01094400 NORTH NASHUA RIVER AT FITCHBURG, MA

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

DRAINAGE AREA.--63.4 mi^2.

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

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

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above sea level, from topographic map.

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

AVERAGE DISCHARGE.--29 years, 122 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,880 ft^3/s, June 17, gage height, 6.61 ft; minimum, 1.7 ft^3/s, Sept. 3, 4.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	43	87	e74	106	76	223	133	51	182	15	24
2	33	41	79	e67	91	72	200	123	119	182	14	11
3	68	39	69	e60	82	69	191	113	190	104	18	2.5
4	73	37	65	e56	74	67	201	104	158	79	33	3.9
5	77	40	62	e59	76	75	230	97	e113	83	26	5.6
6	131	44	60	79	e103	e100	272	87	88	87	22	9.0
7	97	42	56	e54	86	99	336	82	72	68	18	8.7
8	77	40	54	e50	76	83	488	77	62	62	16	9.1
9	68	38	54	e50	79	79	658	75	52	62	14	8.7
10	65	128	e43	e49	130	87	1130	70	46	57	14	6.7
11	47	168	53	e48	130	79	946	65	65	57	14	6.6
12	38	115	67	e48	110	78	932	65	137	51	21	8.6
13	36	85	63	e47	91	104	884	66	97	46	18	8.2
14	33	99	70	e47	88	121	863	58	74	42	17	16
15	31	161	69	e46	112	118	664	53	63	39	14	14
16	34	122	63	e46	102	125	541	58	54	37	12	15
17	37	100	519	e46	96	132	448	59	625	51	12	13
18	50	84	584	e46	85	142	384	56	573	50	12	14
19	85	75	269	e46	81	136	322	54	233	41	9.3	13
20	63	81	210	e45	75	147	282	50	164	38	8.4	12
21	54	75	e140	e45	e63	165	271	46	164	34	29	39
22	47	67	e110	e44	e61	1200	274	62	123	27	19	30
23	42	60	e93	e45	e61	1050	262	87	105	23	14	22
24	40	53	e87	e45	69	584	235	78	99	21	13	17
25	39	53	e80	55	72	419	204	67	85	17	12	77
26	40	101	e75	53	96	318	184	59	72	28	8.9	53
27	39	139	e72	52	89	262	168	70	62	27	8.3	29
28	40	108	e66	51	80	229	151	72	55	21	9.8	22
29	38	94	e62	e40	---	217	147	83	45	18	10	20
30	36	91	e58	59	---	240	143	70	64	17	9.1	17
31	45	---	e70	90	---	251	---	62	---	16	8.4	---
TOTAL	1638	2423	3509	1642	2464	6924	12234	2301	3910	1667	469.2	535.6
MEAN	52.8	80.8	113	53.0	88.0	223	408	74.2	130	53.8	15.1	17.9
MAX	131	168	584	90	130	1200	1130	133	625	182	33	77
MIN	31	37	43	40	61	67	143	46	45	16	8.3	2.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2001, BY WATER YEAR (WY)

MEAN	78.5	115	138	137	140	234	246	142	97.7	46.4	46.0	41.9
MAX	220	243	347	304	294	528	600	277	368	90.3	137	121
(WY)	1997	1996	1997	1996	1984	1983	1987	1984	1982	1996	1991	1991
MIN	18.7	31.3	40.5	24.6	34.6	84.1	84.1	53.6	16.0	12.9	8.63	8.33
(WY)	1998	1979	1999	1981	1980	1989	1985	1999	1999	1999	1999	1995

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1973 - 2001	
ANNUAL TOTAL	44171		39716.8			
ANNUAL MEAN	121		109		122	
HIGHEST ANNUAL MEAN					169	1973
LOWEST ANNUAL MEAN					59.5	1985
HIGHEST DAILY MEAN	1420	Apr 22	1200	Mar 22	2830	Apr 5 1987
LOWEST DAILY MEAN	14	Sep 11	2.5	Sep 3	2.5	Sep 3 2001
ANNUAL SEVEN-DAY MINIMUM	17	Sep 6	6.8	Sep 3	4.3	Aug 31 1995
MAXIMUM PEAK FLOW			1880	Jun 17	3510	Apr 5 1987
MAXIMUM PEAK STAGE			6.61	Jun 17	9.25	Apr 5 1987
INSTANTANEOUS LOW FLOW			1.7	Sep 3	1.5	Sep 11 1995
10 PERCENT EXCEEDS	224		219		258	
50 PERCENT EXCEEDS	82		65		79	
90 PERCENT EXCEEDS	38		15		22	

e Estimated

01094500 NORTH NASHUA RIVER NEAR LEOMINSTER, MA

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

DRAINAGE AREA.--110 mi^2, includes 2.1 mi^2 above outlet of Ashby (Fitchburg) Reservoir.

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

REVISED RECORDS.--WDR MA-NH-RI-VT-73-1: Drainage area. WDR MA-RI-82-1: 1981. WDR MA-RI-92-1: 1978(M).

GAGE.--Water-stage recorder. Datum of gage is 270.04 ft above sea level.

REMARKS.--Records fair except those for discharges less than 35 ft^3/s, greater than 450 ft^3/s, and those for estimated daily discharge, which are poor. Regulation at low flow by mills upstream. Flow includes diversion to basin for municipal supplies: for Fitchburg, from Mare Meadow Reservoir since 1955; for Leominster, from Wachusett Reservoir since 1966 and from the Southeast Well Field since 1958.

AVERAGE DISCHARGE.--66 years, 200 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,230 ft^3/s, Mar. 22, gage height, 5.51 ft; minimum, 19 ft^3/s, Sept. 4, minimum daily, 26 ft^3/s, Sept. 4, 5, 11, 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	65	142	124	176	122	532	198	91	395	41	44
2	53	66	127	115	150	118	447	193	240	407	41	32
3	74	60	110	111	133	112	e466	171	361	198	50	27
4	87	58	105	108	114	109	e474	157	268	151	74	26
5	91	59	104	107	106	112	e494	148	192	176	56	26
6	217	68	99	114	157	154	654	135	153	168	49	27
7	141	63	91	108	145	156	798	126	127	126	44	28
8	107	61	87	105	117	136	1090	120	109	113	41	27
9	93	59	84	107	128	128	1210	117	95	113	39	27
10	90	250	79	101	223	143	1760	111	83	105	39	27
11	73	281	85	99	191	133	1570	105	112	105	39	26
12	62	185	103	96	169	133	1510	106	251	91	77	26
13	59	139	97	89	151	195	1410	106	162	81	57	27
14	56	173	100	94	143	214	1370	95	125	73	47	42
15	52	255	104	95	187	208	1100	91	108	67	43	35
16	58	192	95	100	164	222	929	101	93	63	41	34
17	63	158	770	98	158	237	785	102	895	100	40	33
18	82	135	1000	92	135	267	680	96	1020	91	39	33
19	158	121	477	95	133	267	565	91	459	73	37	33
20	97	122	347	100	130	291	486	83	325	67	37	32
21	79	118	254	96	128	336	459	79	346	61	103	83
22	70	109	214	97	114	2300	455	116	244	55	48	55
23	65	99	180	92	121	2060	441	155	206	52	41	44
24	63	88	164	92	113	1190	382	142	191	49	36	39
25	61	85	151	91	120	918	318	121	166	47	34	377
26	60	173	e131	86	176	708	276	102	136	68	31	128
27	60	236	129	85	153	582	253	166	114	56	30	60
28	59	178	120	83	135	482	226	146	100	48	31	46
29	58	152	113	78	---	447	214	154	85	44	32	41
30	56	154	108	110	---	559	208	129	114	43	32	38
31	71	---	136	158	---	645	---	109	---	42	30	---
TOTAL	2469	3962	5906	3126	4070	13684	21562	3871	6971	3328	1379	1523
MEAN	79.6	132	191	101	145	441	719	125	232	107	44.5	50.8
MAX	217	281	1000	158	223	2300	1760	198	1020	407	103	377
MIN	52	58	79	78	106	109	208	79	83	42	30	26

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

MEAN	115	173	206	213	227	385	424	242	166	89.8	80.1	86.8
MAX	606	485	682	466	534	1289	1126	503	642	392	286	595
(WY)	1956	1956	1997	1996	1970	1936	1987	1984	1982	1938	1938	1938
MIN	39.4	44.4	58.6	50.3	63.7	140	133	85.4	46.6	36.5	34.3	32.6
(WY)	1942	1950	1966	1981	1980	1965	1985	1965	1999	1993	1999	1995

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1935 - 2001	
ANNUAL TOTAL	78600		71851			
ANNUAL MEAN	215		197		200	
HIGHEST ANNUAL MEAN					307	1956
LOWEST ANNUAL MEAN					81.2	1965
HIGHEST DAILY MEAN	2920	Apr 22	2300	Mar 22	7530	Mar 18 1936
LOWEST DAILY MEAN	40	Sep 12	26	Sep 4	22	Sep 27 1936
ANNUAL SEVEN-DAY MINIMUM	44	Sep 6	27	Sep 3	24	Aug 28 1993
MAXIMUM PEAK FLOW			3230	Mar 22	16300	Mar 18 1936
MAXIMUM PEAK STAGE			5.51	Mar 22	20.53	Mar 18 1936
INSTANTANEOUS LOW FLOW			19	Sep 4	11	Aug 29 1948
10 PERCENT EXCEEDS	408		450		420	
50 PERCENT EXCEEDS	132		109		125	
90 PERCENT EXCEEDS	59		41		48	

e Estimated

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

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

DRAINAGE AREA.--31.6 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above sea level, from topographic map.

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

AVERAGE DISCHARGE.-- 7 years, 54.2 ft^3/s, 23.32 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 890 ft^3/s, Jan. 28, 1996, gage height, 8.50 ft from rating curve extended above 340 ft^3/s; minimum, 0.14 ft^3/s, Sept. 11, 12, 13, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 780 ft^3/s, Mar. 22, gage height, 8.28 ft; minimum, 1.3 ft^3/s, Oct. 16.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	e3.0	13	21	e19	e31	196	42	25	36	e5.5	e7.3
2	3.4	e3.9	11	e20	e19	e32	155	37	47	61	e6.4	e7.3
3	3.3	e3.5	7.2	21	e21	32	140	35	113	40	e7.5	e7.3
4	2.8	e3.2	5.9	21	e23	30	148	37	118	29	e7.8	e7.0
5	e2.5	e2.4	5.6	21	e30	33	169	32	75	26	e7.3	e7.0
6	e8.1	e2.5	5.2	22	e29	54	208	28	50	27	e6.7	e6.7
7	e16	2.4	4.2	22	e28	42	266	25	35	25	e6.7	e6.4
8	e12	e2.5	3.8	21	e28	38	330	23	25	22	e5.8	e6.1
9	8.9	e2.4	e3.6	22	30	35	355	22	20	22	e5.8	e5.5
10	e6.7	12	e3.4	e21	e38	35	461	20	17	20	e5.8	e5.5
11	e6.7	64	4.6	22	e41	34	424	18	15	26	e9.6	e5.5
12	e5.7	61	7.1	21	e46	34	373	16	43	22	e17	e6.7
13	e4.4	34	8.5	e20	45	42	352	17	37	17	e20	e7.8
14	e3.0	23	7.2	21	38	59	325	16	27	14	e19	e9.6
15	e2.0	39	7.3	22	58	57	260	14	21	12	e11	e9.0
16	2.0	33	6.9	23	57	66	210	16	18	11	e9.6	e7.8
17	2.4	21	60	24	e48	74	175	18	60	12	e9.0	e7.0
18	e3.7	15	291	e22	e39	80	148	17	295	e13	e9.0	e7.0
19	e11	11	131	23	e37	81	127	18	151	e12	e9.0	e7.0
20	16	9.0	69	24	38	85	110	15	77	e10	e9.0	e8.4
21	e10	7.8	43	e22	e36	96	99	24	70	e8.4	e9.0	e8.7
22	e5.5	6.5	36	e20	e29	484	92	25	65	e7.8	e8.4	e8.4
23	e5.3	5.4	e27	e22	e26	638	84	37	53	e7.3	e8.1	e7.8
24	e4.4	4.1	25	24	e29	415	77	35	45	e7.0	e8.1	e12
25	e4.0	3.2	e21	22	31	309	69	32	37	e7.0	e7.8	e24
26	e4.1	5.8	e17	23	44	233	61	26	30	e7.8	e7.8	e14
27	4.1	25	18	21	e42	185	57	40	25	e8.1	e7.8	e11
28	3.3	25	18	21	e36	159	53	35	20	e6.4	e7.8	e9.9
29	e2.7	17	16	e20	---	149	48	41	16	e5.5	e7.3	e9.3
30	e2.5	13	17	e20	---	164	45	34	17	e5.5	e7.3	e9.0
31	2.6	---	19	e20	---	231	---	26	---	e5.5	e7.3	---
TOTAL	172.2	460.6	912.5	669	985	4037	5617	821	1647	533.3	274.2	256.0
MEAN	5.55	15.4	29.4	21.6	35.2	130	187	26.5	54.9	17.2	8.85	8.53
MAX	16	64	291	24	58	638	461	42	295	61	20	24
MIN	2.0	2.4	3.4	20	19	30	45	14	15	5.5	5.5	5.5
CFSM	.18	.49	.93	.68	1.11	4.12	5.93	.84	1.74	.54	.28	.27
IN.	.20	.54	1.07	.79	1.16	4.75	6.61	.97	1.94	.63	.32	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2001, BY WATER YEAR (WY)

MEAN	26.5	42.2	60.3	82.1	75.6	117	116	58.9	39.9	17.0	10.1	10.1
MAX	83.8	106	171	157	120	163	187	100	113	34.4	29.1	22.5
(WY)	1997	1996	1997	1996	1996	1998	2001	1998	1998	1996	1994	1996
MIN	4.80	14.1	14.6	21.6	35.2	84.3	43.8	26.1	4.46	2.81	1.17	.92
(WY)	1998	1999	1999	2001	2001	1997	1999	1999	1999	1999	1999	1995

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1994 - 2001	
ANNUAL TOTAL	17726.69		16384.8			
ANNUAL MEAN	48.4		44.9		54.2	
HIGHEST ANNUAL MEAN					74.9	1996
LOWEST ANNUAL MEAN					34.4	1999
HIGHEST DAILY MEAN	559	Apr 22	638	Mar 23	742	Jan 28 1996
LOWEST DAILY MEAN	.99	Sep 12	2.0	Oct 15	.24	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	1.4	Sep 7	2.7	Nov 3	.29	Sep 10 1995
MAXIMUM PEAK FLOW			780	Mar 22	890	Jan 28 1996
MAXIMUM PEAK STAGE			8.28	Mar 22	8.50	Jan 28 1996
INSTANTANEOUS LOW FLOW			1.3	Oct 16	.14	Sep 11 1995
ANNUAL RUNOFF (CFSM)	1.53		1.42		1.72	
ANNUAL RUNOFF (INCHES)	20.87		19.29		23.32	
10 PERCENT EXCEEDS	112		103		124	
50 PERCENT EXCEEDS	25		21		30	
90 PERCENT EXCEEDS	3.2		5.3		2.9	

e Estimated

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1998 to current year.
WATER TEMPERATURE: April 1998 to current year.
PRECIPITATION: October 1998 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 235 µS/cm, Oct. 9, 1998; minimum, 43 µS/cm, June 14, 1998.
WATER TEMPERATURE: Maximum recorded, 27.6°C, July 6, 1999; minimum, 0.0°C,on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 197 µS/cm, Sept. 22; minimum, 47 µS/cm, Dec. 19.
WATER TEMPERATURE: Maximum recorded, 25.2°C, July 25 ;minimum, 0.1°C, on many days during winter periods.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.16
2	.00	.00	.00	.00	.02	.00	.00	.00	1.28	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.58	.00	.30	.00
4	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19	.13
5	.50	.15	.00	.08	1.08	1.25	.00	.00	.00	.13	.00	.01
6	.47	.01	.00	.09	.03	.37	.27	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.05	.06	.00	.51	.00	.00	.12	.00	.00
9	.01	.00	.00	.01	.14	.39	.12	.00	.00	.02	.00	.00
10	.00	1.58	.00	.00	.04	.10	.01	.00	.00	.29	.00	.01
11	.00	.21	.00	.00	.00	.00	.00	.00	.72	.05	.00	.00
12	.00	.00	.13	.00	.00	.00	.30	.09	.00	.04	2.57	.00
13	.00	.04	.00	.00	.00	.64	.02	.00	.01	.00	.62	.03
14	.00	.71	.56	.00	.37	.00	.00	.00	.00	.00	.00	.69
15	.00	.00	.00	.28	.00	.00	.00	.11	.00	.01	.00	.01
16	.34	.00	.26	.00	.10	.00	.00	.01	.00	.00	.00	.00
17	.00	.00	1.53	.00	.00	.00	.00	.00	1.85	.43	.20	.00
18	.49	.00	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00
19	.01	.00	.05	.27	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.15	.00	.00	.00	.00	.00	.60	.00	.07	.00
21	.00	.00	.00	.26	.00	.46	.00	.00	.01	.00	.01	.78
22	.00	.00	.00	.00	.00	2.12	.00	.71	.00	.00	.00	.00
23	.00	.00	.00	.00	.02	.02	.00	.09	.06	.00	.00	.00
24	.00	.00	.00	.00	.00	.01	.10	.33	.00	.00	.00	.00
25	.00	.00	.00	.00	.48	.00	.00	.01	.00	.00	.00	2.52
26	.00	.86	.00	.00	.00	.19	.00	.49	.00	.35	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.12	.00	.01	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.16	.00	.00	.00	.00
29	.00	.04	.00	.00	---	.00	.00	.01	.00	.00	.00	.00
30	.15	.14	.78	.46	---	1.87	.00	.03	.72	.00	.00	.00
31	.14	---	.00	.19	---	.00	---	.00	---	.00	.00	---
TOTAL	2.13	3.74	3.46	1.69	2.34	7.49	1.33	2.16	5.83	2.24	3.96	4.34

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	129	125	127	113	107	111	90	87	88	76	74	75
2	128	123	126	108	104	106	89	85	88	75	73	74
3	126	122	124	107	102	105	92	80	86	75	73	74
4	125	122	123	110	103	107	94	80	87	77	73	75
5	127	122	124	113	110	112	94	83	89	77	73	75
6	145	113	132	114	111	113	92	81	87	77	74	75
7	113	100	105	114	110	112	95	82	88	77	74	75
8	109	102	106	112	106	110	92	84	88	79	74	75
9	110	107	108	113	110	112	91	84	87	79	75	77
10	113	110	112	128	96	114	94	86	91	77	74	75
11	113	107	111	98	90	95	101	91	97	81	75	76
12	113	102	108	90	74	80	103	86	99	83	75	77
13	117	105	112	75	74	74	94	84	89	82	76	79
14	123	117	120	87	75	79	93	84	88	83	77	80
15	127	122	124	86	76	79	95	86	91	83	76	80
16	125	121	124	83	80	82	100	86	92	90	79	84
17	128	124	126	82	81	81	111	76	98	86	78	82
18	128	114	120	86	82	84	76	48	53	83	77	80
19	127	100	115	89	86	87	52	47	50	92	81	85
20	102	98	100	92	89	90	58	52	55	94	80	87
21	108	100	104	95	92	93	64	55	59	91	78	81
22	111	103	108	97	94	96	67	61	64	82	77	79
23	115	111	113	98	95	97	68	61	64	81	78	79
24	117	111	114	101	92	97	72	65	68	84	79	81
25	117	113	114	104	90	98	70	67	68	85	80	82
26	114	112	113	126	100	107	75	68	73	85	80	81
27	113	110	112	124	95	101	77	75	75	85	80	82
28	112	110	111	98	90	95	79	74	76	86	80	82
29	110	107	109	90	87	88	80	75	77	87	80	83
30	111	108	110	91	88	89	79	75	77	116	80	90
31	113	111	112	---	---	---	77	75	76	105	93	99
MONTH	145	98	115	128	74	96	111	47	80	116	73	80

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	96	86	91	110	92	100	86	78	82	112	102	106
2	94	84	88	104	91	96	90	83	87	112	107	110
3	86	77	81	109	94	99	91	84	87	113	111	112
4	83	77	80	108	93	100	101	84	88	112	108	110
5	85	75	79	98	91	94	87	77	84	115	111	113
6	91	75	79	96	90	91	79	72	75	117	114	116
7	82	76	78	92	87	90	72	65	69	121	117	119
8	81	74	78	92	87	89	74	65	68	124	119	121
9	98	78	86	98	86	91	68	62	66	126	121	123
10	106	81	95	109	87	97	63	58	60	129	126	128
11	91	76	83	113	97	105	59	58	58	133	129	130
12	90	83	87	114	94	104	62	59	61	138	132	135
13	88	81	84	127	100	114	62	61	61	138	130	133
14	92	81	86	115	102	109	62	60	61	135	132	133
15	93	82	88	123	107	114	64	62	63	137	133	136
16	92	82	86	113	98	106	66	64	65	139	132	136
17	96	82	88	111	95	103	68	66	67	132	128	129
18	87	79	84	110	99	104	71	68	70	130	127	129
19	90	80	85	114	98	106	157	68	82	130	123	128
20	98	85	92	115	98	107	79	74	77	132	128	131
21	99	83	91	107	100	104	83	79	81	128	112	114
22	90	83	87	107	52	70	87	83	85	118	114	116
23	98	83	90	57	51	54	91	85	87	114	103	107
24	103	88	94	72	56	64	95	89	91	116	104	112
25	124	88	93	78	64	72	94	91	92	115	111	113
26	137	111	124	78	69	75	96	91	94	122	111	113
27	121	100	110	87	71	80	98	94	96	131	108	117
28	122	99	110	112	83	96	100	95	98	111	108	109
29	---	---	---	104	94	99	103	97	100	111	100	104
30	---	---	---	98	79	89	105	99	102	106	101	104
31	---	---	---	81	74	78	---	---	---	107	105	106
MONTH	137	74	89	127	51	94	157	58	79	139	100	119

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	107	102	104	151	113	125	125	123	124	169	164	166
2	128	89	110	130	101	107	130	124	127	169	166	167
3	95	81	89	115	105	110	138	130	133	168	164	166
4	81	75	77	117	114	115	146	135	141	169	166	167
5	82	75	78	118	114	116	145	137	141	173	168	170
6	87	81	83	118	108	112	137	133	134	177	170	173
7	94	85	90	113	109	110	134	126	131	175	169	173
8	102	94	98	122	111	116	137	130	134	176	169	173
9	108	102	105	123	116	119	142	135	138	179	172	175
10	114	108	111	127	117	120	151	141	147	181	175	178
11	134	114	120	131	115	121	157	124	147	180	176	178
12	139	102	112	118	116	117	187	138	158	184	179	182
13	109	103	107	124	117	121	166	140	149	183	180	181
14	111	109	110	133	124	127	166	151	157	180	175	177
15	112	109	111	139	129	133	154	149	151	188	176	181
16	114	109	112	143	133	138	159	151	156	186	177	182
17	151	88	120	156	138	149	172	159	166	183	178	181
18	88	60	64	151	136	140	170	134	144	182	178	180
19	68	60	63	140	134	137	143	137	141	185	180	183
20	91	68	75	144	137	139	152	141	147	184	181	182
21	90	81	85	152	137	143	154	144	151	196	178	185
22	85	82	83	154	141	145	148	138	143	197	189	194
23	89	84	86	159	144	149	142	138	140	189	178	182
24	94	88	91	158	151	154	148	141	144	178	171	173
25	107	94	97	165	152	158	150	143	147	191	160	175
26	104	99	102	166	157	160	157	147	151	163	142	146
27	112	104	106	159	148	152	158	155	156	150	142	146
28	116	108	112	150	127	140	159	156	158	166	150	157
29	127	116	123	133	127	132	160	156	158	168	163	166
30	145	120	127	139	133	137	161	158	159	173	164	168
31	---	---	---	141	124	133	165	161	163	---	---	---
MONTH	151	60	98	166	101	131	187	123	146	197	142	174
YEAR	197	47	109									

