36	.50	2.62	2.58	4.84	1.52	.75	1.00	1.51	.14	2.87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1999, BY WATER YEAR (WY)

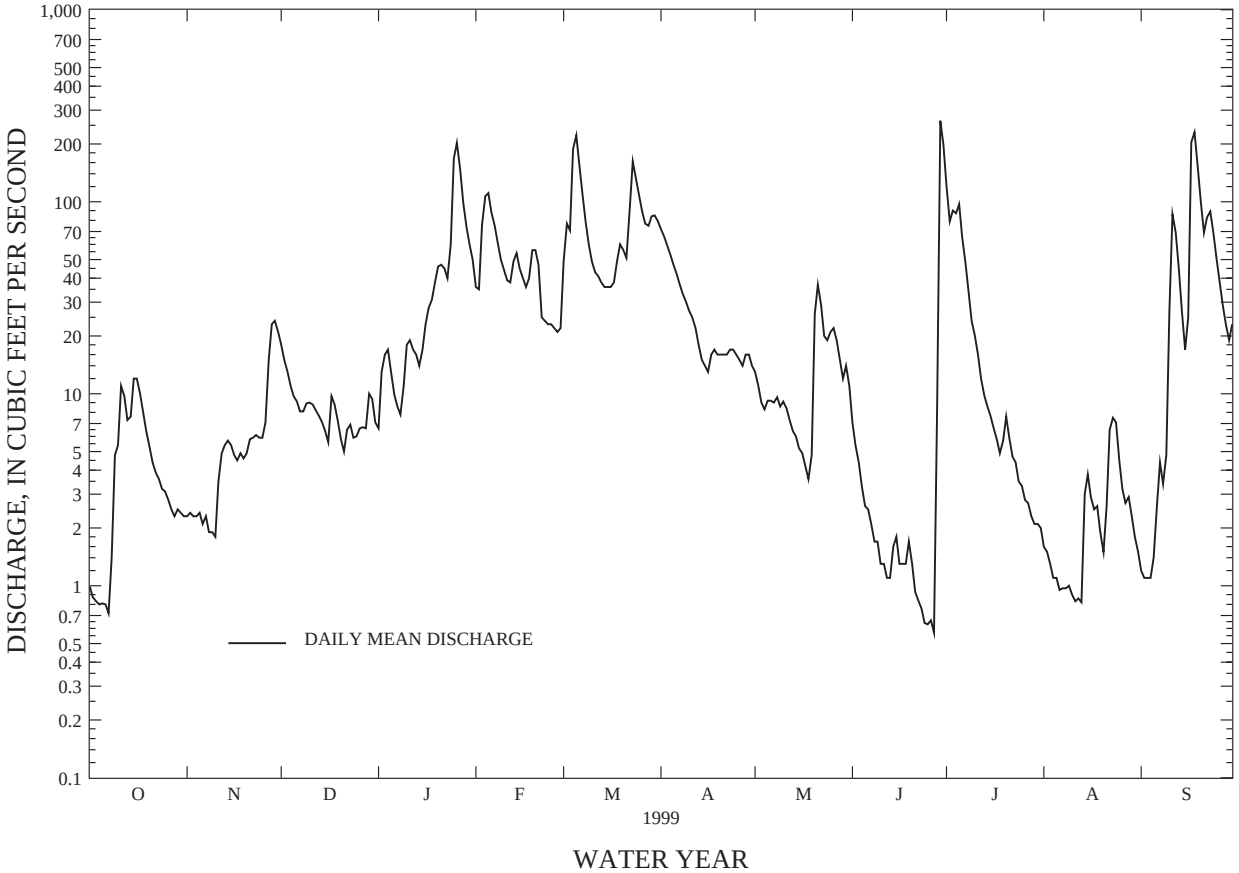
MEAN	15.9	29.1	34.4	31.1	28.2	63.8	92.3	42.8	24.9	12.4	9.80	12.4
MAX	69.2	124	120	90.3	102	162	225	93.9	125	62.5	68.8	178
(WY)	1976	1928	1997	1996	1984	1979	1940	1989	1922	1922	1928	1938
MIN	.55	1.38	4.67	1.23	5.28	13.6	21.8	12.6	2.53	1.04	.47	.29
(WY)	1965	1965	1930	1925	1980	1940	1985	1999	1964	1965	1964	1964

01162500 PRIEST BROOK NEAR WINCHENDON, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1916 - 1999	
ANNUAL TOTAL	11905.49		9889.75			
ANNUAL MEAN	32.6		27.1		33.0	
HIGHEST ANNUAL MEAN					55.0	1928
LOWEST ANNUAL MEAN					8.19	1965
HIGHEST DAILY MEAN	348	Mar 10	264	Jun 29	2280	Sep 21 1938
LOWEST DAILY MEAN	.61	Sep 6	.57	Jun 27	.10	Sep 4 1929
ANNUAL SEVEN-DAY MINIMUM	.70	Sep 9	.72	Jun 21	.19	Sep 2 1929
INSTANTANEOUS PEAK FLOW			345	Jun 29	3000	Sep 21 1938
INSTANTANEOUS PEAK STAGE			4.78	Jun 29	9.90	Sep 21 1938
INSTANTANEOUS LOW FLOW			.46	Jun 27	.08	Sep 18 1929
ANNUAL RUNOFF (CFSM)	1.68		1.40		1.70	
ANNUAL RUNOFF (INCHES)	22.83		18.96		23.11	
10 PERCENT EXCEEDS	80		76		81	
50 PERCENT EXCEEDS	14		9.7		17	
90 PERCENT EXCEEDS	1.1		1.3		2.4	

e Estimated

PRIEST BROOK NEAR WINCHENDON, MA 01162500



01163200 OTTER RIVER AT OTTER RIVER, MA

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

DRAINAGE AREA.--34.1 mi^2.

PERIOD OF RECORD.--Discharge: December 1964 to current year.
Water-quality records: Water year 1965-69, 1994.

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

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

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

AVERAGE DISCHARGE.--34 years (water years 1966-99), 62.6 ft^3/s, 24.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 948 ft^3/s, Mar. 7, 1979, gage height, 5.02 ft; minimum, 2.0 ft^3/s, Sept. 5, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 307 ft^3/s, Mar. 4, gage height, 2.93 ft; minimum, 2.1 ft^3/s, Aug. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	14	29	18	e54	92	90	26	15	17	6.3	e7.0
2	6.8	13	26	e16	e52	110	83	26	14	15	3.9	e8.0
3	7.3	15	25	20	e60	94	76	23	12	15	4.5	5.3
4	7.9	14	26	41	e150	221	70	30	11	16	5.0	5.0
5	6.4	13	24	e35	e155	281	63	39	12	17	4.1	3.6
6	13	12	26	e28	e130	202	56	44	11	15	4.2	3.2
7	16	14	24	25	e110	e130	58	35	8.7	13	5.5	3.3
8	25	13	23	e21	e90	e110	55	32	9.0	13	e5.2	4.1
9	50	11	30	e26	77	e88	57	35	7.5	11	e4.8	5.5
10	59	12	30	e31	69	e80	53	29	8.1	11	e4.5	31
11	85	23	29	e32	66	73	48	26	9.7	9.6	4.0	113
12	75	38	26	e30	63	69	44	22	8.2	7.3	3.9	96
13	56	33	24	e27	85	66	60	20	8.0	7.5	4.1	55
14	48	28	22	e25	93	63	43	18	6.8	6.6	8.9	33
15	76	25	22	e29	79	67	41	17	8.2	6.6	9.3	20
16	70	21	23	e40	65	69	38	16	7.3	6.1	6.3	30
17	55	23	22	e50	59	72	45	14	7.2	5.6	e8.6	191
18	45	26	23	e58	71	89	44	14	7.8	6.0	5.8	241
19	35	24	21	e70	113	119	39	16	7.9	5.6	4.8	170
20	30	23	20	e78	110	116	37	38	7.4	7.6	5.0	104
21	25	26	20	e76	e83	100	40	45	5.6	7.7	4.5	69
22	24	26	24	e70	e55	157	42	34	5.4	4.8	e5.5	69
23	22	22	30	e78	e47	271	39	26	6.6	5.8	e5.0	68
24	19	21	27	e140	47	231	45	28	8.1	6.6	e4.7	59
25	17	21	23	e210	44	177	44	46	6.7	6.6	e4.0	46
26	14	24	20	e230	44	137	39	43	6.9	5.1	e4.0	36
27	13	45	19	e200	44	119	34	35	6.9	6.8	e5.2	24
28	14	46	e25	e120	46	111	33	27	5.7	7.3	e4.7	20
29	14	38	e32	e94	---	123	30	24	18	7.1	e5.8	27
30	14	31	e25	e76	---	115	28	21	20	6.4	e5.0	31
31	14	---	e18	e64	---	101	---	18	---	5.2	e4.5	---
TOTAL	964.6	695	758	2058	2161	3853	1474	867	276.7	280.9	161.6	1578.0
MEAN	31.1	23.2	24.5	66.4	77.2	124	49.1	28.0	9.22	9.06	5.21	52.6
MAX	85	46	32	230	155	281	90	46	20	17	9.3	241
MIN	6.4	11	18	16	44	63	28	14	5.4	4.8	3.9	3.2
CFSM	.91	.68	.72	1.95	2.26	3.64	1.44	.82	.27	.27	.15	1.54
IN.	1.05	.76	.83	2.25	2.36	4.20	1.61	.95	.30	.31	.18	1.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1999, BY WATER YEAR (WY)

MEAN	41.6	58.9	68.5	64.4	67.7	111	126	74.3	51.7	26.7	25.2	25.3
MAX	117	123	200	149	153	223	279	139	155	58.2	87.5	85.5
(WY)	1980	1996	1997	1979	1976	1979	1987	1984	1998	1967	1991	1991
MIN	8.27	14.7	18.1	9.64	17.3	38.4	45.0	27.6	9.22	8.20	4.44	5.48
(WY)	1969	1979	1965	1981	1977	1965	1985	1965	1999	1966	1966	1995

01163200 OTTER RIVER AT OTTER RIVER, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1965 - 1999	
ANNUAL TOTAL	24742.0		15127.8			
ANNUAL MEAN	67.8		41.4		62.6	
HIGHEST ANNUAL MEAN					90.0	1984
LOWEST ANNUAL MEAN					30.2	1966
HIGHEST DAILY MEAN	572	Mar 10	281	Mar 5	883	Mar 7 1979
LOWEST DAILY MEAN	3.7	Sep 4	3.2	Sep 6	2.4	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	4.2	Sep 1	4.3	Sep 3	2.6	Sep 7 1995
INSTANTANEOUS PEAK FLOW			307	Mar 4	948	Mar 7 1979
INSTANTANEOUS PEAK STAGE			2.93	Mar 4	5.02	Mar 7 1979
INSTANTANEOUS LOW FLOW			2.1	Aug 2	2.0	Sep 5 1995
ANNUAL RUNOFF (CFSM)	1.99		1.22		1.84	
ANNUAL RUNOFF (INCHES)	26.99		16.50		24.96	
10 PERCENT EXCEEDS	148		95		137	
50 PERCENT EXCEEDS	44		26		41	
90 PERCENT EXCEEDS	7.3		5.6		11	

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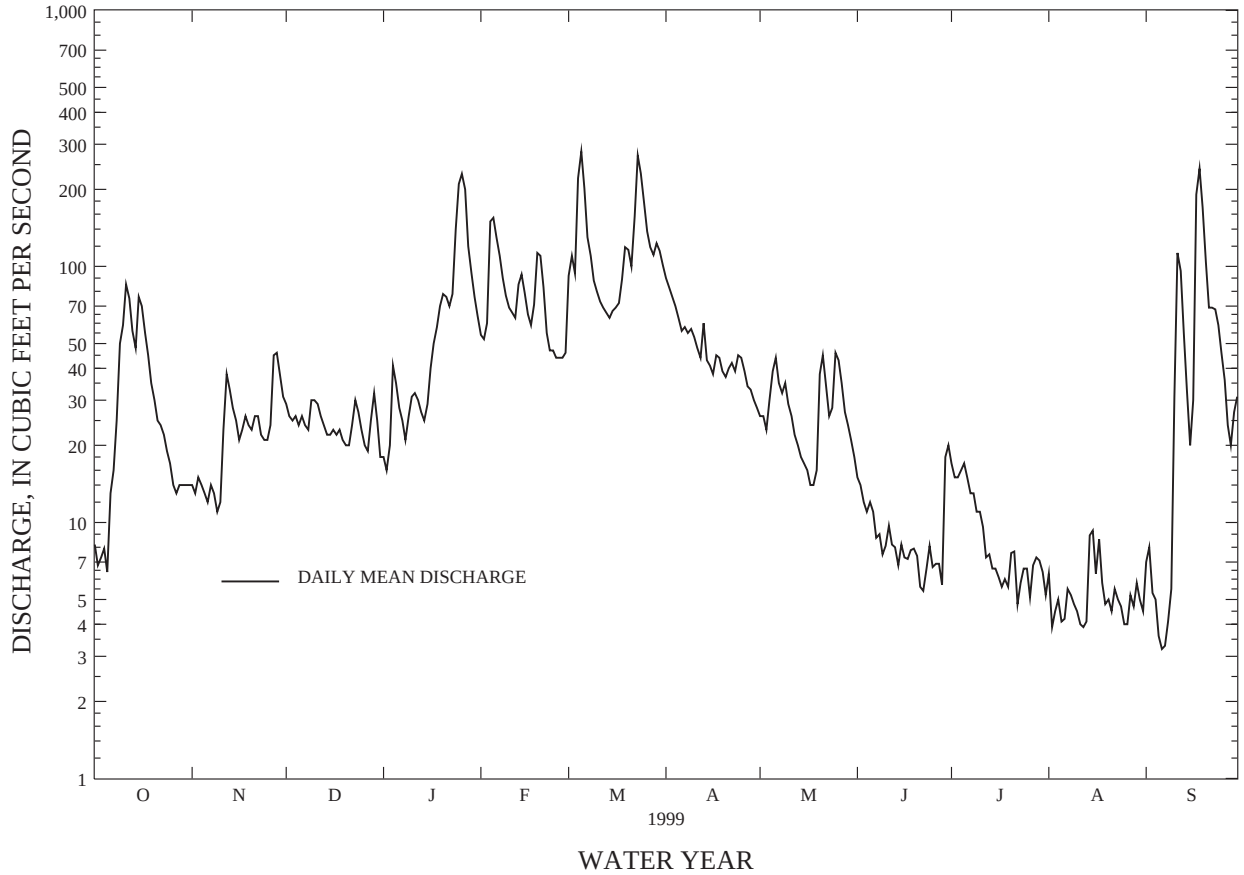
OTTER RIVER AT OTTER RIVER, MA 01163200



01166500 MILLERS RIVER AT ERVING, MA

LOCATION.--Lat 42°35'51", long 72°26'19", Franklin County, Hydrologic Unit 01080202, on right bank 75 ft downstream from bridge at Farley, 0.6 mi upstream from Mormon Hollow Brook, 2.4 mi downstream from Erving, and 5.5 mi upstream from mouth.

DRAINAGE AREA.--372 mi^2.

PERIOD OF RECORD.--Discharge: August 1914 to June 1915 (twice-daily gage heights and corresponding discharge), July 1915 to current year.
Water-quality records: Water years 1953, 1965-66, 1994.

REVISED RECORDS.--WSP 641: 1920(M). WSP 781: 1928(M), 1933(M). WSP 1301: 1915(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 380 ft above sea level, from topographic map. Prior to June 30, 1915, nonrecording gage, June 30, 1915, to Sept. 20, 1938, water-stage recorder, and Sept. 21 to Dec. 31, 1938, non-recording gage, at site 2.2 mi upstream at different datum. Jan. 1 to Mar. 29, 1939, nonrecording gage, and Mar. 30, 1939, to Sept. 12, 1941, water-stage recorder, at site 0.4 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Flow regulated by powerplants and by Lake Monomonac and other reservoirs; high flow regulated by Birch Hill Reservoir 22 mi upstream since 1941 and Tully Lake since 1948. Greater regulation by powerplants prior to 1966.

AVERAGE DISCHARGE.--85 years, 639 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft^3/s, Sept. 22, 1938, gage height, 13.37 ft, from floodmarks, site and datum then in use, mean of two slope-area measurements; practically no flow at times during 1915 and 1916 because of regulations; minimum daily, 8 ft^3/s, Sept. 6, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,770 ft^3/s, Sept. 17, gage height, 7.01 ft; minimum daily, 39 ft^3/s, June 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	166	343	e320	e720	904	692	260	210	1590	52	53
2	118	155	319	e190	e700	1270	639	249	180	1200	55	60
3	123	162	260	e230	e900	1140	1850	232	152	1000	55	60
4	120	227	249	e190	e1400	2750	1690	221	150	989	52	65
5	113	223	221	e230	1770	2900	534	262	131	983	52	69
6	104	210	197	e290	1650	2650	513	257	109	819	50	78
7	98	149	202	e260	1390	2180	444	245	111	752	49	146
8	135	183	182	e210	1150	1620	453	245	94	454	47	212
9	234	259	238	e190	964	1230	488	276	100	378	47	174
10	288	161	268	e170	857	1100	1680	246	e110	310	45	553
11	567	206	269	e160	775	1000	1780	237	87	307	45	1100
12	467	240	262	e430	726	927	1230	216	67	224	59	1080
13	353	244	231	e360	887	873	686	207	75	197	46	758
14	394	226	226	e330	911	840	492	197	92	158	79	526
15	491	215	202	e310	849	797	423	167	96	144	73	433
16	418	201	205	e400	779	765	412	164	75	112	89	1120
17	348	195	208	e640	743	760	431	137	91	142	68	4380
18	303	192	222	e580	805	841	442	145	70	118	51	1630
19	262	190	274	e640	1050	860	414	172	67	113	47	2500
20	248	185	200	e800	1020	860	422	563	83	122	73	2270
21	215	167	153	e1100	922	840	401	567	72	119	66	2260
22	189	166	221	e940	777	1640	380	467	63	104	118	2160
23	176	145	257	e1000	681	1830	385	387	56	124	96	1700
24	171	137	253	e1100	652	1670	374	382	49	71	89	1390
25	160	197	239	e1000	552	1440	352	428	59	102	67	875
26	144	224	256	e1700	493	1290	322	405	57	71	63	669
27	140	378	e210	e1800	476	1180	320	395	39	67	71	635
28	158	380	e180	e1500	474	1210	298	343	75	77	195	472
29	162	356	e170	e1200	---	1250	287	282	912	61	73	414
30	177	342	e190	e1000	---	1020	271	263	2000	63	107	510
31	174	---	e230	e820	---	853	---	251	---	80	59	---
TOTAL	7173	6481	7137	20090	25073	40490	19105	8868	5532	11051	2138	28352
MEAN	231	216	230	648	895	1306	637	286	184	356	69.0	945
MAX	567	380	343	1800	1770	2900	1850	567	2000	1590	195	4380
MIN	98	137	153	160	474	760	271	137	39	61	45	53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1999, BY WATER YEAR (WY)

MEAN	347	530	653	626	617	1171	1583	837	525	290	228	271
MAX	1622	1617	2324	1444	1894	3989	3584	1687	1932	1118	1052	3030
(WY)	1976	1928	1997	1978	1984	1936	1940	1996	1984	1938	1928	1938
MIN	74.0	79.7	143	69.5	132	362	443	286	92.5	61.7	52.6	43.2
(WY)	1940	1965	1931	1981	1931	1989	1985	1999	1964	1966	1964	1964

01166500 MILLERS RIVER AT ERVING, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1916 - 1999	
ANNUAL TOTAL	245942		181490			
ANNUAL MEAN	674		497		639	
HIGHEST ANNUAL MEAN					1044	1984
LOWEST ANNUAL MEAN					196	1965
HIGHEST DAILY MEAN	4060	Jun 17	4380	Sep 17	22000	Sep 22 1938
LOWEST DAILY MEAN	59	Sep 6	39	Jun 27	8.0	Sep 6 1926
ANNUAL SEVEN-DAY MINIMUM	62	Sep 3	48	Aug 5	31	Aug 25 1995
INSTANTANEOUS PEAK FLOW			5770	Sep 17	29000	Sep 22 1938
INSTANTANEOUS PEAK STAGE			7.01	Sep 17	13.37	Sep 22 1938
INSTANTANEOUS LOW FLOW			36	Jun 27		
10 PERCENT EXCEEDS	1520		1200		1500	
50 PERCENT EXCEEDS	378		257		400	
90 PERCENT EXCEEDS	98		70		105	

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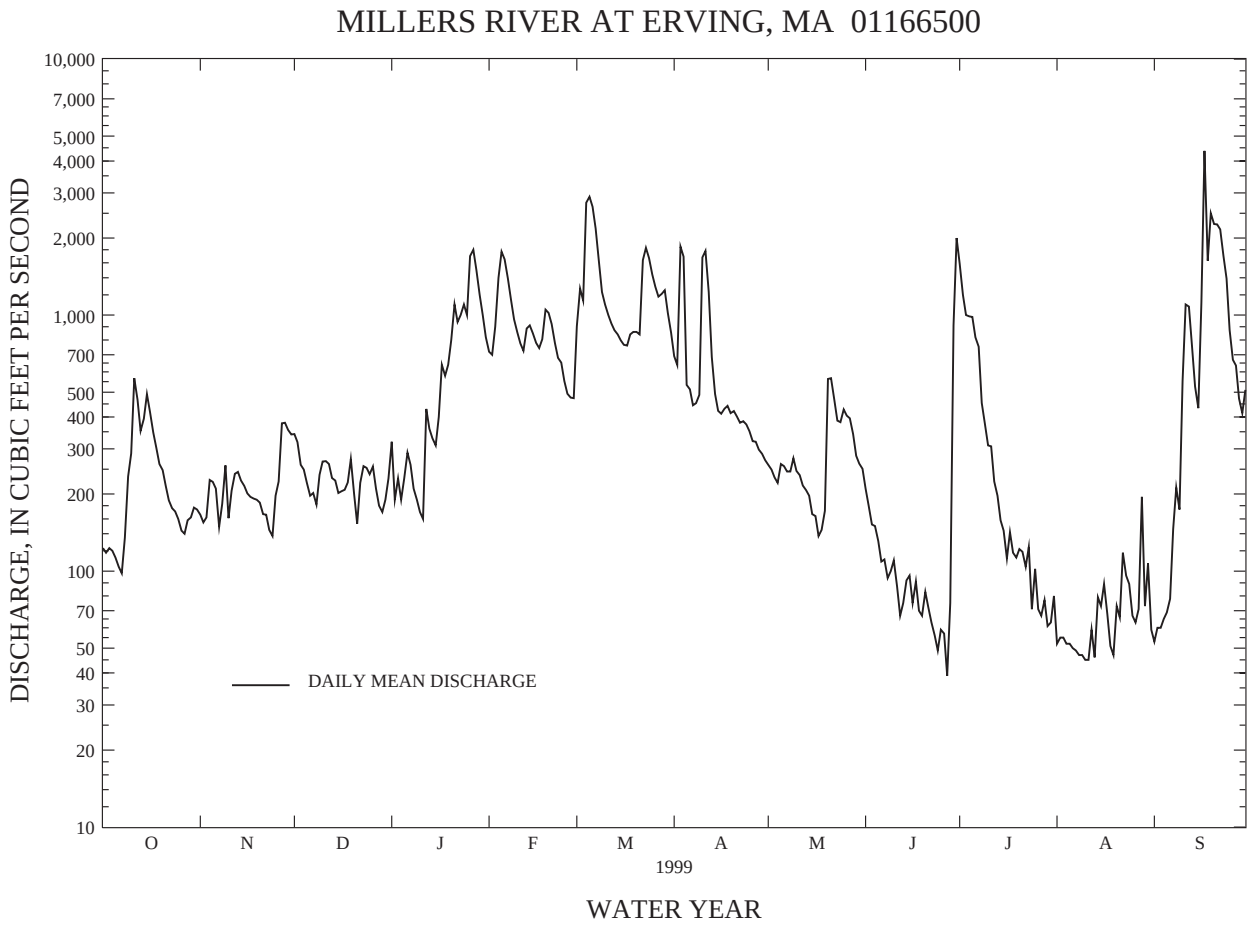


01168500 DEERFIELD RIVER AT CHARLEMONT, MA

LOCATION.--Lat 42°37'33", long 72°51'20", Franklin County, Hydrologic Unit 01080203, on left bank 0.8 mi east of Charlemont, 2.5 mi downstream from Chickley River, and at mile 24.5.

DRAINAGE AREA.--361 mi^2.

PERIOD OF RECORD.--Discharge: June 1913 to current year.
Water-quality records: Water years 1954-55, 1958, 1967-69, 1995.

REVISED RECORDS.--WSP 781: 1915(M). WSP 1301: 1918(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 517.36 ft above sea level.

REMARKS--Records good except those above 1,000 ft^3/s, which are fair. Flow regulated by Somerset Reservoir, since 1924 by Harriman Reservoir, and by several powerplants upstream. Telephone and satellite gage-height telemeter at station. Measurements of water temperature and air temperature were made during the year.

