Water-Data Report 2007

01162000 MILLERS RIVER NEAR WINCHENDON, MA

CONNECTICUT RIVER BASIN
MILLERS RIVER SUBBASIN

LOCATION.--Lat 42°41′03″, long 72°05′02″ referenced to North American Datum of 1927, Worcester County, MA, Hydrologic Unit 01080202, on right bank 10 ft downstream from Nolan Bridge, 0.3 mi downstream from Tarbell Brook, 2 mi west of Winchendon.

DRAINAGE AREA.--81.8 mi^2.

SURFACE-WATER RECORDS

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

REVISED RECORDS.--WSP 451: 1916. WSP 1051: 1919, 1920-21(M), 1922-24, 1928(M), 1933-34.WDR MA-RI-84-1: Drainage area. WDR MA-RI-01-1: (M).

GAGE.--Water-stage recorder with satellite telemeter. Concrete control since Oct. 6, 1933. Datum of gage is 826.66 ft above National Geodetic Vertical Datum of 1929. Prior to July 27, 1916, nonrecording gage at bridge at same datum.

COOPERATION.--Massachusetts Department of Environmental Protection, Office of Watershed Management; Massachusetts Department of Conservation and Recreation, Water Resources Commission.

REMARKS.--Records fair except those for estimated daily discharge, which are poor. Backwater from Birch Hill Dam, Apr. 15-25, 2007; backwater from beaver dam, July 5 to Sept. 30, 2007. Flow regulated by powerplant and by Lake Monomonac and other reservoirs upstream, by waste-water treatment plant 500 ft upstream, and infrequent backwater from U.S. Army Corps of Engineers Flood-Control Project at Birch Hill Dam.

01162000 MILLERS RIVER NEAR WINCHENDON, MA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	67	264	166	143	e69	45	289	251	76	20	e28	e9.6
2	101	252	176	179	e67	55	297	238	78	19	e26	e9.1
3	102	236	169	172	72	85	306	229	81	19	e30	e8.7
4	96	213	157	158	e63	89	297	211	106	19	e39	e8.2
5	93	192	142	152	e59	79	300	175	133	e24	e33	e8.2
6	86	190	132	184	e58	73	283	139	130	e31	e28	e8.2
7	81	230	128	217	e60	e66	259	127	114	e34	e27	e9.1
8	78	250	122	267	e60	e65	239	116	98	e38	e30	e9.6
9	73	512	113	326	e60	e65	222	105	91	e43	e30	e12
10	70	471	109	276	e57	66	209	101	88	e49	e28	e22
11	71	363	103	233	e54	99	174	115	79	e54	e26	e36
12	215	299	100	e215	e52	118	173	120	84	e55	e23	e54
13	276	289	98	e200	e52	131	213	120	74	e52	e22	e44
14	239	284	103	e190	e54	163	238	104	68	e47	e20	e35
15	176	278	101	e200	e55	229	267	88	60	e44	e20	e28
16	140	270	99	e230	e53	247	975	91	57	e37	e21	22
17	125	426	95	e218	e52	244	2,210	150	63	e31	e19	e21
18	149	429	91	190	e51	240	2,180	194	55	e31	e18	e20
19	146	355	86	e170	e51	226	2,000	227	46	e36	e16	e17
20	161	293	83	e160	e49	182	1,690	264	41	e55	e14	e17
21	209	265	80	e136	e49	176	1,300	334	42	e65	e13	e15
22	199	246	76	e126	e47	158	918	313	41	e71	e11	e15
23	180	231	115	e120	e45	215	649	264	43	e62	e11	e14
24	150	231	142	125	e44	240	443	227	38	e47	e10	e14
25	132	208	137	120	e42	256	355	185	31	e42	e11	e13
26	119	193	172	122	e43	263	315	138	26	e36	e11	e14
27	108	180	179	e90	e44	294	312	117	23	e34	e10	e14
28	190	170	e151	e85	45	352	280	105	22	e36	e10	e15
29	335	175	e131	e81	---	372	274	91	20	e37	e10	e15
30	299	175	126	e76	---	342	267	80	22	e36	e10	e14
31	277	---	118	e72	---	312	---	75	---	e31	e9.1	---
Total	4,743	8,170	3,800	5,233	1,507	5,547	17,934	5,094	1,930	1,235	614.1	541.7
Mean	153	272	123	169	53.8	179	598	164	64.3	39.8	19.8	18.1
Max	335	512	179	326	72	372	2,210	334	133	71	39	54
Min	67	170	76	72	42	45	173	75	20	19	9.1	8.2
Cfsm	1.87	3.33	1.50	2.06	0.66	2.19	7.31	2.01	0.79	0.49	0.24	0.22
In.	2.16	3.72	1.73	2.38	0.69	2.52	8.16	2.32	0.88	0.56	0.28	0.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	99.0	122	145	142	136	258	372	181	115	60.9	51.0	65.1
Max	520	416	500	385	400	931	788	412	515	261	249	752
(WY)	(1956)	(1956)	(1997)	(1996)	(1976)	(1936)	(1960)	(1967)	(1984)	(1938)	(1928)	(1938)
Min	11.6	15.7	30.7	13.3	24.4	39.0	75.2	44.7	14.1	8.17	8.24	5.75
(WY)	(1948)	(1979)	(1979)	(1981)	(1980)	(1965)	(2006)	(1999)	(1964)	(1965)	(1965)	(1964)