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.8	10.2	11.5	8.6	6.8	7.6	3.4	2.3	2.9	0.4	0.2	0.2
2	13.6	11.5	12.5	9.2	6.8	7.9	2.3	1.1	1.9	.3	.1	.2
3	14.3	11.9	13.1	9.1	7.2	8.0	1.8	.5	1.1	.5	.1	.3
4	13.9	12.6	13.4	9.7	7.4	8.4	1.9	.4	1.1	.6	.1	.3
5	13.6	12.5	12.9	8.9	7.9	8.4	2.6	.5	1.2	.5	.1	.3
6	12.7	12.4	12.5	8.8	7.0	7.8	1.2	.3	.7	.5	.2	.4
7	12.7	11.4	12.1	8.8	6.3	7.4	1.3	.2	.6	.6	.2	.4
8	11.7	10.2	10.9	9.0	6.6	7.7	.8	.2	.5	.6	.2	.4
9	10.3	9.1	9.6	8.9	6.8	8.0	.6	.1	.3	.7	.2	.5
10	9.4	8.4	8.9	8.5	8.2	8.4	.6	.1	.4	.4	.1	.2
11	10.5	8.1	9.2	8.6	7.8	8.2	1.6	.6	1.1	.6	.1	.3
12	10.4	8.1	9.3	8.9	8.2	8.5	2.4	.2	1.5	.6	.1	.3
13	11.9	8.7	10.2	8.5	8.1	8.3	.7	.1	.4	.5	.1	.3
14	12.8	10.0	11.2	8.1	7.8	8.0	.8	.1	.5	.7	.2	.4
15	13.2	11.1	12.1	7.9	6.8	7.3	1.0	.1	.6	.5	.1	.4
16	12.3	10.0	11.2	7.0	6.4	6.6	1.1	.1	.7	1.0	.4	.6
17	10.8	9.6	10.2	7.1	5.7	6.4	2.2	.6	1.4	1.2	.3	.7
18	10.5	10.1	10.3	6.1	5.2	5.5	.7	.2	.4	.5	.1	.3
19	11.5	9.8	10.5	5.7	3.9	5.1	.6	.1	.3	.8	.5	.6
20	10.7	8.5	9.6	4.8	3.2	4.0	.7	.1	.3	.9	.3	.6
21	11.8	9.1	10.2	4.4	3.0	3.7	.7	.1	.3	.3	.1	.2
22	10.8	8.7	9.8	3.6	2.3	2.9	.9	.1	.5	.4	.1	.2
23	9.9	7.2	8.5	2.8	1.7	2.2	.3	.1	.2	.5	.1	.2
24	10.4	7.4	8.8	2.2	1.0	1.6	.7	.1	.4	.6	.1	.3
25	11.3	8.4	9.7	2.1	.5	1.3	.3	.1	.2	.7	.2	.3
26	11.5	8.6	10.0	2.5	1.4	2.0	.4	.1	.2	.6	.1	.3
27	11.5	9.5	10.5	2.8	1.8	2.2	.5	.2	.3	.7	.2	.4
28	10.9	8.4	10.2	2.7	1.6	2.1	.5	.2	.3	.8	.1	.4
29	8.4	6.3	7.0	3.2	2.2	2.6	.6	.2	.3	.6	.1	.3
30	7.0	5.9	6.5	3.7	2.7	3.2	.4	.1	.2	.5	.1	.4
31	7.7	6.7	7.2	---	---	---	.4	.2	.3	.6	.3	.4
MONTH	14.3	5.9	10.3	9.7	0.5	5.7	3.4	0.1	0.7	1.2	0.1	0.4

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.8	0.2	0.4	1.0	0.1	0.4	1.7	0.7	1.1	16.5	11.4	13.9
2	1.0	.1	.4	1.1	.1	.4	2.6	1.3	2.0	19.0	14.0	16.4
3	.7	.1	.3	1.7	.2	.7	3.7	1.9	2.8	20.2	15.7	17.9
4	.3	.1	.2	1.6	.2	.7	4.8	3.2	4.0	20.9	17.0	18.9
5	.6	.1	.2	.4	.1	.2	5.8	3.6	4.7	19.4	16.5	18.3
6	.4	.1	.2	.2	.1	.2	5.9	3.7	4.3	17.4	13.9	15.7
7	.6	.2	.3	.5	.2	.3	5.7	3.0	4.2	16.9	11.9	14.3
8	.7	.1	.3	.7	.1	.4	5.5	2.8	3.5	17.1	11.9	14.4
9	.9	.4	.6	1.3	.2	.6	7.6	2.5	4.5	18.1	13.1	15.5
10	1.3	.1	.7	2.0	.2	.9	7.6	4.6	6.1	18.6	14.1	16.5
11	.2	.1	.1	2.2	.2	1.0	7.3	4.9	6.1	19.6	15.0	17.5
12	.3	.1	.2	2.7	.2	1.1	7.0	5.2	5.9	20.8	16.8	18.6
13	.6	.2	.3	1.2	.4	.8	7.6	4.8	5.9	18.9	16.2	17.3
14	.8	.1	.4	1.5	.3	.8	8.7	5.7	7.2	17.1	14.1	15.6
15	1.0	.2	.5	2.3	.4	1.1	9.4	6.2	7.8	15.0	13.3	14.0
16	.9	.1	.4	2.5	.4	1.1	9.4	7.3	8.5	13.8	12.5	13.0
17	1.2	.1	.5	2.4	.6	1.2	9.3	7.3	8.1	14.1	11.9	13.0
18	.4	.1	.2	2.0	.7	1.1	8.5	7.1	7.7	13.2	12.4	12.8
19	.6	.1	.3	2.5	.6	1.2	8.0	6.4	7.3	15.7	12.3	14.0
20	1.4	.3	.7	2.6	.7	1.4	9.2	7.3	8.3	17.6	13.6	15.5
21	1.7	.1	.7	1.8	1.0	1.3	11.1	9.2	10.4	18.5	14.9	16.5
22	.4	.1	.2	1.1	.1	.5	14.5	11.1	13.0	16.1	14.5	15.2
23	1.0	.2	.4	.5	.1	.3	16.2	14.4	15.1	14.5	13.1	13.8
24	1.2	.1	.4	1.3	.1	.7	17.5	15.2	16.1	14.6	12.7	13.5
25	.5	.1	.3	1.7	.2	1.0	16.0	12.3	14.7	16.0	13.1	14.4
26	1.5	.2	.7	1.3	.3	.9	14.1	10.9	12.3	16.8	13.8	15.2
27	1.6	.1	.6	1.6	.2	1.0	14.3	10.6	12.2	15.4	14.5	15.0
28	1.5	.1	.5	2.8	.9	1.9	14.5	11.3	12.6	16.0	14.1	14.9
29	---	---	---	3.4	1.7	2.5	14.4	10.1	12.1	16.8	14.1	15.4
30	---	---	---	3.5	.3	1.4	14.2	9.7	12.0	16.4	14.3	15.2
31	---	---	---	.9	.3	.6	---	---	---	16.1	13.0	14.6
MONTH	1.7	0.1	0.4	3.5	0.1	0.9	17.5	0.7	8.0	20.9	11.4	15.4

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.0	12.6	14.9	24.0	21.3	22.2	22.0	18.2	20.1	20.9	18.4	19.8
2	15.5	14.3	14.9	21.3	18.9	20.1	22.9	18.5	20.7	18.4	15.4	17.1
3	14.3	13.9	14.1	19.7	17.3	18.5	23.5	20.1	21.6	18.0	14.5	16.3
4	15.1	13.6	14.4	20.2	17.7	18.9	22.0	20.3	21.0	17.7	15.1	16.5
5	16.6	14.8	15.6	21.5	18.8	20.0	22.6	19.8	21.1	18.0	15.9	16.9
6	17.8	16.0	16.7	20.7	19.2	20.0	23.7	20.0	21.9	17.0	13.9	15.6
7	18.3	15.2	16.8	21.2	17.6	19.4	24.6	21.1	22.8	17.8	14.5	16.1
8	19.4	15.6	17.6	19.6	18.8	19.0	24.7	21.6	23.2	18.3	15.5	16.9
9	19.5	16.0	17.9	21.9	18.4	20.0	25.0	21.6	23.3	19.3	16.6	17.9
10	20.1	16.1	18.1	23.1	19.7	21.0	24.4	22.3	23.2	19.7	17.6	18.6
11	18.6	16.8	17.5	22.0	19.6	20.6	23.2	20.5	22.0	19.2	17.4	18.4
12	17.6	16.9	17.2	20.5	18.6	19.5	21.1	18.9	19.7	17.9	15.0	16.5
13	19.9	16.8	18.2	19.6	17.3	18.5	22.1	19.6	20.6	17.1	14.4	15.8
14	22.5	18.9	20.5	20.1	16.8	18.5	21.8	19.8	20.7	16.8	14.2	15.5
15	24.0	20.4	22.1	20.5	17.4	18.8	21.9	18.3	20.1	14.7	12.1	13.5
16	24.5	21.4	22.9	21.0	17.3	19.2	21.7	18.1	19.9	14.5	11.6	13.1
17	23.0	19.2	21.5	19.0	18.0	18.4	20.4	18.8	19.6	14.8	12.0	13.4
18	21.2	18.5	19.7	21.0	17.2	19.0	22.4	19.4	20.7	15.2	12.5	13.9
19	21.7	20.0	20.9	21.0	18.3	19.4	22.8	19.5	21.0	15.9	14.4	15.1
20	23.2	21.3	22.1	21.4	17.1	19.2	21.0	20.3	20.6	16.0	15.0	15.5
21	22.1	19.7	21.1	22.0	17.8	19.8	22.0	19.8	20.8	17.0	15.8	16.2
22	19.7	18.6	19.1	22.8	18.6	20.6	22.4	19.2	20.8	18.2	16.2	17.0
23	20.2	18.5	19.3	23.1	18.9	21.0	21.5	18.9	20.3	17.7	15.8	16.8
24	21.1	19.8	20.4	24.4	20.3	22.2	21.3	19.1	20.2	16.8	15.4	16.1
25	22.9	19.7	21.3	25.2	21.4	23.2	20.3	17.3	19.0	19.2	16.1	17.4
26	23.8	20.4	22.1	22.8	18.7	20.7	20.4	17.1	18.8	18.3	16.3	17.6
27	24.4	21.1	22.8	20.4	16.5	18.5	20.7	18.3	19.5	16.3	14.4	15.5
28	24.3	21.7	22.9	20.3	15.9	18.2	21.2	18.7	19.9	15.3	14.3	14.9
29	22.6	20.1	20.9	21.6	17.9	19.6	20.9	18.0	19.5	15.2	13.3	14.3
30	23.9	19.8	21.6	21.2	17.3	19.2	19.9	16.5	18.3	13.3	11.9	12.6
31	---	---	---	21.0	16.1	18.6	20.7	18.3	19.4	---	---	---
MONTH	24.5	12.6	19.2	25.2	15.9	19.7	25.0	16.5	20.7	20.9	11.6	16.0
YEAR	25.2	0.1	9.8									

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

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
OCT										
19...	1000	8.1	--	752	7.6	71	6.6	150	16.9	11.3
NOV										
15...	0900	40	--	742	9.5	80	6.6	81	3.9	6.8
DEC										
21...	0900	38	--	756	12.0	83	6.2	79	-7.1	.1
JAN										
26...	0900	21	--	755	11.9	82	6.7	107	-0.5	.1
FEB										
20...	0930	37	--	752	12.3	86	6.6	111	3.8	.3
MAR										
21...	0715	96	--	762	12.6	88	6.5	117	1.1	.6
APR										
04...	1130	144	--	756	11.8	90	6.3	110	9.7	3.5
MAY										
07...	1300	24	--	762	9.8	100	6.1	130	21.7	16.2
JUN										
08...	1430	25	1.0	745	8.2	91	6.6	106	18.0	19.1
20...	0815	81	--	752	6.8	78	6.1	74	23.2	21.3
JUL										
04...	1415	29	1.3	750	8.4	94	6.4	116	25.2	19.8
18...	0930	17	--	752	7.8	83	6.7	147	18.6	17.4
25...	1330	13	1.9	751	10.0	123	6.7	158	32.9	25.0
AUG										
15...	1330	25	--	752	8.7	100	6.7	141	25.1	21.3
15...	1400	25	1.2	752	8.7	100	6.7	141	25.1	21.3
29...	1100	42	--	757	8.3	93	6.6	158	26.6	20.5
SEP										
07...	0730	61	--	752	7.2	71	6.4	171	13.8	14.3
13...	1310	68	.8	749	8.7	92	6.7	189	23.2	16.9

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT										
19...	6.75	1.18	3.99	13.7	9	10	27.2	<0.2	8.1	6.2
NOV										
15...	4.05	.756	1.33	8.5	7	8	13.9	.2	7.7	5.5
DEC										
21...	3.85	.773	1.07	8.1	5	6	13.1	<.2	7.5	5.8
JAN										
26...	5.38	.976	1.16	10.4	7	9	17.0	<.2	9.1	6.9
FEB										
20...	5.34	.971	1.14	12.2	8	10	19.8	<.2	8.6	6.8
MAR										
21...	4.54	.864	1.00	13.1	5	6	22.7	<.2	6.9	6.1
APR										
04...	4.39	.857	1.11	11.9	5	6	21.2	<.2	6.1	6.5
MAY										
07...	6.50	1.12	1.32	13.7	9	10	26.1	<.2	4.6	6.6
JUN										
08...	5.10	.919	1.01	11.7	--	--	20.6	<.2	5.8	5.3
20...	3.75	.668	.73	8.7	5	6	13.7	E.1	5.8	4.5
JUL										
04...	5.82	.989	1.05	14.0	--	--	23.4	<.2	6.8	4.7
18...	7.95	1.28	1.45	16.2	12	14	29.6	E.1	7.2	6.0
25...	8.98	1.53	1.66	16.4	--	--	31.8	<.2	7.0	6.3
AUG										
15...	8.71	1.36	1.58	16.2	14	17	29.9	<.2	7.3	7.7
15...	8.61	1.40	1.56	15.9	--	--	29.2	<.2	7.4	7.3
29...	--	--	--	--	--	--	--	--	--	--
SEP										
07...	11.1	1.88	2.11	16.3	17	20	34.3	<.2	8.4	9.0
13...	11.9	1.98	2.18	17.3	--	--	35.1	<.2	8.3	9.5

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT									
19...	87	<0.041	0.21	0.31	0.105	<0.006	E0.005	<0.018	0.027
NOV									
15...	62	<.041	.28	.34	.066	E.003	.006	E.009	.016
DEC									
21...	59	<.041	.17	.27	.170	<.006	.006	<.018	.011
JAN									
26...	63	.043	.20	.17	.303	<.006	.008	<.018	.010
FEB									
20...	62	E.024	E.10	.21	.267	.010	E.004	<.018	.009
MAR									
21...	74	E.023	.20	.17	.226	<.006	E.004	<.018	.012
APR									
04...	69	<.041	.14	.18	.231	<.006	E.005	<.018	.010
MAY									
07...	76	<.041	.19	.29	.153	E.003	.006	<.018	.016
JUN									
08...	77	<.040	.20	.26	.087	<.006	.008	<.020	.018
20...	65	E.025	.33	.51	.058	E.004	.015	<.020	.038
JUL									
04...	82	E.034	.28	.34	.098	.006	.013	<.020	.021
18...	99	<.040	.20	.27	.157	E.005	.007	<.020	.017
25...	96	<.040	.18	.23	.124	<.006	.006	<.020	.020
AUG									
15...	93	E.025	.24	.37	.124	<.006	.007	<.020	.024
15...	96	E.037	.26	.35	.120	<.006	.008	<.020	.024
29...	--	--	--	--	--	--	--	--	--
SEP									
07...	107	<.040	.15	.19	.210	<.006	<.006	<.020	.011
13...	104	E.022	.11	.34	.202	<.006	<.006	<.020	.043

01095220 STILLWATER RIVER NEAR STERLING, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT									
19...	5.9	0.3	--	--	--	210	51.7	57	8
NOV									
15...	7.6	.8	--	--	--	240	31.6	79	5
DEC									
21...	5.8	.2	--	--	--	150	48.4	69	5
JAN									
26...	--	--	--	--	--	220	37.8	62	3
FEB									
20...	--	--	--	--	--	100	34.2	50	3
MAR									
21...	--	--	--	--	--	80	55.1	50	4
APR									
04...	--	--	--	--	--	50	28.9	71	2
MAY									
07...	--	--	--	--	--	140	50.2	83	2
JUN									
08...	4.8	--	5.5	6.8	0.6	190	49.8	--	--
20...	--	--	--	--	--	290	50.9	78	7
JUL									
04...	5.4	--	6.1	4.5	1.2	290	44.0	--	--
18...	--	--	--	--	--	190	53.5	86	3
25...	3.3	--	4.5	1.4	1.7	140	83.3	--	--
AUG									
15...	--	--	--	--	--	240	73.2	74	5
15...	4.8	--	5.9	3.0	2.6	260	75.5	--	--
29...	--	--	--	27.6	--	--	--	--	--
SEP									
07...	--	--	--	--	--	80	120	80	3
13...	1.8	--	4.0	7.4	5.5	90	118	--	--

< Less than
E Estimated

01095375 QUINAPOXET RIVER AT CANADA MILLS NEAR HOLDEN, MA

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

DRAINAGE AREA.--44.4 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water stage recorder. Elevation of gage is 560 ft above sea level, from topographic map.

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

AVERAGE DISCHARGE.--4 years, 58.0 ft^3/s.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 869 ft^3/s, Mar. 22 , gage height, 11.20 ft; minimum daily, 2.0 ft^3/s, Sept. 10.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	8.0	16	18	e18	e42	208	69	28	32	3.2	5.4
2	5.8	7.2	14	17	e18	41	171	59	61	47	3.0	3.8
3	5.8	8.3	12	16	e18	39	157	53	120	21	3.0	3.1
4	5.5	8.2	12	17	e18	36	161	50	116	15	6.4	2.8
5	5.9	6.5	13	17	e22	37	186	49	78	13	5.9	3.1
6	22	6.7	12	18	55	60	234	39	58	12	4.7	2.9
7	12	7.0	10	16	41	48	296	36	45	10	4.3	2.7
8	8.4	7.1	9.8	15	e36	41	444	34	43	10	3.8	2.6
9	8.0	7.8	e9.4	16	e35	39	537	33	32	11	3.3	2.2
10	8.3	31	e9.2	e14	e36	43	780	34	25	12	2.8	2.0
11	8.7	39	11	e13	e41	39	693	31	21	19	2.7	2.2
12	8.5	24	12	e15	e51	38	645	29	29	15	15	2.4
13	7.4	18	e11	e17	47	50	617	32	25	12	18	4.2
14	9.2	20	11	17	e46	63	573	28	21	11	18	8.7
15	6.9	31	12	17	71	59	445	26	18	9.4	10	6.5
16	6.7	21	10	18	66	63	346	24	16	8.4	7.6	4.1
17	8.8	17	67	e17	60	68	290	25	45	12	6.5	3.0
18	9.0	15	85	e17	e47	74	242	25	241	11	7.6	2.5
19	13	12	41	18	e46	76	204	26	119	8.5	6.1	2.2
20	14	13	31	20	44	80	175	23	77	7.0	5.8	2.6
21	9.6	20	e24	e16	44	90	157	22	77	5.9	6.5	8.1
22	7.7	14	23	e16	e36	544	150	29	61	5.3	5.8	8.2
23	7.2	11	e20	e20	e33	666	134	47	53	4.7	5.3	4.9
24	10	9.1	19	21	e36	376	120	54	47	4.6	5.3	3.8
25	9.0	8.5	e16	21	40	287	112	50	42	4.1	4.9	21
26	6.8	16	e16	20	53	233	98	41	35	5.8	4.0	22
27	6.8	28	16	20	53	194	90	58	30	6.4	3.6	10
28	6.1	19	16	19	47	163	85	52	28	4.9	4.1	7.5
29	5.0	15	15	19	---	149	76	51	21	4.2	4.8	6.9
30	5.1	16	15	e19	---	201	71	46	26	3.8	5.0	5.6
31	7.8	---	20	e18	---	245	---	38	---	3.4	4.2	---
TOTAL	261.1	464.4	608.4	542	1158	4184	8497	1213	1638	349.4	191.2	167.0
MEAN	8.42	15.5	19.6	17.5	41.4	135	283	39.1	54.6	11.3	6.17	5.57
MAX	22	39	85	21	71	666	780	69	241	47	18	22
MIN	5.0	6.5	9.2	13	18	36	71	22	16	3.4	2.7	2.0
CFSM	.19	.35	.44	.39	.93	3.04	6.38	.88	1.23	.25	.14	.13
IN.	.22	.39	.51	.45	.97	3.51	7.12	1.02	1.37	.29	.16	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2001, BY WATER YEAR (WY)

MEAN	10.2	14.4	61.9	61.9	73.6	160	178	80.3	72.7	17.9	7.42	7.43
MAX	14.3	16.3	247	104	119	267	283	165	176	47.3	15.4	14.8
(WY)	1999	1998	1997	1997	1998	1998	2001	1998	1998	1998	2000	1999
MIN	5.23	9.84	8.81	17.5	33.9	113	48.6	31.1	6.31	2.10	1.16	3.48
(WY)	1998	1999	1999	2001	2000	1997	1999	1999	1999	1999	1999	1997

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1997 - 2001	
ANNUAL TOTAL	20616.0		19273.5			
ANNUAL MEAN	56.3		52.8		58.0	
HIGHEST ANNUAL MEAN					84.1	1998
LOWEST ANNUAL MEAN					38.2	1999
HIGHEST DAILY MEAN	1010	Apr 22	780	Apr 10	1270	Mar 10 1998
LOWEST DAILY MEAN	3.5	Sep 11	2.0	Sep 10	.57	Aug 10 1999
ANNUAL SEVEN-DAY MINIMUM	4.6	Sep 6	2.4	Sep 6	.63	Aug 4 1999
MAXIMUM PEAK FLOW			869	Mar 22	1670	Mar 10 1998
MAXIMUM PEAK STAGE			11.20	Mar 22	13.76	Mar 10 1998
INSTANTANEOUS LOW FLOW			1.9	Sep 10	.48	Aug 10 1999
ANNUAL RUNOFF (CFSM)	1.27		1.19		1.31	
ANNUAL RUNOFF (INCHES)	17.27		16.15		17.75	
10 PERCENT EXCEEDS	135		119		163	
50 PERCENT EXCEEDS	21		18		22	
90 PERCENT EXCEEDS	6.9		4.7		4.0	

e Estimated

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

WATER-QUALITY RECORDS

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

INSTRUMENTATION.--Specific Conductance and Temperature water-quality monitor.

REMARKS.--Water Temperature and Specific Conductance records good. Extremes for period of daily record and current year are for those values reported.