AVERAGE DISCHARGE.--86 years, 900 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,300 ft^3/s, Sept. 21, 1938, gage height, 20.17 ft, from floodmarks, from rating curve extended above 31,000 ft^3/s on basis of slope-area and contracted-opening measurements at gage heights 17.75 ft and 20.17 ft; minimum daily, 5 ft^3/s, June 17, 1921.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,990 ft^3/s, Mar. 22, gage height, 7.88 ft; minimum daily, 129 ft^3/s, June 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

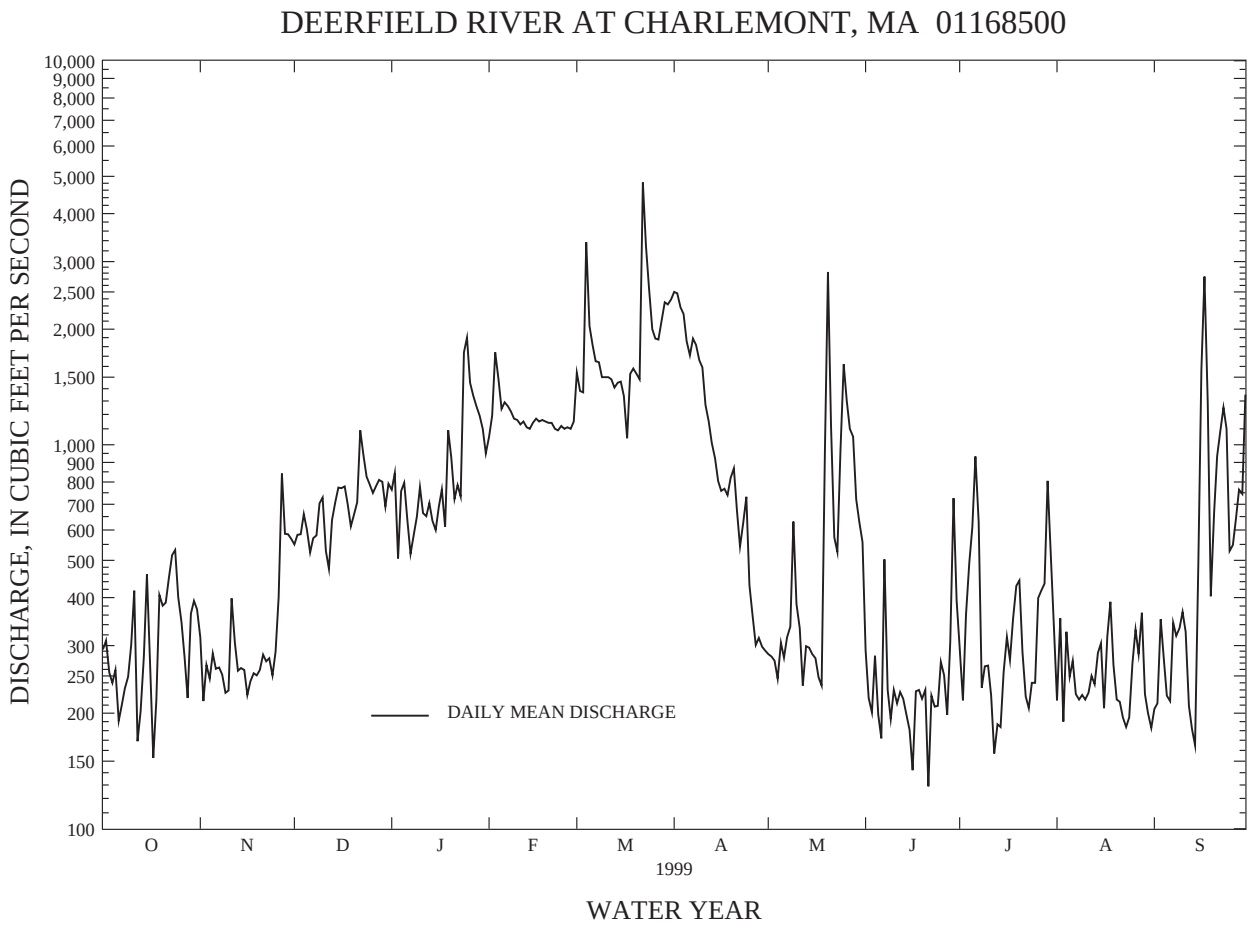
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	315	550	764	1050	1540	2500	285	292	296	216	205
2	309	215	583	843	1190	1380	2480	281	219	216	353	212
3	255	267	585	506	1740	1370	2280	274	201	361	190	351
4	240	246	660	758	1480	3370	2190	246	282	492	326	278
5	259	286	602	796	1240	2040	1860	305	198	610	249	222
6	191	261	524	632	1290	1820	1710	279	172	932	274	215
7	210	263	571	520	1260	1650	1890	315	503	629	224	344
8	232	252	581	580	1220	1640	1820	336	230	233	217	318
9	249	226	704	650	1170	1500	1660	631	193	265	223	333
10	301	229	729	776	1160	1500	1590	385	230	266	217	367
11	417	398	529	664	1130	1500	1270	333	212	222	226	326
12	169	305	475	652	1150	1480	1150	236	227	157	250	209
13	202	258	637	705	1110	1410	1010	299	218	187	238	182
14	281	262	709	634	1100	1450	921	296	198	184	287	165
15	460	259	774	600	1140	1460	804	285	181	256	304	488
16	272	223	771	688	1170	1340	759	278	142	316	206	1570
17	153	242	779	765	1150	1040	768	248	228	275	317	2740
18	216	254	698	611	1160	1530	740	236	230	352	390	1290
19	406	251	613	1090	1150	1580	819	954	218	429	267	403
20	381	259	659	928	1140	1530	868	2820	230	443	217	662
21	388	284	708	723	1140	1480	674	1120	129	289	214	934
22	449	273	1090	785	1100	4820	543	574	222	221	195	1080
23	516	278	937	734	1090	3300	628	526	208	206	184	1250
24	532	251	826	1740	1120	2560	732	960	209	240	195	1100
25	401	289	789	1900	1100	2000	431	1620	272	240	270	529
26	345	401	749	1450	1110	1890	357	1300	251	399	330	548
27	280	841	780	1340	1100	1880	301	1100	198	417	285	642
28	219	586	810	1260	1150	2110	314	1050	307	435	365	764
29	363	585	801	1190	---	2350	298	722	726	805	224	745
30	392	568	690	1100	---	2320	291	631	394	511	200	1350
31	373	---	792	950	---	2390	---	558	---	334	183	---
TOTAL	9754	9627	21705	27334	33110	59230	33658	19483	7520	11218	7836	19822
MEAN	315	321	700	882	1182	1911	1122	628	251	362	253	661
MAX	532	841	1090	1900	1740	4820	2500	2820	726	932	390	2740
MIN	153	215	475	506	1050	1040	291	236	129	157	183	165

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1999, BY WATER YEAR (WY)

MEAN	603	838	990	996	990	1381	1856	1131	647	443	450	481
MAX	2766	2123	2026	2092	2450	3642	4106	2889	1820	1611	1886	2404
(WY)	1956	1956	1928	1978	1981	1921	1914	1943	1998	1915	1976	1938
MIN	90.8	177	133	363	268	429	529	280	188	78.1	131	74.0
(WY)	1915	1915	1915	1914	1919	1931	1995	1995	1941	1962	1964	1953

01168500 DEERFIELD RIVER AT CHARLEMONT, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1913 - 1999	
ANNUAL TOTAL	335915		260297			
ANNUAL MEAN	920		713		900	
HIGHEST ANNUAL MEAN					1364	1928
LOWEST ANNUAL MEAN					455	1965
HIGHEST DAILY MEAN	10200	Jun 15	4820	Mar 22	31100	Dec 31 1948
LOWEST DAILY MEAN	145	Sep 26	129	Jun 21	5.0	Jun 17 1921
ANNUAL SEVEN-DAY MINIMUM	199	Sep 23	194	Jun 15	34	Sep 19 1953
INSTANTANEOUS PEAK FLOW			8990	Mar 22	56300	Sep 21 1938
INSTANTANEOUS PEAK STAGE			7.88	Mar 22	20.17	Sep 21 1938
INSTANTANEOUS LOW FLOW			89	Oct 1		
10 PERCENT EXCEEDS	1590		1510		1690	
50 PERCENT EXCEEDS	696		511		680	
90 PERCENT EXCEEDS	216		216		187	



01169000 NORTH RIVER AT SHATTUCKVILLE, MA

LOCATION.--Lat 42°38'18", long 72°43'32", Franklin County, Hydrologic Unit 01080203, on right bank in Shattuckville, 1.2 mi south of Griswoldville, and 1.3 mi upstream from mouth.

DRAINAGE AREA.--89.0 mi^2.

PERIOD OF RECORD.--Discharge: October 1939 to current year. October and November 1939 monthly discharge only, published in WSP 1301.
Water-quality records: Water years 1957, 1967-69, 1994-95.

REVISED RECORDS.--WSP 1111: 1945(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 458.36 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation at times caused by mill upstream; because storage capacity is small, daily flows are not affected appreciably. Prior to 1950, greater regulation by mill. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--60 years, 186 ft^3/s, 28.47 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,200 ft^3/s, Apr. 5, 1987, gage height, 11.19 ft, from rating curve extended above 2,900 ft^3/s on basis of slope-area measurements at gage heights 9.55 ft and 11.19 ft; minimum daily, 5.1 ft^3/s, Oct. 3, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,600 ft^3/s, Mar. 22, gage height, 9.01 ft; minimum, 6.9 ft^3/s, July 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	19	46	e32	e100	375	799	81	87	43	17	14
2	12	19	43	e39	179	296	769	76	79	68	14	13
3	13	18	39	e48	564	217	653	72	73	80	13	12
4	14	18	37	e60	415	1860	590	77	67	108	12	11
5	16	20	35	e43	290	707	498	111	60	86	11	9.2
6	15	18	34	e30	227	444	437	120	56	49	9.8	15
7	16	18	33	e23	196	338	450	103	50	53	9.4	29
8	19	17	37	e20	175	263	420	101	49	37	9.5	27
9	47	18	57	e28	e150	247	381	275	46	34	11	37
10	64	18	48	e70	e140	e220	308	153	54	33	9.3	65
11	95	51	44	e60	137	e210	251	112	48	29	8.7	70
12	48	58	39	e50	139	194	225	93	43	25	9.8	38
13	33	38	36	e40	174	184	200	83	41	24	8.9	27
14	77	32	37	e35	e130	183	182	75	44	23	13	23
15	119	29	36	e30	e110	190	165	69	53	22	34	21
16	57	28	36	e37	e100	176	156	64	43	21	43	649
17	41	30	36	e50	e98	191	189	60	37	19	24	1320
18	34	35	35	e80	e120	295	175	58	39	19	27	268
19	29	31	28	e250	139	337	156	366	36	23	24	139
20	26	33	36	e200	123	275	146	1030	33	22	18	103
21	23	44	35	e150	114	263	140	313	31	19	18	103
22	22	39	198	e120	e80	2960	127	184	28	18	27	189
23	21	33	123	e110	e74	1020	146	148	26	17	23	165
24	20	31	e70	457	e72	632	143	448	25	15	18	110
25	19	29	e49	667	e74	562	118	514	24	15	16	90
26	19	84	e46	326	e76	520	109	304	24	18	14	77
27	18	185	e41	212	e86	525	101	241	22	28	17	69
28	18	82	e37	e150	104	641	95	179	26	21	43	65
29	20	61	e33	e130	---	773	90	141	83	18	28	64
30	22	51	e31	e100	---	770	85	116	76	26	19	216
31	20	---	e30	e80	---	755	---	98	---	19	16	---
TOTAL	1010	1187	1465	3727	4386	16623	8304	5865	1403	1032	565.4	4038.2
MEAN	32.6	39.6	47.3	120	157	536	277	189	46.8	33.3	18.2	135
MAX	119	185	198	667	564	2960	799	1030	87	108	43	1320
MIN	12	17	28	20	72	176	85	58	22	15	8.7	9.2
CFSM	.37	.44	.53	1.35	1.76	6.03	3.11	2.13	.53	.37	.20	1.51
IN.	.42	.50	.61	1.56	1.83	6.95	3.47	2.45	.59	.43	.24	1.69

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1999, BY WATER YEAR (WY)

MEAN	100	174	180	149	159	338	563	274	135	65.4	48.5	55.3
MAX	832	468	522	398	801	866	1076	772	417	214	228	306
(WY)	1956	1956	1974	1978	1981	1953	1969	1984	1973	1972	1955	1960
MIN	11.8	25.4	47.3	24.2	23.7	46.2	169	85.3	28.4	17.5	12.5	9.00
(WY)	1965	1965	1999	1981	1940	1940	1981	1986	1965	1962	1956	1953

01169000 NORTH RIVER AT SHATTUCKVILLE, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1940 - 1999	
ANNUAL TOTAL	61913.6		49605.6			
ANNUAL MEAN	170		136		186	
HIGHEST ANNUAL MEAN					299	1984
LOWEST ANNUAL MEAN					79.9	1965
HIGHEST DAILY MEAN	1580	Jan 8	2960	Mar 22	8740	Oct 15 1955
LOWEST DAILY MEAN	9.6	Sep 21	8.7	Aug 11	5.1	Oct 3 1948
ANNUAL SEVEN-DAY MINIMUM	12	Sep 15	9.5	Aug 7	6.3	Sep 1 1953
INSTANTANEOUS PEAK FLOW			7600	Mar 22	14200	Apr 5 1987
INSTANTANEOUS PEAK STAGE			9.01	Mar 22	11.19	Apr 5 1987
INSTANTANEOUS LOW FLOW			6.9	Jul 24		
ANNUAL RUNOFF (CFSM)	1.91		1.53		2.10	
ANNUAL RUNOFF (INCHES)	25.88		20.73		28.47	
10 PERCENT EXCEEDS	373		318		428	
50 PERCENT EXCEEDS	86		53		92	
90 PERCENT EXCEEDS	17		18		20	

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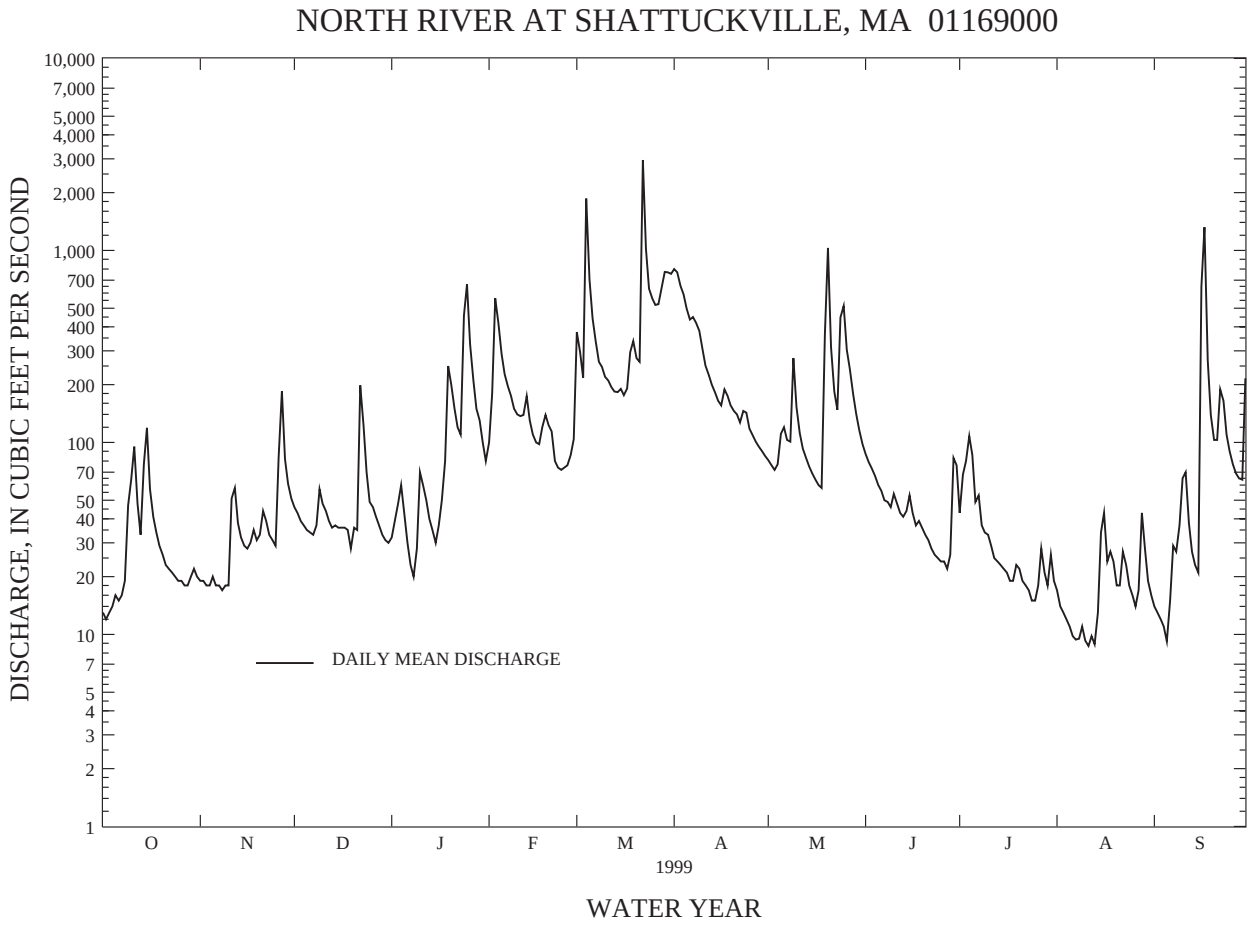


01169900 SOUTH RIVER NEAR CONWAY, MA

LOCATION.--Lat 42°32'31", long 72°41'39", Franklin County, Hydrologic Unit 01080203, on left bank at upstream side of Reeds Bridge just off Bardwell Road, 2.2 mi north of Conway, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--24.1 mi^2.

PERIOD OF RECORD.--Discharge: June 1966 to current year.
Water-quality records: Water years 1967-69, 1994-95.

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: 1968-70(P), 1971(M), 1972(P). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 460 ft above sea level, from topographic map. Prior to Oct. 7, 1970, at downstream side of bridge at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation by small power-plant upstream since April 1982.

AVERAGE DISCHARGE.--33 years, 52.7 ft^3/s, 29.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,750 ft^3/s, Apr. 4, 1987, gage height, 10.16 ft, minimum, 2.1 ft^3/s (revised), Sept. 13, 1995, but may have been lower earlier in the month.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,480 ft^3/s (estimated), Sept. 16, gage height, 9.30 ft (estimated from flood marks); minimum, 1.6 ft^3/s (estimated), Aug. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	7.5	13	e10	e35	206	168	25	e26	16	e3.0	3.1
2	4.9	7.4	12	e13	e50	92	142	24	e24	15	e2.7	2.9
3	4.8	7.3	12	e16	e170	88	116	23	e22	18	e2.5	2.8
4	4.6	7.1	11	e20	e130	783	107	34	e20	28	e2.3	2.6
5	4.6	7.2	10	e14	e90	197	86	60	e18	19	e2.1	2.5
6	4.2	7.1	10	e10	e70	127	78	50	e16	13	e1.8	21
7	4.1	7.0	10	e8.0	e62	e92	72	38	e15	17	e1.7	63
8	8.1	6.9	13	e7.0	e54	e80	66	37	e16	11	e1.6	15
9	22	6.9	23	e11	e50	e68	61	42	16	9.3	2.4	14
10	44	7.0	17	e24	e45	e66	58	32	16	10	2.1	87
11	60	19	15	e20	e40	e65	53	27	14	8.4	2.0	42
12	17	15	e13	e17	e45	65	52	25	13	7.4	2.4	17
13	12	10	e12	e14	e54	63	47	23	15	7.3	e1.7	12
14	47	9.3	e12	e12	e40	63	44	22	15	7.1	4.9	9.7
15	41	9.3	e12	e10	e37	67	41	20	15	7.7	12	8.8
16	18	8.7	13	e13	e35	61	40	18	12	6.2	7.3	e890
17	13	9.2	12	e17	e34	71	55	18	12	5.8	4.1	e1020
18	12	9.8	12	e25	e40	122	45	17	14	5.4	3.6	e200
19	10	8.8	e11	e84	e45	108	39	101	12	6.1	3.2	e90
20	9.4	10	12	e70	e35	84	37	245	11	6.9	2.7	e41
21	9.0	13	12	e50	e28	83	36	59	10	6.3	3.8	e41
22	8.5	11	20	e42	e25	1120	35	42	9.4	5.0	7.8	e110
23	8.4	9.5	e15	e37	e24	313	50	41	8.7	4.9	5.0	e60
24	8.6	8.9	e14	e56	e24	221	48	197	8.3	4.7	3.6	e40
25	8.1	8.3	e13	e120	e25	208	37	127	7.6	5.0	3.0	e32
26	7.6	38	e12	e80	e26	173	34	70	8.0	4.5	2.9	e28
27	7.6	45	e11	e60	e30	165	31	58	6.9	4.7	5.1	e26
28	7.6	20	e10	e45	41	216	29	49	7.4	4.2	25	e24
29	8.8	16	e9.6	e37	---	228	28	e43	49	e3.2	7.6	e24
30	8.2	14	e9.0	e30	---	196	27	e33	35	e4.2	4.7	e100
31	7.7	---	e8.6	e27	---	176	---	e29	---	e3.7	3.5	---
TOTAL	436.3	364.2	389.2	999.0	1384	5667	1762	1629	472.3	275.0	138.1	3029.4
MEAN	14.1	12.1	12.6	32.2	49.4	183	58.7	52.5	15.7	8.87	4.45	101
MAX	60	45	23	120	170	1120	168	245	49	28	25	1020
MIN	4.1	6.9	8.6	7.0	24	61	27	17	6.9	3.2	1.6	2.5
CFSM	.58	.50	.52	1.34	2.05	7.59	2.44	2.18	.65	.37	.18	4.19
IN.	.67	.56	.60	1.54	2.14	8.75	2.72	2.51	.73	.42	.21	4.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1999, BY WATER YEAR (WY)

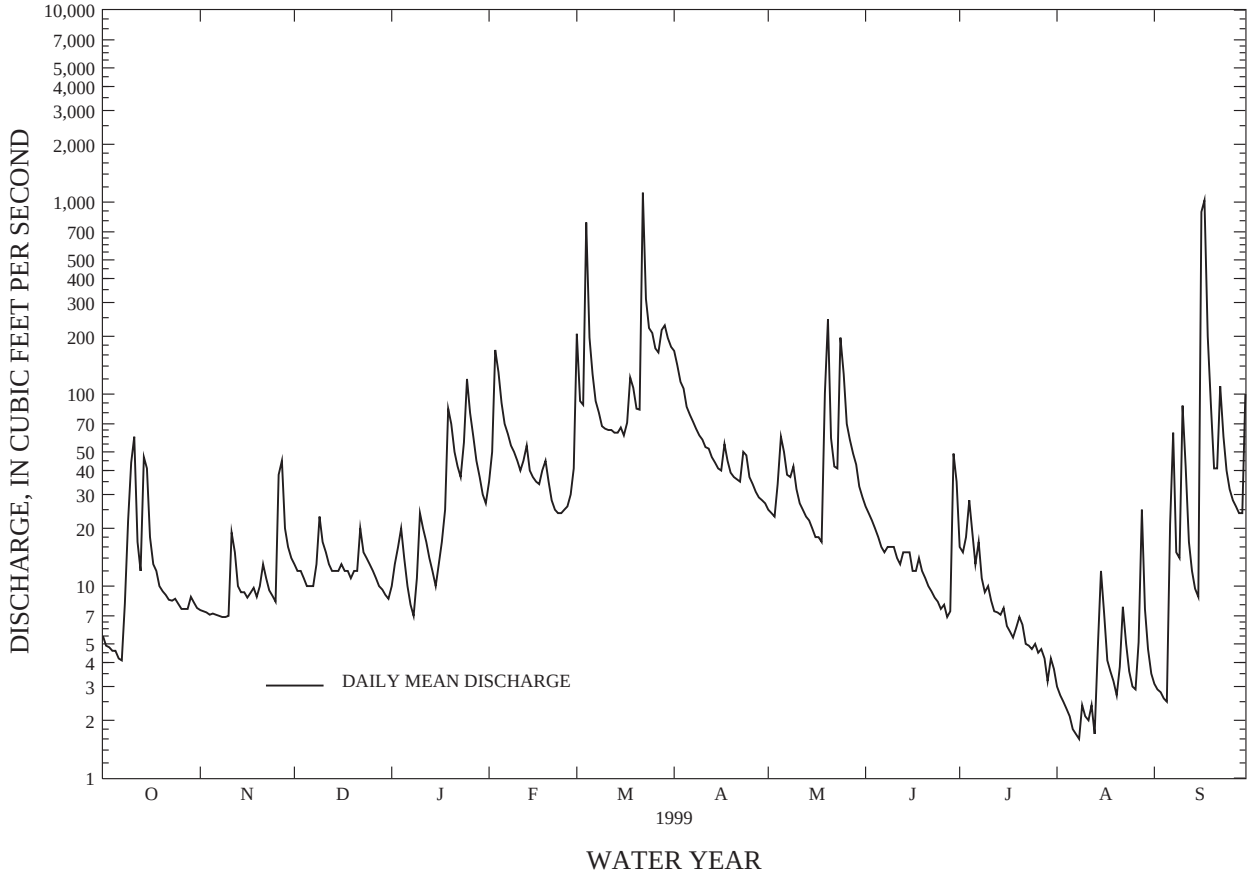
MEAN	29.0	49.9	53.6	48.3	52.6	97.0	128	72.7	45.1	20.9	16.6	18.6
MAX	85.5	142	142	135	163	183	253	171	144	60.0	57.0	101
(WY)	1976	1996	1974	1996	1981	1999	1993	1984	1982	1972	1975	1999
MIN	6.22	11.0	12.6	7.27	14.1	32.3	32.6	23.5	12.6	5.92	4.45	4.17
(WY)	1983	1983	1999	1981	1980	1967	1985	1995	1985	1991	1999	1995

01169900 SOUTH RIVER NEAR CONWAY, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1966 - 1999	
ANNUAL TOTAL	19479.5		16545.5			
ANNUAL MEAN	53.4		45.3		52.7	
HIGHEST ANNUAL MEAN					82.6	1996
LOWEST ANNUAL MEAN					21.5	1985
HIGHEST DAILY MEAN	593	May 10	1120	Mar 22	1570	Jun 6 1982
LOWEST DAILY MEAN	4.1	Oct 7	1.6	Aug 8	1.6	Aug 8 1999
ANNUAL SEVEN-DAY MINIMUM	4.7	Oct 1	2.0	Aug 5	2.0	Aug 5 1999
INSTANTANEOUS PEAK FLOW			e4480	Sep 16	5750	Apr 4 1987
INSTANTANEOUS PEAK STAGE			e9.30	Sep 16	10.16	Apr 4 1987
INSTANTANEOUS LOW FLOW			1.6	Aug 8		
ANNUAL RUNOFF (CFSM)	2.21		1.88		2.19	
ANNUAL RUNOFF (INCHES)	30.07		25.54		29.69	
10 PERCENT EXCEEDS	119		89		112	
50 PERCENT EXCEEDS	29		17		30	
90 PERCENT EXCEEDS	6.6		4.7		7.2	

e Estimated

SOUTH RIVER NEAR CONWAY, MA 01169900



01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MA

LOCATION.--Lat 42°32'09", long 72°39'14", Franklin County, Hydrologic Unit 01080203, on right bank 0.4 mi downstream from South River, 1.2 mi west of West Deerfield, 2.5 mi west of Deerfield, and 9.2 mi upstream from mouth.

DRAINAGE AREA.--557 mi^2.

PERIOD OF RECORD.--Discharge: March to November 1904, January 1905, March to December 1905, October 1940 to current year, published as "at Deerfield" 1904-5.
Water-quality records: June 1994.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area. WDR MA-RI-92-1: 1991.

GAGE.--Water-stage recorder. Elevation of gage is 155 ft above sea level, from topographic map. Prior to Dec. 16, 1905, nonrecording gage at site 1.5 mi downstream at different datum.