01162000 MILLERS RIVER NEAR WINCHENDON, MA—Continued

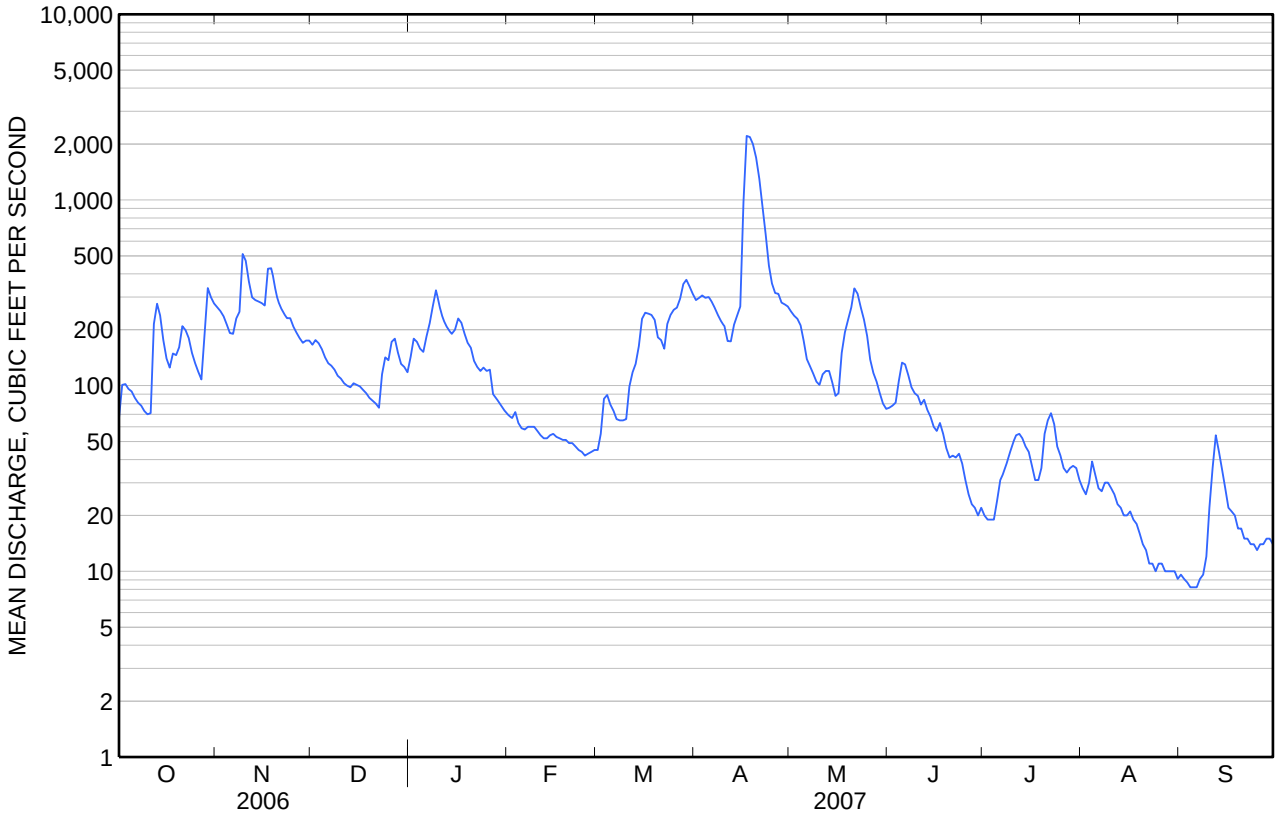
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1916 - 2007	
Annual total	57,301		56,348.8			
Annual mean	157		154		145	
Highest annual mean					231	1956
Lowest annual mean					38.5	1965
Highest daily mean	753	Jan 19	2,210	Apr 17	6,130	Sep 22, 1938
Lowest daily mean	12	Aug 18	8.2	Sep 4	3.1	Oct 4, 1930
Annual seven-day minimum	14	Aug 14	8.7	Aug 31	4.5	Sep 24, 1939
Maximum peak flow			2,320	Apr 17	[b]8,500	Sep 22, 1938
Maximum peak stage			[a]10.83	Apr 17	[c]21.55	Sep 22, 1938
Instantaneous low flow					[d]0.00	Sep 20, 1918[e]
Annual runoff (cfsm)	1.92		1.89		1.78	
Annual runoff (inches)	26.06		25.63		24.15	
10 percent exceeds	334		286		335	
50 percent exceeds	112		99		90	
90 percent exceeds	29		19		19	

[a] Caused by backwater from Birch Hill Reservoir.

[b] From rating curve extended above 2,000 ft³/s, on basis of computation of peak flow over dam.

[c] From floodmarks.

[d] Caused by regulation.

[e] Also occurred on Jan. 14, 1925.