EXTREMES FOR PERIOD OF DAILY RECORD, APRIL 1997 TO CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 659 µS/cm, Jan. 9, 1999; minimum, 61 µS/cm, June 18, 1998.
WATER TEMPERATURE: Maximum recorded, 28.5°C, Aug. 1, 1999; minimum, -0.8°C, Feb. 19, 2001.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 378 µS/cm, Dec. 17; minimum, 94 µS/cm, Apr. 14.
WATER TEMPERATURE: Maximum recorded, 28.3°C, Aug. 9; minimum, -0.8°C, Feb. 19.

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	223	214	219	200	194	196	215	192	204	191	182	188
2	222	217	219	201	193	195	193	180	188	186	182	183
3	224	217	220	202	192	193	213	172	191	188	183	185
4	224	219	222	199	194	196	216	190	202	190	184	186
5	223	217	219	196	192	194	220	194	209	189	184	186
6	218	194	207	193	191	192	223	196	209	190	183	186
7	213	192	209	195	193	194	226	199	211	192	182	187
8	208	199	202	198	194	196	217	199	208	199	182	190
9	203	198	201	200	196	198	210	192	198	211	193	201
10	205	201	203	201	180	194	205	192	199	199	182	192
11	214	205	208	180	169	173	224	205	215	187	180	182
12	214	206	212	171	166	168	224	202	213	184	173	178
13	216	208	212	168	165	167	224	205	213	176	171	173
14	215	207	212	171	167	168	217	192	203	177	170	172
15	214	207	210	171	156	162	226	193	208	170	163	166
16	214	210	212	160	156	158	221	194	210	176	164	169
17	210	207	209	163	159	161	378	161	247	188	168	173
18	211	208	210	168	163	165	188	153	162	190	166	171
19	212	199	206	181	161	169	169	151	161	316	175	200
20	200	191	196	177	169	174	189	161	173	271	182	223
21	205	191	198	199	173	188	189	164	176	189	181	186
22	205	199	202	194	176	184	219	187	204	191	189	190
23	199	196	198	191	170	180	221	191	204	193	187	191
24	204	195	200	188	166	175	219	194	205	187	169	178
25	198	189	193	193	168	181	196	184	189	172	168	169
26	200	191	195	218	186	195	225	187	197	171	165	167
27	202	196	200	219	189	197	227	201	217	166	161	164
28	203	196	200	210	194	203	211	196	204	165	156	160
29	198	195	196	194	187	190	211	198	202	157	153	155
30	201	195	198	214	188	194	202	198	199	187	153	157
31	199	196	196	---	---	---	199	191	195	259	187	247
MONTH	224	189	206	219	156	183	378	151	201	316	153	182

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

SPECIFIC CONDUCTANCE (µS/CM AT 25°C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	281	259	269	221	192	205	163	145	153	157	149	154
2	270	228	258	205	183	193	148	142	146	160	156	158
3	228	180	200	203	182	194	152	141	147	166	159	163
4	180	170	176	217	180	192	147	140	143	168	163	167
5	170	146	162	190	152	168	140	131	134	172	164	167
6	146	143	144	152	142	146	149	125	128	173	165	170
7	147	143	145	179	147	162	147	121	127	178	166	172
8	151	144	147	212	168	185	122	109	117	178	172	176
9	155	147	151	212	194	204	111	103	106	178	175	176
10	181	155	169	215	198	208	105	95	98	177	171	175
11	192	170	179	235	201	216	101	97	99	176	171	173
12	192	180	184	260	229	247	105	98	100	179	176	177
13	202	185	191	299	219	264	118	95	97	178	170	175
14	198	181	189	318	263	287	118	94	98	180	170	175
15	204	190	197	301	254	273	122	102	106	181	173	177
16	190	170	180	254	227	237	129	104	107	184	172	177
17	176	145	167	227	205	217	110	103	106	185	179	182
18	163	143	149	206	189	201	136	106	110	184	181	183
19	166	144	154	192	185	189	138	119	122	188	181	184
20	180	161	172	190	179	184	151	124	129	187	179	182
21	176	148	169	183	172	179	147	130	132	189	183	186
22	165	146	154	178	112	126	154	132	135	190	184	189
23	207	154	172	143	112	122	154	137	140	184	178	181
24	183	151	165	133	119	126	141	134	137	182	178	180
25	332	156	169	137	123	129	163	136	139	187	182	184
26	354	230	269	134	120	127	161	137	142	187	178	183
27	266	214	240	151	121	137	147	138	143	186	183	184
28	261	205	239	156	143	150	147	141	144	190	185	188
29	---	---	---	146	137	143	149	144	146	190	181	183
30	---	---	---	152	110	131	154	144	149	183	175	180
31	---	---	---	201	152	176	---	---	---	180	174	177
MONTH	354	143	184	318	110	184	163	94	126	190	149	177

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	187	178	182	215	195	210	239	234	236	269	264	266
2	189	171	184	196	188	192	239	233	236	265	262	263
3	171	154	159	191	176	185	238	226	233	264	260	262
4	160	155	157	183	176	180	234	229	232	261	259	260
5	166	157	160	194	183	188	235	228	232	260	257	259
6	172	157	161	195	187	192	240	228	235	257	250	254
7	175	166	170	200	187	193	241	230	236	258	253	255
8	184	175	180	199	192	196	250	241	247	257	253	256
9	194	184	188	203	196	201	257	246	253	253	222	239
10	201	194	197	206	202	204	261	249	255	240	221	234
11	208	201	204	207	203	205	269	255	263	234	219	228
12	219	208	214	208	204	206	268	264	265	237	226	231
13	230	219	226	207	203	205	268	260	263	236	233	235
14	236	228	233	206	202	205	260	248	252	241	235	239
15	242	230	237	209	200	204	250	245	247	241	234	237
16	248	225	239	209	201	205	247	243	245	240	229	235
17	257	231	247	207	204	206	250	245	248	245	234	239
18	257	125	153	212	204	209	254	249	252	246	239	243
19	156	129	141	212	206	210	257	252	255	250	243	246
20	180	156	167	215	207	211	254	237	242	253	250	252
21	185	171	177	217	211	214	241	236	238	257	249	251
22	179	171	174	220	215	217	244	239	241	257	242	247
23	201	179	185	226	215	219	245	240	242	249	242	246
24	192	180	184	226	216	223	248	242	245	248	234	239
25	187	179	182	227	216	223	251	244	247	240	236	239
26	191	184	188	227	219	225	250	245	247	238	218	227
27	200	190	194	234	226	229	252	247	249	218	215	216
28	205	199	203	229	223	226	254	249	252	216	214	215
29	205	195	200	234	228	231	256	250	253	217	214	216
30	206	190	195	234	228	230	260	252	255	215	212	213
31	---	---	---	236	229	232	265	259	262	---	---	---
MONTH	257	125	189	236	176	209	269	226	247	269	212	241
YEAR	378	94	194									

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.6	10.1	12.0	9.1	6.4	7.6	4.2	2.8	3.4	0.5	0.3	0.3
2	15.1	11.5	13.0	9.8	6.6	8.0	2.8	1.1	2.0	.4	.3	.3
3	16.1	11.9	13.8	9.6	6.9	8.1	2.4	.7	1.3	.5	.3	.3
4	14.5	12.5	13.7	10.7	7.7	9.0	2.8	.8	1.5	.5	.3	.3
5	13.9	12.1	12.7	9.0	7.9	8.6	3.0	1.0	1.9	.5	.3	.3
6	12.5	11.9	12.2	8.4	6.6	7.5	2.2	.8	1.4	.6	.3	.4
7	13.2	10.7	11.9	9.0	6.0	7.3	2.2	.6	1.2	.7	.3	.5
8	11.5	9.0	10.2	9.2	6.4	7.7	1.2	.6	.9	.8	.3	.5
9	9.6	7.7	8.7	8.7	6.6	7.8	1.1	.4	.6	.9	.3	.6
10	9.0	7.5	8.2	8.5	8.3	8.4	.9	.4	.6	.5	.3	.3
11	11.2	7.3	8.9	8.9	8.3	8.5	2.3	.9	1.6	.6	.3	.4
12	11.7	7.5	9.5	9.4	7.9	8.6	3.1	.6	2.0	.6	.3	.4
13	12.6	8.7	10.6	8.4	7.9	8.2	1.2	.4	.8	.4	.3	.3
14	14.0	10.6	12.1	8.6	8.1	8.4	1.5	.4	.9	.6	.3	.4
15	14.5	12.0	13.2	8.4	6.6	7.3	1.8	.5	1.1	.5	.3	.4
16	13.2	10.0	11.4	7.4	6.2	6.7	1.6	.4	1.1	1.0	.4	.6
17	10.8	9.5	10.1	7.3	5.8	6.7	2.2	1.3	1.8	1.2	.4	.7
18	10.6	10.1	10.4	5.9	4.4	5.1	1.9	1.1	1.4	.6	.2	.4
19	12.0	9.8	10.7	5.4	3.8	4.7	1.9	.8	1.3	.8	.5	.6
20	11.5	8.1	9.7	4.9	2.9	3.8	1.7	.6	1.2	.9	.3	.6
21	12.9	9.2	10.9	3.8	2.5	3.1	1.6	.5	.9	.3	.2	.3
22	12.1	8.9	10.5	3.0	1.5	2.2	1.8	.7	1.3	.3	.2	.3
23	10.5	6.7	8.6	2.0	.7	1.2	1.0	.2	.5	.3	.2	.3
24	11.5	7.9	9.5	1.5	.4	.8	1.4	.4	.8	.4	.3	.3
25	12.0	8.6	10.2	1.6	.3	.9	.6	.2	.4	.5	.3	.3
26	12.8	8.9	10.8	1.9	1.0	1.4	.4	.3	.3	.5	.2	.3
27	12.5	10.2	11.4	3.8	1.8	2.8	.7	.3	.4	.5	.3	.3
28	12.5	8.6	10.9	5.1	3.8	4.3	.6	.3	.4	.6	.2	.3
29	8.6	5.7	6.6	5.1	3.8	4.3	.7	.3	.4	.4	.2	.3
30	6.7	5.3	6.0	4.2	3.4	3.7	.4	.2	.3	.4	.2	.3
31	7.4	6.3	6.9	---	---	---	.4	.3	.3	.5	.3	.4
MONTH	16.1	5.3	10.5	10.7	.3	5.8	4.2	.2	1.1	1.2	.2	.4

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.8	0.3	0.5	1.7	0.2	0.8	2.3	1.5	1.8	18.0	12.3	15.0
2	.9	.3	.5	1.7	.3	1.0	3.2	1.5	2.1	20.0	14.1	17.0
3	.8	.2	.4	2.6	.9	1.7	4.0	1.3	2.4	21.1	15.5	18.2
4	.4	.2	.3	2.5	.8	1.6	5.1	1.6	2.9	21.8	16.5	19.2
5	.5	-.1	.3	1.5	.2	.6	5.5	1.8	3.2	19.7	16.2	17.9
6	.3	.2	.3	.3	.2	.3	3.7	2.4	2.9	17.5	13.1	15.3
7	.4	.2	.3	2.0	.3	1.0	4.6	2.5	3.3	17.4	10.9	14.3
8	.5	.2	.3	3.0	.7	1.7	3.0	2.4	2.7	18.2	12.0	15.2
9	.7	.3	.5	2.4	1.0	1.6	5.3	2.2	3.4	19.0	13.3	16.2
10	1.2	.2	.7	3.1	.9	1.8	5.4	2.8	3.7	19.6	14.2	17.1
11	.6	.2	.3	3.4	.6	2.0	5.0	3.0	3.9	20.8	15.1	18.0
12	1.1	.2	.3	4.0	.7	2.2	4.1	3.9	4.0	21.8	17.1	19.3
13	1.1	.3	.5	2.0	.8	1.5	5.9	3.8	4.6	19.1	16.0	17.5
14	1.2	.2	.6	2.8	1.3	1.9	6.7	4.0	5.1	16.5	13.4	15.2
15	2.0	1.0	1.3	3.8	1.4	2.5	7.5	4.4	5.7	15.0	13.0	13.9
16	1.9	.5	1.2	4.4	1.3	2.6	7.9	5.4	6.5	13.9	12.4	13.0
17	2.2	.2	1.4	4.6	1.6	2.8	7.4	5.6	6.4	14.3	11.9	13.1
18	1.1	.2	.4	4.0	1.8	2.5	7.6	5.5	6.4	13.7	12.9	13.3
19	1.7	-.8	.4	4.6	1.4	2.6	8.6	4.7	6.4	17.1	12.7	14.7
20	2.9	.7	1.7	4.9	1.2	2.7	10.0	5.1	7.5	18.4	13.7	15.8
21	3.1	.3	1.8	3.5	1.7	2.5	10.6	7.3	8.9	18.3	13.8	16.0
22	1.4	-.4	.4	2.1	.6	1.0	14.5	9.3	11.5	16.7	13.8	14.6
23	1.6	.2	.8	2.2	1.0	1.7	15.4	10.8	12.9	14.9	13.7	14.2
24	1.9	.2	.8	2.7	1.2	1.8	17.1	11.8	14.0	15.3	13.4	14.3
25	.9	.2	.4	3.1	1.0	1.7	13.7	11.5	12.5	16.1	13.6	14.8
26	2.9	.9	1.8	2.5	.8	1.4	14.5	9.9	12.0	16.8	13.9	15.4
27	3.2	-.7	1.8	3.0	.7	1.5	14.8	9.7	12.2	15.7	15.0	15.2
28	2.5	.4	1.3	3.8	1.0	2.0	14.8	11.0	12.6	17.5	15.0	16.1
29	---	---	---	3.8	1.1	2.2	14.6	9.3	11.8	17.7	14.3	16.0
30	---	---	---	2.2	.3	1.0	15.0	9.8	12.5	16.8	14.5	15.6
31	---	---	---	2.0	1.1	1.6	---	---	---	16.4	13.0	14.7
MONTH	3.2	-.8	.8	4.9	.2	1.7	17.1	1.3	6.9	21.8	10.9	15.7

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.0	12.4	15.3	24.6	21.3	22.6	22.9	17.2	20.2	24.1	19.0	21.8
2	16.6	14.5	15.3	21.4	19.0	20.3	24.7	17.7	21.4	21.5	15.3	18.2
3	15.8	15.0	15.5	20.0	17.1	18.8	25.4	20.5	22.8	21.5	14.7	17.9
4	16.8	15.3	16.1	21.5	18.4	19.9	22.8	20.7	21.7	20.0	15.6	18.1
5	17.8	15.1	16.4	23.0	19.6	21.1	24.6	20.0	22.0	21.8	16.5	18.5
6	18.7	16.1	17.3	21.0	18.7	20.1	26.3	20.3	23.2	20.9	13.4	16.8
7	19.2	15.2	17.3	21.9	16.7	19.2	27.0	22.0	24.4	22.4	15.0	18.2
8	20.3	16.2	18.2	19.6	18.5	18.9	27.7	22.4	25.0	23.6	17.3	19.9
9	20.4	16.2	18.4	23.2	18.2	20.4	28.3	22.5	25.3	26.4	18.4	21.4
10	21.7	16.3	19.0	24.1	19.7	21.4	26.6	23.8	25.0	25.2	19.4	21.6
11	19.7	17.3	18.2	22.2	18.8	20.3	25.4	21.4	23.2	24.9	18.0	20.5
12	18.7	17.2	17.8	20.5	18.3	19.4	22.0	19.1	19.9	23.0	14.8	18.2
13	22.4	17.5	19.7	19.7	16.9	18.3	22.2	19.0	20.1	23.6	14.5	18.0
14	24.9	19.2	21.9	20.4	16.5	18.6	21.9	19.1	20.3	17.2	14.5	16.0
15	26.8	21.2	23.9	21.5	17.2	19.2	22.6	17.8	20.0	17.4	12.2	14.5
16	26.8	22.5	24.5	22.3	17.4	19.7	23.0	17.6	20.2	17.9	11.0	14.1
17	24.7	19.9	22.0	20.1	18.3	18.9	21.6	19.1	20.3	19.1	11.3	14.6
18	24.8	19.4	23.1	21.7	17.3	19.3	23.4	19.2	21.1	20.0	12.1	15.2
19	25.4	22.2	23.7	21.7	18.2	19.6	23.7	18.7	21.2	18.5	14.1	16.2
20	25.8	22.0	23.8	22.8	16.5	19.6	21.5	20.1	20.8	17.6	15.7	16.7
21	23.9	21.1	22.4	23.1	17.4	20.3	23.8	20.0	21.5	17.6	16.4	17.1
22	22.0	20.3	21.1	24.7	19.2	21.8	23.9	19.0	21.3	20.1	16.9	18.2
23	22.8	20.4	21.6	25.4	19.4	22.3	22.2	18.3	20.4	19.3	15.9	17.6
24	22.8	21.3	22.0	26.7	21.3	23.9	23.6	19.0	21.0	18.0	15.5	16.8
25	23.6	20.5	22.1	28.0	22.7	25.2	22.3	16.8	19.7	19.0	17.0	18.0
26	25.1	21.1	23.2	25.0	19.4	21.8	23.0	17.1	19.9	18.8	16.0	17.7
27	25.7	22.3	24.0	21.8	16.5	19.1	22.2	19.0	20.5	16.5	13.7	15.2
28	25.4	22.2	23.8	21.9	15.6	18.7	24.1	19.4	21.5	15.4	14.0	14.7
29	23.6	20.7	21.7	21.8	17.0	19.4	23.5	19.1	21.2	15.5	13.1	14.3
30	25.4	20.9	22.8	22.3	16.4	19.4	22.8	17.5	20.4	13.5	11.7	12.6
31	---	---	---	22.5	15.1	19.0	23.7	20.1	21.8	---	---	---
MONTH	26.8	12.4	20.4	28.0	15.1	20.2	28.3	16.8	21.5	26.4	11.0	17.3
YEAR	28.3	-.8	10.2									

01096000 SQUANNACOOK RIVER NEAR WEST GROTON, MA

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

DRAINAGE AREA.--63.7 mi^2, excludes 2.16 mi^2, above outlet of Ashby Reservoir.

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

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

GAGE.--Water-stage recorder. Datum of gage is 244.27 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional regulation at low flow by mill upstream; regulation greater prior to 1961. Entire flow from 2.16 mi^2 upstream from outlet of Ashby Reservoir diverted for municipal supply of Fitchburg except for occasional periods of spill. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 113 ft^3/s, 24.10 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,590 ft^3/s, Mar. 23, gage height, 6.17 ft; minimum, 8.1 ft^3/s, Sept. 13, 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	32	77	66	80	e58	340	114	47	65	17	11
2	24	33	69	63	77	e56	275	108	66	118	16	12
3	22	31	61	61	71	55	253	101	188	97	16	10
4	21	29	56	60	e60	51	263	93	192	67	20	10
5	21	29	54	59	60	51	314	89	127	59	19	9.7
6	34	31	52	60	60	53	396	82	91	72	18	9.4
7	54	31	48	59	65	62	458	74	70	67	16	9.2
8	50	32	43	58	58	57	547	70	57	52	15	9.6
9	40	31	38	58	57	55	611	66	48	50	15	9.2
10	37	44	35	57	70	57	805	63	45	46	14	8.9
11	32	139	37	55	e86	56	862	60	42	40	14	9.0
12	30	140	46	53	e87	57	745	57	120	37	18	8.6
13	28	97	48	49	84	66	804	54	133	35	19	8.5
14	26	77	48	50	73	88	738	50	85	33	17	9.9
15	28	107	47	51	77	96	635	46	68	31	15	10
16	24	120	44	52	80	106	539	46	55	29	14	9.8
17	26	91	118	52	75	115	466	50	145	31	13	9.5
18	29	73	647	50	e64	128	399	50	548	34	13	9.1
19	47	63	443	50	e64	139	336	50	274	32	13	10
20	53	58	245	51	64	152	289	48	139	29	12	9.2
21	47	55	e174	51	62	174	252	44	117	28	16	13
22	40	52	142	e50	e55	498	250	47	108	24	15	14
23	35	49	e113	48	59	1400	239	64	96	22	13	14
24	33	45	e99	47	e55	901	217	78	87	20	12	13
25	31	41	e89	46	55	630	188	64	88	19	11	36
26	29	48	e77	45	64	481	167	55	73	21	12	63
27	28	112	69	45	73	379	151	68	60	22	10	34
28	26	130	68	44	67	305	139	75	51	21	10	25
29	24	101	62	41	---	281	128	72	44	20	10	22
30	24	85	61	46	---	286	122	64	43	19	9.7	19
31	28	---	66	62	---	313	---	53	---	18	11	---
TOTAL	995	2006	3276	1639	1902	7206	11928	2055	3307	1258	443.7	445.6
MEAN	32.1	66.9	106	52.9	67.9	232	398	66.3	110	40.6	14.3	14.9
MAX	54	140	647	66	87	1400	862	114	548	118	20	63
MIN	21	29	35	41	55	51	122	44	42	18	9.7	8.5
CFSM	.50	1.05	1.66	.83	1.07	3.65	6.24	1.04	1.73	.64	.22	.23
IN.	.58	1.17	1.91	.96	1.11	4.21	6.97	1.20	1.93	.73	.26	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2001, BY WATER YEAR (WY)

MEAN	54.0	98.6	121	122	132	229	275	145	83.9	37.2	29.4	31.2
MAX	296	304	349	323	328	554	654	343	330	84.7	98.8	245
(WY)	1956	1956	1997	1956	1970	1983	1987	1954	1998	1951	1986	1954
MIN	9.41	12.6	22.7	20.1	33.6	81.5	75.8	51.9	18.5	8.26	6.21	6.80
(WY)	1965	1965	1966	1981	1980	1989	1985	1965	1999	1965	1966	1965

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1950 - 2001	
ANNUAL TOTAL	44024		36461.3			
ANNUAL MEAN	120		99.9		113	
HIGHEST ANNUAL MEAN					174	1956
LOWEST ANNUAL MEAN					35.9	1965
HIGHEST DAILY MEAN	1260	Apr 23	1400	Mar 23	3420	Apr 6 1987
LOWEST DAILY MEAN	19	Sep 12	8.5	Sep 13	2.0	Sep 7 1965
ANNUAL SEVEN-DAY MINIMUM	23	Sep 7	9.0	Sep 7	4.3	Aug 28 1966
MAXIMUM PEAK FLOW			1590	Mar 23	4220	Apr 6 1987
MAXIMUM PEAK STAGE			6.17	Mar 23	8.16	Apr 6 1987
INSTANTANEOUS LOW FLOW			8.1	Sep 13		
ANNUAL RUNOFF (CFSM)	1.89		1.57		1.77	
ANNUAL RUNOFF (INCHES)	25.71		21.29		24.10	
10 PERCENT EXCEEDS	258		247		256	
50 PERCENT EXCEEDS	70		55		67	
90 PERCENT EXCEEDS	29		14		15	

e Estimated

01096500 NASHUA RIVER AT EAST PEPPERELL, MA

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

DRAINAGE AREA.--Total above gage, 435 mi^2, net above gage, 316 mi^2, excludes 119 mi^2 for use of Boston metropolitan district and city of Worcester.