REMARKS.--Records good except those for winter period and those for estimated daily discharges, which are fair. Flow regulated since 1913 by Somerset Reservoir, since 1924 by Harriman Reservoir, and by several powerplants upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--59 years (water years 1941-99), 1,311 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,700 ft^3/s, Apr. 5, 1987, gage height, 17.71 ft; minimum daily, 28 ft^3/s, July 29, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,970 ft^3/s (estimated), Mar. 22, gage height, unknown; minimum daily, 237 ft^3/s, Nov. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	256	445	617	e900	e1400	e1900	e3800	497	643	413	303	249
2	381	381	640	e830	e1700	e2000	e3600	512	375	413	336	253
3	264	293	613	e700	e2400	e2800	e3300	463	396	537	339	254
4	265	296	762	e880	e2100	e5400	e3200	450	342	656	270	333
5	340	291	737	e1000	e1900	e3500	e2600	575	410	912	314	265
6	277	302	642	e880	e1800	e2500	e2400	629	342	1020	303	307
7	263	299	635	e640	e1750	e2100	e2500	612	530	997	261	466
8	274	298	653	e600	e1650	e2050	e2400	600	398	376	242	463
9	317	316	903	e800	e1600	2260	e2200	1030	302	272	288	520
10	550	304	898	e970	e1500	2060	e2000	856	339	330	269	795
11	725	322	665	e880	e1500	2050	e1800	593	351	280	252	539
12	476	591	626	e840	e1600	2000	e1600	510	343	266	251	320
13	297	406	751	e890	e1500	1960	1490	454	316	259	255	294
14	428	297	828	e740	e1410	1860	1370	467	312	254	272	280
15	713	376	890	e670	e1450	1930	1290	490	278	252	379	379
16	517	344	968	e800	1450	1680	1210	405	277	312	337	2020
17	319	246	943	e970	1450	1520	1200	409	267	391	331	4920
18	301	237	785	e870	1450	2180	1200	399	274	337	384	2260
19	300	243	707	e1800	1380	2400	1280	559	306	470	359	972
20	486	254	813	e1650	1340	2170	1250	3660	307	497	309	713
21	421	320	843	e1100	1340	2100	1060	2220	279	425	246	1280
22	468	272	1370	e1020	e1350	e7000	903	1220	270	300	249	1610
23	557	278	1300	e1250	e1380	e5100	861	865	272	279	245	1790
24	619	277	1080	e2100	e1400	e3700	1140	1320	271	281	243	1470
25	545	265	988	e2800	e1380	e3100	809	2150	297	281	281	898
26	407	453	866	e2100	e1360	e3000	676	2120	322	336	266	693
27	370	1260	909	e1800	e1350	e2800	514	1760	263	434	363	821
28	292	581	946	e1700	e1400	e3000	584	1590	344	537	412	967
29	287	688	1010	e1600	---	e3300	504	1200	709	775	413	939
30	396	667	868	e1400	---	e3400	507	892	822	808	249	1770
31	405	---	900	e1200	---	e3500	---	851	---	437	250	---
TOTAL	12516	11602	26156	36380	43290	86320	49248	30358	10957	14137	9271	28840
MEAN	404	387	844	1174	1546	2785	1642	979	365	456	299	961
MAX	725	1260	1370	2800	2400	7000	3800	3660	822	1020	413	4920
MIN	256	237	613	600	1340	1520	504	399	263	252	242	249

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1999, BY WATER YEAR (WY)

MEAN	835	1216	1441	1414	1443	2129	2926	1712	945	564	551	607
MAX	4632	3302	3156	2801	3890	4771	5320	4094	2693	1658	2142	2112
(WY)	1956	1956	1997	1978	1981	1953	1993	1984	1998	1973	1976	1905
MIN	228	244	385	622	693	1083	928	484	307	119	167	94.5
(WY)	1983	1965	1965	1965	1944	1962	1995	1995	1964	1962	1964	1953

01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1904 - 1999	
ANNUAL TOTAL	505766		359075			
ANNUAL MEAN	1386		984		1311	
HIGHEST ANNUAL MEAN					1840	1996
LOWEST ANNUAL MEAN					629	1965
HIGHEST DAILY MEAN	13200	Jun 15	7000	Mar 22	38300	Dec 31 1948
LOWEST DAILY MEAN	237	Nov 18	237	Nov 18	28	Jul 29 1962
ANNUAL SEVEN-DAY MINIMUM	262	Sep 25	260	Aug 7	39	Jul 27 1962
INSTANTANEOUS PEAK FLOW			9970	Mar 22	61700	Apr 5 1987
INSTANTANEOUS PEAK STAGE					17.71	Apr 5 1987
INSTANTANEOUS LOW FLOW			61	Aug 9		
10 PERCENT EXCEEDS	2620		2100		2660	
50 PERCENT EXCEEDS	903		643		960	
90 PERCENT EXCEEDS	277		272		266	

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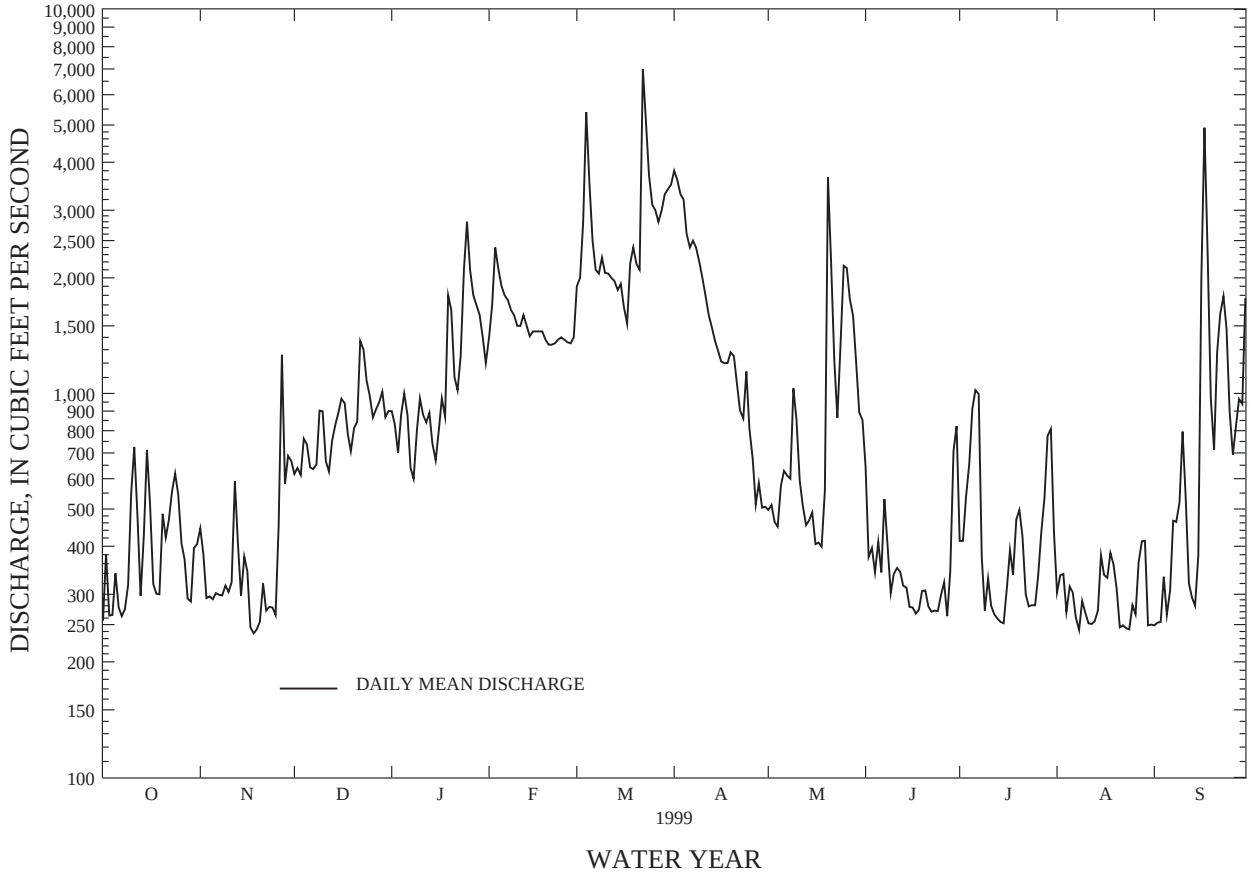
DEERFIELD RIVER NEAR WEST DEERFIELD, MA 01170000



01170100 GREEN RIVER NEAR COLRAIN, MA

LOCATION.--Lat 42°42'12", long 72°40'16", Franklin County, Hydrologic Unit 01080203, on right bank 0.5 mi upstream from bridge on West Leyden Road and 2.5 mi northeast of Colrain.

DRAINAGE AREA.--41.4 mi^2.

PERIOD OF RECORD.--Discharge: October 1967 to current year.
Water-quality records: Water years 1968-69, 1993-95.

REVISED RECORDS.--WDR MA-NH-RI-VT-71-1: 1968(M), 1969.

GAGE.--Water-stage recorder. Elevation of gage is 435 ft above sea level, from topographic map.

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

AVERAGE DISCHARGE.--32 years, 89.9 ft^3/s, 29.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,560 ft^3/s, Dec. 21, 1973, gage height, 8.2 ft, from floodmarks, from rating curve extended above 1,500 ft^3/s on basis of slope area measurement of peak flow and conveyance-slope study; maximum gage height, 12.71 ft, Feb. 23, 1997 (ice jam); minimum discharge, 1.9 ft^3/s, Aug. 1, 1968, caused by unusual regulation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 3,910 ft^3/s, Mar. 22, gage height, 6.87 ft, from rating curve extended above 1,100 ft^3/s; minimum, 3.5 ft^3/s, Sept. 4, 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	8.8	22	e15	e70	161	461	41	47	15	6.7	4.5
2	5.7	8.6	19	e17	e140	124	448	39	42	22	5.6	5.4
3	5.7	8.4	19	e25	e200	101	369	37	38	27	5.1	4.6
4	5.5	8.2	17	e19	164	870	325	43	34	49	4.8	3.7
5	5.3	8.2	16	e15	119	351	267	58	31	32	4.7	4.2
6	5.2	8.1	16	e11	100	216	237	59	29	22	4.5	7.6
7	5.0	8.1	15	e9.4	84	170	246	51	26	24	4.3	14
8	9.0	8.0	19	e11	74	146	227	51	24	16	4.5	11
9	24	8.0	26	e19	e66	e130	202	108	23	14	4.9	15
10	28	8.1	21	e30	e62	e120	161	68	25	14	4.3	34
11	43	24	21	e24	e61	e110	139	52	22	11	4.1	30
12	22	25	19	e20	60	98	125	45	19	10	4.5	13
13	15	16	e17	e17	74	92	113	41	19	9.4	4.1	9.5
14	42	14	e17	e14	e54	90	103	38	20	9.1	5.5	7.9
15	54	13	e17	e17	e52	93	93	35	22	8.8	10	7.1
16	26	12	e17	e21	e48	88	87	32	18	8.2	12	377
17	19	14	17	e30	e48	94	104	29	17	7.6	7.5	801
18	15	15	16	e50	e56	133	92	28	18	7.4	11	118
19	13	13	e14	e94	e56	146	81	148	16	8.0	7.1	60
20	12	16	18	e76	e45	126	75	447	15	9.4	5.7	43
21	11	21	16	e60	e40	122	72	146	14	7.6	7.0	43
22	10	18	93	e50	e37	1730	65	94	13	6.9	12	63
23	9.8	16	51	e45	e37	541	76	74	12	6.6	8.0	58
24	9.5	13	e30	e70	e37	349	69	211	11	6.1	6.3	40
25	9.2	13	e23	e150	e37	309	61	238	11	6.0	5.5	33
26	9.0	47	e21	e100	e38	279	57	147	10	8.3	4.7	28
27	8.7	93	e19	e78	e40	280	53	118	9.2	20	5.7	26
28	9.0	39	e17	e64	45	343	49	90	14	9.9	7.5	24
29	10	29	e16	e50	---	421	46	72	30	8.0	7.8	24
30	9.7	26	e15	e37	---	434	44	60	23	10	5.8	102
31	9.2	---	e14	e45	---	422	---	53	---	7.7	4.8	---
TOTAL	465.4	559.5	678	1283.4	1944	8689	4547	2753	652.2	421.0	196.0	2011.5
MEAN	15.0	18.6	21.9	41.4	69.4	280	152	88.8	21.7	13.6	6.32	67.1
MAX	54	93	93	150	200	1730	461	447	47	49	12	801
MIN	5.0	8.0	14	9.4	37	88	44	28	9.2	6.0	4.1	3.7
CFSM	.36	.45	.53	1.00	1.68	6.77	3.66	2.15	.53	.33	.15	1.62
IN.	.42	.50	.61	1.15	1.75	7.81	4.09	2.47	.59	.38	.18	1.81

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1999, BY WATER YEAR (WY)

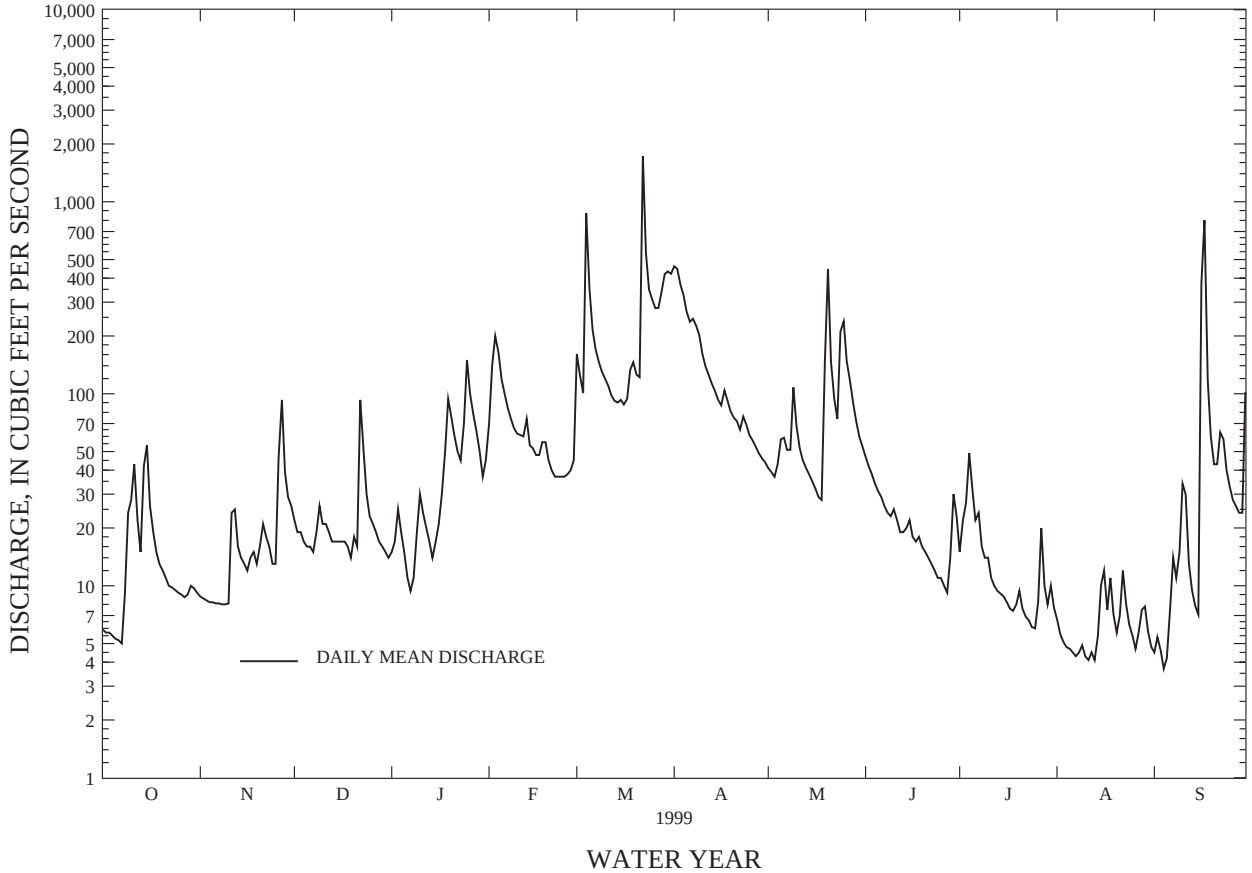
MEAN	49.2	86.4	88.5	74.7	81.2	164	250	131	69.8	35.0	24.8	24.7
MAX	190	214	236	178	277	355	442	287	188	105	80.4	92.2
(WY)	1976	1996	1997	1996	1981	1979	1969	1984	1973	1973	1969	1975
MIN	11.4	17.8	21.9	11.6	18.1	53.2	77.6	42.1	21.7	10.6	6.32	6.55
(WY)	1983	1979	1999	1981	1980	1971	1995	1986	1999	1995	1999	1983

01170100 GREEN RIVER NEAR COLRAIN, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1968 - 1999	
ANNUAL TOTAL	30482.5		24200.0			
ANNUAL MEAN	83.5		66.3		89.9	
HIGHEST ANNUAL MEAN					136	1973
LOWEST ANNUAL MEAN					44.4	1985
HIGHEST DAILY MEAN	825	Jun 14	1730	Mar 22	2420	Mar 31 1987
LOWEST DAILY MEAN	5.0	Sep 20	3.7	Sep 4	3.3	Sep 16 1983
ANNUAL SEVEN-DAY MINIMUM	5.5	Oct 1	4.4	Aug 7	3.6	Sep 11 1983
INSTANTANEOUS PEAK FLOW			3910	Mar 22	4560	Dec 21 1973
INSTANTANEOUS PEAK STAGE			6.87	Mar 22	8.87	Jan 27 1976
INSTANTANEOUS LOW FLOW			3.5	Sep 4	1.9	Aug 1 1968
ANNUAL RUNOFF (CFSM)	2.02		1.60		2.17	
ANNUAL RUNOFF (INCHES)	27.39		21.74		29.50	
10 PERCENT EXCEEDS	170		146		205	
50 PERCENT EXCEEDS	44		24		48	
90 PERCENT EXCEEDS	7.9		6.8		11	

e Estimated

GREEN RIVER NEAR COLRAIN, MA 01170100



01170500 CONNECTICUT RIVER AT MONTAGUE CITY, MA

LOCATION.--Lat 42°34'43" (revised), long 72°34'30", Franklin County, Hydrologic Unit 01080201, on left bank 75 ft downstream from railroad bridge at Montague City, 1,000 ft downstream from Deerfield River, and at mile 119.0.

DRAINAGE AREA.--7,860 mi^2.

PERIOD OF RECORD.--Discharge: March 1904 to current year. Prior to October 1929, published as "at Sunderland." Records published for both sites October 1929 to September 1932.
Water-quality records: Water years 1994-95.

REVISED RECORDS.--WSP 471: 1904-17. WSP 741: 1930-32. WSP 781: 1928(M). WSP 1051: 1905, 1909-10, 1912-14, 1920, 1922-23, 1925-26, 1928, drainage area at Sunderland. WSP 1301: 1905(M), 1914-19(M), 1930-31(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 99.87 ft above sea level. Prior to Oct. 1, 1917, nonrecording gage; Oct. 1, 1917, to Oct. 8, 1921, water-stage recorder used for low stages, nonrecording gage otherwise; and Oct. 9, 1921, to Sept. 30, 1932, water-stage recorder; all at site 9 mi downstream at datum 1.00 ft lower. Since Oct. 1, 1929, water-stage recorder at present site and datum.

REMARKS.--Records good except those above 10,000 ft^3/s, which are fair. Flow regulated by powerplants and by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, and other reservoirs, combined usable capacity, about 43,400,000,000 ft^3. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--95 years, 13,940 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 236,000 ft^3/s, Mar. 19, 1936, gage height, 49.2 ft, from floodmarks; minimum daily, 215 ft^3/s, Aug. 31, Sept. 1, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 69,400 ft^3/s, Sept. 17, gage height, 26.11 ft; minimum daily, 1,650 ft^3/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

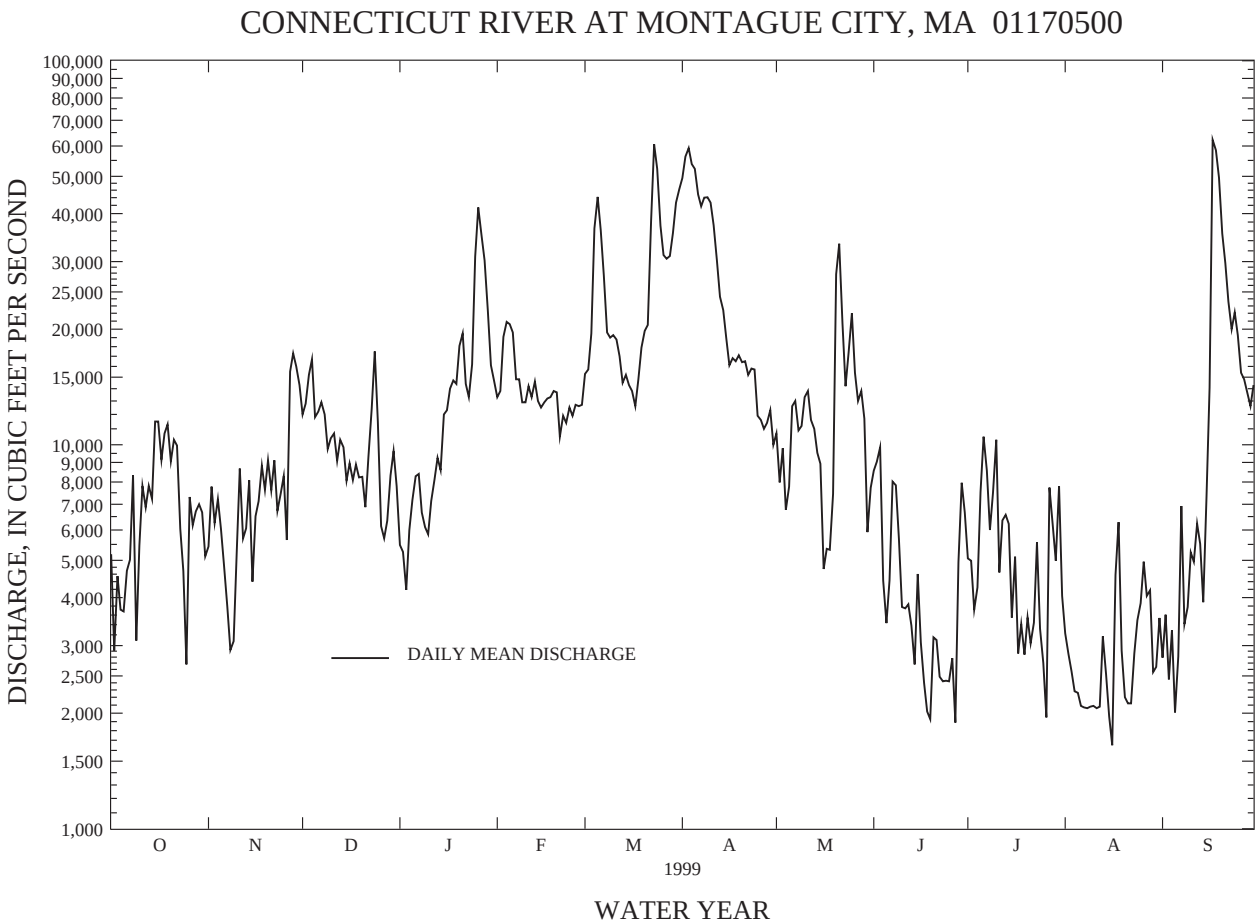
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5190	5430	12000	5480	13300	15300	49500	10700	8560	5060	3230	2790
2	2910	7780	12800	5260	13800	15700	56300	7980	9040	4990	2850	3610
3	4550	6260	15200	4190	19100	19500	59200	9800	9840	3720	2570	2450
4	3720	7220	16700	5990	20900	36600	53800	6770	4430	4250	2280	3290
5	3680	6030	11800	7180	20600	44200	52300	7780	3430	7530	2260	2010
6	4700	4840	12200	8280	19600	36200	44900	12600	4430	10500	2090	2810
7	5020	3790	12900	8390	14800	27600	41800	13000	8020	8560	2070	6930
8	8330	2920	12000	6660	14800	19600	44000	10900	7840	6000	2060	3410
9	3090	3080	9750	6100	12900	19000	44100	11200	5680	7510	2080	3780
10	5460	5240	10400	5850	12900	19300	42700	13300	3780	10300	2090	5240
11	7810	8670	10700	7140	14200	18800	37300	13800	3750	4650	2060	4960
12	6870	5700	9080	8110	13300	17000	30200	11600	3840	6350	2080	6230
13	7820	6060	10300	9250	14600	14500	24300	11000	3380	6570	3170	5520
14	7230	8080	9850	8590	13000	15200	22400	9530	2680	6220	2520	3890
15	11500	4400	8060	12000	12500	14300	18900	8920	4610	3550	1960	7320
16	11500	6520	8940	12300	12900	13800	16100	4750	3060	5110	1650	14100
17	9140	7130	8090	14000	13200	12600	16800	5360	2400	2860	4580	62200
18	10700	8820	8880	14700	13300	14800	16500	5330	2020	3410	6290	58500
19	11300	7630	8220	14400	13800	17900	17100	7450	1930	2840	2910	49600
20	9060	9110	8250	18100	13700	19800	16400	27800	3150	3550	2200	35500
21	10300	7610	6880	19500	10500	20500	16500	33400	3100	3040	2120	29700
22	9950	9110	9300	14400	11900	38000	15200	20700	2490	3440	2120	23600
23	6040	6730	12400	13300	11400	60600	15800	14200	2420	5570	2860	20000
24	4690	7460	17500	16200	12500	52300	15700	17400	2430	3320	3490	22100
25	2680	8290	11500	30900	11900	37200	11900	22000	2420	2700	3870	19300
26	7310	5650	6140	41500	12700	31200	11600	15400	2780	1950	4960	15400
27	6170	15500	5710	35100	12600	30500	11000	13000	1890	7740	4040	14800
28	6710	17300	6340	30200	12700	31000	11400	13800	4950	6190	4180	13700
29	7000	16000	8320	22300	---	35600	12300	11700	7960	4990	2560	12600
30	6670	14300	9630	16100	---	42700	10000	5920	6660	7810	2640	14300
31	5120	---	7800	14700	---	46300	---	7730	---	4040	3540	---
TOTAL	212220	232660	317640	436170	393400	837600	836000	384820	132970	164320	89380	469640
MEAN	6846	7755	10250	14070	14050	27020	27870	12410	4432	5301	2883	15650
MAX	11500	17300	17500	41500	20900	60600	59200	33400	9840	10500	6290	62200
MIN	2680	2920	5710	4190	10500	12600	10000	4750	1890	1950	1650	2010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 1999, BY WATER YEAR (WY)

MEAN	8507	12360	12500	11090	10540	20800	38790	23280	11350	6690	5569	5976
MAX	25750	42270	31710	23890	33650	71920	66290	47000	30730	25680	18550	32660
(WY)	1978	1928	1984	1978	1981	1936	1960	1940	1984	1973	1990	1938
MIN	1829	2053	2810	2732	2086	4316	11390	8080	4270	2250	2412	1834
(WY)	1909	1909	1911	1905	1905	1940	1995	1941	1964	1911	1965	1908

01170500 CONNECTICUT RIVER AT MONTAGUE CITY, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1904 - 1999	
ANNUAL TOTAL	5757820		4506820			
ANNUAL MEAN	15770		12350		13940	
HIGHEST ANNUAL MEAN					20680	1928
LOWEST ANNUAL MEAN					6768	1965
HIGHEST DAILY MEAN	92100	Apr 1	62200	Sep 17	233000	Mar 19 1936
LOWEST DAILY MEAN	2300	Sep 6	1650	Aug 16	215	Aug 31 1958
ANNUAL SEVEN-DAY MINIMUM	3530	Sep 20	2080	Aug 6	1300	Jul 29 1965
INSTANTANEOUS PEAK FLOW			69400	Sep 17	236000	Mar 19 1936
INSTANTANEOUS PEAK STAGE			26.11	Sep 17	49.20	Mar 19 1936
10 PERCENT EXCEEDS	30300		27700		31800	
50 PERCENT EXCEEDS	10700		8880		8960	
90 PERCENT EXCEEDS	4300		2850		3020	



01171320 FORT RIVER AT HADLEY, MA

LOCATION.--Lat 42°19'59", long 72°34'44", Hampshire County, Hydrologic Unit 01080201, at Bay Road (Route 47) bridge, downstream side at Hadley.

DRAINAGE AREA.--55.8 mi^2 .

PERIOD of RECORD. --August 1998 to September 1999.

REMARKS.--Discharge obtained by discharge measurements on the day of sampling. Instantaneous records are based on composite samples and are representative of the cross section.