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

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

GAGE.--Water-stage recorder. Datum of gage is 169.04 ft above sea level.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Extremes and daily discharge include water released while diverting flow of Nashua River for use of Boston metropolitan district and water diverted into basin from Ware River Basin since 1955 for municipal use of Fitchburg. Prior to October 1981, water diverted around station through plant of James River—Pepperell Co. was added to daily figures. Flow regulated by powerplant immediately upstream. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--66 years, 583 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,080 ft^3/s, Mar. 24, gage height, 9.51 ft; minimum daily, 31 ft^3/s, Sept. 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	221	546	406	298	401	2350	641	198	296	108	71
2	218	113	352	406	473	375	2180	594	179	766	106	75
3	216	314	415	345	437	328	1850	531	802	722	118	76
4	127	291	333	302	409	295	1690	497	897	525	125	73
5	75	244	337	302	406	347	1710	500	722	432	135	72
6	200	229	449	303	349	351	1700	469	561	452	143	69
7	424	241	476	304	311	359	e1900	374	396	380	140	65
8	510	255	196	348	349	435	e2330	323	325	327	135	64
9	340	270	66	310	385	405	e2660	339	330	323	127	65
10	214	276	143	389	414	412	3030	332	309	305	118	67
11	213	581	234	406	503	439	3560	322	243	291	112	68
12	117	730	577	401	463	413	3780	308	275	281	114	68
13	422	639	404	308	464	437	3740	296	550	266	130	66
14	490	569	186	227	447	587	3570	259	408	227	162	67
15	226	483	189	230	448	712	3340	236	318	217	149	70
16	122	689	251	233	488	658	3030	237	294	211	134	74
17	71	615	434	307	468	694	2660	248	245	207	132	73
18	75	501	1530	320	427	761	2350	249	1260	219	141	72
19	78	436	2020	318	407	830	2070	247	1760	223	138	70
20	229	394	1400	294	405	846	1780	246	1030	215	189	193
21	279	312	985	265	404	894	1580	248	765	157	209	334
22	258	245	817	293	e353	1850	1470	245	676	129	197	271
23	242	255	666	315	310	4030	1360	280	558	139	179	178
24	238	339	567	315	316	4980	1250	339	494	140	151	81
25	236	364	560	315	331	4610	1120	343	454	137	92	31
26	346	358	550	315	375	3580	988	318	427	178	70	35
27	208	395	357	314	470	2800	878	378	318	217	76	171
28	162	601	296	312	438	2290	794	435	239	150	116	219
29	219	508	406	310	---	1990	725	440	243	98	152	142
30	225	461	403	286	---	1940	676	425	207	106	108	39
31	231	---	407	254	---	2220	---	385	---	108	67	---
TOTAL	7233	11929	16552	9753	11348	41269	62121	11084	15483	8444	4073	3019
MEAN	233	398	534	315	405	1331	2071	358	516	272	131	101
MAX	510	730	2020	406	503	4980	3780	641	1760	766	209	334
MIN	71	113	66	227	298	295	676	236	179	98	67	31
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2001, BY WATER YEAR (WY)												
MEAN	316	481	598	614	677	1147	1267	724	493	253	214	231
MAX	1356	1781	1616	1417	1544	3930	3676	1382	1976	1366	966	1671
(WY)	1956	1956	1997	1979	1970	1936	1987	1953	1982	1938	1938	1938
MIN	91.1	108	134	116	186	386	369	236	107	90.0	71.3	76.4
(WY)	1942	1965	1966	1981	1980	1989	1985	1965	1999	1966	1966	1995

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1936 - 2001	
ANNUAL TOTAL	226850		202308			
ANNUAL MEAN	620		554		583	
HIGHEST ANNUAL MEAN					969	1956
LOWEST ANNUAL MEAN					214	1965
HIGHEST DAILY MEAN	4570	Apr 24	4980	Mar 24	19400	Mar 20 1936
LOWEST DAILY MEAN	49	Jan 3	31	Sep 25	1.1	Aug 13 1939
ANNUAL SEVEN-DAY MINIMUM	152	Sep 1	66	Sep 7	14	Aug 1 1965
MAXIMUM PEAK FLOW			5080	Mar 24	20900	Mar 20 1936
MAXIMUM PEAK STAGE			9.51	Mar 24	19.10	Mar 20 1936
INSTANTANEOUS LOW FLOW			30	Sep 24		
10 PERCENT EXCEEDS	1240		1380		1260	
50 PERCENT EXCEEDS	423		320		368	
90 PERCENT EXCEEDS	185		108		98	

e Estimated

01097000 ASSABET RIVER AT MAYNARD, MA

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

DRAINAGE AREA.--116 mi^2.

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

REVISED RECORDS.--WSP 1231: 1945–46.

GAGE.--Water-stage recorder. Datum of gage is 142.12 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional diurnal fluctuation at low flow by mills upstream; greater regulation prior to 1969. Since 1962, high flow affected by retarding reservoirs and, since 1970, occasional release at low flow by these reservoirs.

AVERAGE DISCHARGE.--60 years, 190 ft^3/s.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,090 ft^3/s, Mar. 23, gage height, 6.41 ft; minimum daily, 4.1 ft^3/s, Sept. 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	68	139	115	150	165	1400	181	123	e222	24	12
2	46	62	125	e110	150	156	1220	171	162	e210	22	12
3	50	59	108	e105	142	148	1030	163	321	191	22	15
4	52	58	97	e103	e124	138	914	150	440	151	25	14
5	55	53	88	e101	e114	141	834	139	397	133	32	9.3
6	92	57	82	104	115	134	787	130	296	155	35	4.1
7	97	68	79	104	134	159	784	121	215	126	27	5.6
8	81	60	74	103	125	162	832	114	172	102	22	6.0
9	69	54	70	105	123	158	892	118	141	92	21	8.5
10	64	106	66	e104	157	165	874	123	117	88	22	9.8
11	59	220	67	e98	194	170	790	114	107	99	19	9.8
12	53	234	76	95	186	171	718	100	155	110	39	10
13	55	196	82	e92	169	216	690	97	182	94	75	10
14	53	155	85	88	160	289	641	103	158	77	66	12
15	48	197	85	89	193	312	561	92	123	66	49	17
16	47	209	85	92	211	320	491	90	98	59	35	16
17	56	181	189	94	201	350	442	90	188	64	28	16
18	63	140	442	e92	179	393	402	92	495	69	28	22
19	86	118	522	e95	162	434	367	87	564	63	24	17
20	93	103	489	e107	156	461	337	81	478	60	22	16
21	84	96	382	e107	163	480	313	76	415	51	23	30
22	69	93	297	e99	156	1160	295	94	328	44	23	39
23	59	87	230	e97	152	2020	274	136	264	41	22	31
24	53	80	191	e95	143	1940	262	152	219	37	21	24
25	47	74	167	92	142	1740	240	158	195	32	20	29
26	43	90	147	e89	166	1530	233	141	180	39	18	38
27	41	170	135	87	190	1300	221	203	151	41	18	30
28	44	202	123	85	183	1080	209	263	118	36	18	27
29	45	168	113	e83	---	926	195	243	105	33	17	24
30	51	146	111	91	---	954	186	180	e106	28	18	21
31	63	---	115	125	---	1320	---	143	---	25	16	---
TOTAL	1865	3604	5061	3046	4440	19092	17434	4145	7013	2638	851	535.1
MEAN	60.2	120	163	98.3	159	616	581	134	234	85.1	27.5	17.8
MAX	97	234	522	125	211	2020	1400	263	564	222	75	39
MIN	41	53	66	83	114	134	186	76	98	25	16	4.1

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

MEAN	91.5	149	193	219	248	408	388	236	154	73.0	60.7	62.8
MAX	375	542	547	670	696	776	1052	443	788	254	561	542
(WY)	1956	1956	1997	1979	1970	1983	1987	1954	1982	1959	1955	1954
MIN	9.92	22.1	35.6	37.6	72.5	143	127	106	28.8	11.6	5.18	5.00
(WY)	1958	1950	1950	1966	1965	1989	1966	1999	1999	1966	1966	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1941 - 2001	
ANNUAL TOTAL	70799		69724.1			
ANNUAL MEAN	193		191		190	
HIGHEST ANNUAL MEAN					296	1984
LOWEST ANNUAL MEAN					73.3	1966
HIGHEST DAILY MEAN	1480	Apr 24	2020	Mar 23	3650	Aug 20 1955
LOWEST DAILY MEAN	25	Sep 9	4.1	Sep 6	.20	Feb 7 1965
ANNUAL SEVEN-DAY MINIMUM	27	Sep 6	7.6	Sep 5	1.0	Feb 2 1965
MAXIMUM PEAK FLOW			2090	Mar 23	4250	Aug 20 1955
MAXIMUM PEAK STAGE			6.41	Mar 23	8.96	Aug 20 1955
INSTANTANEOUS LOW FLOW			2.5	Sep 6		
10 PERCENT EXCEEDS	430		436		423	
50 PERCENT EXCEEDS	121		105		127	
90 PERCENT EXCEEDS	44		22		25	

e Estimated

01097300 NASHOBA BROOK NEAR ACTON, MA

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

DRAINAGE AREA.--12.8 mi^2.

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

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

GAGE.--Water-stage recorder. Elevation of gage is 155 ft above sea level, from topographic map. Prior to Jan. 8, 1997, at site 1,000 ft downstream, at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Occasional regulation since 1967 by pond upstream.

AVERAGE DISCHARGE.--38 years, 20.4 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 310 ft^3/s, Mar. 23; gage height, 7.10 ft; minimum, 0.29 ft^3/s, Sept. 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	4.5	21	e9.0	e14	e7.0	137	16	8.1	17	2.7	1.2
2	5.8	4.2	21	e8.9	e14	e6.0	103	14	11	24	2.6	1.1
3	5.5	3.0	15	e8.8	e10	e5.0	84	11	36	e12	2.7	1.0
4	4.2	2.4	12	e8.6	e7.0	e4.0	78	11	36	e11	7.3	.94
5	3.1	2.4	e10	e8.0	e5.0	e3.4	78	11	22	e10	9.5	.86
6	9.4	3.4	e9.2	e8.5	e6.0	e3.0	80	9.5	14	e12	4.9	.82
7	12	5.1	e8.4	e8.2	e7.0	e3.5	77	8.3	10	e10	4.3	.77
8	6.9	2.5	e7.8	e8.0	e8.0	e4.0	78	8.7	8.2	e9.5	4.0	.70
9	4.2	2.2	7.4	e7.6	e9.0	e5.0	85	7.2	6.7	e9.0	3.8	.62
10	3.5	8.6	6.8	e7.2	14	e5.4	84	7.3	5.8	e8.0	3.7	.50
11	3.1	47	6.5	e7.0	17	e5.6	73	6.8	5.5	e7.6	3.4	.39
12	3.2	43	e6.2	e6.7	e15	e5.8	62	6.2	9.1	e7.2	3.5	.32
13	3.6	28	e6.5	e6.4	e12	e6.0	62	6.1	12	e7.0	4.9	.32
14	3.2	21	7.2	e6.0	e8.0	e7.4	56	6.1	8.7	e6.0	4.7	.37
15	3.0	31	7.9	e6.5	e9.0	e9.2	46	6.0	6.8	e5.0	3.9	.35
16	4.1	32	8.1	e7.0	e10	e12	41	6.0	5.4	e4.5	3.5	.33
17	4.6	21	23	e6.5	e9.0	e16	36	6.1	27	e5.0	3.8	.35
18	4.7	16	99	e6.0	e8.0	e19	33	5.5	132	e5.7	4.0	.38
19	13	14	79	e7.0	e7.0	e25	31	5.4	80	5.2	4.5	.37
20	10	e12	50	e10	e6.6	e40	28	4.9	34	4.4	3.6	.34
21	5.5	e10	34	e9.0	e6.2	60	25	4.5	23	3.8	3.4	.41
22	3.9	e9.0	e25	e11	e6.0	197	24	4.6	19	3.5	3.0	.51
23	3.3	e8.0	e20	e9.0	e5.5	281	23	8.0	15	3.2	2.8	.65
24	4.6	e7.0	e16	e7.0	e5.0	256	23	11	14	2.8	2.5	.70
25	2.3	e6.0	e13	e6.5	e6.0	186	21	10	12	2.6	2.3	.76
26	2.0	e9.0	e11	e6.0	e7.0	149	19	7.4	10	2.4	2.1	.86
27	2.3	35	e9.6	e5.5	e9.0	106	18	13	8.1	2.5	1.9	.89
28	2.2	37	e8.6	e5.0	e8.0	86	18	23	6.9	2.7	1.7	1.0
29	e2.6	28	e8.0	e6.0	---	77	16	17	5.6	2.5	1.6	.99
30	e3.0	22	e7.8	e8.0	---	84	15	14	5.5	2.5	1.5	.95
31	e3.5	---	e8.0	e10	---	138	---	12	---	2.7	1.3	---
TOTAL	147.7	474.3	573.0	234.9	248.3	1812.3	1554	287.6	597.4	211.3	109.4	19.75
MEAN	4.76	15.8	18.5	7.58	8.87	58.5	51.8	9.28	19.9	6.82	3.53	.66
MAX	13	47	99	11	17	281	137	23	132	24	9.5	1.2
MIN	2.0	2.2	6.2	5.0	5.0	3.0	15	4.5	5.4	2.4	1.3	.32

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

MEAN	9.77	17.3	22.5	25.4	28.8	45.8	41.5	24.1	15.4	5.90	4.24	4.17
MAX	64.0	47.3	55.2	101	88.7	96.9	93.6	57.0	72.5	19.2	19.2	15.7
(WY)	1997	1976	1987	1979	1976	1977	1987	1978	1982	1982	1991	1991
MIN	.60	1.20	2.34	2.58	6.30	15.1	12.7	8.59	1.37	.52	.076	.27
(WY)	1998	1966	1966	1966	1980	1989	1966	1965	1999	1999	1999	1965

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1963 - 2001	
ANNUAL TOTAL	6996.9		6269.95			
ANNUAL MEAN	19.1		17.2		20.4	
HIGHEST ANNUAL MEAN					36.1	1978
LOWEST ANNUAL MEAN					7.09	1965
HIGHEST DAILY MEAN	189	Apr 23	281	Mar 23	560	Jan 26 1979
LOWEST DAILY MEAN	1.3	Jul 15	.32	Sep 12	.01	Sep 8 1995
ANNUAL SEVEN-DAY MINIMUM	1.9	Jul 15	.35	Sep 12	.02	Sep 3 1995
MAXIMUM PEAK FLOW			310	Mar 23	679	Jan 26 1979
MAXIMUM PEAK STAGE			7.10	Mar 23	7.10	Mar 23 2001
INSTANTANEOUS LOW FLOW			.29	Sep 13	.01	Sep 4 1995
10 PERCENT EXCEEDS	38		36		50	
50 PERCENT EXCEEDS	12		7.2		11	
90 PERCENT EXCEEDS	2.6		2.1		1.2	

e Estimated

01098530 SUDBURY RIVER AT SAXONVILLE, MA

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

DRAINAGE AREA.--106 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 110.55 ft above sea level (Massachusetts Department of Public Works benchmark).

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

AVERAGE DISCHARGE.--21 years (water years 1981–2001), 196 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,860 ft^3/s, Mar. 23, gage height, 12.61 ft; minimum daily, 4.0 ft^3/s, Sept. 12, 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	39	153	207	149	162	1600	92	137	243	6.7	6.2
2	17	32	141	e189	141	156	1470	88	228	231	6.4	5.4
3	15	31	134	e152	135	151	1260	83	264	196	6.4	5.0
4	15	55	129	152	128	146	1080	81	234	175	11	5.4
5	18	61	116	150	137	159	938	75	209	176	10	5.6
6	46	65	93	138	156	186	798	70	185	173	7.3	4.7
7	31	60	89	128	139	171	725	64	163	141	6.6	4.6
8	24	59	81	127	135	165	711	54	140	133	5.9	4.5
9	21	58	74	133	146	171	675	50	109	127	5.3	4.4
10	21	180	72	128	196	187	608	47	97	120	11	4.5
11	19	226	73	126	190	183	560	45	95	116	11	4.3
12	17	176	78	125	170	190	535	49	165	110	52	4.0
13	15	148	75	122	165	277	530	48	122	105	44	4.0
14	14	155	88	122	181	298	520	41	106	97	32	14
15	14	192	86	129	205	313	486	37	95	92	19	7.4
16	16	153	81	129	204	333	458	37	83	88	14	5.4
17	19	134	291	123	206	352	432	38	251	86	14	5.0
18	20	117	447	90	191	384	416	38	484	47	29	4.9
19	52	105	390	100	185	383	372	39	431	35	21	4.6
20	31	97	412	107	182	397	289	36	378	31	22	4.7
21	27	90	365	108	190	434	266	33	318	28	24	26
22	25	84	343	100	181	1220	253	51	262	19	19	14
23	24	78	319	105	179	1830	224	60	230	12	15	9.0
24	25	73	298	103	164	1720	170	85	224	10	13	7.2
25	26	69	288	101	173	1550	156	115	229	9.2	10	22
26	24	107	277	99	200	1420	130	101	191	13	9.2	19
27	22	164	259	98	193	1300	115	193	166	13	8.5	13
28	24	158	200	97	175	1170	104	173	145	8.7	9.1	19
29	23	151	148	94	---	1070	94	163	130	7.6	7.8	16
30	21	161	211	126	---	1330	94	175	151	7.4	6.4	9.7
31	43	---	220	152	---	1670	---	151	---	7.0	6.2	---
TOTAL	729	3278	6031	3860	4796	19478	16069	2412	6022	2656.9	462.8	263.5
MEAN	23.5	109	195	125	171	628	536	77.8	201	85.7	14.9	8.78
MAX	52	226	447	207	206	1830	1600	193	484	243	52	26
MIN	14	31	72	90	128	146	94	33	83	7.0	5.3	4.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2001, BY WATER YEAR (WY)

MEAN	111	167	241	226	261	356	377	213	175	74.0	76.8	60.4
MAX	376	385	572	471	480	757	920	415	739	156	192	147
(WY)	1997	1990	1997	1982	1990	1983	1987	1998	1982	1998	1989	1989
MIN	9.43	54.8	88.4	59.5	67.6	121	98.7	75.2	31.3	10.9	10.7	8.78
(WY)	1998	1999	1998	1981	1980	1985	1985	1986	1993	1993	1999	2001

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1980 - 2001	
ANNUAL TOTAL	66275.6		66058.2			
ANNUAL MEAN	181		181		196	
HIGHEST ANNUAL MEAN					253	1984
LOWEST ANNUAL MEAN					96.6	1985
HIGHEST DAILY MEAN	1120	Apr 25	1830	Mar 23	2250	Jun 7 1982
LOWEST DAILY MEAN	9.7	Sep 11	4.0	Sep 12	4.0	Sep 12 2001
ANNUAL SEVEN-DAY MINIMUM	11	Sep 8	4.3	Sep 7	4.3	Sep 7 2001
MAXIMUM PEAK FLOW			1860	Mar 23	2420	Jun 7 1982
MAXIMUM PEAK STAGE			12.61	Mar 23	13.47	Apr 8 1987
INSTANTANEOUS LOW FLOW			3.9	Sep 12		
10 PERCENT EXCEEDS	391		383		429	
50 PERCENT EXCEEDS	152		107		135	
90 PERCENT EXCEEDS	19		9.1		28	

e Estimated

01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK AT LOWELL, MA

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

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

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

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

GAGE.--Water-stage recorder. Datum of gage is 67.41 ft above sea level.

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

AVERAGE DISCHARGE.--65 years, 650 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,150 ft^3/s, Mar. 25; gage height, 8.96 ft; minimum daily, 35 ft^3/s, Sept. 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	184	518	520	376	566	3940	695	533	635	94	95
2	122	198	505	515	414	545	3960	646	563	695	90	67
3	116	189	468	482	433	519	3890	606	685	680	96	55
4	113	184	432	465	440	495	3770	573	757	658	192	57
5	113	185	418	435	430	474	3610	522	817	635	207	58
6	170	212	365	414	409	343	3450	479	828	605	178	58
7	178	218	340	405	415	459	3280	431	807	574	156	57
8	189	225	313	385	439	530	3180	403	738	534	144	54
9	e178	216	273	376	440	534	3100	378	667	486	88	49
10	171	302	260	e367	492	544	3000	337	594	454	96	45
11	163	481	253	364	531	552	2890	319	531	413	93	40
12	148	579	250	357	e544	564	2760	314	526	389	162	36
13	132	591	252	339	548	634	2650	274	495	364	265	35
14	132	607	262	339	550	740	2520	278	481	338	320	40
15	122	664	277	331	585	817	2370	267	454	326	298	40
16	118	643	267	331	613	900	2210	246	424	297	263	41
17	134	630	452	332	630	977	2060	255	578	284	230	42
18	148	591	805	331	e618	1070	1890	258	984	276	189	41
19	172	551	916	329	606	1160	1780	252	1030	264	163	36
20	204	502	1050	331	585	1250	1660	236	1120	232	156	36
21	215	453	1100	328	577	1340	1550	229	1170	192	146	62
22	207	422	1090	e325	561	2340	1430	229	1170	180	140	108
23	201	353	1020	328	547	3170	1330	260	1110	167	134	77
24	182	344	959	324	518	3660	1230	324	1030	150	106	86
25	169	293	884	323	514	4050	1120	372	943	132	95	97
26	158	307	e790	315	532	4100	e1020	379	869	101	104	103
27	145	433	e770	310	564	4070	e930	460	791	112	96	101
28	129	468	e706	299	576	3940	e829	524	715	136	93	90
29	108	509	653	294	---	3780	e768	594	636	125	86	85
30	146	519	592	304	---	3720	e722	597	592	97	80	106
31	153	---	530	343	---	3880	---	568	---	75	79	---
TOTAL	4768	12053	17770	11241	14487	51723	68899	12305	22638	10606	4639	1897
MEAN	154	402	573	363	517	1668	2297	397	755	342	150	63.2
MAX	215	664	1100	520	630	4100	3960	695	1170	695	320	108
MIN	108	184	250	294	376	343	722	229	424	75	79	35

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

MEAN	326	524	706	733	865	1272	1316	812	527	267	232	230
MAX	1320	1866	1853	1996	1856	2510	3149	1599	2502	1512	1403	1694
(WY)	1997	1956	1997	1979	1970	1983	1987	1954	1982	1938	1955	1954
MIN	38.3	86.9	133	150	230	479	377	283	116	50.0	33.1	25.4
(WY)	1942	1966	1966	1981	1980	1989	1966	1941	1964	1949	1966	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1937 - 2001	
ANNUAL TOTAL	228145		233026			
ANNUAL MEAN	623		638		650	
HIGHEST ANNUAL MEAN					1112	1984
LOWEST ANNUAL MEAN					242	1966
HIGHEST DAILY MEAN	2700	Apr 27	4100	Mar 26	5340	Jan 28 1979
LOWEST DAILY MEAN	77	Sep 10	35	Sep 13	4.0	Sep 29 1957
ANNUAL SEVEN-DAY MINIMUM	81	Sep 8	39	Sep 11	16	Sep 26 1957
MAXIMUM PEAK FLOW			4150	Mar 25	5410	Jan 28 1979
MAXIMUM PEAK STAGE			8.96	Mar 25	9.60	Jan 28 1979
INSTANTANEOUS LOW FLOW			34	Sep 13		
10 PERCENT EXCEEDS	1290		1190		1400	
50 PERCENT EXCEEDS	476		405		485	
90 PERCENT EXCEEDS	130		96		100	

e Estimated

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

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

DRAINAGE AREA.--Total above gage, 4,635 mi^2; net above gage, 4,425 mi^2—excludes 210 mi^2 for use of Boston metropolitan district and city of Worcester.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: June 1923 to current year.
Water-quality records: Water years 1954, 1966—74, 2000-01.

GAGE.--Water-stage recorder. Datum of gage is 5.18 ft above sea level. Prior to Mar. 7, 1934, at Boott Mills, 1,800 ft upstream and 700 ft above mouth of Concord River, in same gage pool and at same datum; gage-height record (provided by Proprietors of the Locks and Canals on Merrimack River) was indicative of flow including that of Concord River.

REMARKS.--Records excellent except those for estimated daily discharge, which are good. Daily discharge includes water released from 210 mi^2 in basins of Sudbury and Nashua Rivers and Lake Cochituate. Flow regulated by powerplants, by Franklin Falls Reservoir since 1942, and by Squam, Newfound, Winnipesaukee, Winnisquam, and other lakes and reservoirs upstream. Telephone and satellite gage-height telemeters at station.

AVERAGE DISCHARGE.--78 years, 7,712 ft^3/s.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,200 ft^3/s, Apr. 15; gage height, 50.95 ft; minimum daily, 839 ft^3/s, Aug. 31.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	2910	6420	e5540	4740	4350	18200	17100	5030	3640	1580	913
2	2130	2390	6080	e5350	4950	4260	17500	15000	6560	4380	1550	998
3	2020	2540	5900	e5320	5090	4430	16600	14800	9400	4860	2090	1010
4	1960	2810	5030	e5320	4660	3930	15900	14900	18000	3950	2230	954
5	1630	2780	3780	e5460	4780	4050	15700	15100	21000	4220	2100	1080
6	2500	2590	4230	5550	4330	4100	16700	14200	18000	3960	1890	941
7	3220	3350	4280	5540	4540	4110	17700	11600	14200	3660	1630	1230
8	3760	3590	3450	5440	4990	4570	19400	9220	10400	3510	1510	1100
9	3400	2640	3070	5280	4990	4700	20900	9040	8350	3370	1400	1100
10	3260	4030	2880	e5080	5200	4720	23500	6690	7200	3160	1670	1110
11	3080	6130	3140	5300	5090	4670	27500	6690	7110	2920	1630	1150
12	3310	7230	3430	5040	4900	4460	31600	5220	7040	3190	1810	1040
13	2940	8480	3460	5050	5630	5240	34000	5410	9490	2850	1540	1070
14	3440	7790	3770	4700	5610	5350	38200	4870	9120	2750	1330	1100
15	5700	7630	3060	4500	5290	5760	39700	5880	8110	2420	1510	1020
16	3340	8120	3740	4860	5540	6450	37000	3950	6820	2340	1410	979
17	2500	8900	5450	4690	5370	6490	33900	4670	7210	2590	1380	1050
18	2600	8270	13600	4780	4840	7300	32100	4550	9040	2160	1300	912
19	3210	7070	26800	4730	4820	7700	30300	4190	9500	2380	1420	930
20	4280	5870	28100	4740	4680	7780	27300	4250	7930	2510	1520	1020
21	4060	5480	23800	4750	5440	8240	24700	3950	6880	2390	1590	1630
22	2910	5080	17900	5330	3700	14000	24000	3390	6380	2180	1740	1640
23	3330	4750	12800	4040	4290	25100	26400	3840	6160	1910	1680	1720
24	2960	4530	10000	3790	4070	29200	29900	3980	5750	1790	1310	1420
25	2890	4290	9720	4290	4060	28400	30000	3910	6070	1620	1270	1600
26	2830	4140	9770	4560	4040	25700	31500	3620	5400	1840	1130	4040
27	3070	5130	12100	4440	4590	22600	30100	4700	4630	2000	1100	4990
28	2210	6540	10700	4150	4540	19900	27800	5170	3950	1840	2080	3420
29	2030	7070	9520	4070	---	18000	23100	5930	3470	1660	1690	2420
30	2290	7300	6780	4270	---	17900	19500	6440	3500	1830	841	2060
31	2920	---	e5890	4480	---	18000	---	6350	---	1370	839	---
TOTAL	91940	159430	268650	150440	134770	331460	780700	228610	251700	85250	47770	45647
MEAN	2966	5314	8666	4853	4813	10690	26020	7375	8390	2750	1541	1522
MAX	5700	8900	28100	5550	5630	29200	39700	17100	21000	4860	2230	4990
MIN	1630	2390	2880	3790	3700	3930	15700	3390	3470	1370	839	912

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2001, BY WATER YEAR (WY)

MEAN	4160	6592	7629	7139	7513	13010	19410	11590	6360	3408	2802	2979
MAX	12730	17690	20380	18530	18400	45780	37440	24770	23660	14520	11110	19650
(WY)	1978	1928	1997	1978	1970	1936	1987	1954	1984	1973	1990	1938
MIN	1036	1843	2127	1621	2105	4132	6979	4093	1825	1161	901	895
(WY)	1965	1965	1930	1925	1931	1940	1995	1941	1964	1965	1965	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1923 - 2001	
ANNUAL TOTAL	3095440		2576367			
ANNUAL MEAN	8457		7059		7712	
HIGHEST ANNUAL MEAN					12490	1984
LOWEST ANNUAL MEAN					3068	1965
HIGHEST DAILY MEAN	33300	Apr 25	39700	Apr 15	161000	Mar 20 1936
LOWEST DAILY MEAN	1200	Sep 9	839	Aug 31	199	Sep 23 1923
ANNUAL SEVEN-DAY MINIMUM	1790	Sep 8	948	Aug 30	581	Sep 12 1995
MAXIMUM PEAK FLOW			40200	Apr 15	173000	Mar 20 1936
MAXIMUM PEAK STAGE			50.95	Apr 15	68.40	Mar 20 1936
INSTANTANEOUS LOW FLOW			493	Oct 26		
10 PERCENT EXCEEDS	18200		18000		17200	
50 PERCENT EXCEEDS	5570		4550		5170	
90 PERCENT EXCEEDS	2520		1520		1640	

e Estimated

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954, 1966—74, 1999—2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT												
05...	1100	1,790	761	10.1	7.3	194	17.3	16.0	8.44	1.62	2.52	22.5
NOV												
20...	1015	5,910	759	11.6	6.9	159	2.0	5.7	7.31	1.41	2.13	17.2
DEC												
27...	1100	14,300	755	13.0	6.8	172	-2.7	.1	6.78	1.38	1.80	20.0
JAN												
31...	0945	4,150	748	13.5	7.0	258	7.9	.1	9.26	1.72	2.46	30.9
FEB												
14...	1045	5,810	763	13.4	7.0	237	2.8	.1	7.61	1.47	1.91	28.1
MAR												
21...	1030	8,010	768	12.8	6.8	277	8.7	2.9	9.13	1.70	1.92	34.6
APR												
30...	1130	19,800	766	10.9	6.8	102	15.7	12.8	4.19	.762	.70	11.6
MAY												
08...	1030	8,830	767	9.7	6.6	103	14.9	17.3	4.17	.724	.91	10.5
JUN												
21...	1030	6,310	763	8.5	6.9	158	24.2	24.1	7.18	1.31	1.70	20.4
JUL												
19...	1000	2,320	763	8.2	7.0	229	21.4	23.0	9.52	1.74	2.41	27.9
AUG												
16...	1000	1,340	760	6.8	7.4	271	24.4	24.6	11.7	2.16	3.24	34.5
SEP												
07...	1100	1,080	760	8.8	7.3	240	23.0	23.0	9.69	1.84	2.99	32.0

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT												
05...	17	21	36.3	E0.1	4.4	10.3	113	0.218	0.51	0.65	0.698	0.031
NOV												
20...	13	15	27.5	E.1	6.6	8.0	91	.129	.45	.51	.287	E.005
DEC												
27...	11	13	34.5	E.1	6.5	8.7	96	.166	.43	.44	.350	.011
JAN												
31...	15	19	52.7	E.1	7.0	10.2	136	.432	.74	.79	.538	.016
FEB												
14...	12	15	47.4	E.1	6.8	9.4	125	--	--	--	--	--
MAR												
21...	12	15	62.4	<.2	6.2	8.7	153	.258	.48	.57	.430	.008
APR												
30...	6	8	20.5	E.1	4.2	5.6	72	.072	.25	.35	.129	E.004
MAY												
08...	8	10	17.7	.2	4.4	5.2	56	.127	.30	.44	.207	E.005
JUN												
21...	13	16	34.2	E.1	5.0	6.5	92	.127	.47	.61	.302	.014
JUL												
19...	17	20	47.7	.2	5.1	8.8	135	E.038	.28	.61	.591	.010
AUG												
16...	22	27	55.9	.2	4.2	12.2	153	.129	.43	.62	.673	.020
SEP												
07...	20	24	51.6	.2	1.4	10.9	137	.107	.41	.63	.898	.029

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

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT									
05...	0.070	0.053	0.102	--	0.2	160	35.9	73	4
NOV									
20...	.041	.031	.058	5.3	.4	170	35.1	73	5
DEC									
27...	.033	.023	.048	5.0	.4	120	55.0	53	6
JAN									
31...	.071	.062	.102	--	--	140	79.5	72	5
FEB									
14...	--	--	--	--	--	160	68.9	83	4
MAR									
21...	.031	.019	.059	--	--	150	89.4	83	3
APR									
30...	.015	<.018	.046	--	--	70	37.5	69	14
MAY									
08...	.017	<.018	.041	--	--	110	50.2	73	9
JUN									
21...	.045	.037	.081	--	--	320	49.4	82	5
JUL									
19...	.041	.024	.068	--	--	180	26.9	92	3
AUG									
16...	.051	.031	.097	--	--	120	79.1	83	4
SEP									
07...	.033	E.015	.069	--	--	20	6.1	90	2

< Less than
E Estimated

01100568 SHAWSHEEN RIVER AT HANSCOM FIELD NEAR BEDFORD, MA

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

DRAINAGE AREA.--2.09 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1995 to current year.
Precipitation: March 1996 to current year.

GAGE.--Water-stage recorder and tipping bucket rain gage. Elevation of gage is 115 ft above sea level, from topographic map. Telephone gage-height and rainfall telemeter at station.

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

AVERAGE DISCHARGE.--6 years, 4.86 ft^3/s, 31.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 684 ft^3/s, June 13, 1998, gage height, 8.69 ft, from rating curve extended above 170 ft^3/s; minimum, 0.10 ft^3/s (estimated), Oct. 2, 3, 6, 2000, Jan. 27, 28, 30, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 354 ft^3/s, June 17, gage height, 6.81 ft; minimum, 0.10 ft^3/s (estimated), Oct. 2, 3, 6, 2000, Jan. 27, 28, 30, 2001.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.69	0.73	1.7	3.2	1.6	e2.7	14	5.8	7.3	21	1.8	3.4
2	e.48	.57	1.4	2.9	.74	e2.3	12	6.0	20	5.4	1.6	3.4
3	e.41	.70	1.0	2.8	.97	e1.3	11	5.0	11	3.8	32	3.5
4	.39	.44	1.4	2.9	1.4	e1.3	11	5.2	8.9	3.1	4.6	3.9
5	1.2	1.2	1.7	3.1	1.7	e1.2	10	4.9	6.9	6.9	2.2	3.8
6	e1.8	.69	1.6	3.5	2.7	e.60	11	5.6	5.2	2.4	2.7	4.0
7	.57	.54	1.8	3.5	2.5	e1.3	9.7	6.2	4.6	1.8	2.8	4.1
8	.65	.47	1.9	3.5	1.9	e1.9	15	6.1	4.0	2.2	2.7	4.2
9	.65	.29	2.1	4.0	3.9	e1.6	11	6.4	3.3	1.9	2.7	4.2
10	.64	18	2.1	3.5	9.8	e2.1	10	5.5	4.5	2.0	2.7	4.3
11	.56	2.1	2.2	2.2	3.8	e2.6	9.0	5.4	8.7	1.3	2.6	4.3
12	.63	1.5	2.5	1.6	3.5	e2.6	11	8.6	7.6	.89	19	4.4
13	.66	1.4	1.8	2.0	3.9	e3.7	9.7	5.8	4.3	.87	5.7	4.5
14	.63	7.6	2.4	2.2	7.0	e6.7	9.3	6.4	2.2	3.1	3.1	6.9
15	.62	2.4	2.2	2.4	6.3	e9.6	9.2	7.3	2.0	1.7	2.8	4.8
16	1.5	1.7	2.6	2.8	4.8	7.4	8.9	6.7	1.8	1.5	2.5	4.9
17	.81	1.6	32	2.5	5.1	7.2	8.5	4.4	46	3.9	2.6	5.0
18	2.7	1.7	4.8	1.9	4.6	8.3	9.3	5.9	9.1	1.7	2.7	4.9
19	3.4	1.6	2.8	3.2	4.6	e9.5	7.8	6.4	7.9	1.6	2.5	5.1
20	.84	1.4	5.8	1.7	4.1	e10	7.6	6.9	16	1.5	2.8	5.3
21	.86	1.3	3.5	1.5	2.6	10	8.0	7.4	8.6	1.5	4.2	9.3
22	.72	1.2	3.8	.94	1.8	198	8.4	10	8.5	1.6	3.0	5.4
23	.74	1.2	4.0	.85	2.3	61	8.1	8.9	8.6	1.6	3.0	5.6
24	.76	.93	4.1	.68	e2.3	16	8.4	11	10	1.5	2.9	5.7
25	.75	1.1	4.3	.79	e2.0	12	7.5	7.6	7.1	1.1	2.8	8.3
26	.67	8.8	4.4	.27	e2.0	11	5.6	6.7	5.8	3.8	3.0	5.5
27	.64	1.7	4.6	.22	e3.5	11	3.8	15	4.3	1.6	3.1	5.3
28	.53	1.8	4.8	e.22	e2.7	9.7	3.6	8.9	3.3	1.6	3.3	5.5
29	.40	1.8	3.8	e.18	---	9.2	4.7	8.8	3.3	1.6	3.3	5.2
30	.88	2.3	3.2	e1.7	---	44	5.1	8.7	19	1.6	3.3	5.4
31	2.4	---	3.5	2.9	---	24	---	8.8	---	1.7	3.4	---
TOTAL	29.18	68.76	119.8	65.65	94.11	489.80	268.2	222.3	259.8	87.76	137.4	150.1
MEAN	.94	2.29	3.86	2.12	3.36	15.8	8.94	7.17	8.66	2.83	4.43	5.00
MAX	3.4	18	32	4.0	9.8	198	15	15	46	21	32	9.3
MIN	.39	.29	1.0	.18	.74	.60	3.6	4.4	1.8	.87	1.6	3.4
CFSM	.45	1.10	1.85	1.01	1.61	7.56	4.28	3.43	4.14	1.35	2.12	2.39
IN.	.52	1.22	2.13	1.17	1.68	8.72	4.77	3.96	4.62	1.56	2.45	2.67

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

MEAN	5.97	4.06	3.83	5.04	4.87	6.93	6.26	4.92	6.94	3.41	2.32	3.88
MAX	19.6	4.88	8.14	7.57	7.65	15.8	8.94	8.65	21.9	6.62	4.43	7.83
(WY)	1997	1997	1997	1999	1998	2001	2001	1998	1998	1996	2001	1999
MIN	.94	2.29	2.19	2.12	2.59	3.68	2.72	1.96	1.08	1.62	1.24	1.45
(WY)	2001	2001	1996	2001	2000	2000	1999	1999	1999	1999	1999	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1995 - 2001	
ANNUAL TOTAL	1150.82		1992.86			
ANNUAL MEAN	3.14		5.46		4.86	
HIGHEST ANNUAL MEAN					6.25	1998
LOWEST ANNUAL MEAN					3.63	2000
HIGHEST DAILY MEAN	36	Apr 22	198	Mar 22	209	Oct 21 1996
LOWEST DAILY MEAN	.28	Jul 30	.18	Jan 29	.18	Jan 29 2001
ANNUAL SEVEN-DAY MINIMUM	.57	Aug 7	.46	Jan 23	.46	Jan 23 2001
MAXIMUM PEAK FLOW			354	Jun 17	684	Jun 13 1998
MAXIMUM PEAK STAGE			6.81	Jun 17	8.69	Jun 13 1998
INSTANTANEOUS LOW FLOW			.10	Oct 2	.10	Oct 2 2000
ANNUAL RUNOFF (CFSM)	1.50		2.61		2.33	
ANNUAL RUNOFF (INCHES)	20.48		35.47		31.62	
10 PERCENT EXCEEDS	5.7		9.7		8.3	
50 PERCENT EXCEEDS	2.0		3.3		2.9	
90 PERCENT EXCEEDS	.70		.78		1.1	

e Estimated

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

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.96	0.00	0.00
2	.00	.00	.00	.00	.00	---	.00	.00	.89	.00	.00	.00
3	.00	.00	.00	.00	.00	---	.00	.00	.18	.00	2.46	.00
4	.02	.00	.00	.00	.00	---	.00	.00	.00	.00	.06	.06
5	.40	.14	.00	.02	.15	---	.00	.00	.00	.46	.00	.00
6	.39	.00	.00	.17	.19	---	.10	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.01	.07	---	.27	.00	.00	.05	.00	.00
9	.00	.00	.00	.03	.09	---	.06	.00	.00	.00	.00	.00
10	.00	1.58	.00	.00	.01	---	.01	.00	.00	.08	.01	.00
11	.00	.08	.00	.00	.00	---	.00	.00	.45	.00	.00	.00
12	.00	.00	.02	.00	.00	---	.09	.17	.00	.00	1.31	.00
13	.00	.00	.00	.00	.00	---	.00	.00	.00	.00	.31	.01
14	.00	.72	.53	.00	.19	---	.00	.00	.00	.21	.00	.40
15	.00	.00	.00	.14	.00	---	.00	.02	.00	.00	.00	.00
16	.17	.00	.11	.05	.05	0.00	.00	.03	.00	.00	.00	.00
17	.00	.00	1.36	.00	.00	.02	.00	.00	2.45	.35	.00	.00
18	.61	.00	.00	.00	.00	.06	.03	.00	.01	.00	.00	.00
19	.13	.00	.03	.16	.00	---	.00	.00	.00	.00	.00	.00
20	.00	.00	.21	.00	.00	---	.00	.00	.60	.00	.08	.02
21	.00	.00	.00	.10	.00	.27	.00	.00	.00	.00	.21	.61
22	.00	.00	.00	.00	.01	2.36	.01	.27	.00	.00	.00	.00
23	.00	.00	.00	.00	.03	.02	.00	.02	.02	.00	.00	.00
24	.00	.00	.00	.00	---	.00	.03	.20	.31	.00	.00	.00
25	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.28
26	.00	.76	.00	.00	---	.09	.00	.01	.00	.37	.00	.00
27	.00	.00	.00	.00	---	.00	.00	.55	.00	.01	.01	.00
28	.00	.00	.00	.00	---	.00	.00	.08	.00	.00	.00	.04
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.18	.06	.38	.29	---	1.58	.00	.01	1.05	.00	.00	.00
31	.31	---	.09	.09	---	.00	---	.00	---	.00	.00	---
TOTAL	2.21	3.34	2.73	1.06	---	---	0.60	1.36	5.96	2.49	4.45	1.42

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1995 to current year.

REMARKS.--Instantaneous records are based on composite samples and are representative of the cross section.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	DRAIN-AGE AREA (SQ. MI.) (81024)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
JUN												
06...	1030	7.4	2.09	762	7.8	6.2	7.1	649	651	21.4	13.3	29.5
JUL												
10...	1030	1.8	2.09	755	7.3	6.9	7.0	637	634	24.5	16.5	29.7

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA+ ORGANIC DIS. (MG/L AS N) (00623)
JUN												
06...	5.29	4.79	80.6	41	50	152	<0.2	13.8	26.3	390	0.142	0.28
JUL												
10...	5.09	4.97	78.3	48	58	142	<.2	13.8	27.4	364	.130	.32

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
JUN												
06...	0.36	0.874	0.011	E0.004	<0.020	0.014	2.8	84	40	--	--	--
JUL												
10...	.37	.985	.024	<.006	<.020	.010	3.7	<350	<290	11	0.17	3.1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	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, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)
JUN												
06...	--	--	--	--	--	--	--	370	--	--	348	--
JUL												
10...	35.2	<0.06	22	0.08	<0.8	2.60	0.7	260	0.10	2.3	320	0.8

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	THAL-LIUM, DIS-SOLVED (UG/L AS TL) (01057)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
JUN								
06...	--	--	--	--	--	--	--	--
JUL								
10...	6.40	<0.3	<1.0	173	E0.03	<0.2	12	0.16

< Less than
E Estimated

01100600 SHAWSHEEN RIVER NEAR WILMINGTON, MA

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

DRAINAGE AREA.--36.5 mi^2.

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

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

GAGE.--Water-stage recorder. Datum of gage is 80.44 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversion upstream at times each year since 1973 for municipal supply of Burlington. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--37 years (water years 1965–2001), 59.2 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,580 ft^3/s, Mar. 23, gage height, 9.87 ft, minimum, 2.4 ft^3/s, Sept. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	35	41	31	52	54	528	44	18	56	8.2	7.8
2	8.5	24	33	29	50	48	342	42	34	137	7.6	7.2
3	7.8	16	26	28	46	41	242	35	78	166	11	6.8
4	7.7	12	21	27	e42	37	203	33	98	110	65	7.8
5	7.4	12	19	26	e36	36	184	35	79	67	138	13
6	20	21	21	26	33	27	172	34	42	56	116	8.9
7	25	16	19	27	45	42	166	31	24	51	65	6.9
8	15	12	17	27	e37	49	171	30	19	38	34	5.9
9	11	11	16	28	37	46	190	29	17	29	20	5.7
10	8.5	30	16	26	52	48	184	27	14	25	e21	5.3
11	8.8	90	15	27	e67	52	165	26	13	22	e41	4.8
12	9.9	153	15	26	e71	55	149	25	35	20	e63	4.8
13	9.1	121	16	24	65	68	143	29	33	21	e100	4.4
14	8.5	73	15	25	e58	98	137	25	23	17	e140	5.8
15	7.5	66	19	25	60	124	126	23	19	23	98	13
16	8.1	74	17	26	69	140	111	24	19	23	63	8.9
17	15	69	52	27	66	165	98	26	34	20	36	6.8
18	13	52	181	26	e63	182	90	25	141	27	25	6.1
19	30	34	248	26	e59	185	86	24	219	22	22	5.5
20	38	24	180	33	51	183	83	22	154	17	20	4.8
21	30	21	139	29	50	182	77	20	94	13	20	9.9
22	21	21	101	36	50	717	72	16	85	11	21	25
23	16	19	e62	27	e45	1520	68	28	77	9.9	17	15
24	14	16	e52	26	e43	1170	64	32	58	12	15	10
25	15	14	e48	26	e40	628	60	35	50	11	13	9.2
26	13	20	e42	24	52	369	57	26	56	11	12	15
27	11	57	37	24	60	272	54	39	48	21	11	6.9
28	10	74	33	24	59	224	51	56	33	15	10	3.9
29	9.7	69	30	22	---	197	47	49	25	12	9.8	3.0
30	9.9	52	28	25	---	206	45	29	24	10	8.8	2.7
31	25	---	30	47	---	512	---	21	---	9.1	8.2	---
TOTAL	442.4	1308	1589	850	1458	7677	4165	940	1663	1082.0	1239.6	240.8
MEAN	14.3	43.6	51.3	27.4	52.1	248	139	30.3	55.4	34.9	40.0	8.03
MAX	38	153	248	47	71	1520	528	56	219	166	140	25
MIN	7.4	11	15	22	33	27	45	16	13	9.1	7.6	2.7

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

MEAN	33.8	53.5	65.9	73.4	82.3	119	102	62.8	48.9	25.0	22.3	21.4
MAX	204	128	156	289	208	279	269	130	251	72.4	56.9	56.4
(WY)	1997	1976	1997	1979	1984	1983	1987	1967	1982	1973	1976	1991
MIN	5.45	7.82	13.6	9.70	12.4	41.8	38.3	28.4	8.34	3.81	1.74	4.46
(WY)	1998	1966	1966	1981	1980	1989	1966	1999	1999	1965	1966	1965

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1964 - 2001	
ANNUAL TOTAL	18513.1		22654.8			
ANNUAL MEAN	50.6		62.1		59.2	
HIGHEST ANNUAL MEAN					107	1984
LOWEST ANNUAL MEAN					28.2	1966
HIGHEST DAILY MEAN	578	Apr 23	1520	Mar 23	1610	Oct 22 1996
LOWEST DAILY MEAN	4.3	Aug 13	2.7	Sep 30	.63	Oct 19 1997
ANNUAL SEVEN-DAY MINIMUM	7.5	Sep 7	5.2	Sep 8	1.0	Sep 2 1995
MAXIMUM PEAK FLOW			1580	Mar 23	1850	Oct 22 1996
MAXIMUM PEAK STAGE			9.87	Mar 23	10.49	Oct 22 1996
INSTANTANEOUS LOW FLOW			2.4	Sep 30	.70	Aug 19 1983
10 PERCENT EXCEEDS	113		140		128	
50 PERCENT EXCEEDS	31		29		37	
90 PERCENT EXCEEDS	8.5		9.1		7.7	

e Estimated

01101000 PARKER RIVER AT BYFIELD, MA

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

DRAINAGE AREA.--21.3 mi^2.