WATER-QUALITY DATA, AUGUST 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)
AUG 1998									
25...	1230	13	172	7.3	32.5	22.0	753	7.9	93
SEP									
10...	1300	9.6	188	7.2	23.0	15.5	758	7.4	75
OCT									
01...	1330	7.6	175	7.1	21.0	17.0	748	7.7	81
16...	1330	98	96	6.8	23.5	12.0	764	9.0	83
27...	1410	16	140	7.3	12.5	10.5	758	9.4	85
NOV									
30...	1530	57	105	7.4	9.0	5.0	758	11.8	93
DEC									
23...	1130	51	119	6.5	-5.0	.5	770	13.8	95
JAN 1999									
19...	1500	380	162	6.6	-.5	.0	752	13.1	91
FEB									
11...	1400	116	100	7.1	6.0	2.0	762	13.9	101
MAR									
02...	1430	267	75	7.5	-2.5	1.5	748	13.2	96
11...	1350	97	103	6.9	-3.0	1.0	740	13.7	99
APR									
28...	1330	44	25	7.1	20.5	13.0	764	11.7	111
MAY									
14...	1330	31	133	6.9	21.0	16.0	764	9.7	98
JUN									
25...	0245	6.9	180	7.2	24.5	21.0	753	8.1	92
JUL									
20...	1400	12	211	7.1	24.5	23.0	758	7.8	92
AUG									
06...	1345	1.5	253	7.3	28.0	20.5	750	6.8	77
18...	1335	8.7	177	6.6	28.5	22.5	750	7.2	85
SEP									
01...	1330	4.8	181	7.2	30.0	17.0	757	7.6	80
07...	1200	56	169	7.3	27.0	22.5	755	7.6	89
13...	1600	57	131	7.2	25.0	19.0	771	8.1	86
13...	1605	57	131	7.2	25.0	19.0	771	8.1	86
21...	1130	106	104	6.4	19.0	15.5	753	8.3	84
21...	1200	106	104	6.4	19.0	15.5	753	8.3	84

01171320 FORT RIVER AT HADLEY, MA--Continued

WATER-QUALITY DATA, AUGUST 1998 TO SEPTEMBER 1999

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG 1998								
25...	0.120	0.013	0.094	0.61	0.28	0.022	<0.010	0.017
SEP								
10...	.999	.024	.081	.33	.25	.049	.043	.038
OCT								
01...	.994	<.010	.032	--	--	.035	.023	.018
16...	.159	<.010	.023	.48	.40	.052	.015	.013
27...	.416	<.010	.033	.27	.36	.013	.033	.025
NOV								
30...	.277	<.010	.039	.14	.22	.026	.014	.019
DEC								
23...	.448	.014	.041	.22	.25	.024	.011	.014
JAN 1999								
19...	.471	.022	.115	.60	.42	.147	.076	.060
FEB								
11...	.344	<.010	.046	.22	.17	.034	.015	.013
MAR								
02...	.245	<.010	<.020	.35	.23	.055	.016	<.010
11...	.390	<.010	.076	.25	.17	.032	.015	<.010
APR								
28...	.347	<.010	.046	.25	.17	.032	.017	.021
MAY								
14...	.370	.010	.066	.27	.25	.046	.036	.042
JUN								
25...	.927	.022	.042	.40	.33	.072	.050	.043
JUL								
20...	1.18	.040	.130	.65	.50	.138	.115	.100
AUG								
06...	1.20	.020	.065	.31	.31	.067	.019	.012
18...	.633	.011	.048	.37	.38	.082	.060	.043
SEP								
01...	.930	.010	.047	.37	.32	.106	.057	.047
07...	.241	<.010	.026	.44	.33	.095	.048	.034
13...	.184	<.010	.094	.55	.45	.062	.027	.013
13...	.188	<.010	.093	.51	.45	.061	.027	.013
21...	.256	<.010	.046	.44	.32	.057	.026	.016
21...	.257	<.010	.044	.43	.32	.058	.025	.016

01171500 MILL RIVER AT NORTHAMPTON, MA

LOCATION.--Lat 42°19'05", long 72°39'21", Hampshire County, Hydrologic Unit 01080201, on right bank at Northampton 3.5 mi upstream from mouth.

DRAINAGE AREA.--54.0 mi^2.

PERIOD OF RECORD.--Discharge: October 1938 to current year. October 1938 monthly discharge only, published in WSP 1301. Water-quality records: Water years 1957-59, 1971, 1973, 1994.

REVISED RECORDS.--WSP 921: 1940. WSP 1231: 1940-42(M), 1944-45(M), 1948(M), 1949.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 140 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by mill upstream.

AVERAGE DISCHARGE.--60 years, 98.5 ft^3/s, 24.78 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,300 ft^3/s, Aug. 19, 1955, gage height, 11.78 ft, from rating curve extended above 3,700 ft^3/s on basis of computation of peak flow over dam; minimum, 2.2 ft^3/s, Oct. 1, 1950; minimum daily, 4.2 ft^3/s, Aug. 21, 23, 24, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,050 ft^3/s, Sept. 17, gage height, 11.42 ft; minimum, 3.4 ft^3/s, Aug. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	15	37	e16	e140	470	194	45	43	59	5.9	6.3
2	22	15	31	e17	e200	263	180	41	38	53	5.3	5.5
3	23	15	29	e20	e300	205	160	40	36	38	5.2	5.2
4	23	14	28	e52	e230	e1600	146	49	31	70	4.7	4.8
5	21	14	26	e42	e190	445	132	102	28	53	5.0	4.4
6	21	14	25	e28	e150	279	122	92	26	37	4.5	104
7	11	14	24	e18	e130	231	115	65	32	47	3.9	332
8	28	14	27	e23	e115	196	105	62	28	28	3.8	77
9	65	14	49	e42	e100	183	94	87	26	22	4.1	39
10	116	15	40	e100	e90	164	93	60	24	23	4.1	254
11	169	46	33	e80	e84	146	83	48	21	19	4.9	188
12	64	46	30	e52	e80	134	79	43	19	16	4.9	66
13	40	30	27	e35	e120	126	73	37	24	14	4.7	39
14	132	25	26	e25	e100	131	69	35	25	13	15	30
15	127	24	25	e34	e90	149	e68	33	25	13	15	27
16	61	26	24	e110	e80	135	65	30	19	12	12	795
17	42	28	25	e150	e72	149	99	28	18	12	7.7	2120
18	34	27	25	e210	e130	215	81	26	18	16	6.2	437
19	31	26	22	e400	202	224	68	68	16	17	5.6	255
20	27	31	24	e250	141	167	64	437	14	16	4.8	185
21	25	37	23	e200	122	157	61	134	12	15	11	198
22	24	30	37	e150	106	e2200	60	77	12	14	14	279
23	23	26	40	e190	126	594	90	65	12	11	9.5	200
24	23	24	30	e230	112	393	103	305	10	9.1	7.2	137
25	21	21	e25	e290	87	329	69	311	9.6	8.8	6.1	113
26	19	89	e22	e180	88	275	61	153	9.3	10	6.0	93
27	18	137	e20	e120	86	247	57	117	8.7	13	21	84
28	16	65	e19	e100	99	276	53	87	14	8.7	51	87
29	18	47	e18	e94	---	270	49	67	285	6.9	20	85
30	17	36	e17	e110	---	242	48	57	169	6.7	11	203
31	16	---	e15	e120	---	209	---	52	---	6.2	7.5	---
TOTAL	1300	965	843	3488	3570	10804	2741	2853	1052.6	687.4	291.6	6453.2
MEAN	41.9	32.2	27.2	113	128	349	91.4	92.0	35.1	22.2	9.41	215
MAX	169	137	49	400	300	2200	194	437	285	70	51	2120
MIN	11	14	15	16	72	126	48	26	8.7	6.2	3.8	4.4
CFSM	.78	.60	.50	2.08	2.36	6.45	1.69	1.70	.65	.41	.17	3.98
IN.	.90	.66	.58	2.40	2.46	7.44	1.89	1.97	.73	.47	.20	4.45

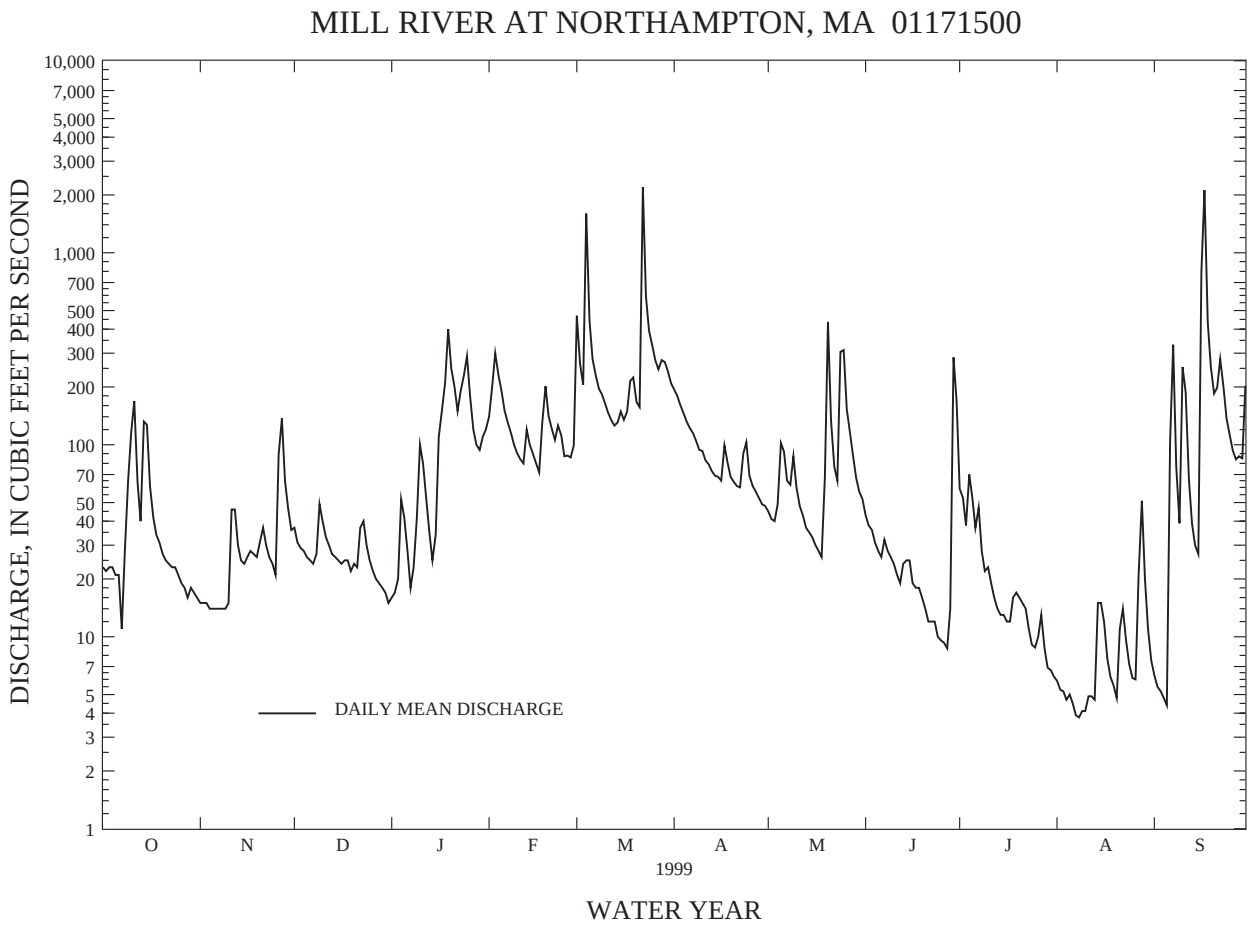
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

MEAN	54.6	88.5	99.9	92.9	104	194	233	132	75.9	38.3	34.5	35.9
MAX	456	334	307	287	338	475	478	326	300	125	254	215
(WY)	1956	1956	1997	1978	1981	1953	1993	1984	1982	1973	1955	1999
MIN	8.52	13.2	23.9	15.5	24.1	63.9	53.5	45.9	15.9	9.13	4.96	5.48
(WY)	1965	1965	1947	1981	1940	1989	1985	1985	1964	1957	1957	1957

01171500 MILL RIVER AT NORTHAMPTON, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999	
ANNUAL TOTAL	38281.4		35048.8			
ANNUAL MEAN	105		96.0		98.5	
HIGHEST ANNUAL MEAN					157	1996
LOWEST ANNUAL MEAN					39.1	1965
HIGHEST DAILY MEAN	1190	Mar 9	2200	Mar 22	3870	Aug 19 1955
LOWEST DAILY MEAN	4.7	Sep 20	3.8	Aug 8	3.8	Aug 8 1999
ANNUAL SEVEN-DAY MINIMUM	5.7	Sep 15	4.3	Aug 4	4.3	Aug 4 1999
INSTANTANEOUS PEAK FLOW			5050	Sep 17	6300	Aug 19 1955
INSTANTANEOUS PEAK STAGE			11.42	Sep 17	11.78	Aug 19 1955
INSTANTANEOUS LOW FLOW			3.4	Aug 7	2.2	Oct 1 1950
ANNUAL RUNOFF (CFSM)	1.94		1.78		1.82	
ANNUAL RUNOFF (INCHES)	26.37		24.14		24.78	
10 PERCENT EXCEEDS	231		207		220	
50 PERCENT EXCEEDS	65		40		56	
90 PERCENT EXCEEDS	9.4		9.8		14	

e Estimated



01172003 CONNECTICUT RIVER BELOW HOLYOKE DAM AT HOLYOKE, MA

LOCATION.--Lat 42°12'36", long 72°35'44", Hampden County, Hydrologic Unit 01080201, on right bank, 2,200 ft downstream from dam of Holyoke Water Power Co. in Holyoke, MA. and at mile 86.

DRAINAGE AREA.--8,309 mi^2.

PERIOD OF RECORD.--December 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 43.276 ft above sea level.

REMARKS.--Records good except those for periods of estimated daily discharge, which are fair. Flow regulated by power-plants, by First Connecticut and Second Connecticut Lakes, Lake Francis, Moore and Comerford Reservoirs, and other reservoirs, combined usable capacity, about 47 billion ft^3. Records do not include water diverted around gage by Holyoke Water Power Company for industrial use. Telephone gage-height telemeter at this station.

AVERAGE DISCHARGE.--14 years (water years 1985-99), 12,210 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 153,000 ft^3/s, June 1, 1984, gage height, 25.62 ft; minimum daily, 519 ft^3/s, Sept. 30, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1854, 244,000 ft^3/s, Mar. 20, 1936, gage height, 35.0 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 67,100 ft^3/s, Sept. 17, gage height, 15.22 ft; minimum daily, 1,220 ft^3/s, Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4340	5520	9230	6350	12700	e12500	45300	e8900	7170	4990	2490	2680
2	2740	7050	7600	5230	13300	12200	49900	e9000	7630	4610	2390	2200
3	3750	6250	9490	e4900	16000	13800	56300	e6500	9550	4020	2030	2420
4	4710	7690	12100	e5000	17700	e25000	52800	e8800	7250	3910	1670	1790
5	3300	5390	10500	5890	18000	44600	49800	e6400	3650	4720	1670	2100
6	4680	5480	7150	6910	17200	39200	45600	e11000	3400	6600	1480	1800
7	4560	4830	8270	8210	13400	27900	e38000	10700	6190	7630	1410	4510
8	7510	3740	8450	7510	11700	19400	e40000	9240	7210	6050	1380	5910
9	4660	2990	7250	5670	11100	15600	e40300	9440	6600	4610	1390	2280
10	4740	4280	7760	5780	e11000	15100	39100	10000	3830	7880	1360	5380
11	8040	7730	8190	6480	e11300	15000	34800	10200	3110	4360	1400	5230
12	7560	5970	8380	6520	11400	13900	27300	9600	2910	5010	1380	5120
13	7060	6490	7860	8380	12700	11100	20000	8560	2830	3970	1310	5280
14	7830	7310	7640	7840	12700	e10100	16600	8250	3460	4990	2780	3470
15	8950	6370	6810	7000	11100	e10000	15200	6000	3020	4190	1780	4110
16	10300	5070	8150	7820	10400	e9800	11900	4530	4160	3090	1240	9080
17	8700	6500	7830	8470	10000	9390	11500	2850	2710	3960	1220	52500
18	9700	7640	9170	9340	e10000	10500	11200	4680	2360	2760	4910	59700
19	9470	6450	7730	10100	e12500	11900	e11500	5870	1700	2200	3880	51900
20	7440	8020	7270	13200	9980	14400	11300	15400	1710	2730	1600	34500
21	8090	7350	7160	e15000	9270	16800	11200	29400	1850	2500	1690	26400
22	7930	8720	7850	e15000	8170	e23000	9210	21100	2290	2560	1660	21300
23	5470	7390	9830	e13000	9070	e59600	e8500	12200	2110	4830	1660	17000
24	5120	6070	e10300	e13500	9350	e55000	e10000	11800	2160	2810	1950	15700
25	3830	8660	e14500	23100	8750	e42000	e10200	16400	2130	1800	2940	15900
26	5210	5910	e8500	37200	e8500	30600	9240	13700	2110	1720	3650	12000
27	6140	9810	6150	35500	e9000	27000	10200	11000	2250	2510	3750	11800
28	6230	12800	4820	29500	e10000	26900	8020	10900	2350	5770	3510	10900
29	6970	12800	7760	21300	---	30200	8040	10100	6860	3560	2750	10600
30	6490	11100	8180	14900	---	37300	e9000	6960	7110	5610	1650	11500
31	5720	---	7110	14000	---	42400	---	5360	---	4870	2240	---
TOTAL	197240	211380	258990	378600	326290	732190	722010	314840	121670	130820	66220	415060
MEAN	6363	7046	8355	12210	11650	23620	24070	10160	4056	4220	2136	13840
MAX	10300	12800	14500	37200	18000	59600	56300	29400	9550	7880	4910	59700
MIN	2740	2990	4820	4900	8170	9390	8020	2850	1700	1720	1220	1790

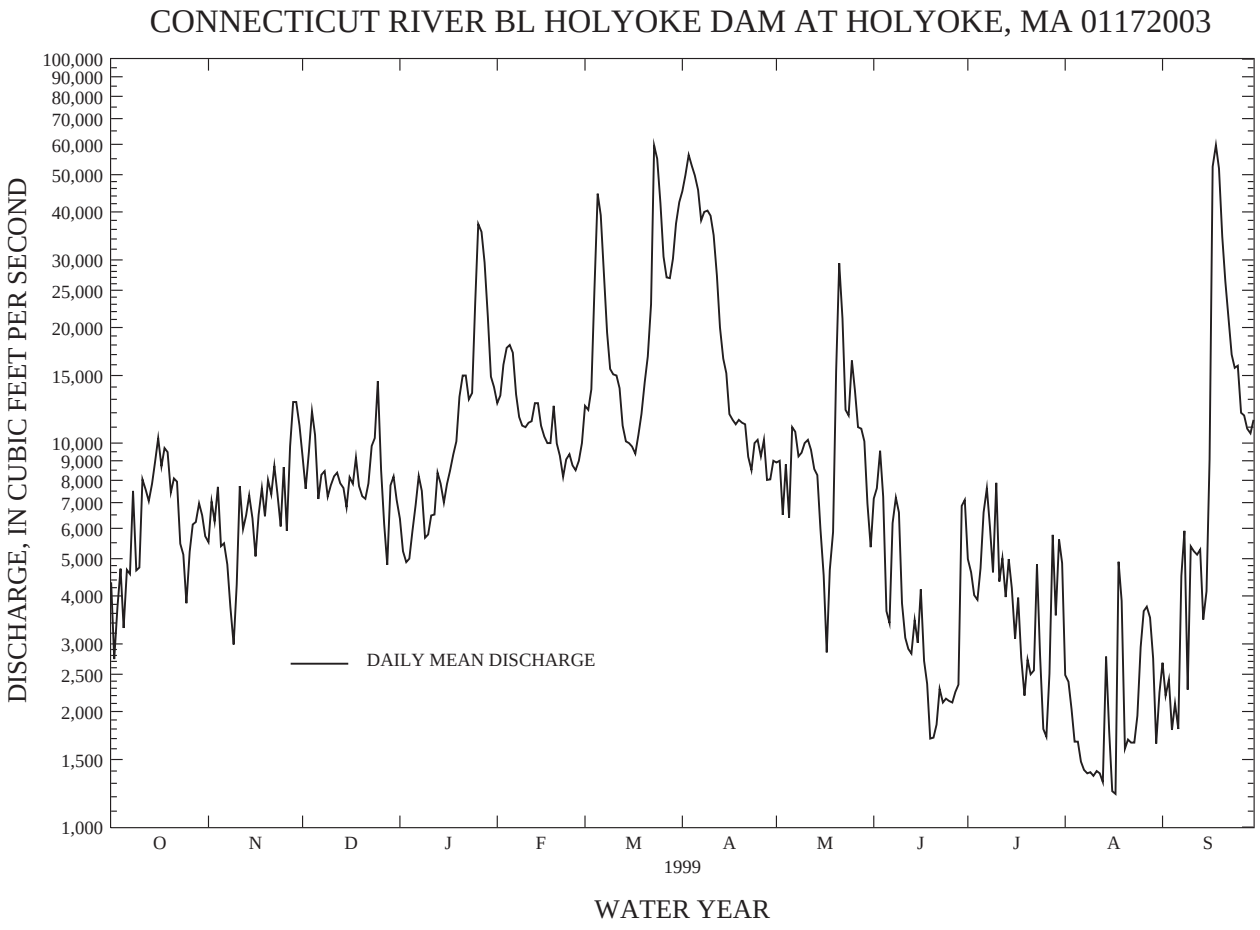
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1999, BY WATER YEAR (WY)

MEAN	9103	12020	11280	10570	10050	18190	33490	17220	10350	6374	5457	5142
MAX	16340	25800	27410	23660	21890	34660	58300	40670	31100	16930	14780	13840
(WY)	1991	1996	1997	1996	1984	1990	1993	1996	1984	1996	1990	1999
MIN	1512	3540	5787	4760	4250	9579	10270	7366	4056	2578	2136	1378
(WY)	1985	1985	1985	1989	1987	1989	1995	1987	1999	1991	1999	1984

01172003 CONNECTICUT RIVER BELOW HOLYOKE DAM AT HOLYOKE, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1984 - 1999	
ANNUAL TOTAL	5007590		3875310			
ANNUAL MEAN	13720		10620		12210	
HIGHEST ANNUAL MEAN					19030	1996
LOWEST ANNUAL MEAN					6580	1985
HIGHEST DAILY MEAN	90500	Apr 1	59700	Sep 18	145000	Jun 1 1984
LOWEST DAILY MEAN	1840	Aug 10	1220	Aug 17	519	Sep 30 1984
ANNUAL SEVEN-DAY MINIMUM	2950	Sep 2	1380	Aug 7	707	Sep 18 1984
INSTANTANEOUS PEAK FLOW			67100	Sep 17	153000	Jun 1 1984
INSTANTANEOUS PEAK STAGE			15.22	Sep 17	25.62	Jun 1 1984
INSTANTANEOUS LOW FLOW			924	Aug 17	a 200	Aug 15 1995
10 PERCENT EXCEEDS	27100		22000		27100	
50 PERCENT EXCEEDS	8530		7760		8070	
90 PERCENT EXCEEDS	3850		2270		3000	

a Occurred when Hadley 1 generator shut down. Discharge was derived from extending the rating below 2.5 ft.
e Estimated



01172500 WARE RIVER NEAR BARRE, MA

LOCATION.--Lat 42°25'30", long 72°01'30" Worcester County, Hydrologic Unit 01080204, on left bank 700 ft downstream from Barre Falls Reservoir, 1.6 mi upstream from Burnshirt River, 4 mi east of Barre, and at mile 33.3.

DRAINAGE AREA.--55.1 mi^2.

PERIOD OF RECORD.--Discharge: July 1946 to current year.
Water-quality records: Water years 1957, 1994.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area. WDR MA-RI-89-1: 1984–88.

GAGE.--Water-stage recorder. Elevation of gage is 745 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to August 1955, slight regulation at low flow at times by Long Pond. Flow regulated by Barre Falls Reservoir (see table below for monthend contents) since 1958. Diversion at times since 1955 from 6.5 mi^2 upstream of station for municipal supply of Fitchburg. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--53 years, 95.5 ft^3/s, 23.54 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft^3/s, Oct. 16, 1955, gage height, 6.31 ft; no flow part of each day Sept. 3-8, 13, 1996; minimum daily discharge, 0.1 ft^3/s, Sept. 8, 11, 1995. Maximum discharge since construction of Barre Falls Reservoir in 1958, 1,630 ft^3/s, Apr. 13, 1987, gage height, 5.56 ft; maximum gage height, 5.62 ft, Mar. 14, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 580 ft^3/s, Jan. 27, gage height, 4.51 ft; minimum daily, 0.57 ft^3/s, Aug. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	13	42	26	105	85	158	46	22	e11	1.4	1.8
2	3.3	13	39	25	107	122	143	45	20	e6.0	1.1	1.4
3	2.9	13	35	25	176	147	131	41	21	e11	.87	1.0
4	2.4	12	33	27	260	e150	121	39	19	e9.0	.91	.75
5	2.2	11	29	28	261	e317	115	46	16	e7.0	1.0	.65
6	1.9	11	26	36	261	e317	106	50	19	e6.0	e.80	1.1
7	1.8	11	25	41	255	e317	99	50	18	5.2	e.74	1.8
8	6.2	11	25	41	186	e317	89	48	15	4.4	e.70	3.1
9	34	10	32	40	140	e317	81	48	12	3.7	e.68	4.6
10	50	9.8	33	41	138	e161	82	48	12	4.7	e.66	23
11	90	16	32	57	122	e165	80	49	10	3.9	e.64	58
12	83	23	30	71	103	129	75	46	8.4	3.6	.66	46
13	65	24	28	75	129	130	68	38	7.6	3.3	.57	33
14	61	28	27	75	140	132	63	32	7.4	3.3	1.1	22
15	85	27	25	73	137	132	61	27	6.9	4.7	3.5	17
16	75	25	25	74	100	132	58	23	6.2	3.9	3.3	18
17	63	24	19	78	92	131	68	20	5.5	2.9	2.3	9.8
18	53	25	16	81	101	131	73	18	5.5	2.2	1.6	80
19	45	25	16	128	158	132	69	21	5.3	2.0	1.3	126
20	43	33	16	161	182	145	65	40	5.3	1.7	1.0	208
21	33	33	16	182	130	169	61	43	4.3	1.3	1.4	255
22	26	32	24	241	89	207	59	38	3.9	1.2	2.3	192
23	24	31	28	236	81	292	65	32	3.4	1.0	1.9	74
24	23	32	28	89	81	487	82	38	3.3	1.1	1.4	58
25	17	34	28	138	81	553	80	52	2.6	2.0	1.1	49
26	15	34	28	356	75	518	73	51	2.3	4.2	.86	40
27	15	48	28	524	71	343	64	48	2.0	7.8	3.9	32
28	13	50	28	562	72	207	58	42	1.9	12	17	26
29	14	48	28	417	---	218	53	36	3.2	3.8	8.0	21
30	13	45	28	214	---	209	48	32	e12	2.5	4.5	24
31	12	---	27	164	---	185	---	26	---	1.7	2.9	---
TOTAL	975.9	751.8	844	4326	3833	6997	2448	1213	281.0	138.1	70.09	1428.00
MEAN	31.5	25.1	27.2	140	137	226	81.6	39.1	9.37	4.45	2.26	47.6
MAX	90	50	42	562	261	553	158	52	22	12	17	255
MIN	1.8	9.8	16	25	71	85	48	18	1.9	1.0	.57	.65
(†)	2.2	3.4	24.5	20.7	24.5	4.7	3.1	2.6	2.0	1.4	0	2.4
MEAN††	31.7	25.5	35.1	138	138	218	81.0	38.9	9.14	4.23	1.74	48.5
CFSM††	0.58	0.46	0.64	2.01	2.51	3.96	1.47	0.71	0.17	0.08	0.03	0.88
IN.††	0.66	0.52	0.73	2.89	2.62	4.57	1.64	0.81	0.19	0.09	0.04	0.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1999, BY WATER YEAR (WY)

MEAN	53.6	83.0	104	105	111	180	230	122	73.5	32.1	29.0	26.6
MAX	275	233	327	285	274	365	559	257	368	102	169	205
(WY)	1956	1956	1997	1979	1996	1983	1987	1989	1984	1998	1955	1954
MIN	4.17	6.78	13.1	8.14	18.0	69.3	77.4	39.1	9.37	4.45	1.97	2.00
(WY)	1965	1965	1966	1981	1977	1967	1985	1999	1999	1999	1965	1953

01172500 WARE RIVER NEAR BARRE, MA--Continued

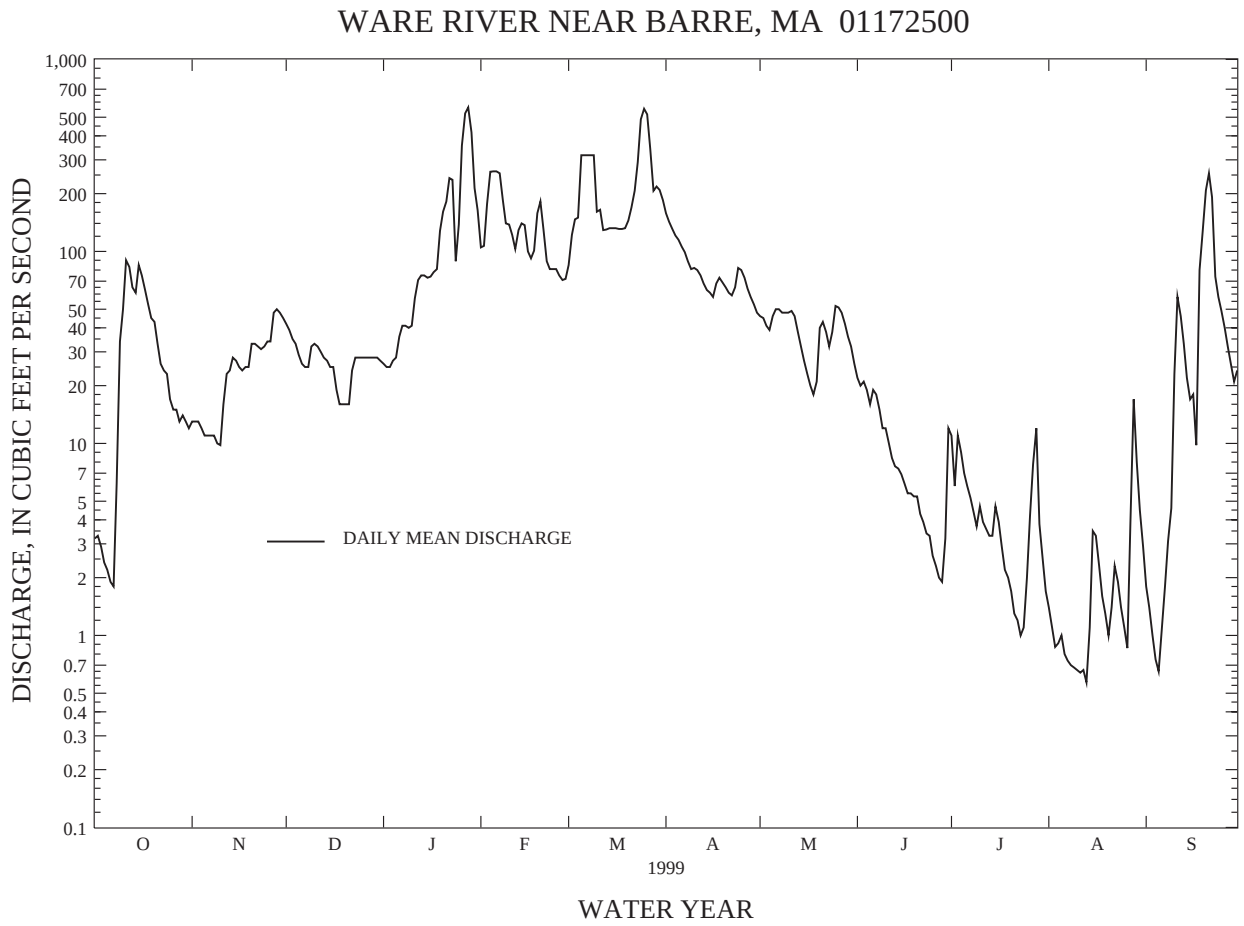
SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1946 - 1999	
ANNUAL TOTAL	40590.0		23305.89			
ANNUAL MEAN	111		63.9		95.5	
ADJUSTED ANNUAL MEAN	111		63.9		95.5	
HIGHEST ANNUAL MEAN					157	1984
LOWEST ANNUAL MEAN					29.5	1965
HIGHEST DAILY MEAN	896	Mar 13	562	Jan 28	1520	Oct 16 1955
LOWEST DAILY MEAN	1.1	Sep 20	.57	Aug 13	.10	Sep 8 1995
ANNUAL SEVEN-DAY MINIMUM	1.3	Sep 15	.66	Aug 7	.11	Sep 6 1995
INSTANTANEOUS PEAK FLOW			580	Jan 27	1890	Oct 16 1955
INSTANTANEOUS PEAK STAGE			4.51	Jan 27	6.31	Oct 16 1955
ADJUSTED RUNOFF (CFSM) ††	2.01		1.16		1.73	
ADJUSTED RUNOFF (INCHES) ††	27.20		15.70		23.54	
10 PERCENT EXCEEDS	286		162		221	
50 PERCENT EXCEEDS	59		32		60	
90 PERCENT EXCEEDS	3.5		1.9		7.2	

e Estimated

† Monthend contents, in millions of cubic feet (mcf), in Barre Falls Reservoir. Records furnished by U.S. Army Corps of Engineers. Monthend contents on Sept. 30, 1997, 1.8 mcf.