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

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

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

REMARKS.--Records good except those from Dec. 5 to Feb. 9 and those for estimated daily discharges, which are fair. Occasional regulation by mill and ponds upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--56 years, 37.2 ft^3/s, 23.76 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 641 ft^3/s, Mar. 23, gage height, 6.32 ft; minimum, 0.07 ft^3/s, Sept. 23-25.

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

1	5.6	11	47	41	32	36	298	34	11	15	0.82	0.42
2	5.1	11	45	40	34	34	273	30	16	19	.73	.35
3	4.8	12	40	38	34	32	246	26	26	15	.75	.30
4	4.2	12	35	37	34	30	222	24	31	12	1.4	.27
5	3.9	16	32	38	34	28	199	22	31	10	1.7	.25
6	7.0	22	29	37	e32	e27	177	20	28	11	1.5	.24
7	7.6	28	25	36	34	27	166	18	25	9.7	1.2	.22
8	7.4	29	21	37	34	29	156	e17	24	8.7	1.0	.21
9	6.8	27	17	36	34	31	148	16	20	8.3	.86	.22
10	6.2	29	14	36	36	31	143	15	16	6.9	.77	.20
11	6.2	41	13	35	e36	32	135	13	14	5.9	.67	.20
12	5.8	52	16	35	e35	33	131	12	21	5.2	1.1	.16
13	5.1	54	16	34	36	38	129	10	20	4.9	1.5	.13
14	4.9	54	16	32	36	42	122	8.8	16	4.4	2.1	.15
15	4.6	61	18	31	37	48	111	7.6	12	4.3	1.7	.13
16	5.3	62	18	31	37	54	100	7.7	10	5.3	1.2	.11
17	7.2	61	39	31	37	62	90	e8.2	12	7.4	1.0	.10
18	8.2	57	94	30	e33	72	81	8.4	22	6.3	.96	.09
19	15	53	119	30	33	83	75	10	24	5.0	.87	.09
20	17	49	115	29	32	98	67	13	24	4.2	.77	.09
21	22	43	103	29	31	113	e48	14	23	3.5	.77	.11
22	22	37	90	28	e30	287	e46	13	20	2.9	.77	.10
23	22	32	e73	27	29	598	e46	11	17	2.4	.77	.07
24	20	28	66	26	28	554	e44	11	15	1.9	.72	.07
25	16	23	58	26	27	478	e44	12	17	1.6	.63	.10
26	13	25	e44	25	31	414	e44	11	16	1.7	.57	.12
27	11	38	e42	24	36	360	44	13	14	1.7	.59	.11
28	9.5	48	40	23	38	318	43	15	13	1.5	.56	.16
29	7.7	49	33	21	---	288	41	14	12	1.3	.52	.18
30	7.3	48	32	21	---	282	38	12	13	1.1	.44	.14
31	9.8	---	38	27	---	300	---	12	---	.94	.40	---
TOTAL	298.2	1112	1388	971	940	4859	3507	458.7	563	189.04	29.34	5.09
MEAN	9.62	37.1	44.8	31.3	33.6	157	117	14.8	18.8	6.10	.95	.17
MAX	22	62	119	41	38	598	298	34	31	19	2.1	.42
MIN	3.9	11	13	21	27	27	38	7.6	10	.94	.40	.07
CFSM	.45	1.74	2.10	1.47	1.58	7.36	5.49	.69	.88	.29	.04	.01
IN.	.52	1.94	2.42	1.70	1.64	8.49	6.12	.80	.98	.33	.05	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2001, BY WATER YEAR (WY)

MEAN	16.1	29.5	41.4	43.4	51.5	86.0	83.6	49.2	28.1	8.76	5.48	6.29
MAX	186	87.3	117	116	122	226	249	151	138	39.6	18.0	65.8
(WY)	1997	1973	1997	1958	1976	1983	1987	1983	1982	1972	1982	1954
MIN	.15	.92	1.74	2.98	5.25	33.6	25.2	14.8	2.86	.43	.13	.11
(WY)	1998	1966	1966	1966	1980	1989	1985	2001	1999	1999	1995	1997

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1946 - 2001	
ANNUAL TOTAL	15079.3		14320.37			
ANNUAL MEAN	41.2		39.2		37.2	
HIGHEST ANNUAL MEAN					64.8	1984
LOWEST ANNUAL MEAN					13.2	1966
HIGHEST DAILY MEAN	236	Apr 24	598	Mar 23	858	Oct 22 1996
LOWEST DAILY MEAN	2.9	Sep 12	.07	Sep 23	.03	Sep 3 1999
ANNUAL SEVEN-DAY MINIMUM	3.6	Sep 7	.09	Sep 18	.04	Aug 31 1999
MAXIMUM PEAK FLOW			641	Mar 23	883	Oct 22 1996
MAXIMUM PEAK STAGE			6.32	Mar 23	7.82	Oct 22 1996
INSTANTANEOUS LOW FLOW			.07	Sep 23		
ANNUAL RUNOFF (CFSM)	1.93		1.84		1.75	
ANNUAL RUNOFF (INCHES)	26.34		25.01		23.76	
10 PERCENT EXCEEDS	91		77		89	
50 PERCENT EXCEEDS	29		22		23	
90 PERCENT EXCEEDS	7.2		.61		1.4	

e Estimated

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA
(National Water Quality Assessment Site)

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

DRAINAGE AREA.--44.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: June 1938 to current year.
Water-quality records: Water years 1957, 1959, 1999, 2000, 2001.

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

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

REMARKS.--Records fair except those for estimated daily discharges and those for discharges less than 10 ft^3/s, which are poor. Diversions upstream for municipal supply of Reading, Lynn, and Peabody. Occasional regulation by mill upstream. Satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--63 years, 64.2 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft^3/s, Mar. 23, 2001, gage height, 8.39 ft; minimum, 0.05 ft^3/s, Sept. 6, 7, 8, 9, 11, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft^3/s, Mar. 23, gage height, 8.39 ft; minimum, 0.60 ft^3/s, Sept. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	47	94	60	58	48	523	59	23	53	2.4	2.4
2	3.9	38	87	57	58	45	466	57	33	91	2.0	2.0
3	3.4	32	75	53	55	46	422	53	62	82	4.5	1.9
4	2.8	30	66	49	53	55	383	49	55	74	19	2.8
5	2.8	45	60	46	52	56	344	46	51	70	20	3.3
6	7.0	66	56	46	53	62	308	42	50	69	13	4.0
7	11	58	50	46	56	59	276	39	46	58	11	2.3
8	8.1	53	45	46	56	58	264	35	40	49	9.9	1.9
9	6.5	61	39	46	57	58	257	32	30	45	8.4	1.5
10	6.1	82	34	45	71	62	246	29	23	40	16	1.3
11	5.5	138	33	44	86	62	232	26	21	34	26	1.1
12	4.5	126	38	43	79	67	222	24	34	29	43	.91
13	4.0	117	38	41	72	85	219	23	33	26	77	.85
14	4.5	121	37	38	70	106	203	21	25	25	65	1.4
15	5.4	157	39	38	80	116	185	19	21	23	62	1.7
16	5.2	147	38	39	83	135	169	17	17	18	59	1.6
17	5.9	130	111	38	83	161	155	19	33	e16	48	1.1
18	8.5	117	245	37	95	201	149	18	108	e14	39	.94
19	31	105	197	38	77	235	141	16	90	e12	33	.81
20	34	94	e170	42	70	267	129	15	76	e11	28	.83
21	21	85	e160	42	57	286	120	13	78	e10	24	2.4
22	18	77	e140	40	55	702	113	13	70	e9.6	20	3.8
23	16	69	e120	38	50	1160	106	15	60	e8.3	16	2.4
24	15	61	e110	38	44	1010	101	18	61	7.5	13	1.8
25	16	53	e100	37	40	878	96	23	70	6.7	10	2.1
26	15	60	e90	36	51	763	88	20	61	6.7	7.4	2.5
27	13	110	81	34	56	652	79	23	51	6.7	5.2	1.6
28	13	102	71	33	53	551	69	36	41	5.8	4.4	1.1
29	12	94	63	31	---	463	64	30	33	4.7	3.8	1.0
30	13	95	60	35	---	451	61	26	30	3.9	3.1	.86
31	34	---	62	50	---	550	---	25	---	3.1	2.8	---
TOTAL	350.4	2570	2609	1306	1770	9450	6190	881	1426	912.0	695.9	54.20
MEAN	11.3	85.7	84.2	42.1	63.2	305	206	28.4	47.5	29.4	22.4	1.81
MAX	34	157	245	60	95	1160	523	59	108	91	77	4.0
MIN	2.8	30	33	31	40	45	61	13	17	3.1	2.0	.81

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2001, BY WATER YEAR (WY)

MEAN	29.8	52.1	69.7	71.5	86.5	153	141	80.9	47.0	19.0	12.9	14.4
MAX	240	199	217	215	212	351	389	298	262	195	95.5	164
(WY)	1963	1956	1987	1979	1984	1983	1987	1954	1982	1938	1938	1954
MIN	.38	1.28	1.05	1.07	9.66	36.3	29.6	18.5	4.71	.74	.17	.26
(WY)	1998	1966	1966	1966	1980	1989	1985	1965	1999	1966	1999	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1938 - 2001	
ANNUAL TOTAL	26590.3		28214.50			
ANNUAL MEAN	72.7		77.3		64.2	
HIGHEST ANNUAL MEAN					121	1984
LOWEST ANNUAL MEAN					18.6	1966
HIGHEST DAILY MEAN	404	Apr 23	1160	Mar 23	1160	Mar 23 2001
LOWEST DAILY MEAN	1.1	Sep 12	.81	Sep 19	.05	Sep 7 1997
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 8	1.2	Sep 14	.08	Sep 5 1997
MAXIMUM PEAK FLOW			1200	Mar 23	1200	Mar 23 2001
MAXIMUM PEAK STAGE			8.39	Mar 23	8.39	Mar 23 2001
INSTANTANEOUS LOW FLOW			.60	Sep 30	.05	Sep 6 1997
10 PERCENT EXCEEDS	156		156		156	
50 PERCENT EXCEEDS	56		44		38	
90 PERCENT EXCEEDS	6.2		3.6		2.2	

e Estimated

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
OCT										
24...	1015	25	--	768	9.2	78	6.6	254	14.1	8.4
NOV										
16...	0930	150	--	756	10.1	83	6.6	194	7.9	6.7
DEC										
28...	0915	80	--	752	10.6	74	6.4	333	-6.7	.1
JAN										
23...	1130	50	--	766	11.2	77	6.5	424	2.1	.1
FEB										
13...	0945	78	--	767	11.0	75	6.4	439	.9	.1
MAR										
20...	1130	260	--	773	7.5	52	6.5	353	6.6	1.3
APR										
06...	0900	311	--	762	11.1	91	6.5	292	7.1	7.0
MAY										
30...	1000	26	--	755	8.8	90	6.9	328	16.5	16.1
JUN										
12...	1420	44	4.1	755	7.7	84	6.9	341	22.5	19.0
19...	0915	87	--	764	7.4	82	6.4	184	23.6	20.7
JUL										
04...	0830	79	3.6	762	7.4	80	7.1	238	--	18.5
17...	0900	16	--	759	7.6	84	6.8	331	23.2	19.7
24...	1410	11	3.1	754	6.9	87	7.6	335	--	26.5
AUG										
07...	0900	12	--	757	7.2	85	6.8	315	27.4	23.4
14...	1100	70	2.4	759	7.3	82	6.8	216	--	21.0
SEP										
05...	1030	2.4	--	760	6.4	59	6.8	375	20.3	11.5
06...	1530	4.9	2.7	764	7.5	90	7.4	358	--	22.0
14...	1700	--	--	--	--	--	--	--	--	--

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT										
24...	13.8	3.08	3.56	26.6	21	25	49.4	<0.2	14.3	11.8
NOV										
16...	8.90	2.03	2.81	22.4	13	16	39.6	<.2	8.5	8.6
DEC										
28...	13.4	2.91	2.60	39.1	17	21	69.2	<.2	11.1	14.6
JAN										
23...	15.9	3.55	2.81	51.4	21	26	92.0	<.2	12.8	14.2
FEB										
13...	14.8	3.22	2.68	55.9	16	19	98.7	<.2	11.5	13.2
MAR										
20...	10.9	2.30	3.15	45.9	14	16	82.9	<.2	7.3	10.3
APR										
06...	10.2	2.10	2.24	38.3	11	14	68.3	<.2	5.2	11.5
MAY										
30...	14.8	3.32	2.10	39.2	26	31	69.1	<.2	8.4	9.4
JUN										
12...	15.4	3.23	1.93	44.2	--	--	76.6	E.1	7.9	8.0
19...	9.83	2.06	1.92	23.4	19	23	38.2	<.2	9.0	5.9
JUL										
04...	12.6	2.38	1.96	31.0	--	--	50.8	<.2	12.1	4.3
17...	15.2	2.95	2.06	39.2	31	38	69.3	<.2	12.1	6.1
24...	16.0	3.04	2.23	41.4	--	--	74.7	E.1	12.3	6.2
AUG										
07...	19.8	4.19	3.37	51.5	28	34	96.0	E.1	2.2	12.6
14...	12.1	2.49	2.46	24.9	--	--	41.3	<.2	12.1	13.5
SEP										
05...	17.7	3.41	3.32	43.3	37	45	77.6	E.1	14.1	5.9
06...	18.0	3.44	3.27	43.9	--	--	79.7	<.2	14.0	6.7
14...	--	--	--	--	--	--	--	--	--	--

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
OCT									
24...	182	<0.041	0.67	0.78	E0.043	E0.003	0.017	<0.018	0.040
NOV									
16...	144	<.041	.79	.75	.068	E.005	.019	<.018	.029
DEC									
28...	190	.064	.47	.48	.456	.008	.010	<.018	.016
JAN									
23...	231	.180	.50	.57	.387	E.005	.012	<.018	.017
FEB									
13...	241	.135	.39	.47	.401	E.004	.009	<.018	.015
MAR									
20...	208	.048	.28	.37	.414	E.004	.008	<.018	.017
APR									
06...	166	<.041	.29	.32	.432	E.003	.009	<.018	.011
MAY									
30...	208	E.040	.55	.59	.185	.007	.023	<.020	.037
JUN									
12...	209	E.037	.57	.67	.173	.007	.028	E.009	.052
19...	149	.048	.88	1.0	.078	.007	.036	E.009	.062
JUL									
04...	186	E.038	.89	.88	.079	.010	.043	<.020	.062
17...	196	E.036	.52	.49	.150	.007	.028	E.011	.065
24...	205	<.040	.45	.50	.138	E.005	.023	<.020	.043
AUG									
07...	236	E.024	.56	.68	.151	.008	.016	<.020	.040
14...	153	.041	.81	.89	.084	E.005	.039	E.016	.057
SEP									
05...	226	E.028	.51	.71	.055	<.006	.029	<.020	.047
06...	226	E.024	.68	.73	.055	E.004	.025	<.020	.044
14...	--	--	--	--	--	--	--	--	--

01101500 IPSWICH RIVER AT SOUTH MIDDLETON, MA--Continued

DATE	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT									
24...	19	0.7	--	--	--	600	144	80	7
NOV									
16...	18	.5	--	--	--	610	42.3	74	6
DEC									
28...	10	.3	--	--	--	320	63.8	56	5
JAN									
23...	--	--	--	--	--	310	133	77	4
FEB									
13...	--	--	--	--	--	280	124	62	4
MAR									
20...	--	--	--	--	--	150	116	36	5
APR									
06...	--	--	--	--	--	100	15.4	80	2
MAY									
30...	--	--	--	--	--	500	142	82	4
JUN									
12...	11	--	12	0.3	22.4	760	291	--	--
19...	--	--	--	--	--	740	129	90	5
JUL									
04...	18	--	19	10	.7	1,190	116	--	--
17...	--	--	--	--	--	730	236	86	7
24...	10	--	12	15.2	1.1	560	233	--	--
AUG									
07...	--	--	--	--	--	200	129	92	6
14...	19	--	19	24.9	1.6	980	3.3	--	--
SEP									
05...	--	--	--	--	--	1,100	714	83	6
06...	13	--	15	--	--	670	971	--	--
14...	--	--	--	8.1	2.6	--	--	--	--

< Less than
E Estimated

01102000 IPSWICH RIVER NEAR IPSWICH, MA

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

DRAINAGE AREA.--125 mi^2.

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 20.63 ft above sea level.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Diversions upstream for municipal supply of Reading, Lynn, Peabody, Danvers, Salem, and Beverly. Some regulation by reservoirs upstream. Telephone and satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--71 years, 189 ft^3/s.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,040 ft^3/s, Mar. 24, gage height, 8.88 ft; minimum, 7.2 ft^3/s, Sept. 13-20; minimum daily, 7.2 ft^3/s, Sept. 14-17.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	77	250	190	107	186	1660	178	63	118	20	17
2	37	88	238	188	120	179	1610	164	72	126	18	16
3	34	93	221	173	130	173	1520	153	100	128	16	15
4	33	94	203	150	140	163	1430	141	114	134	16	14
5	32	101	186	131	144	151	1280	134	125	141	21	15
6	37	110	170	117	141	121	1070	130	132	141	31	16
7	43	113	151	110	145	118	909	119	127	135	34	15
8	49	117	128	104	149	137	807	109	119	129	31	14
9	51	123	114	99	152	159	739	99	107	122	27	13
10	48	137	99	94	166	168	691	90	96	115	26	12
11	43	189	89	91	182	183	650	86	85	107	29	9.4
12	38	244	85	88	187	196	615	80	89	98	52	8.5
13	35	272	85	83	192	222	601	79	91	90	72	7.8
14	32	291	83	76	202	245	573	78	87	81	83	7.2
15	30	316	87	69	217	274	545	70	82	73	92	7.2
16	30	324	96	68	224	310	506	64	73	68	99	7.2
17	35	328	151	71	228	357	462	65	79	62	99	7.2
18	38	324	280	73	227	417	433	66	117	60	95	7.3
19	52	304	436	73	213	476	413	69	131	55	89	7.5
20	65	285	576	75	208	546	386	68	153	52	82	7.3
21	72	260	613	76	211	600	364	61	179	46	73	7.7
22	76	232	542	76	202	1320	343	52	177	40	63	11
23	76	209	520	85	180	2290	322	45	168	35	53	15
24	70	189	457	90	168	2900	302	54	176	32	44	24
25	60	170	e400	91	156	2980	278	63	183	29	37	21
26	54	167	e350	90	159	2720	259	64	172	24	32	14
27	53	194	314	88	173	2350	242	70	165	25	28	15
28	52	208	260	87	185	1980	223	80	154	25	25	18
29	47	228	216	84	---	1710	207	86	139	24	22	16
30	43	245	181	83	---	1590	193	84	121	23	19	15
31	61	---	176	95	---	1670	---	75	---	21	18	---
TOTAL	1468	6032	7757	3068	4908	26891	19633	2776	3676	2359	1446	380.3
MEAN	47.4	201	250	99.0	175	867	654	89.5	123	76.1	46.6	12.7
MAX	76	328	613	190	228	2980	1660	178	183	141	99	24
MIN	30	77	83	68	107	118	193	45	63	21	16	7.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2001, BY WATER YEAR (WY)

MEAN	79.3	135	192	208	245	455	438	240	148	57.6	37.3	41.7
MAX	749	525	621	566	627	1158	1233	833	821	518	356	390
(WY)	1997	1933	1997	1958	1984	1983	1987	1954	1982	1938	1938	1954
MIN	4.75	6.87	11.5	14.4	16.4	75.0	97.1	83.5	25.6	5.75	2.13	1.76
(WY)	1998	1966	1966	1966	1980	1989	1985	1999	1976	1957	1965	1965

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1930 - 2001	
ANNUAL TOTAL	78598		80394.3			
ANNUAL MEAN	215		220		189	
HIGHEST ANNUAL MEAN					351	1984
LOWEST ANNUAL MEAN					57.7	1966
HIGHEST DAILY MEAN	1450	Apr 25	2980	Mar 25	3520	Apr 8 1987
LOWEST DAILY MEAN	22	Sep 13	7.2	Sep 14	.59	Sep 21 1978
ANNUAL SEVEN-DAY MINIMUM	26	Sep 9	7.3	Sep 14	.94	Sep 1 1999
MAXIMUM PEAK FLOW			3040	Mar 24	3550	Apr 8 1987
MAXIMUM PEAK STAGE			8.88	Mar 24	9.43	Apr 8 1987
INSTANTANEOUS LOW FLOW			7.2	Sep 13	.34	Sep 20 1978
10 PERCENT EXCEEDS	427		434		448	
50 PERCENT EXCEEDS	151		107		114	
90 PERCENT EXCEEDS	43		21		12	

e Estimated

01102345 SAUGUS RIVER AT SAUGUS IRONWORKS AT SAUGUS, MA
(National Water Quality Assessment Site)

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

DRAINAGE AREA.--23.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1994 to current year.

GAGE.--Water stage recorder. Elevation of gage is 15 ft above sea level.

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

AVERAGE DISCHARGE.--7 years, 31.2ft^3/s, 18.18 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 738 ft^3/s, Mar. 22, gage height, 6.12 ft; minimum, 2.3 ft^3/s, Sept. 20, 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	17	23	33	37	31	256	21	5.2	91	3.4	4.6
2	3.7	11	20	25	29	25	223	16	26	82	3.3	4.1
3	3.6	8.4	18	e22	26	22	195	13	31	56	9.8	3.8
4	3.5	7.2	16	21	25	21	174	11	15	43	32	5.2
5	4.0	22	15	20	23	21	148	10	21	37	19	5.8
6	15	24	14	22	29	19	117	9.1	22	39	8.9	4.2
7	10	15	13	21	34	24	101	8.4	16	33	7.3	3.7
8	5.9	11	e12	20	28	36	104	7.9	11	30	8.5	3.4
9	4.8	11	e12	20	30	36	101	7.3	8.6	29	9.3	3.3
10	4.4	40	e11	e18	50	36	88	7.1	7.2	26	8.6	3.1
11	4.0	66	11	e18	52	35	82	7.8	7.3	25	9.9	3.0
12	3.7	54	12	17	51	37	75	7.8	14	24	31	2.9
13	3.7	50	11	e15	40	70	72	7.8	8.7	24	41	2.6
14	3.5	54	e12	15	41	81	67	7.1	6.8	20	34	3.6
15	3.3	75	15	17	54	80	63	6.5	5.7	17	31	3.9
16	4.5	64	13	18	44	92	61	6.8	5.1	15	29	3.0
17	6.1	54	106	16	41	101	64	6.7	44	16	27	2.6
18	7.7	45	169	15	e37	102	69	6.2	78	17	24	2.5
19	27	41	101	18	e34	104	56	6.0	34	16	21	2.5
20	17	39	97	25	e31	104	46	5.7	34	14	17	2.3
21	9.0	37	107	21	e28	103	37	5.4	59	11	16	4.7
22	6.9	30	97	28	e25	494	33	6.4	44	9.5	14	19
23	5.9	22	73	24	24	476	32	7.3	36	8.2	12	8.0
24	5.5	16	61	18	28	360	32	9.6	31	7.4	11	4.1
25	5.1	14	49	15	32	314	32	8.5	47	6.3	8.7	5.8
26	5.0	30	54	15	43	277	29	6.1	33	7.4	7.8	5.9
27	4.8	47	31	13	39	244	29	10	23	8.4	7.4	4.6
28	5.0	32	28	13	34	207	28	10	20	6.0	7.2	5.6
29	5.6	25	26	14	---	179	27	7.4	18	4.8	6.9	6.0
30	6.1	24	36	20	---	251	26	6.5	38	4.0	5.8	5.3
31	19	---	51	38	---	330	---	6.0	---	3.6	5.0	---
TOTAL	217.2	985.6	1314	615	989	4312	2467	262.4	749.6	730.6	476.8	139.1
MEAN	7.01	32.9	42.4	19.8	35.3	139	82.2	8.46	25.0	23.6	15.4	4.64
MAX	27	75	169	38	54	494	256	21	78	91	41	19
MIN	3.3	7.2	11	13	23	19	26	5.4	5.1	3.6	3.3	2.3
CFSM	.30	1.41	1.82	.85	1.52	5.97	3.53	.36	1.07	1.01	.66	.20
IN.	.35	1.57	2.10	.98	1.58	6.88	3.94	.42	1.20	1.17	.76	.22
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)												
MEAN	26.4	25.4	35.2	40.6	43.6	69.4	55.7	28.3	26.6	10.8	6.48	10.4
MAX	122	49.2	108	62.3	80.7	139	96.3	65.3	117	24.1	15.4	25.5
(WY)	1997	1997	1997	1996	1998	2001	1997	1998	1998	1998	2001	1999
MIN	2.35	6.29	6.45	15.3	18.8	26.8	13.0	7.89	3.06	2.23	1.39	2.11
(WY)	1998	1999	1999	2000	1995	1995	1995	1995	1999	1997	1999	1997

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1993 - 2001	
ANNUAL TOTAL	10833.8		13258.3			
ANNUAL MEAN	29.6		36.3		31.2	
HIGHEST ANNUAL MEAN					45.0	1997
LOWEST ANNUAL MEAN					15.5	1995
HIGHEST DAILY MEAN	237	Apr 22	494	Mar 22	812	Oct 21 1996
LOWEST DAILY MEAN	3.3	Oct 15	2.3	Sep 20	.50	Sep 5 1999
ANNUAL SEVEN-DAY MINIMUM	3.9	Oct 10	2.9	Sep 14	.53	Aug 31 1999
MAXIMUM PEAK FLOW			738	Mar 22	942	Oct 21 1996
MAXIMUM PEAK STAGE			6.12	Mar 22	6.58	Oct 21 1996
INSTANTANEOUS LOW FLOW			2.3	Sep 20	.06	Sep 5 1995
ANNUAL RUNOFF (CFSM)	1.27		1.56		1.34	
ANNUAL RUNOFF (INCHES)	17.30		21.17		18.18	
10 PERCENT EXCEEDS	63		80		76	
50 PERCENT EXCEEDS	19		20		15	
90 PERCENT EXCEEDS	5.5		4.7		2.5	

e Estimated

01102345 SAUGUS RIVER AT SAUGUS IRONWORKS AT SAUGUS, MA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1999-2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
OCT										
24...	1115	5.4	--	770	10.5	90	7.4	571	15.4	9.0
NOV										
16...	1030	66	--	758	10.2	84	7.2	344	9.2	6.8
DEC										
28...	1015	29	--	753	11.9	83	7.2	565	-4.9	.1
JAN										
23...	1315	24	--	765	13.0	89	7.3	830	2.5	.1
FEB										
13...	1045	40	--	768	13.5	94	7.3	720	3.8	.7
MAR										
20...	0900	101	--	774	12.1	85	6.9	569	7.5	1.4
APR										
06...	1130	118	--	763	11.7	94	7.1	547	15.8	6.2
MAY										
30...	1045	6.4	--	755	9.5	93	7.5	692	15.3	14.2
JUN										
12...	1710	14	2.5	756	7.6	81	7.2	395	22.0	18.0
19...	1015	36	--	765	7.8	86	7.1	405	25.4	20.0
JUL										
02...	0920	85	7.0	759	6.6	72	7.2	279	17.0	19.0
17...	1000	20	--	761	8.0	86	7.4	558	18.8	18.9
24...	0800	7.5	11	757	7.5	85	7.8	604	--	22.0
AUG										
07...	1000	7.5	--	758	7.9	91	7.4	505	28.2	22.1
14...	0830	35	3.3	760	7.3	82	7.6	432	--	21.0
SEP										
05...	0930	6.2	--	760	8.1	85	7.4	524	18.6	17.8
08...	0830	3.4	4.8	764	8.6	94	--	640	--	18.5
14...	1600	4.4	--	--	--	--	--	--	--	--

01102345 SAUGUS RIVER AT SAUGUS IRONWORKS AT SAUGUS, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L HCO3 (00453)	CHLO-RIDE, DIS-SOLVED AS AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT										
24...	26.0	7.97	4.10	62.7	58	70	120	0.2	13.1	16.4
NOV										
16...	14.6	6.11	2.81	33.1	37	45	70.0	E.1	8.3	11.3
DEC										
28...	21.8	8.49	2.83	64.4	48	58	118	<.2	11.0	17.1
JAN										
23...	23.8	9.67	3.14	107	51	63	197	E.1	10.9	17.0
FEB										
13...	21.9	9.17	2.96	91.4	40	49	162	E.1	10	15.4
MAR										
20...	17.4	6.69	2.44	71.0	34	41	133	<.2	7.2	11.9
APR										
06...	18.0	7.60	2.74	71.7	34	41	132	<.2	6.5	13.9
MAY										
30...	28.8	9.86	3.11	85.2	63	77	158	E.1	11.1	13.0
JUN										
12...	18.9	6.43	2.70	48.3	--	--	86.0	E.2	7.7	11.4
19...	19.0	5.72	2.94	49.8	40	49	89.7	<.2	8.8	10.8
JUL										
02...	14.0	3.97	2.15	34.2	--	--	55.7	<.2	7.3	8.2
17...	23.2	9.77	2.34	66.5	62	75	120	E.1	12.2	8.3
24...	25.4	10.1	2.60	74.0	--	--	137	.2	11.8	9.7
AUG										
07...	23.6	6.95	3.33	60.8	47	57	114	E.1	11.3	13.5
14...	18.4	8.83	2.77	47.5	--	--	93.2	<.2	12.1	8.1
SEP										
05...	22.8	10.2	3.78	62.3	60	73	118	E.1	11.1	10.8
08...	27.4	11.3	3.39	74.9	--	--	144	.2	11.3	12.7
14...	--	--	--	--	--	--	--	--	--	--

01102345 SAUGUS RIVER AT SAUGUS IRONWORKS AT SAUGUS, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
OCT									
24...	318	<0.041	0.25	0.44	0.633	E0.004	0.009	<0.018	0.041
NOV									
16...	200	<.041	.46	.67	.287	E.004	.014	<.018	.029
DEC									
28...	294	.089	.44	.46	.749	.010	.010	<.018	.019
JAN									
23...	428	.140	.44	.55	.623	.008	.012	<.018	.027
FEB									
13...	370	.088	.31	.43	.607	E.005	.009	<.018	.018
MAR									
20...	318	.047	.32	.34	.569	.006	.008	<.018	.018
APR									
06...	297	<.041	.27	.34	.718	E.004	.009	<.018	.019
MAY									
30...	395	.072	.41	.60	.773	.035	.015	<.020	.049
JUN									
12...	236	.074	.55	.70	.803	.056	.021	<.020	.067
19...	248	.066	.66	.84	.341	.015	.036	E.017	.080
JUL									
02...	179	E.033	.51	.65	.343	.012	.032	<.020	.065
17...	316	E.033	.47	.61	.398	.009	.024	E.010	.084
24...	344	E.023	.45	.49	.530	.007	.021	<.020	.072
AUG									
07...	299	E.029	.47	.53	.496	.007	.031	E.015	.074
14...	245	E.034	.52	.57	.154	E.004	.028	E.011	.048
SEP									
05...	309	<.040	.47	.65	.613	.012	.023	<.020	.059
08...	361	<.040	1.1	1.2	.522	E.004	.018	E.010	.039
14...	--	--	--	--	--	--	--	--	--

01102345 SAUGUS RIVER AT SAUGUS IRONWORKS AT SAUGUS, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT									
24...	6.0	0.4	--	--	--	180	44.9	67	2
NOV									
16...	9.9	.6	--	--	--	290	37.9	79	7
DEC									
28...	6.6	.3	--	--	--	320	139	69	6
JAN									
23...	--	--	--	--	--	290	224	67	6
FEB									
13...	--	--	--	--	--	270	160	70	6
MAR									
20...	--	--	--	--	--	180	131	57	4
APR									
06...	--	--	--	--	--	110	52.6	50	6
MAY									
30...	--	--	--	--	--	200	160	84	12
JUN									
12...	8.5	--	8.5	2.2	1.1	350	109	--	--
19...	--	--	--	--	--	560	140	93	8
JUL									
02...	8.6	--	11	2.8	1.7	470	82.7	--	--
17...	--	--	--	--	--	410	114	80	15
24...	7.3	--	9.1	3.5	1.1	130	67.7	--	--
AUG									
07...	--	--	--	--	--	520	66.4	73	7
14...	9.9	--	13	6.4	1.2	270	44.5	--	--
SEP									
05...	--	--	--	--	--	110	46.6	85	4
08...	6.9	--	9.4	--	--	130	36.8	--	--
14...	--	--	--	1.8	1.3	--	--	--	--

< Less than
E Estimated

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

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

DRAINAGE AREA.--24.1 mi^2, excludes 0.6 mi^2 drained by Winchester North Reservoir.

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is sea level.

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

AVERAGE DISCHARGE.--62 years, 29.8 ft^3/s.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,590 ft^3/s, Mar. 22, gage height, 16.90 ft (affected by backwater from Upper Mystic Lake); minimum, 0.78 ft^3/s, Oct. 11; minimum daily, 1.5 ft^3/s, Oct. 11.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	23	26	31	46	31	237	31	9.5	184	7.5	5.6
2	7.5	14	22	26	36	28	159	26	57	168	7.3	5.4
3	6.7	11	19	21	31	26	92	20	61	79	25	4.8
4	5.8	10	17	19	25	24	93	19	34	49	125	9.2
5	15	24	17	18	22	26	92	19	21	49	55	7.8
6	36	26	15	20	30	34	87	17	16	49	26	5.5
7	17	15	14	21	33	36	85	16	13	34	18	5.5
8	11	12	14	16	29	32	101	16	11	30	13	5.3
9	8.9	11	13	17	31	34	96	15	9.8	26	11	4.9
10	3.6	76	12	18	68	43	85	14	8.6	24	10	4.5
11	1.5	105	12	17	58	41	75	13	11	23	25	4.3
12	5.3	57	13	16	40	43	75	14	29	21	67	4.0
13	5.9	43	12	14	34	104	73	14	15	27	72	3.6
14	4.4	44	19	14	41	106	66	12	11	19	38	4.6
15	3.9	78	19	17	60	87	60	11	9.5	17	31	5.9
16	9.6	49	24	18	48	91	55	12	8.2	15	18	5.4
17	12	37	135	17	44	89	52	13	71	23	11	5.2
18	12	27	198	15	37	90	57	12	184	20	6.9	5.0
19	62	22	104	22	32	88	52	11	71	15	9.1	4.2
20	24	20	83	25	32	89	47	11	60	13	10	3.4
21	14	20	62	19	34	92	45	11	129	12	11	14
22	10	19	48	16	31	961	43	16	61	11	8.7	14
23	10	16	40	15	30	1110	39	15	36	9.6	7.9	6.2
24	8.5	14	33	14	28	460	36	25	74	8.9	7.0	13
25	7.2	13	30	14	31	278	36	18	98	8.8	6.3	9.3
26	7.2	39	27	13	49	192	34	14	52	15	5.6	6.6
27	7.2	74	25	13	44	160	34	41	35	13	5.7	4.0
28	7.1	48	23	12	36	157	34	25	30	9.5	5.7	4.2
29	6.2	28	21	12	---	146	30	16	18	8.3	5.4	3.5
30	7.4	29	24	32	---	262	29	14	62	7.9	5.3	2.8
31	41	---	43	50	---	375	---	11	---	7.6	5.6	---
TOTAL	386.4	1004	1164	592	1060	5335	2099	522	1305.6	996.6	660.0	181.7
MEAN	12.5	33.5	37.5	19.1	37.9	172	70.0	16.8	43.5	32.1	21.3	6.06
MAX	62	105	198	50	68	1110	237	41	184	184	125	14
MIN	1.5	10	12	12	22	24	29	11	8.2	7.6	5.3	2.8
MED	8.5	25	23	17	34	89	58	15	32	19	10	5.2
CFSM	.52	1.39	1.56	.79	1.57	7.14	2.90	.70	1.81	1.33	.88	.25
IN.	.60	1.55	1.80	.91	1.64	8.23	3.24	.81	2.02	1.54	1.02	.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	14.9	23.9	31.9	37.3	41.8	65.7	54.2	33.4	23.4	10.6	10.1	10.2
MAX	125	102	95.7	169	104	172	175	134	159	40.4	79.4	78.2
(WY)	1997	1956	1970	1979	1984	2001	1987	1954	1982	1959	1955	1954
MIN	.48	.59	.63	2.34	4.39	19.2	12.4	11.3	3.02	.69	.62	.49
(WY)	1942	1942	1942	1966	1980	1989	1966	1965	1957	1950	1957	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001	
ANNUAL TOTAL	12645.4		15306.3			
ANNUAL MEAN	34.6		41.9		29.8	
HIGHEST ANNUAL MEAN					58.3	1984
LOWEST ANNUAL MEAN					8.23	1966
HIGHEST DAILY MEAN	333	Apr 22	1110	Mar 23	1110	Mar 23 2001
LOWEST DAILY MEAN	1.5	Oct 11	1.5	Oct 11	.25	Oct 10 1950
ANNUAL SEVEN-DAY MINIMUM	4.8	Oct 9	4.5	Sep 8	.31	Dec 6 1941
MAXIMUM PEAK FLOW			1590	Mar 22	1590	Mar 22 2001
MAXIMUM PEAK STAGE			16.90	Mar 22	16.90	Mar 22 2001
INSTANTANEOUS LOW FLOW			.78	Oct 11	.00	Oct 10 1950
ANNUAL RUNOFF (CFSM)	1.43		1.74		1.23	
ANNUAL RUNOFF (INCHES)	19.52		23.63		16.78	
10 PERCENT EXCEEDS	73		87		69	
50 PERCENT EXCEEDS	23		21		17	
90 PERCENT EXCEEDS	7.6		6.2		1.5	

01102500 ABERJONA RIVER AT WINCHESTER, MA--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1999 to September 2000 (discontinued).
WATER TEMPERATURE: July 1999 to September 2000 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 4,710 µS/cm, Jan. 31, 2000; minimum, 65 µS/cm, Sept. 14, 1999.
WATER TEMPERATURE: Maximum recorded, 26.0°C, July 7, 1999; minimum, 0.1°C, Jan. 31, 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
OCT										
03...	0915	6.9	--	755	7.6	75	7.1	550	17.4	14.4
NOV										
14...	1115	28	--	758	8.8	78	7.1	443	12.3	9.7
DEC										
13...	1015	11	--	777	11.2	81	7.3	687	-4.9	2.8
JAN										
17...	0930	17	--	762	12.5	92	7.1	2410	4.4	2.3
FEB										
12...	0930	39	--	778	12.6	86	7.1	910	-5.4	.7
MAR										
19...	0945	86	--	766	12.1	92	7.0	835	8.3	3.8
22...	1415	1,300	--	745	11.7	90	6.9	342	5.0	3.5
APR										
05...	0900	93	--	768	11.7	93	7.2	725	9.6	5.7
MAY										
29...	0900	17	--	755	7.7	79	7.1	657	15.6	15.9
JUN										
12...	0930	32	5.8	755	6.8	73	6.9	429	20.5	18.0
18...	0930	205	--	762	6.8	77	6.7	379	29.4	21.6
JUL										
02...	1230	161	10	761	7.1	81	7.3	360	--	21.5
16...	0900	15	--	760	7.1	79	7.0	611	27.0	20.4
23...	1630	9.4	6.8	757	6.1	72	7.5	640	--	23.5
AUG										
06...	1000	27	--	763	6.5	77	7.1	458	32.1	23.8
13...	1430	63	7.5	758	7.3	84	7.6	375	--	22.0
30...	1100	5.3	--	772	4.9	54	6.9	691	22.3	20.9
SEP										
06...	1045	5.5	--	765	2.6	28	6.7	475	22.7	18.6
07...	1530	5.3	3.2	762	5.6	62	7.8	599	--	20.0
14...	1430	4.8	--	--	--	--	--	--	--	--

01102500 ABERJONA RIVER AT WINCHESTER, MA--Continued

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT										
03...	34.6	5.72	3.87	57.6	55	67	105	0.1	8.6	31.4
NOV										
14...	26.0	4.26	4.19	46.4	48	58	83.8	.2	7.1	21.6
DEC										
13...	33.9	5.73	4.03	76.2	58	71	145	E.2	9.2	27.8
JAN										
17...	38.9	7.45	6.06	389	50	61	673	E.2	8.1	37.1
FEB										
12...	31.1	5.01	3.86	123	46	57	213	E.1	6.1	26.3
MAR										
19...	31.5	4.94	3.56	107	39	48	200	<.2	7.0	21.6
22...	12.2	1.95	2.34	44.1	18	22	77.0	<.2	3.2	9.3
APR										
05...	31.8	5.07	3.70	97.1	36	45	168	E.1	8.0	22.9
MAY										
29...	34.3	5.94	3.87	74.1	59	72	141	E.1	7.1	23.3
JUN										
12...	23.8	4.08	3.13	49.8	--	--	91.4	E.1	5.8	20.4
18...	20.9	3.32	2.99	41.4	35	43	72.4	E.1	4.4	25.5
JUL										
02...	20.1	3.07	2.76	42.3	--	--	75.3	<.2	4.8	14.4
16...	32.7	5.60	3.52	70.3	50	61	129	E.1	8.5	24.7
23...	36.0	6.10	3.96	72.7	--	--	137	.2	8.9	26.1
AUG										
06...	26.3	4.13	3.43	51.8	40	49	93.5	E.1	6.0	21.3
13...	22.2	3.44	3.38	38.8	--	--	70.0	E.1	5.9	28.3
30...	--	--	--	--	--	--	--	--	--	--
SEP										
06...	28.5	4.96	4.64	52.3	44	54	101	E.1	6.9	26.0
07...	36.2	6.13	4.35	64.7	--	--	121	.2	8.5	33.0
14...	--	--	--	--	--	--	--	--	--	--

01102500 ABERJONA RIVER AT WINCHESTER, MA--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
OCT									
03...	298	0.578	0.85	1.1	2.01	0.071	E0.004	<0.010	0.031
NOV									
14...	246	.676	.95	1.1	1.07	.026	.089	.074	.179
DEC									
13...	365	1.40	1.8	1.9	1.55	.013	E.005	<.018	.034
JAN									
17...	1,220	1.54	1.9	1.9	1.33	.016	E.004	<.018	.026
FEB									
12...	464	1.68	2.1	2.1	1.01	.006	.006	<.018	.026
MAR									
19...	465	.935	1.3	1.4	1.21	.010	.007	<.018	.023
22...	176	.337	.56	1.3	.619	.006	.020	E.012	.279
APR									
05...	394	.769	1.1	1.1	1.66	.010	.006	<.018	.021
MAY									
29...	377	1.11	1.4	1.7	1.22	.082	.008	<.020	.044
JUN									
12...	264	.931	1.5	1.8	1.53	.143	.013	<.020	.080
18...	218	2.38	2.9	3.0	.527	.047	.016	<.020	.079
JUL									
02...	221	.418	.86	1.1	.677	.052	.013	<.020	.067
16...	345	.382	.68	.76	1.77	.117	E.004	<.020	.042
23...	375	.192	.47	.61	1.89	.076	.006	<.020	.032
AUG									
06...	262	.476	.81	.94	.920	.083	.008	<.020	.042
13...	200	1.59	2.1	2.2	.869	.085	.011	<.020	.058
30...	--	--	--	--	--	--	--	--	--
SEP									
06...	283	.665	1.2	1.6	1.64	.124	.024	<.020	.079
07...	337	.893	1.4	1.6	1.88	.144	.010	<.020	.035
14...	--	--	--	--	--	--	--	--	--

01102500 ABERJONA RIVER AT WINCHESTER, MA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT									
03...	3.5	0.6	--	--	--	20	171	87	4
NOV									
14...	22	1.2	--	--	--	200	141	87	10
DEC									
13...	4.0	.5	--	--	--	80	209	77	8
JAN									
17...	--	--	--	--	--	50	310	91	7
FEB									
12...	--	--	--	--	--	200	276	69	7
MAR									
19...	--	--	--	--	--	230	179	75	5
22...	--	--	--	--	--	110	115	71	128
APR									
05...	--	--	--	--	--	150	144	89	3
MAY									
29...	--	--	--	--	--	220	366	89	8
JUN									
12...	7.0	--	7.7	5.0	1.4	140	318	--	--
18...	--	--	--	--	--	280	115	79	10
JUL									
02...	5.0	--	7.7	14.4	3.6	280	59.8	--	--
16...	--	--	--	--	--	90	217	87	10
23...	3.9	--	5.4	42.0	4.4	120	223	--	--
AUG									
06...	--	--	--	--	--	210	157	85	13
13...	5.2	--	7.3	52.4	6.7	320	80.2	--	--
30...	--	--	--	21.6	--	--	--	--	--
SEP									
06...	--	--	--	--	--	80	155	85	3
07...	4.8	--	6.1	--	--	70	121	--	--
14...	--	--	--	18.0	6.1	--	--	--	--

< Less than
E Estimated

01103220 MISCOE BROOK NEAR FRANKLIN, MA

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

DRAINAGE AREA.--1.15 mi^2.

PERIOD OF RECORD.--October 2000 to September 2001.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is 260 ft above sea level from topographic map.

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

AVERAGE DISCHARGE.--1 year, 0.90 ft^3/s.