†† Adjusted for change in contents in Barre Falls Reservoir.

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



01173000 WARE RIVER AT INTAKE WORKS NEAR BARRE, MA

LOCATION.--Lat 42°23'26", long 72°03'39", Worcester County, Hydrologic Unit 01080204, on right bank above diversion dam at Ware River intake works, 2.7 mi downstream from Burnshirt River, 3 mi southeast of Barre, and at mile 29.1.

DRAINAGE AREA.--96.3 mi^2.

PERIOD OF RECORD.--January 1928 to current year. Prior to October 1977, published as Ware River at Coldbrook.

REVISED RECORDS.--WSP 1031: 1944. WDR MA-RI-84-1: Drainage area.

GAGE.--Venturi meters and water-stage recorder. Datum of gage is 5.65 ft below sea level. Prior to Feb. 1, 1936, water-stage recorder at site 0.2 mi downstream at datum 631.91 ft above sea level.

REMARKS.--Records good. Figures of discharge include diversion as needed for Boston metropolitan district during period Oct. 15 to June 14 of each year and at other times for emergency flood-control purposes as authorized by U.S. Army Corps of Engineers; diversion began in March 1931. Flow regulated by Barre Falls Reservoir 4.3 mi upstream (see table with station 01172500) since 1958. Diversion at times since 1955 from 6.5 mi^2 upstream for municipal supply of Fitchburg.

COOPERATION.--Computations of daily discharge made in cooperation with Water Division, Metropolitan District Commission, which collected gage-height and venturi-meter records.

AVERAGE DISCHARGE.--71 years, 169 ft^3/s, 23.83 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft^3/s, Sept. 21, 1938, gage height, 664.28 ft, by computation of flow over dam; minimum daily, 0.46 ft^3/s, Sept. 15, 1987, caused by unusual regulation. Maximum daily discharge since construction of Barre Falls Reservoir in 1958, 1,590 ft^3/s, Apr. 14, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 637 ft^3/s, Jan. 28; minimum daily, 2.0 ft^3/s, July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	26	69	42	232	223	249	84	41	20	3.6	3.6
2	8.5	26	63	42	248	235	230	78	37	17	2.9	2.9
3	8.4	25	68	58	397	279	212	73	35	18	2.5	2.8
4	7.7	24	65	70	450	567	202	74	32	19	2.3	2.3
5	7.6	23	57	59	433	574	192	94	27	18	2.3	2.2
6	7.4	23	51	61	393	555	180	94	27	16	2.3	2.8
7	7.1	23	47	65	363	470	171	93	29	14	2.5	3.6
8	28	22	51	67	283	466	160	90	25	11	2.6	5.7
9	82	22	65	77	225	393	153	88	21	9.7	2.5	7.7
10	92	27	64	108	220	237	152	84	19	9.7	2.0	62
11	130	38	60	114	200	212	149	81	19	9.7	2.2	105
12	130	60	56	126	193	214	145	76	17	7.7	2.2	62
13	122	53	53	130	235	214	144	66	13	7.1	2.2	42
14	110	56	49	126	220	214	144	60	15	6.3	4.0	31
15	141	50	46	139	216	214	128	50	14	6.7	7.7	26
16	145	49	45	239	181	206	121	40	13	5.9	7.3	119
17	139	50	41	246	171	210	130	38	13	5.7	5.6	218
18	115	62	38	222	216	233	136	36	12	5.7	4.2	183
19	87	66	39	296	273	251	133	47	12	4.3	3.2	204
20	71	70	35	306	278	251	125	96	12	4.2	2.9	256
21	56	68	36	287	207	256	116	88	11	2.8	3.4	319
22	45	59	50	331	161	454	113	73	10	2.0	4.3	262
23	42	55	56	339	155	492	125	62	9.4	2.9	4.3	150
24	40	51	59	452	150	579	141	85	9.0	2.9	27	139
25	32	53	45	525	150	607	142	112	8.4	2.9	4.3	97
26	29	61	45	575	147	570	142	101	7.6	7.4	2.0	65
27	28	99	46	631	142	423	136	87	7.1	10	2.9	52
28	27	95	48	637	152	324	109	76	7.4	15	15	43
29	27	82	48	486	---	329	103	63	17	8.0	11	36
30	26	73	45	304	---	312	96	54	27	5.3	6.8	50
31	26	---	42	265	---	276	---	46	---	4.2	5.1	---
TOTAL	1826.1	1491	1582	7425	6691	10840	4479	2289	546.9	279.1	153.1	2554.6
MEAN	58.9	49.7	51.0	240	239	350	149	73.8	18.2	9.00	4.94	85.2
MAX	145	99	69	637	450	607	249	112	41	20	27	319
MIN	7.1	22	35	42	142	206	96	36	7.1	2.0	2.0	2.2
MEAN††	59.1	50.2	58.9	238	241	342	149	73.7	18.0	8.78	4.42	86.1
CFSM††	0.61	0.52	0.61	2.47	2.50	3.55	1.55	0.77	0.19	0.09	0.05	0.89
INCHES††	0.71	0.58	0.71	2.85	2.60	4.10	1.72	0.88	0.21	0.11	0.05	1.00

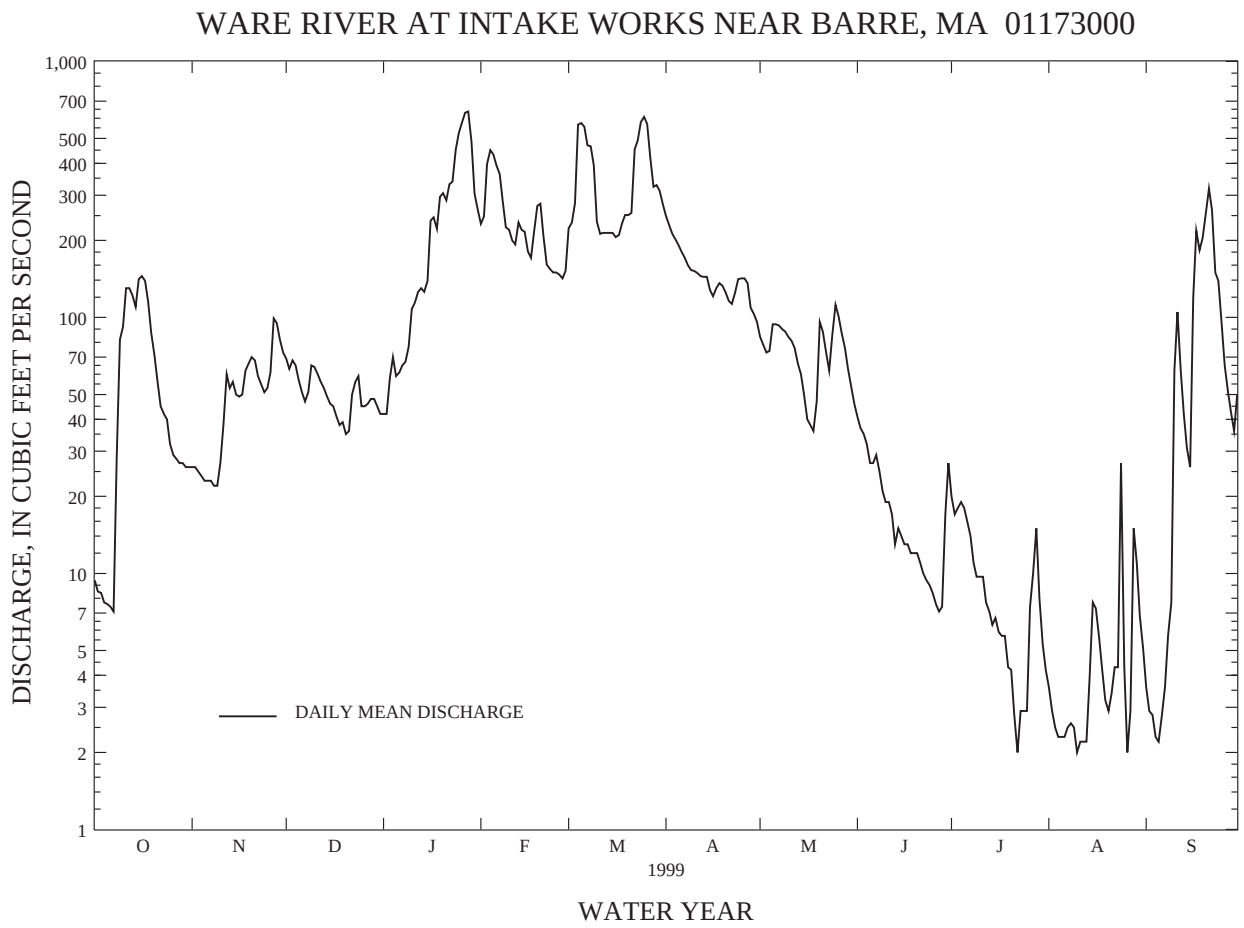
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1999, BY WATER YEAR (WY)

MEAN	88.4	137	172	181	181	326	405	218	137	68.4	54.0	65.0
MAX	465	445	570	499	488	1066	963	438	503	337	319	893
(WY)	1956	1956	1997	1979	1976	1936	1940	1989	1984	1938	1955	1938
MIN	7.86	13.9	29.1	17.2	37.5	118	129	73.8	18.2	9.00	4.94	6.12
(WY)	1965	1965	1966	1981	1980	1940	1985	1999	1999	1999	1999	1995

01173000 WARE RIVER AT INTAKE WORKS NEAR BARRE, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1928 - 1999	
ANNUAL TOTAL	69034.5		40156.8			
ANNUAL MEAN	189		110		169	
ANNUAL MEAN††	188		110		169	
HIGHEST ANNUAL MEAN					277	1938
LOWEST ANNUAL MEAN					56.4	1965
HIGHEST DAILY MEAN	1090	Mar 13	637	Jan 28	8740	Sep 21 1938
LOWEST DAILY MEAN	7.1	Oct 7	2.0	Jul 22	.46	Sep 15 1987
ANNUAL SEVEN-DAY MINIMUM	8.0	Oct 1	2.3	Aug 7	2.3	Aug 7 1999
INSTANTANEOUS PEAK FLOW					14000	Sep 21 1938
INSTANTANEOUS PEAK STAGE					664.28	Sep 21 1938
ANNUAL RUNOFF (CFSM)††	1.95		1.14		1.75	
ANNUAL RUNOFF (INCHES)††	26.57		15.52		23.83	
10 PERCENT EXCEEDS	445		277		385	
50 PERCENT EXCEEDS	115		60		111	
90 PERCENT EXCEEDS	14		4.3		20	

†† Adjusted for change in contents in Barre Falls Reservoir (see station 01172500 for monthend contents).
Note.--Except as footnoted, all statistics are based on unadjusted daily and monthly mean data.



01173500 WARE RIVER AT GIBBS CROSSING, MA

LOCATION.--Lat 42°14'10", long 72°16'23", Hampshire County, Hydrologic Unit 01080204, on right bank 0.5 mi upstream from Gibbs Crossing, 1.8 mi upstream from Beaver Brook, 2.5 mi southwest of Ware, and 8.8 mi upstream from mouth.

DRAINAGE AREA.--197 mi^2.

PERIOD OF RECORD.--Discharge: August 1912 to current year.
Water-quality records: Water years 1953-54.

REVISED RECORDS.--WSP 1031: 1944.

WSP 1301: 1914(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.79 ft above sea level. Prior to Mar. 1, 1930, at site 0.5 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversion at times: Since March 1931 from 96.3 mi^2 for supply of Boston metropolitan district and since 1955 from 6.5 mi^2 for municipal supply of Fitchburg. Flow regulated by mills upstream and by Barre Falls Reservoir (see station 01172500) since 1958. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--18 years (water years 1913-30), 313 ft^3/s, 21.36 in/yr; 69 years (water years 1931-99), affected by diversion and storage, 293 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,700 ft^3/s, Sept. 21, 1938, gage height, 18.2 ft, from floodmarks, from rating curve extended above 4,600 ft^3/s on basis of contracted-opening measurement at gage height 12.83 ft and slope-area measurement at gage height 18.2 ft; minimum, 4.2 ft^3/s, Aug. 24, 1995; minimum daily, 6.0 ft^3/s, Oct. 4, 1914. Maximum discharge since construction of Barre Falls Reservoir in 1958, 5,050 ft^3/s, Mar. 6, 1979, gage height, 7.94 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,460 ft^3/s, Jan. 25, gage height, 5.56 ft; minimum daily, 8.2 ft^3/s, Oct. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	70	145	106	e410	535	498	173	111	71	17	18
2	8.2	72	131	103	429	639	448	163	105	35	16	13
3	12	68	124	122	1050	528	441	152	94	41	16	12
4	14	59	108	179	1060	1550	396	137	84	55	14	11
5	13	66	118	155	1020	1530	361	235	86	55	13	9.7
6	10	73	121	124	859	1120	343	271	90	50	14	15
7	8.9	66	110	122	737	934	302	237	72	53	13	17
8	40	67	106	111	643	806	310	210	89	45	13	16
9	183	71	131	174	521	790	278	209	61	37	15	14
10	260	66	142	e300	449	614	283	206	57	41	12	87
11	409	113	136	e220	398	444	262	176	59	36	11	291
12	336	144	121	206	388	405	249	153	61	e34	11	198
13	246	120	116	234	440	399	266	161	60	e28	11	123
14	271	110	111	192	485	394	244	145	59	24	20	66
15	315	117	101	266	394	447	239	132	58	23	27	86
16	283	109	91	515	415	425	234	124	59	23	23	202
17	250	102	104	521	312	440	225	121	58	22	18	995
18	229	108	119	502	392	535	269	105	42	22	14	616
19	167	117	96	917	619	625	261	120	30	24	12	388
20	144	136	58	891	584	558	234	279	42	24	9.8	313
21	130	124	91	742	513	509	231	322	47	23	11	408
22	118	125	122	573	377	979	213	201	48	21	12	531
23	93	122	125	631	e320	1350	225	178	34	21	11	386
24	77	112	126	1380	285	1070	304	213	22	20	10	224
25	90	97	e110	2070	274	1080	263	258	34	21	9.5	199
26	86	110	e84	1360	278	991	249	274	32	22	9.2	162
27	80	173	e105	1080	270	895	255	214	29	18	27	127
28	79	244	107	1020	267	717	227	177	27	17	36	84
29	97	157	105	923	---	692	187	165	40	17	30	70
30	76	156	107	e640	---	631	194	137	123	18	22	146
31	67	---	111	e480	---	550	---	127	---	16	19	---
TOTAL	4221.1	3274	3482	16859	14189	23182	8491	5775	1813	957	496.5	5827.7
MEAN	136	109	112	544	507	748	283	186	60.4	30.9	16.0	194
MAX	409	244	145	2070	1060	1550	498	322	123	71	36	995
MIN	8.2	59	58	103	267	394	187	105	22	16	9.2	9.7

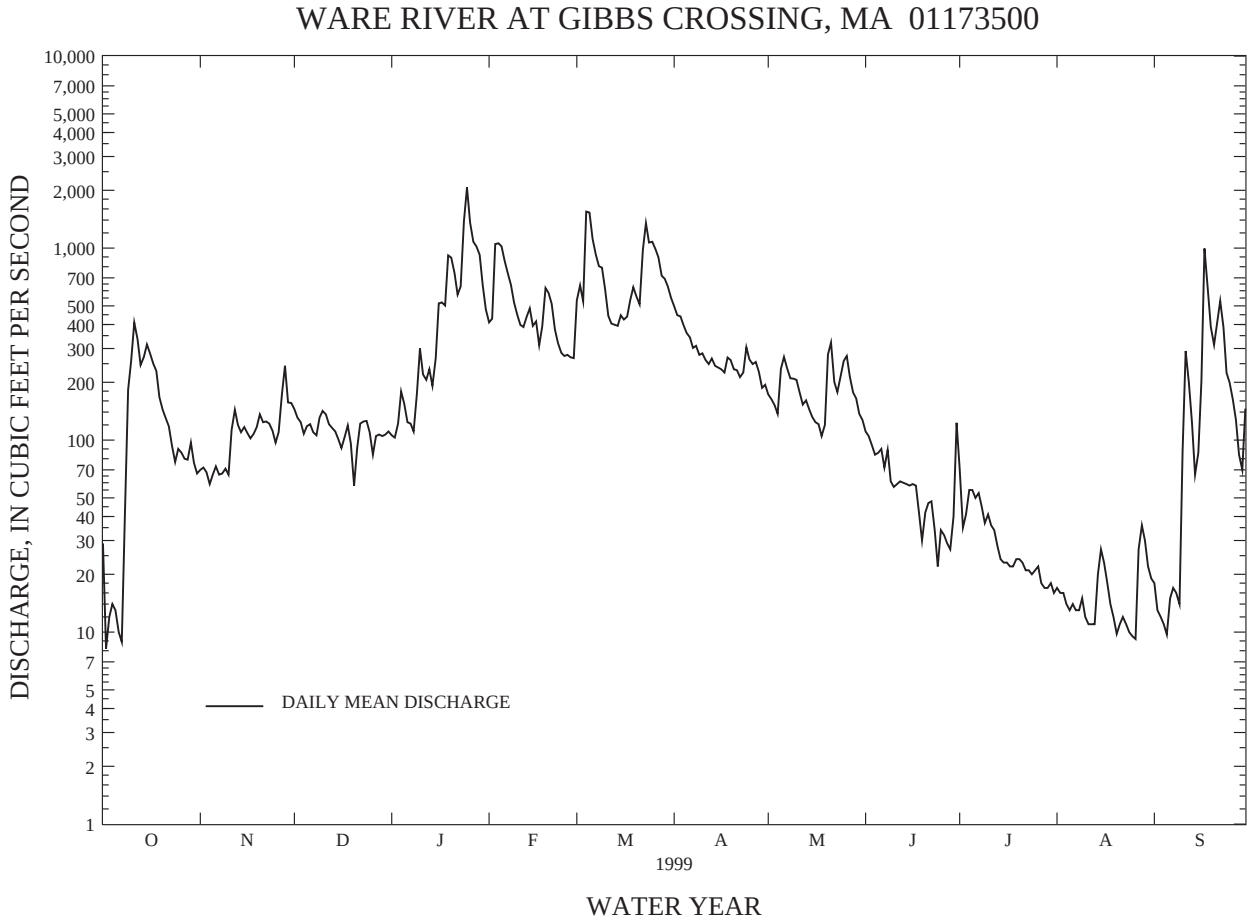
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1999, BY WATER YEAR (WY)

MEAN	168	254	304	333	327	519	590	374	248	140	121	137
MAX	750	922	1295	794	802	1838	1394	830	746	714	890	1707
(WY)	1956	1956	1997	1996	1976	1936	1956	1996	1984	1938	1955	1938
MIN	29.0	39.0	68.5	29.6	77.7	210	231	167	60.4	30.9	16.0	14.5
(WY)	1965	1965	1966	1981	1980	1989	1966	1965	1999	1999	1999	1953

01173500 WARE RIVER AT GIBBS CROSSING, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1931 - 1999	
ANNUAL TOTAL	125659.4		88567.3			
ANNUAL MEAN	344		243		293	
HIGHEST ANNUAL MEAN					581	1938
LOWEST ANNUAL MEAN					107	1965
HIGHEST DAILY MEAN	3470	Mar 10	2070	Jan 25	16700	Sep 21 1938
LOWEST DAILY MEAN	8.2	Oct 2	8.2	Oct 2	7.0	Sep 12 1953
ANNUAL SEVEN-DAY MINIMUM	14	Oct 1	10	Aug 20	9.4	Sep 8 1953
INSTANTANEOUS PEAK FLOW			2460	Jan 25	22700	Sep 21 1938
INSTANTANEOUS PEAK STAGE			5.56	Jan 25	18.20	Sep 21 1938
INSTANTANEOUS LOW FLOW			7.4	Oct 2	4.2	Aug 24 1995
10 PERCENT EXCEEDS	805		617		613	
50 PERCENT EXCEEDS	213		125		214	
90 PERCENT EXCEEDS	40		17		48	

e Estimated



01174500 EAST BRANCH SWIFT RIVER NEAR HARDWICK, MA

LOCATION.--Lat 42°23'36", long 72°14'21", Worcester County, Hydrologic Unit 01080204, on left bank 100 ft above spillway of regulating dam and 4.6 mi northwest of Hardwick.

DRAINAGE AREA.--43.7 mi^2.

PERIOD OF RECORD.--Discharge: January 1937 to current year. Published as "near Dana" January 1937 to September 1939. Water-quality records: Water year 1957.

GAGE.--Water-stage recorder. Concrete spillway since Mar. 12, 1940. Datum of gage is 504.70 ft above sea level.

REMARKS.--Records fair except those for estimated daily discharge, which are poor. No flow at times during several years. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--62 years, 72.0 ft^3/s, 22.49 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,780 ft^3/s, Sept. 21, 1938, average of slope-area and contracted-opening measurements; maximum gage height since construction of concrete spillway in 1940; 22.49 ft, June 25, 1944; no flow at times during several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,050 ft^3/s, Jan. 25, gage height, 21.19 ft; minimum, no flow part or all of each day, July 24 to Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	10	92	21	179	318	91	30	21	14	0.00	0.00
2	4.5	9.1	32	15	264	294	85	29	19	19	.00	.00
3	3.7	7.7	17	31	643	188	79	28	17	14	.00	.00
4	3.0	7.4	15	78	558	469	77	27	15	18	.00	.00
5	2.7	7.7	13	72	502	442	68	42	11	19	.00	.00
6	e2.4	8.8	14	47	278	276	62	51	9.4	13	.00	.00
7	e.88	9.7	13	46	281	202	60	43	9.2	11	.00	.00
8	7.3	11	11	31	230	128	55	40	8.5	7.8	.00	.00
9	37	11	20	86	172	100	53	40	7.5	5.9	.00	.00
10	77	18	25	130	173	88	53	35	6.9	8.0	.00	.00
11	196	87	25	121	143	80	46	29	6.0	5.2	.00	7.7
12	150	54	20	113	197	76	49	25	5.4	4.1	.00	14
13	157	32	23	148	214	72	46	22	5.6	3.6	.00	11
14	169	28	26	55	146	72	41	19	6.3	2.4	.00	7.2
15	216	34	17	104	115	84	39	18	6.1	1.9	.00	10
16	162	17	12	182	123	78	38	16	4.8	1.3	.00	63
17	116	24	26	250	112	74	43	15	4.2	.87	.00	488
18	110	37	31	260	164	92	46	17	4.7	.61	.00	373
19	40	38	22	332	252	120	43	23	4.1	.72	.00	186
20	24	95	24	302	229	117	44	92	3.5	1.1	.00	106
21	19	97	26	229	148	102	42	102	3.0	.38	.00	91
22	18	80	53	240	82	197	41	66	2.7	.17	.00	129
23	16	29	21	256	60	304	50	46	2.5	.10	.00	127
24	15	13	25	728	68	215	62	55	1.9	.02	.00	78
25	14	13	26	979	76	159	53	69	1.2	.00	.00	41
26	13	21	24	737	87	124	46	63	1.0	.00	.00	29
27	14	58	28	613	59	110	41	51	.70	.00	.00	24
28	14	76	27	448	70	110	36	39	.54	.00	.00	23
29	15	73	39	336	---	127	34	32	5.4	.00	.00	22
30	13	102	49	255	---	116	31	27	12	.00	.00	26
31	11	---	21	180	---	102	---	24	---	.00	.00	---
TOTAL	1646.88	1108.4	817	7425	5625	5036	1554	1215	206.14	152.17	0.00	1855.90
MEAN	53.1	36.9	26.4	240	201	162	51.8	39.2	6.87	4.91	.000	61.9
MAX	216	102	92	979	643	469	91	102	21	19	.00	488
MIN	.88	7.4	11	15	59	72	31	15	.54	.00	.00	.00
CFSM	1.22	.85	.60	5.48	4.60	3.72	1.19	.90	.16	.11	.00	1.42
IN.	1.40	.94	.70	6.32	4.79	4.29	1.32	1.03	.18	.13	.00	1.58

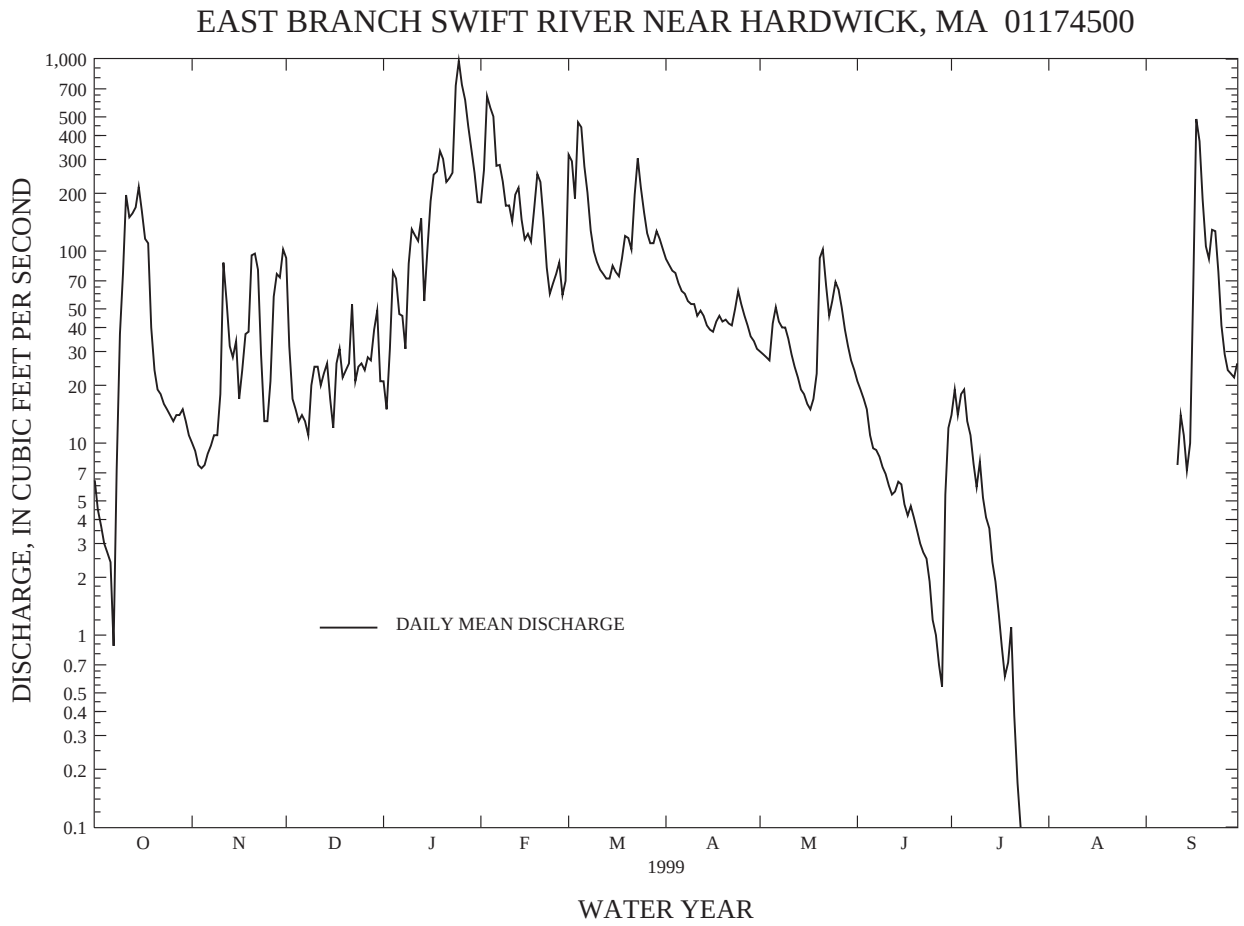
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1999, BY WATER YEAR (WY)

MEAN	38.6	63.5	76.7	82.5	82.0	136	160	91.8	58.4	29.1	22.6	26.4
MAX	155	177	264	240	207	266	420	189	175	179	127	390
(WY)	1980	1956	1997	1999	1984	1979	1940	1984	1984	1938	1955	1938
MIN	2.55	6.93	19.9	5.30	18.5	48.2	34.8	30.5	6.87	3.23	.000	.000
(WY)	1965	1965	1981	1981	1940	1965	1985	1985	1999	1949	1999	1995

01174500 EAST BRANCH SWIFT RIVER NEAR HARDWICK, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1937 - 1999	
ANNUAL TOTAL	28346.35		26641.49			
ANNUAL MEAN	77.7		73.0		72.0	
HIGHEST ANNUAL MEAN					123	1938
LOWEST ANNUAL MEAN					22.8	1965
HIGHEST DAILY MEAN	997	Mar 10	979	Jan 25	4690	Sep 21 1938
LOWEST DAILY MEAN	.00	Sep 20	.00	Jul 25	.00	Aug 15 1939
ANNUAL SEVEN-DAY MINIMUM	.10	Sep 15	.00	Jul 25	.00	Aug 31 1953
INSTANTANEOUS PEAK FLOW			1050	Jan 25	6780	Sep 21 1938
INSTANTANEOUS PEAK STAGE			21.19	Jan 25	22.49	Jun 25 1944
INSTANTANEOUS LOW FLOW			.00	Jul 24	.00	Aug 7 1939
ANNUAL RUNOFF (CFSM)	1.78		1.67		1.65	
ANNUAL RUNOFF (INCHES)	24.13		22.68		22.38	
10 PERCENT EXCEEDS	183		197		163	
50 PERCENT EXCEEDS	49		27		45	
90 PERCENT EXCEEDS	3.0		.00		6.8	

e Estimated



01174565 WEST BRANCH SWIFT RIVER NEAR SHUTESBURY, MA

LOCATION.--Lat 42°27'18", long 72°22'56", Franklin County, Hydrologic Unit 01080204, on left bank 800 ft downstream from State Highway 202 and 1.4 mi east of Shutesbury.

DRAINAGE AREA.--12.6 mi^2.

PERIOD OF RECORD.--November 1983 to September 1985, April 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 540 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges and those for discharges greater than 500 ft^3/s, which are poor.

AVERAGE DISCHARGE.--5 years (water years, 1985, 1996-99) 23.1 ft^3/s, 24.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft^3/s, Sept. 17, 1999, gage height, 5.96 ft, from rating curve extended above 310 ft^3/s on basis of slope-area measurement at gage height 4.28 ft; minimum, about 0.35 ft^3/s, mid-September 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,490 ft^3/s, Sept. 17, gage height, 5.96 ft; minimum, 0.37 ft^3/s, Aug. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.94	2.8	10	8.5	e40	73	37	11	7.6	4.4	0.53	1.9
2	.77	2.7	8.3	14	47	60	34	10	6.9	3.9	.54	1.5
3	.74	2.5	7.9	19	115	46	32	9.7	6.3	5.1	.50	1.3
4	.71	2.2	7.7	24	81	227	29	10	5.4	6.2	.49	1.1
5	.88	2.2	6.7	20	72	94	27	15	4.8	6.4	.51	1.1
6	.79	2.1	6.4	19	56	65	26	14	4.4	3.7	.49	1.8
7	.77	2.3	6.2	14	47	53	25	13	4.2	3.3	.59	5.2
8	4.7	2.3	6.9	15	40	e42	23	13	3.9	2.3	.58	32
9	9.0	2.2	11	36	34	42	21	15	3.7	1.9	.66	15
10	13	2.2	8.9	91	32	36	21	13	4.0	2.2	.49	78
11	35	12	7.9	113	30	33	19	11	3.7	1.8	.58	112
12	15	11	6.9	90	31	31	18	9.9	3.4	1.5	.84	35
13	9.0	7.3	6.3	50	48	29	17	9.1	3.3	1.4	.61	19
14	21	5.8	6.0	46	37	29	16	8.4	3.6	1.3	3.8	13
15	30	5.7	5.5	e47	e30	30	16	8.2	3.8	1.2	2.9	10
16	15	4.8	5.4	e60	29	28	15	7.6	3.2	1.1	1.7	42
17	10	5.2	5.9	e56	27	31	17	7.1	2.8	1.1	1.2	636
18	8.3	5.2	5.8	e52	42	44	16	6.8	3.0	1.1	1.0	126
19	7.1	4.3	5.5	e45	51	52	15	13	2.8	1.1	.92	68
20	5.8	5.2	5.6	e38	40	43	15	72	2.6	1.5	.85	49
21	5.1	6.9	5.7	e33	33	38	14	34	2.2	1.1	1.0	43
22	4.3	5.9	9.5	32	e28	196	14	19	2.0	1.2	3.9	65
23	3.7	5.3	8.2	31	e25	111	17	15	1.9	1.2	2.2	51
24	3.5	5.1	6.6	127	23	71	18	17	1.7	.92	1.4	37
25	3.5	4.3	8.4	142	21	60	16	32	1.6	.79	1.1	29
26	3.3	14	6.5	73	21	52	14	22	1.5	.67	.96	24
27	2.9	33	e5.8	55	20	46	13	16	1.4	.71	2.5	21
28	2.9	19	5.5	45	22	54	12	13	1.4	.61	22	20
29	3.5	14	5.2	36	---	56	11	11	6.6	.59	8.8	20
30	3.0	12	6.8	33	---	48	11	9.6	8.2	.59	4.6	29
31	3.0	---	14	e35	---	42	---	8.5	---	.54	2.9	---
TOTAL	227.20	209.5	223.0	1499.5	1122	1862	579	473.9	111.9	61.42	71.14	1587.9
MEAN	7.33	6.98	7.19	48.4	40.1	60.1	19.3	15.3	3.73	1.98	2.29	52.9
MAX	35	33	14	142	115	227	37	72	8.2	6.4	22	636
MIN	.71	2.1	5.2	8.5	20	28	11	6.8	1.4	.54	.49	1.1
CFSM	.58	.55	.57	3.84	3.18	4.77	1.53	1.21	.30	.16	.18	4.20
IN.	.67	.62	.66	4.43	3.31	5.50	1.71	1.40	.33	.18	.21	4.69

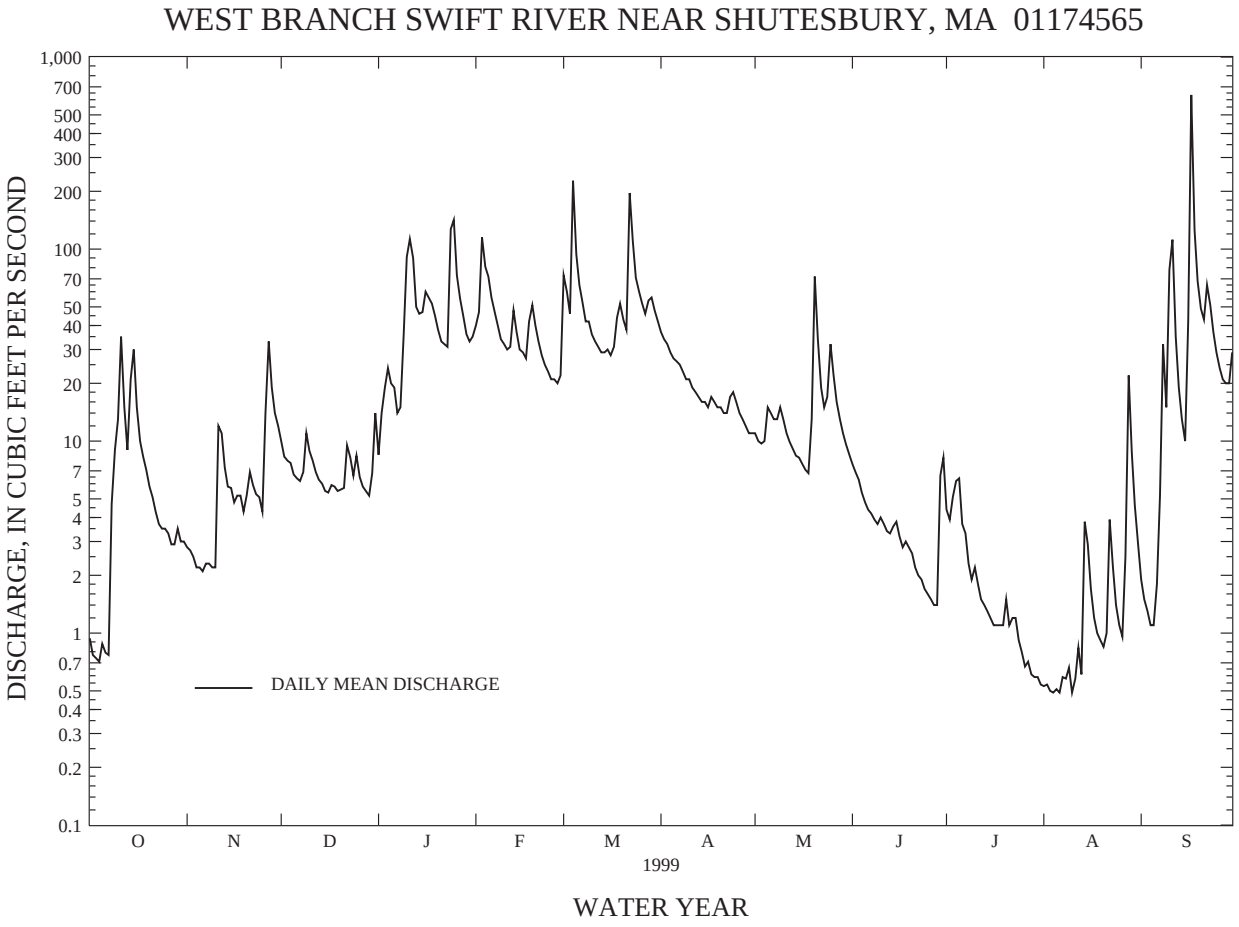
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1999, BY WATER YEAR (WY)

MEAN	11.3	21.1	30.0	32.8	37.8	43.0	38.7	31.3	22.1	10.2	3.79	10.9
MAX	23.9	39.2	75.3	51.0	70.6	60.1	83.0	78.1	52.8	24.3	7.71	52.9
(WY)	1996	1996	1997	1996	1984	1999	1984	1984	1998	1996	1985	1999
MIN	2.58	6.98	7.19	11.1	13.6	30.5	15.3	10.5	3.73	1.98	2.03	1.02
(WY)	1985	1999	1999	1985	1985	1985	1985	1985	1999	1999	1995	1998

01174565 WEST BRANCH SWIFT RIVER NEAR SHUTESBURY, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1984 - 1999	
ANNUAL TOTAL	8476.28		8028.46			
ANNUAL MEAN	23.2		22.0		23.1	
HIGHEST ANNUAL MEAN					33.0	1996
LOWEST ANNUAL MEAN					11.3	1985
HIGHEST DAILY MEAN	225	Mar 9	636	Sep 17	636	Sep 17 1999
LOWEST DAILY MEAN	.55	Sep 18	.49	Aug 4	.35	Sep 7 1995
ANNUAL SEVEN-DAY MINIMUM	.68	Sep 15	.51	Jul 31	.38	Sep 7 1995
INSTANTANEOUS PEAK FLOW			1490	Sep 17	1490	Sep 17 0000
INSTANTANEOUS PEAK STAGE			5.96	Sep 17	5.87	Jun 14 1996
INSTANTANEOUS LOW FLOW			.37	Aug 6	.35	Sep 7 1995
ANNUAL RUNOFF (CFSM)	1.84		1.75		1.84	
ANNUAL RUNOFF (INCHES)	25.03		23.70		24.94	
10 PERCENT EXCEEDS	54		51		54	
50 PERCENT EXCEEDS	13		9.7		14	
90 PERCENT EXCEEDS	1.2		1.1		1.6	

e Estimated



01175500 SWIFT RIVER AT WEST WARE, MA

LOCATION.--Lat 42°16'04", long 72°19'59", Hampshire County, Hydrologic Unit 01080204, on left bank at West Ware, 1.4 mi downstream from Quabbin Reservoir, 3.5 mi east of Belchertown, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--189 mi^2, includes 1.6 mi^2 drained by Beaver Brook, flow of which is diverted from Ware River basin. Prior to January 1937, 186 mi^2.

PERIOD OF RECORD.--Discharge: July 1910 to September 1912 (twice-daily gage heights and corresponding discharge), October 1912 to current year.
Water-quality records: Water years 1952-54.

REVISED RECORDS.--WSP 451: 1916. WSP 871: 1919. WSP 1031: 1944 (changes in reservoir contents and adjusted figures only). WSP 1301: 1925(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 365.18 ft above sea level. Prior to Aug. 25, 1912, nonrecording gage at site 400 ft upstream at same datum.

REMARKS.--Records good, except those greater than 200 ft^3/s and those for estimated daily discharges, which are fair. Flow regulated since August 1939 by Quabbin Reservoir, usable capacity, 53.8 billion ft^3,(See table below for monthend contents). Diversion from Ware River to Quabbin Reservoir since 1940, from Quabbin Reservoir to Wachusett Reservoir since 1941, from Quabbin Reservoir to Chicopee Valley aqueduct since 1950, and from Quabbin Reservoir to city of Worcester at times since 1966.

AVERAGE DISCHARGE.--27 years (water years 1913-39) prior to completion of Quabbin Reservoir, 314 ft^3/s, 22.56 in/yr; 60 years (water years 1940-99), affected by storage and diversions, 98.1 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,590 ft^3/s, Mar. 19, 1936, gage height, 15.00 ft; minimum daily, 9.1 ft^3/s, Dec. 15, 1968. Maximum discharge since construction of Quabbin Reservoir in 1939, 3,070 ft^3/s, June 1, 1984, gage height, 11.58 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 163 ft^3/s, Sept. 10, gage height, 2.88 ft; minimum daily, 30 ft^3/s, Sept. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	32	e33	33	35	40	34	39	32	69	36	116
2	37	32	e33	33	39	35	35	39	32	35	81	116
3	37	32	e33	34	40	35	35	40	32	34	114	114
4	37	33	e33	33	37	45	34	39	32	35	114	114
5	85	33	e33	33	37	37	34	40	32	34	117	114
6	117	33	e33	33	36	37	33	41	32	35	118	115
7	73	33	e33	33	35	36	33	39	67	35	118	115
8	39	32	e33	33	35	e35	34	39	108	34	118	73
9	38	32	e33	34	35	35	34	38	70	34	118	80
10	39	75	e33	33	35	35	34	37	35	35	118	131
11	39	120	e33	33	35	35	34	36	75	34	118	119
12	37	119	e33	33	35	35	34	34	112	34	118	118
13	37	76	e33	33	36	35	35	33	112	34	118	70
14	38	34	e33	33	35	35	35	33	113	34	119	30
15	38	34	e33	35	34	36	34	33	114	34	119	79
16	37	83	e33	34	34	36	34	33	114	71	118	77
17	37	125	e33	33	34	37	35	33	114	117	118	42
18	37	71	e33	36	37	37	36	32	114	104	118	34
19	37	33	e33	36	36	36	36	33	114	60	73	32
20	37	33	e33	34	35	36	36	37	113	31	73	31
21	37	33	e33	33	35	36	36	34	112	31	103	34
22	37	33	e33	33	e34	41	36	33	112	35	103	36
23	37	33	e33	34	e34	37	38	33	112	80	109	35
24	37	33	e33	50	34	36	41	34	112	118	117	35
25	37	33	e33	e40	33	36	39	33	112	118	109	37
26	87	e33	e33	e35	33	36	39	33	113	118	109	39
27	73	e33	e33	e36	33	36	39	33	112	118	117	38
28	33	e33	e33	36	35	36	39	33	113	72	117	35
29	33	e33	e33	35	---	35	39	33	117	37	116	36
30	33	e33	e33	35	---	35	39	33	116	37	116	36
31	32	---	33	35	---	34	---	32	---	37	116	---
TOTAL	1389	1425	1023	1074	986	1126	1074	1092	2698	1734	3376	2081
MEAN	44.8	47.5	33.0	34.6	35.2	36.3	35.8	35.2	89.9	55.9	109	69.4
MAX	117	125	33	50	40	45	41	41	117	118	119	131
MIN	32	32	33	33	33	34	33	32	32	31	36	30
†	51072	50009	49478	50230	51202	52888	53205	52776	51393	49740	48174	48596

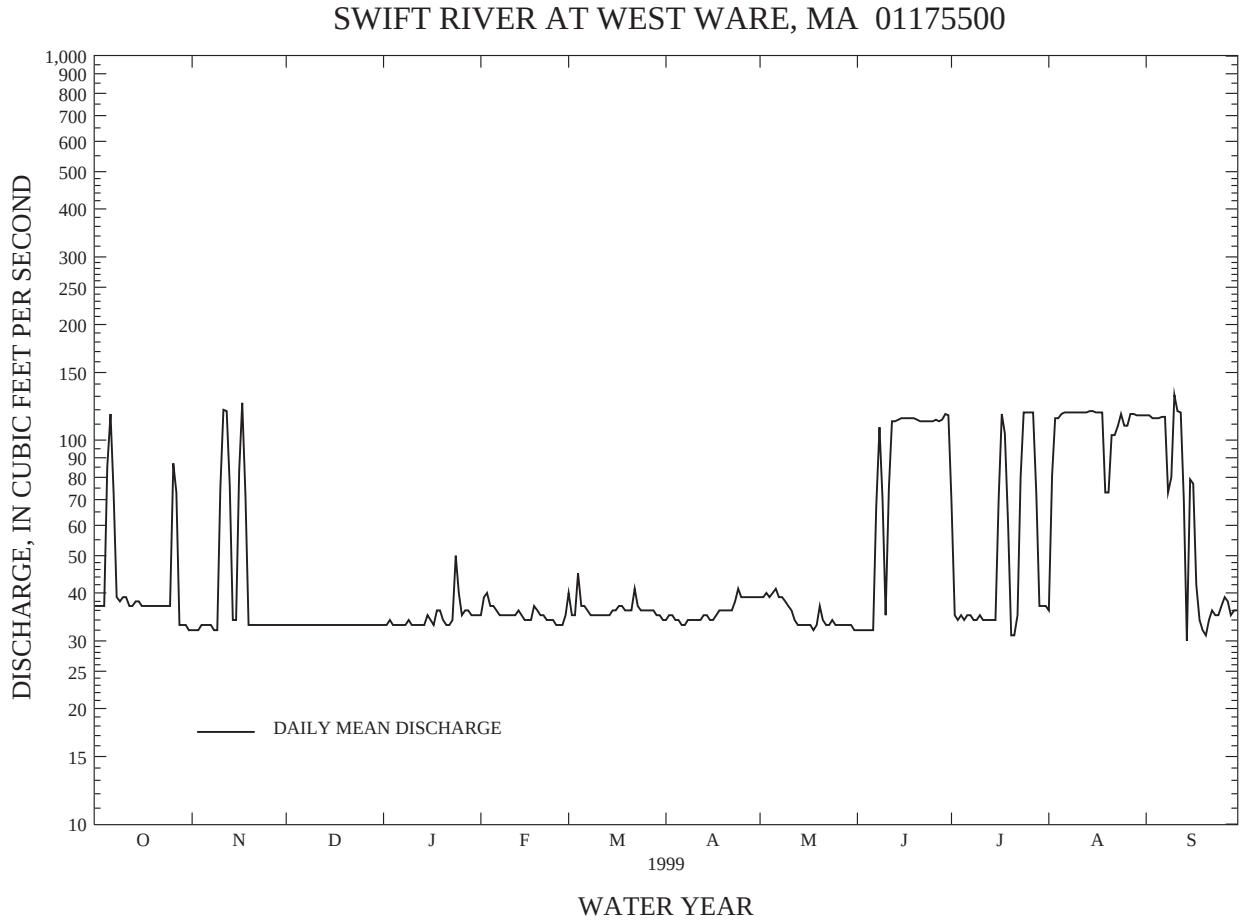
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1999, BY WATER YEAR (WY)

MEAN	72.3	78.0	74.2	73.8	79.5	85.6	174	167	128	77.2	79.1	79.5
MAX	222	858	656	572	467	511	1099	775	1192	301	149	139
(WY)	1956	1956	1997	1997	1997	1997	1953	1953	1984	1948	1961	1963
MIN	30.3	31.3	28.0	27.5	27.6	27.7	26.2	27.4	28.6	31.2	30.7	30.3
(WY)	1945	1945	1995	1995	1995	1995	1995	1995	1945	1944	1944	1990

01175500 SWIFT RIVER AT WEST WARE, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1940 - 1999	
ANNUAL TOTAL	24447		19078			
ANNUAL MEAN	67.0		52.3		97.3	
HIGHEST ANNUAL MEAN					369	1997
LOWEST ANNUAL MEAN					30.7	1945
HIGHEST DAILY MEAN	328	Jul 2	131	Sep 10	3040	Jun 1 1984
LOWEST DAILY MEAN	28	Jul 26	30	Sep 14	9.1	Dec 15 1968
ANNUAL SEVEN-DAY MINIMUM	32	Oct 28	32	May 31	24	Nov 11 1996
INSTANTANEOUS PEAK FLOW			163	Sep 10	3070	Jun 1 1984
INSTANTANEOUS PEAK STAGE			2.88	Sep 10	11.58	Jun 1 1984
INSTANTANEOUS LOW FLOW			30	Sep 14		
10 PERCENT EXCEEDS	132		115		150	
50 PERCENT EXCEEDS	38		35		45	
90 PERCENT EXCEEDS	33		33		32	

† Monthend contents, in millions of cubic feet (mcf) in Quabbin Reservoir. Records furnished by Watershed Management Division of Metropolitian District Commission.
e Estimated



01175670 SEVENMILE RIVER NEAR SPENCER, MA

LOCATION.--Lat 42°15'54", long 72°00'19", Worcester County, Hydrologic Unit 01080204, on right bank 40 ft upstream from bridge on Cooney Road and 1.5 mi north of Spencer.

DRAINAGE AREA.--8.68 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water year 1960. October 1960 to current year. October and November 1960 monthly discharge only, published in WSP 1901.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 630 ft above sea level, from topographic map. Prior to Sept. 25, 1984, at datum 8.83 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional regulation by ponds upstream since 1971.