EXTREMES FOR THE PERIOD OCTOBER 2000 TO SEPTEMBER 2001.--Maximum discharge, 24 ft^3/s, Mar. 22, gage height, 2.65 ft; minimum, 0.08 ft^3/s, Nov. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.22	0.64	0.52	e0.48	0.58	0.52	6.1	0.77	0.52	2.6	0.17	0.15
2	e.22	.47	.45	e.47	.53	.48	3.6	.75	1.6	1.6	.17	.15
3	.22	.39	.39	e.46	.47	.47	2.8	.71	1.9	.72	.16	.15
4	.20	.34	.35	e.45	.42	.44	2.4	.67	1.0	.53	.20	.15
5	.22	.30	.35	e.44	.42	.53	2.2	.64	.67	.76	.19	.14
6	.31	.34	.35	e.44	.48	.49	2.1	.62	.55	.88	.18	.13
7	.27	.31	.32	e.43	.46	.59	2.1	.60	.49	.52	.16	.13
8	.24	.29	.32	e.43	.44	.50	2.9	.60	.44	.45	.15	.13
9	.23	.28	.33	e.42	.47	.52	3.1	.58	.41	.42	.14	.13
10	.24	1.1	.31	e.41	.85	.63	2.3	.57	.38	.54	.18	.12
11	.25	1.6	.34	e.41	.70	.71	1.8	.53	.39	1.1	.19	.12
12	.25	1.1	.41	e.40	.51	.74	1.9	.50	.68	.60	.50	.12
13	.23	.74	.39	e.41	.46	1.4	1.9	.47	.49	.41	2.6	.12
14	.25	.67	.57	.42	.45	1.3	1.6	.47	.42	.36	1.8	.16
15	.25	.93	.54	.46	.56	1.2	1.4	.48	.37	.33	.74	.15
16	.27	.65	.45	.49	.56	1.3	1.3	.50	.35	.30	.40	.14
17	.37	.52	2.8	.47	.59	1.4	1.2	.50	4.7	.35	.30	.13
18	.43	.44	5.1	.44	.53	1.6	1.3	.48	15	.36	.27	.12
19	.78	.40	2.9	.56	.46	1.5	1.2	.46	4.1	.32	.23	.12
20	.52	.37	1.9	.71	.49	1.5	1.1	.43	1.3	.28	.35	.12
21	.43	.35	1.2	.58	.59	1.7	1.1	.41	.73	.26	.30	.18
22	.37	.34	.93	.49	.52	13	1.0	.63	.66	.24	.24	.18
23	.34	.32	.77	.45	.48	16	.98	.72	.70	.22	.21	.15
24	.32	.30	.67	.43	.44	7.8	.97	1.5	.63	.21	.19	.14
25	.29	.29	.61	.41	.51	5.1	.91	1.3	.56	.20	.18	.18
26	.28	.71	.55	.46	.78	3.6	.88	.78	.46	.26	.17	.19
27	.27	1.2	.55	.38	.69	3.0	.86	1.7	.41	.25	.18	.16
28	.30	.83	.52	.38	.60	2.7	.84	1.1	.37	.22	.21	.15
29	.35	.61	.51	.36	---	2.4	.81	.83	.35	.20	.17	.15
30	.36	.57	e.50	.49	---	8.1	.79	.80	.69	.19	.16	.16
31	.87	---	e.49	.66	---	15	---	.60	---	.18	.16	---
TOTAL	10.15	17.40	26.39	14.29	15.04	96.22	53.44	21.70	41.32	15.86	11.25	4.32
MEAN	.33	.58	.85	.46	.54	3.10	1.78	.70	1.38	.51	.36	.14
MAX	.87	1.6	5.1	.71	.85	16	6.1	1.7	15	2.6	2.6	.19
MIN	.20	.28	.31	.36	.42	.44	.79	.41	.35	.18	.14	.12
CFSM	.28	.50	.74	.40	.47	2.70	1.55	.61	1.20	.44	.32	.13
IN.	.33	.56	.85	.46	.49	3.11	1.73	.70	1.34	.51	.36	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

MEAN	.33	.58	.85	.46	.54	3.10	1.78	.70	1.38	.51	.36	.14
MAX	.33	.58	.85	.46	.54	3.10	1.78	.70	1.38	.51	.36	.14
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001
MIN	.33	.58	.85	.46	.54	3.10	1.78	.70	1.38	.51	.36	.14
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001

SUMMARY STATISTICS	FOR 2001 WATER YEAR		WATER YEARS 2000 - 2001	
ANNUAL TOTAL	327.38			
ANNUAL MEAN	.90		.90	
HIGHEST ANNUAL MEAN			.90	2001
LOWEST ANNUAL MEAN			.90	2001
HIGHEST DAILY MEAN	16	Mar 23	16	Mar 23 2001
LOWEST DAILY MEAN	.12	Sep 10	.12	Sep 10 2001
ANNUAL SEVEN-DAY MINIMUM	.12	Sep 7	.12	Sep 7 2001
MAXIMUM PEAK FLOW	24	Mar 22	24	Mar 22 2001
MAXIMUM PEAK STAGE	2.65	Mar 22	2.65	Mar 22 2001
INSTANTANEOUS LOW FLOW	.08	Nov 5	.08	Nov 5 2000
ANNUAL RUNOFF (CFSM)	.78		.78	
ANNUAL RUNOFF (INCHES)	10.59		10.60	
10 PERCENT EXCEEDS	1.6		1.6	
50 PERCENT EXCEEDS	.47		.47	
90 PERCENT EXCEEDS	.18		.18	

e Estimated

01103280 CHARLES RIVER AT MEDWAY, MA

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

DRAINAGE AREA.--65.7 mi^2.

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

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is 175 ft above sea level from topographic map.

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

AVERAGE DISCHARGE.--3 years, 106 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,490 ft^3/s, Mar. 23, gage height, 6.35 ft; minimum, 7.4 ft^3/s, Sept. 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	42	66	e60	e62	e78	1050	80	64	166	16	17
2	16	39	56	e56	e70	e74	817	79	98	186	15	15
3	15	34	46	e52	e64	e70	627	76	155	174	13	13
4	15	30	e39	e50	e58	e66	500	71	160	144	13	12
5	14	26	35	e49	e54	e64	394	66	140	125	14	12
6	16	26	33	e47	e58	e68	330	61	109	127	14	11
7	19	25	31	e46	e62	e72	302	56	77	113	13	11
8	19	24	30	e45	e64	e76	334	54	59	96	12	10
9	17	23	e29	e44	e64	82	355	51	47	82	11	10
10	16	63	e28	e43	e70	88	339	49	40	81	14	9.4
11	15	132	29	e42	e72	101	297	46	44	144	16	8.4
12	15	143	34	e41	e74	115	273	43	91	140	28	7.8
13	13	123	34	e40	e76	180	264	40	83	120	53	8.3
14	13	99	37	e40	e78	245	246	38	66	92	77	12
15	14	102	48	e40	e79	282	223	36	51	71	76	13
16	15	95	45	e30	e80	317	202	37	39	55	62	14
17	17	85	204	e46	e82	350	183	39	311	47	45	14
18	20	66	437	e49	e82	382	179	38	797	49	34	12
19	39	53	478	e52	e82	380	169	38	738	45	30	11
20	41	45	428	e56	e80	376	158	35	517	40	33	10
21	36	41	317	e60	e78	374	148	33	300	34	37	13
22	28	38	249	e64	e76	1000	139	37	204	29	32	16
23	23	34	e200	e60	e74	1410	130	55	158	25	25	20
24	21	31	e160	e54	e72	1290	122	83	128	22	21	16
25	19	27	e130	e50	e74	978	111	105	107	e20	18	16
26	17	40	e100	e47	e76	744	103	91	89	e21	17	19
27	17	95	e95	e44	e80	616	98	125	74	e23	19	24
28	18	101	e85	e42	e80	518	95	136	59	e25	22	19
29	18	91	e75	e40	---	430	90	127	49	e20	28	16
30	19	76	e70	e46	---	671	85	103	53	e19	23	15
31	31	---	e65	e54	---	1080	---	81	---	17	19	---
TOTAL	613	1849	3713	1489	2021	12577	8363	2009	4907	2352	850	404.9
MEAN	19.8	61.6	120	48.0	72.2	406	279	64.8	164	75.9	27.4	13.5
MAX	41	143	478	64	82	1410	1050	136	797	186	77	24
MIN	13	23	28	30	54	64	85	33	39	17	11	7.8
CFSM	.30	.94	1.82	.73	1.10	6.18	4.24	.99	2.49	1.15	.42	.21
IN.	.35	1.05	2.10	.84	1.14	7.12	4.74	1.14	2.78	1.33	.48	.23

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

MEAN	56.8	60.5	74.2	140	180	304	209	138	163	63.3	21.2	36.6
MAX	82.8	74.0	120	227	257	406	279	271	339	138	28.9	94.8
(WY)	1999	2000	2001	1999	1998	2001	2001	1998	1998	1998	1998	1999
MIN	19.8	45.9	40.0	48.0	72.2	199	99.7	64.8	15.7	15.5	4.63	13.5
(WY)	2001	1999	1999	2001	2001	2000	1999	2001	1999	1999	1999	2001

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1998 - 2001	
ANNUAL TOTAL	36586.9		41147.9			
ANNUAL MEAN	100		113		106	
HIGHEST ANNUAL MEAN					113	2001
LOWEST ANNUAL MEAN					103	2000
HIGHEST DAILY MEAN	693	Apr 24	1410	Mar 23	1410	Mar 23 2001
LOWEST DAILY MEAN	7.6	Sep 14	7.8	Sep 12	2.1	Sep 4 1999
ANNUAL SEVEN-DAY MINIMUM	7.9	Sep 8	9.3	Sep 7	3.0	Sep 1 1999
MAXIMUM PEAK FLOW			1490	Mar 23	1490	Mar 23 2001
MAXIMUM PEAK STAGE			6.35	Mar 23	6.35	Mar 23 2001
INSTANTANEOUS LOW FLOW			7.4	Sep 12	2.0	Sep 5 1999
ANNUAL RUNOFF (CFSM)	1.52		1.72		1.61	
ANNUAL RUNOFF (INCHES)	20.72		23.30		21.93	
10 PERCENT EXCEEDS	238		288		297	
50 PERCENT EXCEEDS	58		54		64	
90 PERCENT EXCEEDS	15		15		14	

e Estimated

01103500 CHARLES RIVER AT DOVER, MA

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

DRAINAGE AREA.--183 mi^2.

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 89.76 ft above sea level.

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

AVERAGE DISCHARGE.--64 years, 305 ft^3/s.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,130 ft^3/s, Mar. 25 ; gage height, 6.97 ft; minimum 28 ft^3/s, Sept. 14.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	93	229	218	197	315	1870	270	233	335	67	66
2	58	107	207	203	216	300	1900	255	239	388	62	59
3	55	112	183	187	225	281	1870	242	267	409	60	53
4	54	105	157	178	224	262	1760	227	292	423	73	47
5	55	93	148	166	214	250	1620	207	310	421	67	46
6	70	86	150	164	189	211	1460	196	309	399	59	44
7	69	84	133	161	221	223	1320	183	290	359	56	42
8	65	80	118	159	227	264	1220	170	256	331	52	39
9	62	76	106	160	228	285	1130	162	212	301	49	37
10	58	134	97	157	271	291	1050	155	171	270	46	34
11	54	232	96	154	303	298	977	148	144	258	49	33
12	50	276	102	154	295	310	927	141	193	254	68	31
13	47	291	102	152	315	382	878	130	223	251	102	30
14	45	296	117	141	315	434	813	122	222	247	151	32
15	41	309	131	145	321	480	765	114	207	230	171	36
16	43	292	140	149	322	537	721	114	176	202	170	36
17	48	279	284	155	327	599	675	114	336	177	157	36
18	55	254	467	157	319	666	638	114	669	157	170	36
19	100	224	522	164	306	714	600	112	704	146	141	35
20	112	192	613	182	295	756	567	109	810	138	126	34
21	126	166	649	181	296	786	535	104	867	128	122	38
22	120	147	650	e184	293	1410	504	109	843	117	119	45
23	107	133	601	e192	284	1740	466	127	767	107	107	45
24	94	120	e572	191	268	1940	438	161	682	97	91	46
25	83	109	495	183	258	2100	401	208	600	92	81	48
26	75	122	470	174	270	2100	375	229	520	84	73	50
27	68	182	412	166	295	2010	351	264	437	85	66	51
28	64	223	352	156	315	1850	326	270	378	84	68	52
29	62	240	290	150	---	1680	302	278	318	82	75	52
30	63	242	253	153	---	e1690	284	277	285	77	73	50
31	76	---	235	177	---	e1860	---	259	---	72	72	---
TOTAL	2141	5299	9081	5213	7609	27024	26743	5571	11960	6721	2843	1283
MEAN	69.1	177	293	168	272	872	891	180	399	217	91.7	42.8
MAX	126	309	650	218	327	2100	1900	278	867	423	171	66
MIN	41	76	96	141	189	211	284	104	144	72	46	30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2001, BY WATER YEAR (WY)

MEAN	142	247	340	367	430	620	588	359	240	127	113	100
MAX	600	892	866	1180	998	1172	1474	746	1129	1060	956	640
(WY)	1956	1956	1997	1979	1970	1983	1987	1954	1982	1938	1955	1954
MIN	13.4	33.1	54.6	45.3	86.7	227	169	138	57.5	19.5	9.01	7.78
(WY)	1958	1966	1966	1981	1980	1985	1966	1986	1999	1957	1957	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1938 - 2001	
ANNUAL TOTAL	98137		111488			
ANNUAL MEAN	268		305		305	
HIGHEST ANNUAL MEAN					496	1984
LOWEST ANNUAL MEAN					117	1966
HIGHEST DAILY MEAN	1100	Apr 26	2100	Mar 25	3190	Mar 22 1968
LOWEST DAILY MEAN	25	Sep 14	30	Sep 13	.90	Oct 24 1952
ANNUAL SEVEN-DAY MINIMUM	30	Sep 9	33	Sep 10	4.3	Sep 10 1995
MAXIMUM PEAK FLOW			2130	Mar 25	3220	Aug 23 1955
MAXIMUM PEAK STAGE			6.97	Mar 25	9.24	Aug 23 1955
INSTANTANEOUS LOW FLOW			28	Sep 14	.50	Oct 24 1952
10 PERCENT EXCEEDS	564		671		687	
50 PERCENT EXCEEDS	187		183		210	
90 PERCENT EXCEEDS	56		52		43	

e Estimated

01104000 MOTHER BROOK AT DEDHAM, MA

LOCATION.--Lat 42°15'18", long 71°09'53", Norfolk County, Hydrologic Unit 01090001, on right bank 100 ft upstream from Washington Street Bridge at Dedham and 0.4 mi downstream from point of diversion from Charles River.

PERIOD OF RECORD.--Discharge: October 1931 to current year.
Water-quality records: Water years 1959, 1969–70.

REVISED RECORDS.--WSP 1301: 1932(M).

GAGE.--Water-stage recorder. Concrete control since June 10, 1960. Datum of gage is 0.03 ft below sea level. Dec. 9, 1931, to June 9, 1960, nonrecording gage at site 200 ft upstream at same datum.

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

AVERAGE DISCHARGE.--70 years, 75.9 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 583 ft^3/s, Mar. 26, 27, gage height, 86.20 ft; minimum, 1.3 ft^3/s, Sept. 16, 17, 24.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	6.5	44	32	45	43	535	6.1	56	99	5.4	4.0
2	3.3	6.2	36	27	51	38	523	9.9	64	101	5.2	2.9
3	3.7	5.8	27	22	52	32	511	36	68	102	9.9	2.4
4	5.5	4.6	18	20	51	26	489	37	67	98	20	2.8
5	6.4	4.1	14	25	51	24	452	44	77	99	8.4	2.1
6	9.8	2.8	27	25	47	28	411	39	78	92	5.4	2.0
7	7.1	1.8	26	22	49	23	371	35	75	69	5.1	2.0
8	4.9	1.9	21	18	49	29	340	34	64	53	4.3	1.8
9	3.8	5.5	16	17	48	34	312	31	52	49	4.0	1.5
10	3.0	30	12	15	68	37	286	28	37	62	3.9	1.4
11	2.5	68	12	14	e70	31	256	27	28	58	3.3	1.4
12	2.6	70	12	15	e66	36	253	28	43	46	8.0	1.4
13	2.1	65	11	13	68	65	246	26	43	43	13	1.7
14	1.7	66	15	12	70	89	220	23	41	49	27	2.3
15	1.6	81	17	14	74	100	191	23	36	43	26	1.4
16	2.1	60	16	14	72	118	169	21	35	36	27	1.3
17	2.1	45	73	13	73	136	153	22	77	35	27	1.3
18	6.6	37	165	14	70	156	142	20	215	28	38	1.4
19	19	28	151	19	60	174	124	21	194	25	24	1.4
20	12	17	171	24	54	183	108	18	192	19	15	1.4
21	9.0	9.8	175	24	55	195	96	16	205	13	10	2.3
22	8.5	9.7	172	21	50	428	89	23	202	9.3	6.8	3.3
23	5.9	22	159	22	46	562	77	27	186	7.6	4.3	1.8
24	3.6	21	136	21	40	552	68	37	155	9.8	2.9	1.4
25	2.1	18	119	16	34	566	61	43	124	9.0	2.4	2.4
26	2.2	24	68	17	39	577	51	50	102	8.7	2.3	2.3
27	5.1	40	70	15	42	570	34	60	105	9.0	3.1	2.8
28	7.3	44	71	12	44	533	21	57	89	7.4	2.7	2.8
29	5.8	48	56	12	---	485	12	55	82	5.8	3.3	2.2
30	4.8	57	46	15	---	492	8.6	55	75	5.0	5.0	1.8
31	9.3	---	43	25	---	555	---	55	---	5.6	4.6	---
TOTAL	167.5	899.7	1999	575	1538	6917	6609.6	1007.0	2867	1296.2	327.3	61.0
MEAN	5.40	30.0	64.5	18.5	54.9	223	220	32.5	95.6	41.8	10.6	2.03
MAX	19	81	175	32	74	577	535	60	215	102	38	4.0
MIN	1.6	1.8	11	12	34	23	8.6	6.1	28	5.0	2.3	1.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2001, BY WATER YEAR (WY)

MEAN	26.9	54.4	83.2	95.6	112	176	160	88.1	55.2	22.4	21.0	20.2
MAX	182	308	285	287	360	490	437	253	328	339	306	189
(WY)	1956	1956	1973	1976	1970	1936	1987	1954	1982	1938	1955	1954
MIN	.000	.60	.43	.14	.14	.54	25.3	.000	.000	.061	.000	.097
(WY)	1942	1999	1959	1959	1959	1959	1999	1960	1955	1957	1949	1943

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1932 - 2001	
ANNUAL TOTAL	18907.6		24264.3			
ANNUAL MEAN	51.7		66.5		75.9	
HIGHEST ANNUAL MEAN					149	1938
LOWEST ANNUAL MEAN					20.6	1960
HIGHEST DAILY MEAN	352	Apr 26	577	Mar 26	1010	Mar 21 1968
LOWEST DAILY MEAN	1.6	Oct 15	1.3	Sep 16	.00	Sep 12 1941
ANNUAL SEVEN-DAY MINIMUM	2.1	Oct 11	1.5	Sep 14	.00	Sep 12 1941
MAXIMUM PEAK FLOW			583	Mar 26	1040	Mar 21 1968
MAXIMUM PEAK STAGE			86.20	Mar 26	92.90	Aug 24 1955
INSTANTANEOUS LOW FLOW			1.3	Sep 16	.00	Sep 12 1941
10 PERCENT EXCEEDS	114		171		202	
50 PERCENT EXCEEDS	29		27		38	
90 PERCENT EXCEEDS	3.1		2.6		1.4	

e Estimated

01104200 CHARLES RIVER AT WELLESLEY, MA

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

DRAINAGE AREA.--211 mi^2.

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

GAGE.--Water-stage recorder and masonry dam. Datum of gage is 67.92 ft above sea level.

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

AVERAGE DISCHARGE.--42 years, 288 ft^3/s.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft^3/s, Mar. 26, gage height, 5.41 ft; minimum daily, 20 ft^3/s, Sept. 18.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	116	256	278	189	367	1650	347	198	391	56	66
2	71	123	236	253	211	357	1610	224	238	359	57	65
3	47	134	217	234	219	341	1580	230	261	359	73	60
4	50	134	193	199	219	323	1540	207	235	381	126	56
5	66	124	141	193	224	312	1450	190	250	402	90	38
6	97	121	147	199	231	272	1350	192	253	406	62	32
7	94	113	146	191	247	278	1260	169	253	373	55	31
8	87	74	131	188	253	314	1180	159	224	349	50	28
9	80	73	118	194	260	349	1110	157	196	263	47	35
10	78	160	109	187	312	368	1030	151	168	248	49	37
11	72	281	109	183	334	381	964	132	131	259	51	34
12	70	299	110	184	315	392	916	129	172	244	93	28
13	65	311	111	174	325	496	860	124	194	208	109	22
14	62	329	134	173	339	558	795	109	205	208	144	33
15	59	357	150	182	360	577	753	106	175	213	146	40
16	36	339	153	190	359	634	719	105	158	176	147	39
17	31	328	360	194	362	669	681	107	281	164	143	28
18	60	312	564	193	352	705	646	104	628	143	187	20
19	136	288	554	207	344	747	621	103	630	133	159	21
20	134	253	606	226	344	777	590	104	655	132	140	21
21	141	220	637	218	343	804	565	95	700	128	134	35
22	143	137	641	219	339	1310	530	106	722	121	125	60
23	139	130	594	225	332	1620	506	118	711	88	117	54
24	126	128	559	225	318	1620	479	143	660	83	104	38
25	113	120	518	221	316	1660	449	160	598	86	90	37
26	69	147	396	211	335	1710	426	182	460	77	80	43
27	67	209	404	201	350	1700	406	218	397	77	49	43
28	69	226	394	193	361	1630	401	238	324	77	52	48
29	76	245	344	184	---	1520	385	249	289	75	51	51
30	79	257	320	195	---	1560	363	253	286	60	58	51
31	113	---	316	174	---	1700	---	212	---	57	69	---
TOTAL	2606	6088	9668	6288	8493	26051	25815	5123	10652	6340	2913	1194
MEAN	84.1	203	312	203	303	840	860	165	355	205	94.0	39.8
MAX	143	357	641	278	362	1710	1650	347	722	406	187	66
MIN	31	73	109	173	189	272	363	95	131	57	47	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2001, BY WATER YEAR (WY)

MEAN	153	241	329	344	404	557	551	340	242	117	101	92.6
MAX	495	561	805	1018	766	1048	1223	697	951	439	430	253
(WY)	1997	1990	1997	1979	1970	1983	1987	1998	1982	1998	1990	1961
MIN	23.2	34.0	52.6	43.8	95.7	211	154	124	64.7	24.5	13.0	14.9
(WY)	1966	1966	1966	1981	1980	1985	1985	1986	1999	1997	1965	1965

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1959 - 2001	
ANNUAL TOTAL	105178		111231			
ANNUAL MEAN	287		305		288	
HIGHEST ANNUAL MEAN					458	1984
LOWEST ANNUAL MEAN					108	1966
HIGHEST DAILY MEAN	982	Apr 27	1710	Mar 26	2330	Mar 22 1968
LOWEST DAILY MEAN	21	Sep 8	20	Sep 18	1.0	Aug 24 1965
ANNUAL SEVEN-DAY MINIMUM	27	Sep 8	29	Sep 14	4.1	Aug 20 1965
MAXIMUM PEAK FLOW			1750	Mar 26	2410	Mar 21 1968
MAXIMUM PEAK STAGE			5.41	Mar 26	6.20	Mar 21 1968
INSTANTANEOUS LOW FLOW			16	Oct 16	.00	Sep 15 1959
10 PERCENT EXCEEDS	605		657		630	
50 PERCENT EXCEEDS	228		196		210	
90 PERCENT EXCEEDS	63		55		45	