AVERAGE DISCHARGE.--39 years, 15.1 ft^3/s, 23.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 412 ft^3/s, Mar. 18, 1968, gage height, 5.19 ft, datum then in use; maximum gage height, unknown, Apr. 1, 1987, present datum; minimum discharge, 0.04 ft^3/s, Sept. 10, 11, 1980 (regulated); minimum daily, 0.12 ft^3/s, Sept. 6, 1995, Aug. 31, Sept. 4, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 154 ft^3/s, Mar. 4, gage height, 11.41 ft; minimum, 0.05 ft^3/s, Sept. 4, 5; minimum daily, 0.12 ft^3/s, Aug. 31, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.69	4.8	3.4	e2.4	e28	33	19	5.0	2.3	1.2	0.90	0.14
2	.84	4.9	2.8	e2.4	29	29	17	4.5	2.1	1.7	.67	.21
3	.70	1.7	2.4	e3.0	63	23	17	4.4	1.6	2.9	.60	.18
4	.48	1.7	4.7	e7.0	45	108	16	4.5	1.7	2.4	.52	.12
5	.35	2.6	2.5	e25	e37	68	14	12	1.7	2.0	.38	.15
6	.29	3.3	1.3	e17	34	49	13	12	1.6	1.7	.34	.17
7	.32	2.3	1.6	e11	28	42	12	9.6	1.5	2.0	.35	.19
8	1.3	2.3	2.2	e8.0	24	e35	11	7.8	1.4	1.7	.35	.23
9	4.6	2.0	3.1	e12	21	29	9.5	7.3	1.3	1.5	.28	.17
10	8.0	1.9	3.0	e20	18	24	10	6.4	.87	1.4	.32	.90
11	14	3.7	3.2	e45	16	21	9.6	5.9	.82	1.1	.46	1.5
12	11	3.6	2.9	e35	17	19	8.7	5.2	1.0	.93	.47	.86
13	7.4	4.0	2.8	e22	22	e18	7.8	4.7	1.2	.57	.48	.59
14	7.1	7.4	2.5	e18	18	19	8.1	4.2	1.0	.71	.47	.30
15	7.9	1.7	2.2	75	17	23	8.2	4.0	.83	.87	.48	.34
16	5.7	1.5	2.5	e110	14	21	8.4	3.6	.77	.67	.47	14
17	5.5	2.1	2.8	e86	14	21	9.4	2.9	.79	.70	.50	47
18	4.9	2.7	3.0	e70	19	26	8.9	2.8	1.9	.71	.31	22
19	4.3	2.8	2.8	e54	24	30	7.9	4.1	1.2	.63	.26	12
20	3.4	2.7	3.9	e45	20	27	7.5	9.2	.95	.80	.32	7.4
21	2.6	6.2	3.4	e36	17	22	7.3	8.0	.78	.68	.38	5.4
22	2.4	2.1	e3.3	e27	e15	72	7.0	6.1	.84	.74	.43	5.4
23	2.4	2.3	e3.0	25	e13	61	9.0	4.5	.72	.75	.34	4.0
24	2.4	2.1	e2.9	70	11	47	11	6.1	.53	.72	.23	3.4
25	2.5	2.0	e2.8	85	11	42	9.1	11	.57	.65	.17	2.8
26	2.2	5.8	e2.6	60	12	35	7.4	9.3	.56	1.6	.24	2.2
27	1.9	3.4	e2.6	43	e11	30	6.7	7.3	.46	3.1	.41	1.8
28	2.0	3.9	e2.5	35	12	32	6.1	6.0	.38	2.0	.33	1.4
29	3.1	4.2	e2.5	30	---	33	5.7	4.5	.54	1.3	.21	.92
30	2.9	3.8	e2.6	e28	---	27	5.0	3.5	.69	1.0	.15	1.7
31	3.0	---	e3.0	e27	---	23	---	2.9	---	.95	.12	---
TOTAL	116.17	95.5	86.8	1133.8	610	1089	297.3	189.3	32.60	39.68	11.94	137.47
MEAN	3.75	3.18	2.80	36.6	21.8	35.1	9.91	6.11	1.09	1.28	.39	4.58
MAX	14	7.4	4.7	110	63	108	19	12	2.3	3.1	.90	47
MIN	.29	1.5	1.3	2.4	11	18	5.0	2.8	.38	.57	.12	.12
CFSM	.43	.37	.32	4.21	2.51	4.05	1.14	.70	.13	.15	.04	.53
IN.	.50	.41	.37	4.86	2.61	4.67	1.27	.81	.14	.17	.05	.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1999, BY WATER YEAR (WY)

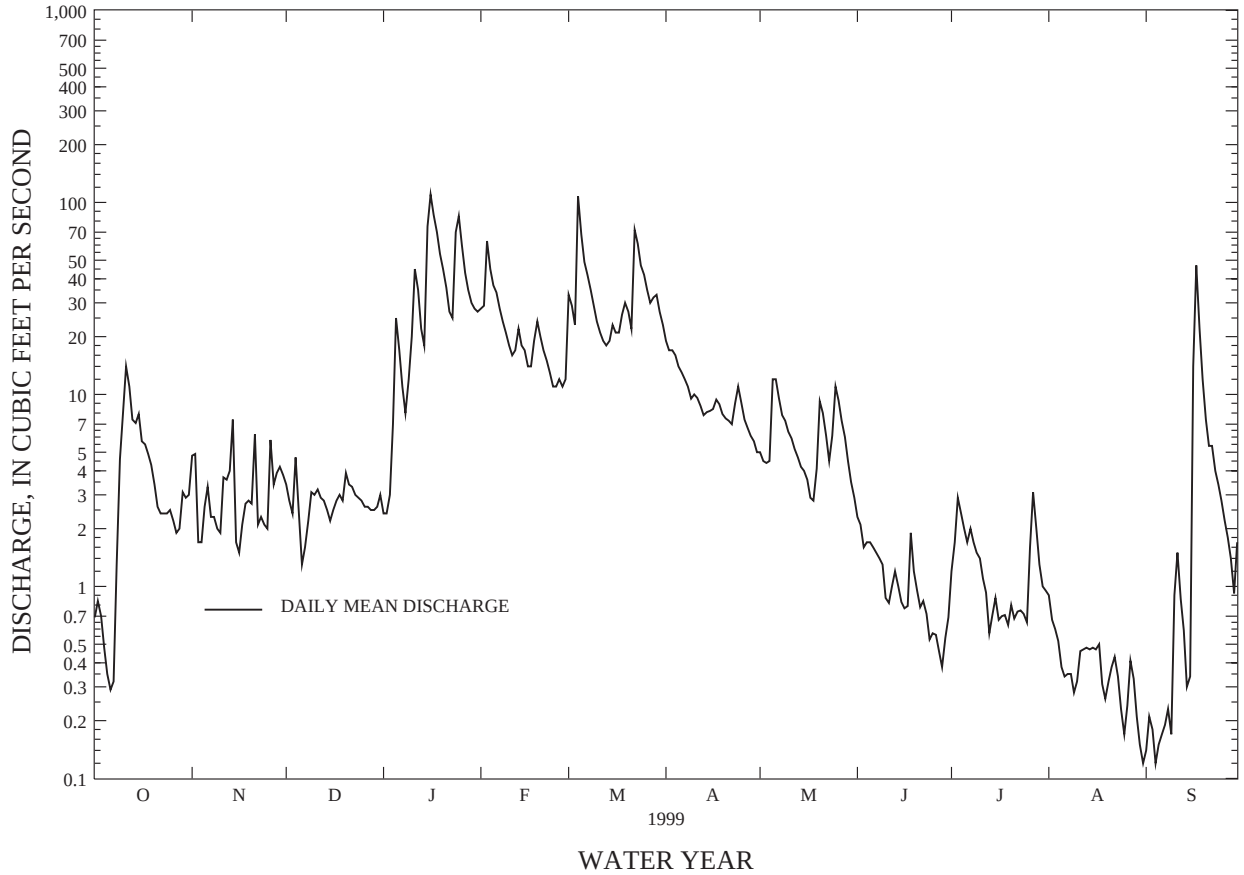
MEAN	8.04	12.4	17.8	18.7	18.6	30.9	31.4	18.2	11.8	5.02	4.13	3.87
MAX	29.2	28.0	56.2	56.5	44.8	66.2	69.5	40.5	46.5	20.3	14.4	15.7
(WY)	1997	1976	1997	1979	1970	1983	1987	1967	1982	1996	1979	1975
MIN	.79	1.41	2.80	2.75	3.87	12.9	9.91	6.00	1.09	.80	.39	.32
(WY)	1964	1965	1999	1981	1977	1967	1999	1982	1999	1965	1999	1964

01175670 SEVENMILE RIVER NEAR SPENCER, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1961 - 1999	
ANNUAL TOTAL	5620.35		3839.56			
ANNUAL MEAN	15.4		10.5		15.1	
HIGHEST ANNUAL MEAN					22.3	1996
LOWEST ANNUAL MEAN					5.40	1965
HIGHEST DAILY MEAN	201	Mar 10	110	Jan 16	284	Mar 19 1968
LOWEST DAILY MEAN	.20	Sep 13	.12	Aug 31	.09	Aug 3 1997
ANNUAL SEVEN-DAY MINIMUM	.31	Sep 9	.15	Aug 30	.15	Aug 30 1999
INSTANTANEOUS PEAK FLOW			154	Mar 4	412	Mar 18 1968
INSTANTANEOUS PEAK STAGE			11.41	Mar 4	13.39	Jan 25 1992
INSTANTANEOUS LOW FLOW			.05	Sep 4	.02	Sep 22 1997
ANNUAL RUNOFF (CFSM)	1.77		1.21		1.74	
ANNUAL RUNOFF (INCHES)	24.09		16.46		23.58	
10 PERCENT EXCEEDS	37		29		35	
50 PERCENT EXCEEDS	8.7		3.3		9.5	
90 PERCENT EXCEEDS	.73		.46		1.1	

e Estimated

SEVENMILE RIVER NEAR SPENCER, MA 01175670



01176000 QUABOAG RIVER AT WEST BRIMFIELD, MA

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

DRAINAGE AREA.--150 mi^2.

PERIOD OF RECORD.--Discharge: August 1909 to July 1912 (twice-daily gage heights and corresponding discharges), August 1912 to current year.
Water-quality records: Water years 1953, 1967, 1969-70, 1972-74.

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

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

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

AVERAGE DISCHARGE.--87 years (water years 1913-99), 248 ft^3/s, 22.49 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft^3/s, Aug. 19, 1955, gage height, 15.36 ft, from floodmarks, present site and datum, from rating curve extended above 2,700 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 6.6 ft^3/s, Sept. 28, 29, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,060 ft^3/s, Jan. 24, gage height, 5.62 ft (from peak indicator); minimum, 8.3 ft^3/s, Sept. 5, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

1	26	65	110	e62	e300	e300	502	152	94	22	16	12
2	23	60	109	e60	e320	e400	472	143	80	25	15	11
3	22	55	109	e80	e600	456	446	132	69	25	14	10
4	22	63	103	e120	e700	870	411	122	56	28	13	9.7
5	22	65	98	e100	e800	880	377	163	53	29	12	8.5
6	20	70	96	e80	e700	891	357	180	51	26	12	10
7	20	96	89	e80	e600	827	326	185	46	31	12	11
8	32	100	90	e70	e540	733	297	184	40	26	12	10
9	81	104	100	e110	e480	695	266	179	36	24	12	11
10	85	106	99	e190	e450	659	254	164	39	26	11	23
11	155	133	95	e150	e400	599	239	160	36	23	10	32
12	162	132	95	e130	e390	551	228	140	33	22	11	25
13	162	130	98	e150	e430	524	203	125	31	22	11	22
14	179	130	96	e120	e410	507	194	118	31	21	14	23
15	199	123	96	e244	e390	503	190	109	31	19	17	25
16	189	118	97	e297	e350	460	190	100	26	18	15	116
17	180	118	98	e406	e300	475	204	91	27	17	13	264
18	164	111	91	e658	e400	499	191	83	27	17	13	234
19	143	109	93	e623	e490	496	184	89	25	17	13	227
20	129	112	92	e443	e500	485	183	172	24	18	11	203
21	115	112	90	e360	e400	475	180	150	23	17	14	187
22	105	110	90	e400	e300	746	174	137	21	17	18	183
23	102	113	82	e600	e280	758	184	130	20	17	13	166
24	104	104	e80	e900	e270	736	193	152	19	16	12	154
25	95	104	e70	e1000	e270	710	191	180	19	16	12	135
26	90	115	e60	e900	e270	673	186	173	18	16	12	119
27	84	125	e70	e800	e260	640	177	161	17	15	13	105
28	80	127	e72	e700	e270	620	175	153	19	16	14	94
29	77	130	e70	e600	---	598	165	144	23	15	12	84
30	70	127	e60	e500	---	553	158	119	21	16	12	87
31	64	---	e64	e400	---	525	---	107	---	17	11	---
TOTAL	3001	3167	2762	11333	11870	18844	7497	4397	1055	634	400	2601.2
MEAN	96.8	106	89.1	366	424	608	250	142	35.2	20.5	12.9	86.7
MAX	199	133	110	1000	800	891	502	185	94	31	18	264
MIN	20	55	60	60	260	300	158	83	17	15	10	8.5
CFSM	.65	.70	.59	2.44	2.83	4.05	1.67	.95	.23	.14	.09	.58
IN.	.74	.79	.68	2.81	2.94	4.67	1.86	1.09	.26	.16	.10	.65

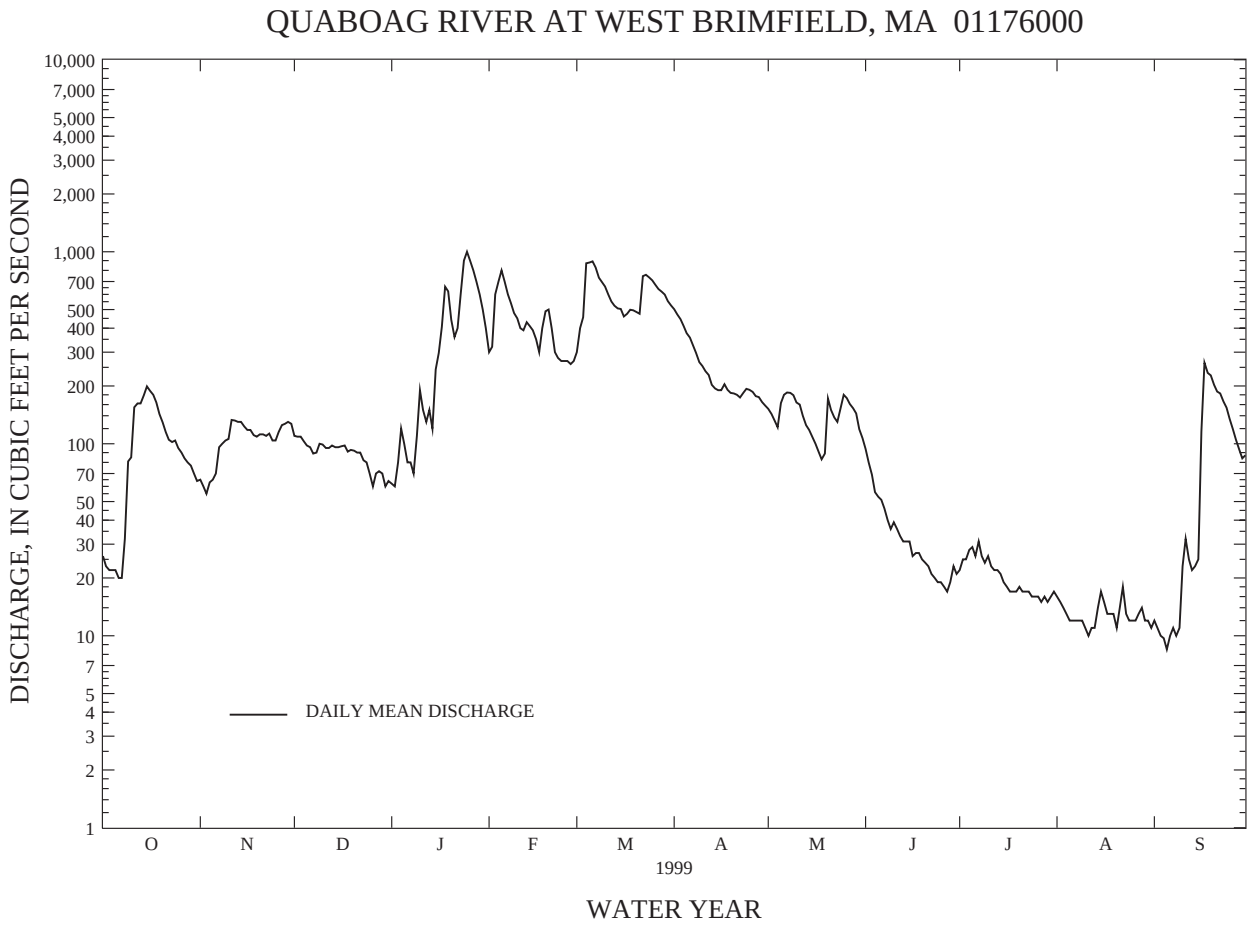
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1999, BY WATER YEAR (WY)

MEAN	129	189	253	277	284	489	544	316	188	104	105	105
MAX	607	693	911	821	748	1399	1352	573	789	524	1440	1369
(WY)	1956	1956	1997	1979	1970	1936	1940	1943	1984	1938	1955	1938
MIN	11.9	26.9	48.5	46.6	65.2	169	173	108	35.2	17.6	12.8	12.0
(WY)	1958	1950	1931	1981	1977	1989	1915	1930	1999	1965	1957	1957

01176000 QUABOAG RIVER AT WEST BRIMFIELD, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1912 - 1999	
ANNUAL TOTAL	98658		67561.2			
ANNUAL MEAN	270		185		248	
HIGHEST ANNUAL MEAN					430	1938
LOWEST ANNUAL MEAN					104	1965
HIGHEST DAILY MEAN	1420	Mar 12	1000	Jan 25	7800	Sep 21 1938
LOWEST DAILY MEAN	20	Oct 6	8.5	Sep 5	4.6	Oct 17 1997
ANNUAL SEVEN-DAY MINIMUM	22	Sep 15	10	Sep 2	6.3	Oct 13 1997
INSTANTANEOUS PEAK FLOW			1060	Jan 24	12800	Aug 19 1955
INSTANTANEOUS PEAK STAGE			5.62	Jan 24	15.36	Aug 19 1955
INSTANTANEOUS LOW FLOW			8.3	Sep 5		
ANNUAL RUNOFF (CFSM)	1.80		1.23		1.66	
ANNUAL RUNOFF (INCHES)	24.47		16.76		22.49	
10 PERCENT EXCEEDS	576		505		552	
50 PERCENT EXCEEDS	164		107		168	
90 PERCENT EXCEEDS	29		15		40	

e Estimated



01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MA

LOCATION.--Lat 42°09'38", long 72°30'52", Hampden County, Hydrologic Unit 01080204, on left bank 1,000 ft downstream from West Street Bridge at Indian Orchard, 1.1 mi upstream from Fuller Brook, and 7.2 mi upstream from mouth.

DRAINAGE AREA.--689 mi^2.

PERIOD OF RECORD.--Discharge: August 1928 to current year. Published as "at Bircham Bend" prior to November 1938. Water-quality records: Water years 1953, 1957, 1994.

REVISED RECORDS.--WSP 1231: 1934. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 125 ft above sea level, from topographic map. Prior to Nov. 1, 1938, water-stage recorder at site 1.8 mi downstream at different datum.

REMARKS.--Records good. Diversion since 1941 from 186 mi^2 in Swift River basin and at times since 1931 from 97 mi^2 in Ware River basin for Boston metropolitan district; since 1950, for Chicopee; since 1952, for South Hadley; at times since 1966 for Worcester; at times since 1955 from 6.5 mi^2 in Ware River basin for Fitchburg. Diversion from Ludlow Reservoir for Springfield and, prior to 1952, for Chicopee. Flow regulated by powerplants upstream, by Quabbin Reservoir 21 mi upstream on Swift River since 1939, by Barre Falls Reservoir on Ware River since 1958, by Conant Brook Reservoir since 1966, and by smaller reservoirs. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--71 years, 913 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,200 ft^3/s, Sept. 21, 1938, by computation of flow over dam; minimum daily, 16 ft^3/s, several times in 1929-31.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,300 ft^3/s, Jan. 25, gage height, 8.57 ft; minimum daily, 80 ft^3/s, Aug. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

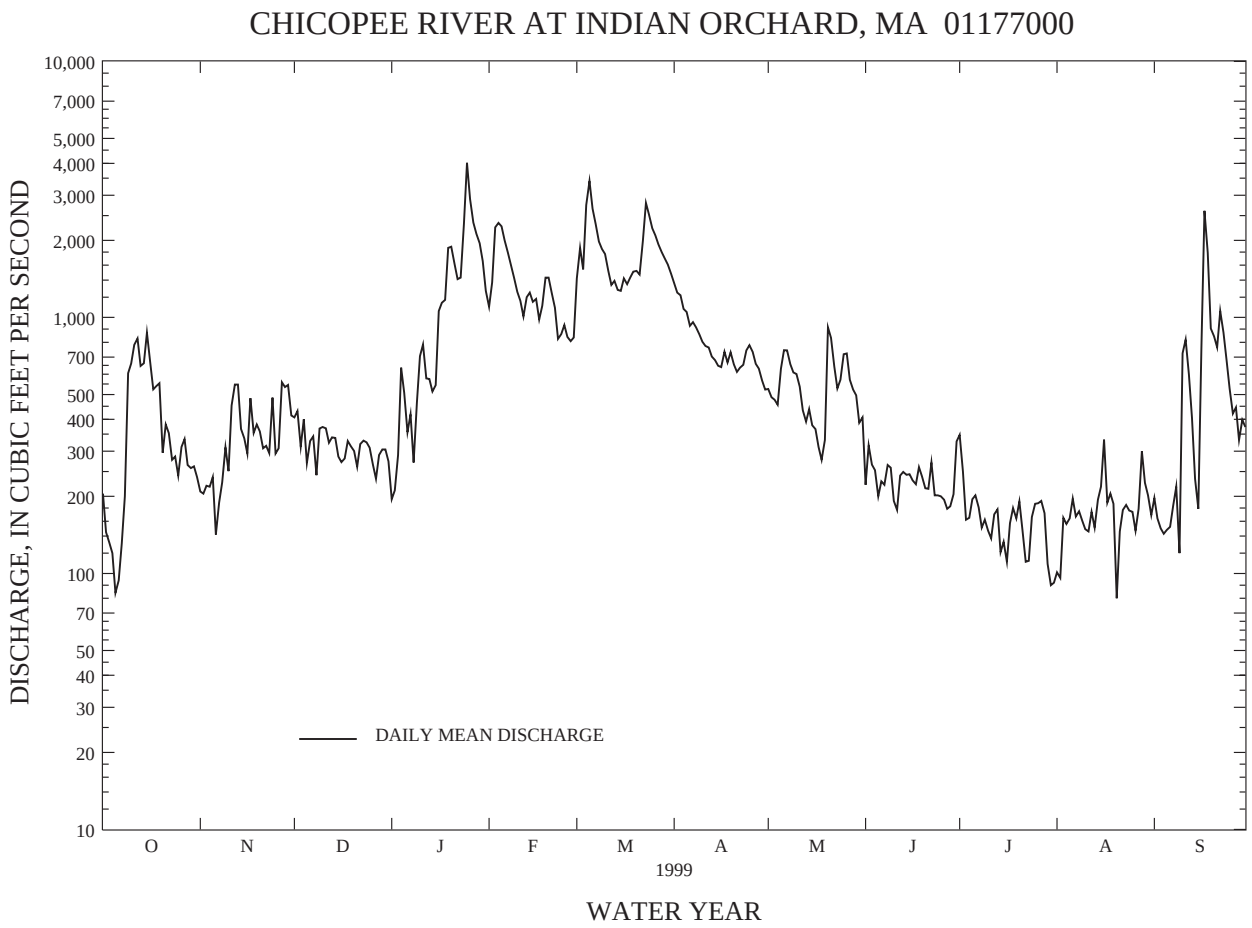
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	209	407	195	1100	1420	1360	525	222	348	101	197
2	145	205	431	211	1370	1870	1250	488	316	250	96	164
3	132	220	313	290	2250	1540	1220	477	266	162	165	150
4	120	218	400	636	2340	2750	1080	456	253	165	156	143
5	84	238	270	508	2270	3410	1050	630	200	195	164	148
6	94	142	329	356	2000	2660	927	745	229	202	196	152
7	131	189	343	418	1790	2320	959	744	222	181	167	184
8	200	227	242	271	1600	1980	915	656	265	151	175	218
9	605	311	368	464	1430	1850	859	610	259	162	161	120
10	661	251	373	706	1260	1770	803	601	192	147	149	725
11	782	453	369	785	1160	1520	774	536	177	137	146	819
12	827	547	324	578	1010	1340	763	434	241	170	174	598
13	646	547	340	575	1200	1390	704	392	249	178	151	405
14	662	367	338	514	1250	1280	681	438	243	121	194	234
15	871	337	286	544	1150	1270	648	379	244	133	218	179
16	678	294	272	1060	1180	1420	640	366	231	111	333	758
17	524	484	281	1140	982	1350	735	312	223	157	189	2610
18	539	354	329	1170	1110	1430	667	278	260	180	205	1790
19	553	382	314	1870	1430	1510	731	332	239	164	187	905
20	296	359	301	1890	1430	1520	655	915	215	191	80	843
21	382	308	261	1620	1250	1470	613	832	214	148	146	764
22	353	315	320	1410	1090	1990	636	643	271	111	177	1060
23	278	295	330	1430	824	2800	653	528	202	112	185	873
24	286	486	325	2320	861	2520	743	571	202	166	176	682
25	241	294	310	4020	933	2230	779	718	200	187	174	527
26	312	308	266	2900	839	2090	733	723	194	188	147	421
27	335	558	234	2350	807	1930	659	571	179	192	179	445
28	265	535	290	2120	834	1800	631	523	183	172	300	332
29	258	545	305	1950	---	1700	567	496	204	109	226	398
30	262	414	305	1660	---	1610	523	388	328	90	202	373
31	238	---	274	1270	---	1480	---	407	---	92	169	---
TOTAL	11965	10392	9850	37231	36750	57220	23958	16714	6923	5072	5488	17217
MEAN	386	346	318	1201	1312	1846	799	539	231	164	177	574
MAX	871	558	431	4020	2340	3410	1360	915	328	348	333	2610
MIN	84	142	234	195	807	1270	523	278	177	90	80	120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1999, BY WATER YEAR (WY)

MEAN	531	734	900	989	1014	1593	1813	1190	805	480	446	484
MAX	1953	3022	3207	2447	2374	5993	4117	2680	3519	2458	3719	5474
(WY)	1956	1956	1997	1937	1976	1936	1933	1953	1984	1938	1955	1938
MIN	131	154	241	191	332	634	636	471	229	159	176	160
(WY)	1942	1966	1966	1981	1931	1989	1966	1965	1964	1966	1949	1953

01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1928 - 1999	
ANNUAL TOTAL	334241		238780			
ANNUAL MEAN	916		654		913	
HIGHEST ANNUAL MEAN					1952	1938
LOWEST ANNUAL MEAN					376	1966
HIGHEST DAILY MEAN	6510	Mar 10	4020	Jan 25	37000	Sep 21 1938
LOWEST DAILY MEAN	84	Oct 5	80	Aug 20	16	Sep 1 1929
ANNUAL SEVEN-DAY MINIMUM	129	Oct 2	116	Jul 29	96	Oct 31 1965
INSTANTANEOUS PEAK FLOW			4300	Jan 25	45200	Sep 21 1938
INSTANTANEOUS PEAK STAGE			8.57	Jan 25	.00	Sep 21 1938
INSTANTANEOUS LOW FLOW			49	Jul 21		
10 PERCENT EXCEEDS	1890		1530		1860	
50 PERCENT EXCEEDS	662		382		659	
90 PERCENT EXCEEDS	206		162		218	



01178000 MILL RIVER AT SPRINGFIELD, MA

LOCATION. -- Lat. 42°05'39", long 72°34'03", Hampden County, Hydrologic Unit 01080205, on right bank 100 ft upstream from Hancock Street bridge at Springfield.

DRAINAGE AREA. -- 33.2 mi^2.

PERIOD of RECORD. -- Discharge: 1939-51.

Water Quality records: August 1998 to September 1999.

REMARKS. -- Discharge obtained by discharge measurements on the day of sampling. Instantaneous records are based on composite samples and are representative of the cross section.

WATER-QUALITY DATA, WATER YEAR AUGUST 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)
AUG 1998									
25...	0930	18	265	8.0	32.5	23.5	753	6.7	E82
SEP									
10...	1015	19	272	8.0	20.0	19.0	758	6.6	72
OCT									
01...	1100	19	258	8.9	21.5	18.0	748	7.5	81
16...	1030	42	223	7.7	14.0	14.0	764	9.6	93
27...	1130	7.5	234	8.0	12.5	12.5	757	9.3	88
NOV									
30...	1330	29	251	7.2	11.5	6.0	758	11.6	94
DEC									
23...	1400	27	255	6.9	-4.0	3.5	770	13.0	97
JAN 1999									
19...	1200	113	870	6.7	1.0	2.0	752	12.8	94
FEB									
11...	1015	44	231	6.7	4.5	3.0	763	13.7	102
MAR									
02...	1000	96	277	7.0	1.0	3.5	747	13.1	101
11...	1130	51	200	7.2	-2.5	4.0	738	13.5	106
APR									
28...	1115	32	52	7.5	14.8	14.5	761	10.3	101
MAY									
14...	1045	25	258	7.3	16.0	18.5	764	8.4	89
JUN									
18...	1215	20	264	7.4	19.0	30.0	762	7.3	97
25...	1230	14	272	9.1	26.0	3.0	754	6.9	52
JUL									
20...	1130	42	253	9.1	25.0	27.0	758	6.9	87
AUG									
06...	1045	12	272	8.3	26.5	25.5	750	6.2	77
18...	1100	15	268	8.5	25.5	24.0	751	6.5	78
SEP									
01...	1045	10	264	9.0	22.5	21.5	758	6.4	73
07...	1000	20	253	9.4	27.5	24.5	755	7.1	86
13...	1245	32	197	7.4	23.0	22.5	771	7.8	89
13...	1250	32	197	7.5	23.0	22.5	771	7.8	89
21...	1415	16	115	6.7	20.0	18.0	752	8.0	86
21...	1445	16	115	6.7	20.0	18.0	752	8.0	86

01178000 MILL RIVER AT SPRINGFIELD, MA--Continued

WATER-QUALITY DATA, WATER YEAR AUGUST 1998 TO SEPTEMBER 1999

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG 1998								
25...	0.697	0.016	0.107	0.32	0.25	0.048	0.019	0.022
SEP								
10...	--	--	--	--	--	--	--	--
OCT								
01...	.075	<.010	<.020	.40	.21	.402	<.050	.014
16...	.080	<.010	.066	1.0	.26	.069	<.050	<.010
27...	.234	<.010	.039	.70	.31	.041	.015	.016
NOV								
30...	.735	.010	.046	.43	.19	.033	.012	.012
DEC								
23...	1.04	.023	.035	.54	.30	.038	.009	<.010
JAN 1999								
19...	1.33	.035	.197	.85	.65	.094	.056	.035
FEB								
11...	.964	.011	.072	.36	.29	.030	.015	.010
MAR								
02...	1.20	.010	.034	.34	.25	.024	.009	<.010
11...	.798	<.010	.021	.36	.23	.026	.010	<.010
APR								
28...	.751	.010	.047	.59	.23	.036	.009	.014
MAY								
14...	.597	.017	.072	.67	.29	.038	.014	.022
JUN								
18...	.303	.016	.120	1.1	.56	.040	.013	.011
25...	.107	.020	.069	1.9	.67	.195	.013	.011
JUL								
20...	<.050	<.010	<.020	.99	.52	.058	.016	.013
AUG								
06...	<.050	<.010	<.020	.53	.34	.036	.011	<.010
18...	<.050	<.010	<.020	.72	.33	.053	.019	<.010
SEP								
01...	<.050	<.010	<.020	.65	.39	.095	.015	.010
07...	<.050	<.010	<.020	1.1	.40	.070	.017	<.010
13...	<.050	<.010	<.020	.73	.31	.040	.014	<.010
13...	<.050	<.010	<.020	.50	.32	.062	.016	<.010
21...	.302	<.010	.126	1.2	.65	.148	.069	.025
21...	.308	<.010	.093	1.1	.60	.121	.059	.022

01179500 WESTFIELD RIVER AT KNIGHTVILLE, MA

LOCATION.--Lat 42°17'16", long 72°51'53", Hampshire County, Hydrologic Unit 01080206, on left bank at Knightville, 0.2 mi downstream from Knightville Dam, 0.2 mi upstream from Sykes Brook, 2.4 mi upstream from Middle branch, 3.5 mi north of Huntington, and at mile 29.7.

DRAINAGE AREA.--161 mi^2.

PERIOD OF RECORD.--Discharge: August 1909 to September 1990, October 1995 to current year. Water-quality records: Water year 1953.

REVISED RECORDS.--WSP 415: 1909-12. WSP 1001: 1941-43. WSP 1231: 1910, 1912, 1913(M), 1914-15, 1916-19(M), 1921-23(M), 1925-27(M), 1929-33(M), 1935(M). WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Dec. 20, 1940. Datum of gage is 461.25 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Jan. 11, 1936, nonrecording gage at site 0.5 mi upstream at different datum. Jan. 11, 1935, to May 20, 1940, water-stage recorder at site 700 ft upstream at datum 10.57 ft higher. May 21 to Dec. 19, 1940, nonrecording gage at site 700 ft upstream at datum 18.75 ft higher.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Flow regulated by Knightville reservoir since 1941. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--85 years (water years 1910-90, 1996-99), 332 ft^3/s, 28.00 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,900 ft^3/s, Sept. 21, 1938, gage height, 29.58 ft, from floodmarks, site and datum then in use, from rating curve extended above 3,800 ft^3/s on basis of slope-area measurements at gage heights 24.07 ft and 29.58 ft; minimum, 0.1 ft^3/s, Apr. 3, 1965; minimum daily, 1.1 ft^3/s, Apr. 2, 1965. Maximum discharge since construction of Knightville Reservoir in 1941, 6,660 ft^3/s, Mar. 21, 1945, gage height, 7.45 ft.

EXTREMES FOR CURRENT YEAR.-- Maximum discharge, 3,410 ft^3/s, Mar. 23, gage height, 7.24 ft; minimum 10 ft^3/s, July 28; minimum daily, 17 ft^3/s, Aug. 10-13, Sept. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	50	131	e43	298	193	1130	160	190	245	31	25
2	25	50	123	e43	284	505	1120	150	170	140	26	22
3	23	48	107	e43	965	688	1070	141	155	151	22	20
4	23	47	98	43	1170	1120	984	150	139	182	20	18
5	22	47	93	e116	753	2050	692	423	126	268	19	17
6	21	45	88	98	677	2330	349	440	114	160	18	21
7	21	44	85	77	518	1120	364	303	105	163	18	122
8	31	43	83	e77	246	391	416	262	97	161	18	102
9	115	43	128	77	234	184	416	458	87	98	18	75
10	213	42	133	78	274	496	412	334	87	88	17	145
11	440	64	115	e120	279	481	403	250	84	81	17	e237
12	229	162	101	e138	280	462	312	210	75	65	17	144
13	140	113	88	139	289	437	232	189	70	57	17	85
14	145	88	83	140	298	411	161	170	79	52	22	e64
15	370	78	50	140	296	388	144	154	95	48	32	e48
16	242	72	34	140	292	360	145	143	79	45	54	64
17	160	71	37	141	291	336	507	133	70	42	46	29
18	118	74	39	144	289	301	722	126	75	39	35	e1190
19	93	74	40	237	300	331	352	236	76	38	28	1870
20	74	76	40	295	305	346	256	2060	65	43	23	1920
21	66	89	41	446	303	355	237	1470	58	41	24	368
22	61	95	120	792	297	214	218	486	53	36	40	505
23	56	83	162	873	283	2050	268	357	49	33	37	449
24	53	75	162	292	269	3190	382	603	46	32	32	280
25	52	70	157	852	201	2870	296	1290	42	33	28	198
26	49	87	148	1510	166	1950	247	751	40	32	24	157
27	47	385	138	687	169	1150	218	525	40	30	24	134
28	46	345	65	441	172	1070	194	399	41	24	60	123
29	50	195	41	292	---	1080	183	317	303	26	65	120
30	55	149	43	347	---	1120	170	262	486	27	e42	264
31	53	---	e43	325	---	1120	---	222	---	34	e31	---
TOTAL	3119	2904	2816	9186	10198	29099	12600	13174	3196	2514	905	8816
MEAN	101	96.8	90.8	296	364	939	420	425	107	81.1	29.2	294
MAX	440	385	162	1510	1170	3190	1130	2060	486	268	65	1920
MIN	21	42	34	43	166	184	144	126	40	24	17	17
(†)	.1	.9	19.4	15.7	25.6	72.4	.6	1.7	9.7	.1	.1	.2
MEAN††	101	97.1	97.7	295	368	956	392	425	110	77.5	29.2	294
CFSM††	.63	.60	.61	1.83	2.29	5.94	2.43	2.64	.68	.48	.18	1.83
IN.††	.72	.67	.70	2.11	2.38	6.85	2.72	3.05	.76	.56	.21	2.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1999, BY WATER YEAR (WY)

MEAN	180	306	306	300	290	620	937	444	250	128	105	124
MAX	1394	1155	989	1305	1001	2050	1853	912	1158	494	745	986
(WY)	1956	1956	1974	1949	1984	1936	1987	1972	1984	1972	1955	1938
MIN	18.3	36.4	68.5	44.7	65.0	158	283	143	41.1	20.7	15.7	14.8
(WY)	1965	1965	1915	1981	1920	1940	1985	1986	1964	1913	1913	1953

01179500 WESTFIELD RIVER AT KNIGHTVILLE, MA

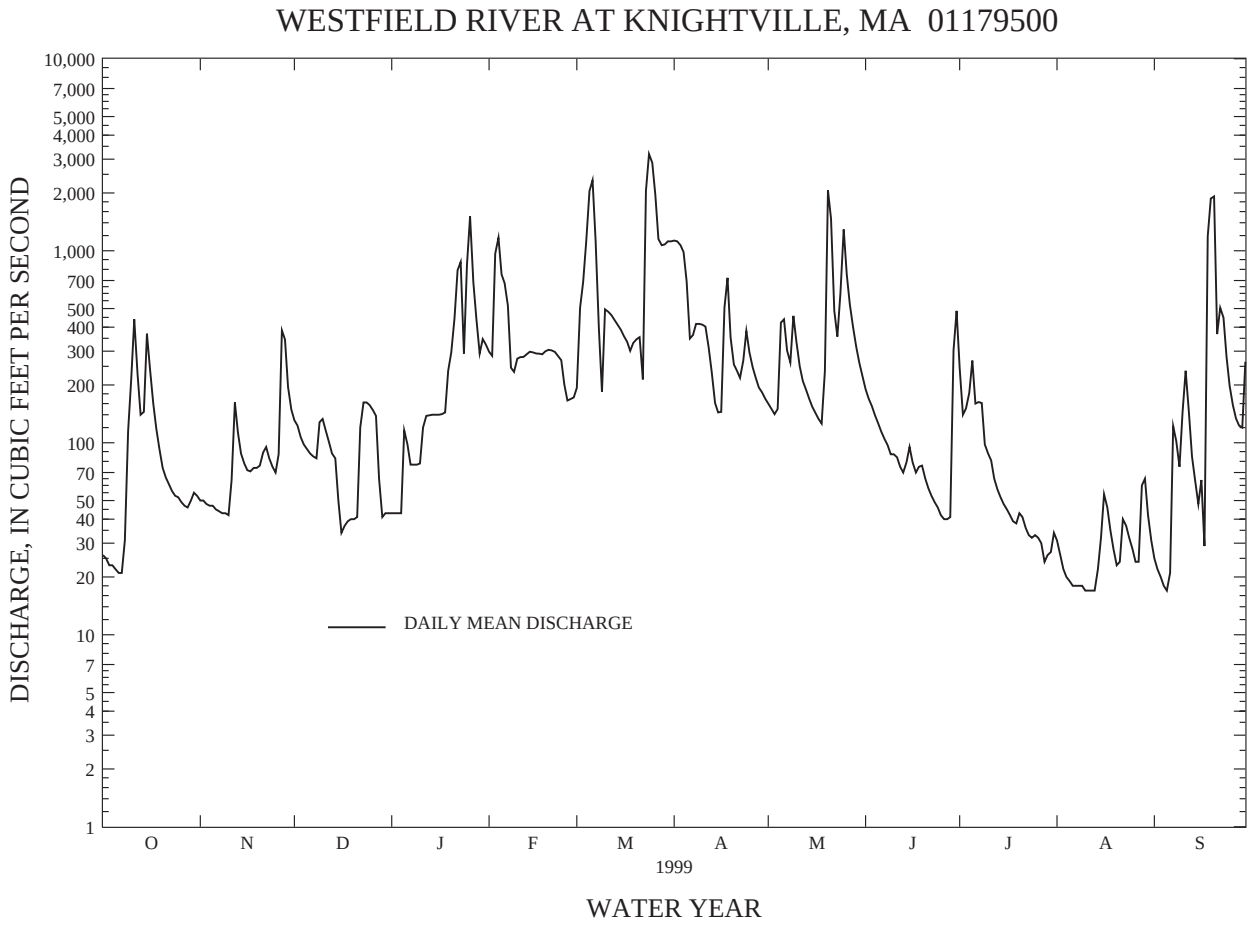
SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1909 - 1999	
ANNUAL TOTAL	124029		98527			
ANNUAL MEAN	340		270		332	
ANNUAL MEAN††	339		270		332	
HIGHEST ANNUAL MEAN					538	1928
LOWEST ANNUAL MEAN					137	1965
HIGHEST DAILY MEAN	3140	Mar 31	3190	Mar 24	13400	Mar 18 1936
LOWEST DAILY MEAN	21	Sep 6	17	Aug 10	1.1	Apr 2 1965
ANNUAL SEVEN-DAY MINIMUM	23	Sep 11	17	Aug 7	8.9	Aug 29 1953
INSTANTANEOUS PEAK FLOW			3410	Mar 23	37900	Sep 21 1938
INSTANTANEOUS PEAK STAGE			7.24	Mar 23	29.58	Sep 21 1938
INSTANTANEOUS LOW FLOW			10	Jul 28		
ANNUAL RUNOFF (CFSM)††	2.11		1.68		2.06	
ANNUAL RUNOFF (INCHES)††	28.63		22.77		28.00	
10 PERCENT EXCEEDS	769		633		808	
50 PERCENT EXCEEDS	172		138		165	
90 PERCENT EXCEEDS	32		30		35	

e Estimated

† Monthend contents, in millions of cubic feet (mcf), in Knightville Reservoir; records furnished by U.S. Army Corps of Engineers. Monthend contents on Sept. 30, 1997, 0.3 mcf.

†† Adjusted for change in contents in Knightville Reservoir.

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



01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA

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

DRAINAGE AREA.--94.0 mi^2.

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

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

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

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

AVERAGE DISCHARGE.--64 years, 192 ft^3/s, 27.74 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft^3/s, Aug. 19, 1955, gage height, 15.27 ft, datum then in use, from rating curve extended above 9,500 ft^3/s on basis of slope-area measurement of peak flow; minimum, 3.3 ft^3/s, Aug. 9, 1955, Nov. 27, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,790 ft^3/s, Mar. 22, gage height, 9.64 ft; minimum, 6.0 ft^3/s, Aug. 10, 11, Sept. 5, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	35	64	e38	123	580	546	90	114	125	9.4	8.3
2	9.7	30	61	e39	339	370	481	85	98	93	8.4	7.7
3	9.2	29	55	e40	955	270	414	79	86	77	7.6	e7.2
4	9.3	26	51	e50	522	2060	372	92	77	237	7.2	6.7
5	9.1	24	48	e60	427	791	304	261	68	185	6.7	6.3
6	8.2	24	46	e50	308	467	268	238	60	93	6.5	10
7	8.2	24	44	e45	242	356	239	173	55	105	6.5	28
8	19	23	45	e40	204	265	211	158	50	72	6.7	18
9	92	22	63	e50	174	245	185	323	45	52	6.6	15
10	115	23	59	e120	161	217	174	205	45	57	6.2	56
11	206	40	53	e110	148	195	154	150	41	50	6.3	59
12	87	69	48	e105	152	173	157	127	37	40	6.5	30
13	55	47	45	e100	231	157	144	111	36	39	6.4	21
14	97	39	45	e95	173	152	130	101	39	32	9.6	16
15	127	41	40	e90	151	162	121	92	42	29	21	15
16	72	37	42	e110	146	148	118	83	35	27	19	87
17	54	36	41	e140	138	167	161	76	31	24	14	e1500
18	45	38	40	190	198	344	152	72	35	22	11	326
19	39	36	37	564	242	399	132	860	34	22	9.1	149
20	35	37	40	345	181	272	126	2010	29	35	8.2	99
21	32	46	39	215	151	245	119	614	26	27	11	144
22	30	45	80	191	111	3400	112	363	24	21	22	495
23	29	39	98	208	106	1330	178	297	22	19	16	340
24	38	36	66	1090	113	859	237	751	22	17	13	183
25	40	34	50	982	102	742	161	827	19	16	10	129
26	39	82	46	440	104	628	135	454	19	14	9.4	94
27	38	237	e44	296	100	574	119	343	17	13	14	77
28	37	122	e42	235	105	656	109	260	17	12	23	68
29	46	88	e42	189	---	699	102	216	538	11	18	62
30	44	73	e40	145	---	653	95	170	373	11	12	231
31	37	---	e39	116	---	573	---	136	---	9.9	9.7	---
TOTAL	1517.7	1482	1553	6488	6107	18149	5956	9817	2134	1586.9	341.0	4288.2
MEAN	49.0	49.4	50.1	209	218	585	199	317	71.1	51.2	11.0	143
MAX	206	237	98	1090	955	3400	546	2010	538	237	23	1500
MIN	8.2	22	37	38	100	148	95	72	17	9.9	6.2	6.3
CFSM	.52	.53	.53	2.23	2.32	6.23	2.11	3.37	.76	.54	.12	1.52
IN.	.60	.59	.61	2.57	2.42	7.18	2.36	3.89	.84	.63	.13	1.70

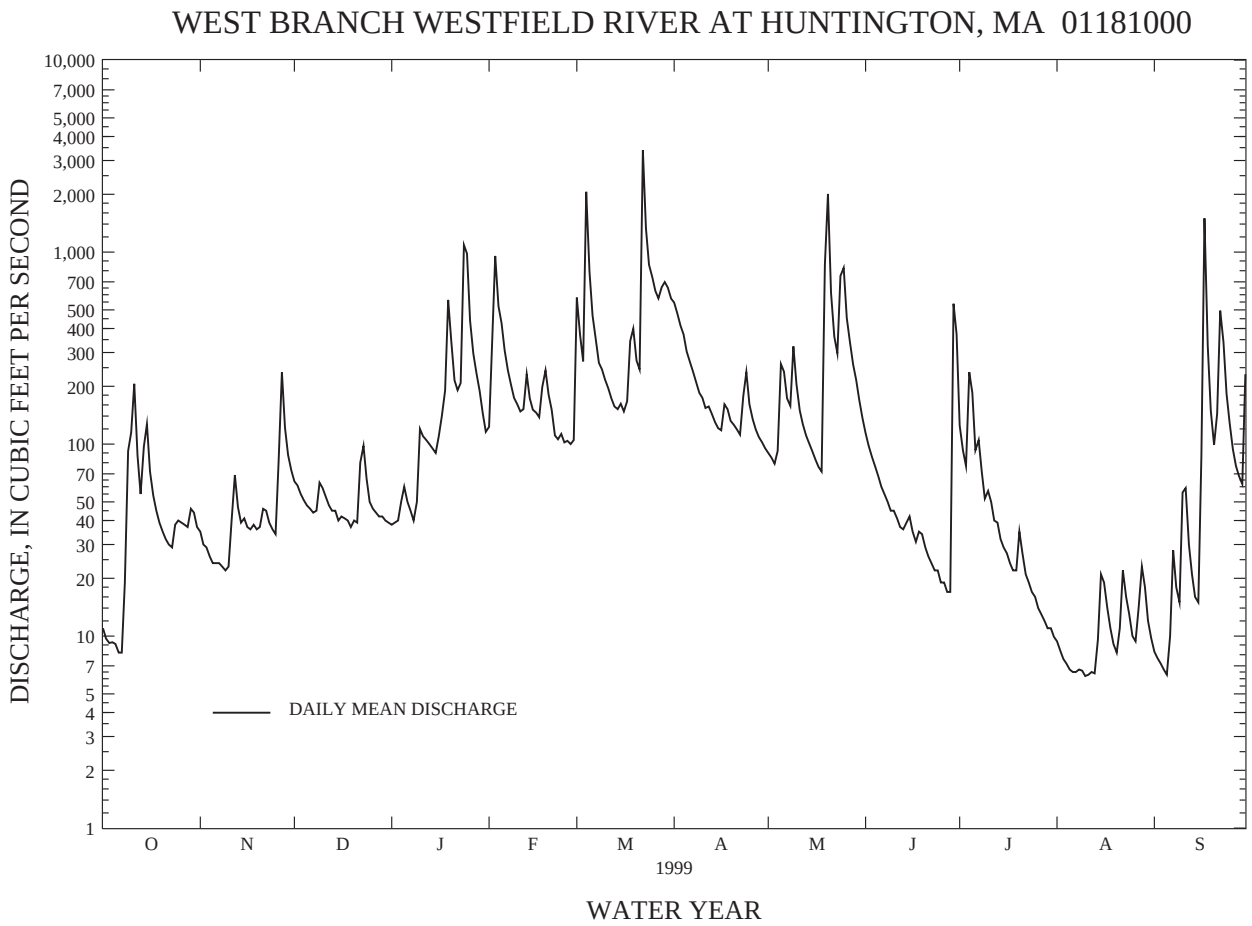
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1999, BY WATER YEAR (WY)

MEAN	106	179	200	184	187	373	495	258	136	66.8	57.2	63.5
MAX	1041	544	664	537	712	1098	1176	761	684	307	632	579
(WY)	1956	1956	1974	1996	1981	1936	1993	1984	1972	1972	1955	1938
MIN	13.4	24.7	39.8	24.3	35.3	112	116	75.6	27.1	8.85	8.46	8.93
(WY)	1958	1965	1947	1981	1980	1941	1985	1986	1964	1991	1957	1953

01181000 WEST BRANCH WESTFIELD RIVER AT HUNTINGTON, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1935 - 1999	
ANNUAL TOTAL	67497.1		59419.8			
ANNUAL MEAN	185		163		192	
HIGHEST ANNUAL MEAN					302	1996
LOWEST ANNUAL MEAN					73.6	1965
HIGHEST DAILY MEAN	1410	Jun 15	3400	Mar 22	10500	Aug 19 1955
LOWEST DAILY MEAN	8.2	Oct 6	6.2	Aug 10	3.3	Aug 9 1955
ANNUAL SEVEN-DAY MINIMUM	9.2	Oct 1	6.5	Aug 7	3.8	Aug 4 1955
INSTANTANEOUS PEAK FLOW			7790	Mar 22	26100	Aug 19 1955
INSTANTANEOUS PEAK STAGE			9.64	Mar 22	15.27	Aug 19 1955
INSTANTANEOUS LOW FLOW			6.0	Aug 10	3.3	Aug 9 1955
ANNUAL RUNOFF (CFSM)	1.97		1.73		2.04	
ANNUAL RUNOFF (INCHES)	26.71		23.52		27.74	
10 PERCENT EXCEEDS	440		371		440	
50 PERCENT EXCEEDS	98		72		96	
90 PERCENT EXCEEDS	14		11		18	

e Estimated



01183500 WESTFIELD RIVER NEAR WESTFIELD, MA

LOCATION.--Lat 42°06'24", long 72°41'58", Hampden County, Hydrologic Unit 01080206, on left bank 0.7 mi downstream from Great Brook, 3 mi east of Westfield, and 8.1 mi upstream from mouth.

DRAINAGE AREA.--497 mi^2.

PERIOD OF RECORD.--Discharge: June 1914 to current year.
Water Quality: Water years 1952–53, 1957, 1967–74, 1994.

REVISED RECORDS.--WSP 601: 1924(M). WSP 756: Drainage area. WSP 1051: 1919–21(M), 1925(M). WSP 1231: 1915–16(M), 1920.

GAGE.--Water-stage recorder. Datum of gage is 98.25 ft above sea level. Prior to Nov. 3, 1933, on right bank at same datum.

REMARKS.--Records fair except those for estimated daily discharge, which are poor. Flow regulated by Borden Brook Reservoir, Cobble Mountain Reservoir since 1931, Knightville Reservoir since 1941, and Littleville Lake since 1965. High flow slightly affected by retarding reservoirs since 1963. Diversion from Little River for municipal supply of Springfield. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--85 years, 934 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,300 ft^3/s, Aug. 19, 1955, gage height, 34.2 ft, from floodmarks, from rating curve extended above 18,000 ft^3/s on basis of computations of flow over dam at gage heights 27.20 ft, 29.40 ft, and 34.2 ft; minimum, 9 ft^3/s, Oct. 2, 1921; minimum daily, 40 ft^3/s, Dec. 28, 29, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,700 ft^3/s, (estimated), Mar. 22, gage height, 13.25 ft (estimated); minimum, 89 ft^3/s, Sept. 5, 6; minimum daily, 91 ft^3/s, Sept. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	186	369	189	747	1930	2740	439	743	800	117	137
2	100	173	343	170	1020	1820	e2600	397	623	603	112	127
3	96	167	313	214	2930	1700	e2700	385	555	435	105	106
4	95	163	289	246	2940	5830	2820	444	516	587	103	97
5	94	159	274	246	2190	4450	2480	890	401	812	98	91
6	92	155	261	310	2430	4150	1280	1260	354	601	99	144
7	93	153	253	246	2870	3020	1070	921	409	509	102	364
8	139	153	255	217	1990	1790	1120	774	551	454	109	372
9	322	151	301	251	842	902	1040	1060	422	344	113	249
10	528	146	345	472	875	1410	1010	987	281	300	110	682
11	931	223	308	480	930	1450	909	728	265	283	110	827
12	603	336	286	476	868	1310	866	595	248	311	111	484
13	389	308	256	452	1040	1220	746	531	247	255	109	330
14	613	253	258	494	960	1180	678	454	246	214	142	256
15	930	234	219	530	835	1230	572	428	273	198	150	224
16	563	218	190	562	831	1140	564	377	251	192	166	865
17	399	219	194	567	818	1130	1150	347	239	176	213	e5550
18	322	222	186	579	1040	1300	1300	323	224	122	185	e2600
19	275	221	178	1260	1310	1620	1300	405	235	217	126	2880
20	238	228	185	1320	1060	1310	800	5150	220	231	113	2680
21	211	241	184	1090	938	1220	695	3610	200	228	180	1750
22	200	264	234	1310	813	e6810	599	1900	181	182	254	1550
23	189	241	415	1560	716	5080	703	1240	171	160	188	1510
24	183	224	375	e1800	709	6460	990	1870	166	147	152	1010
25	189	210	328	e2910	665	5710	790	3430	158	144	138	739
26	185	316	306	3120	588	4490	674	2320	152	145	135	571
27	176	952	298	2130	578	2830	629	1700	140	166	135	469
28	175	797	290	1310	637	2800	577	1310	204	149	170	420
29	198	541	215	990	---	2790	545	1220	769	136	200	385
30	199	426	210	900	---	2760	510	862	1380	127	177	609
31	190	---	167	799	---	2730	---	705	---	121	143	---
TOTAL	9017	8280	8285	27200	34170	83572	34457	37062	10824	9349	4365	28078
MEAN	291	276	267	877	1220	2696	1149	1196	361	302	141	936
MAX	931	952	415	3120	2940	6810	2820	5150	1380	812	254	5550
MIN	92	146	167	170	578	902	510	323	140	121	98	91

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1999, BY WATER YEAR (WY)

MEAN	525	832	909	893	903	1692	2311	1229	730	404	382	399
MAX	4587	3344	2623	2635	2663	5064	5225	2630	2792	1738	3237	2938
(WY)	1956	1928	1997	1949	1984	1936	1993	1989	1982	1972	1955	1938
MIN	96.7	140	206	155	215	597	586	408	186	118	91.2	85.0
(WY)	1965	1965	1915	1981	1920	1941	1985	1985	1964	1962	1957	1995

01183500 WESTFIELD RIVER NEAR WESTFIELD, MA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1914 - 1999	
ANNUAL TOTAL	371488		294659			
ANNUAL MEAN	1018		807		934	
HIGHEST ANNUAL MEAN					1594	1928
LOWEST ANNUAL MEAN					368	1965
HIGHEST DAILY MEAN	6710	May 11	6810	Mar 22	37400	Aug 19 1955
LOWEST DAILY MEAN	92	Sep 5	91	Sep 5	40	Dec 28 1914
ANNUAL SEVEN-DAY MINIMUM	96	Oct 1	96	Oct 1	50	Sep 3 1995
INSTANTANEOUS PEAK FLOW			e11700	Mar 22	70300	Aug 19 1955
INSTANTANEOUS PEAK STAGE			e13.25	Mar 22	34.20	Aug 19 1955
INSTANTANEOUS LOW FLOW			89	Sep 5	9.0	Oct 2 1921
10 PERCENT EXCEEDS	2340		1950		2140	
50 PERCENT EXCEEDS	603		401		542	
90 PERCENT EXCEEDS	123		141		160	

e Estimated