

Water-Data Report 2010

01092000 MERRIMACK RIVER NEAR GOFFS FALLS, BELOW MANCHESTER, NH

Merrimack Basin
Merrimack Subbasin

LOCATION.--Lat 42°56'53", long 71°27'50" referenced to North American Datum of 1927, Hillsborough County, NH, Hydrologic Unit 01070002, on right bank, 600 ft upstream from bridge on Interstate Highway 293, 0.8 mi downstream from Bowman Brook, 1.3 mi north of Goffs Falls, 2.2 mi downstream from Piscataquog River, and 3.0 mi south of Manchester City Hall on Elm Street.

DRAINAGE AREA.--3,092 mi².

SURFACE-WATER RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 109.27 ft above National Geodetic Vertical Datum of 1929.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1722, 150,000 ft³/s, March 20, 1936, gage height, 35.19 ft, from floodmarks, from rating curve extended above 48,000 ft³/s on basis of computation of flow over dam at gage heights 25.87 ft and 35.19 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,500 ft³/s, Mar. 31, gage height, 11.60 ft; minimum daily discharge, 705 ft³/s, Aug. 21.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,970	8,040	7,470	e7,310	e6,010	16,700	31,500	4,640	1,970	2,700	1,230	1,020
2	1,890	7,610	6,940	e7,190	e5,680	15,400	24,700	4,580	1,470	1,850	1,110	880
3	1,920	6,840	7,920	6,310	5,340	13,900	23,700	4,700	1,710	1,900	1,130	875
4	2,980	6,220	13,200	6,730	5,020	12,200	23,800	5,200	2,220	1,700	1,310	842
5	4,920	5,710	15,500	5,850	4,570	10,600	23,700	5,140	2,000	1,500	1,780	922
6	4,040	5,380	12,700	5,490	4,280	9,320	23,200	4,770	2,660	1,290	1,390	886
7	3,660	5,210	10,100	5,320	3,780	8,620	20,900	4,190	4,170	1,590	1,300	855
8	4,730	4,940	8,530	5,190	3,610	8,730	18,800	4,610	4,210	1,350	1,020	874
9	6,030	4,790	8,180	4,730	3,520	9,070	17,600	4,870	3,280	1,210	1,050	888
10	4,940	4,620	7,860	4,180	3,580	9,200	16,500	6,150	2,780	1,200	874	747
11	4,070	4,560	7,820	4,200	3,240	8,670	15,800	5,220	2,670	1,340	1,090	778
12	3,430	4,470	7,390	4,340	3,200	8,350	14,100	4,480	2,930	1,470	1,280	850
13	3,320	4,010	6,590	4,130	3,140	8,260	12,200	4,070	2,830	1,290	902	969
14	3,420	4,060	6,690	4,170	3,050	11,200	10,700	3,710	2,720	1,420	1,130	920
15	3,460	8,710	7,480	4,180	3,130	23,700	9,820	3,500	2,510	1,850	1,240	834
16	3,190	12,900	7,660	4,110	3,030	24,700	9,220	3,580	2,260	1,840	1,210	858
17	3,070	10,800	6,620	4,090	2,940	19,300	10,500	3,330	2,300	1,320	996	1,000
18	2,920	8,170	5,270	4,050	3,400	19,600	13,500	3,270	2,160	1,410	966	1,130
19	3,050	6,440	5,190	4,050	2,470	21,200	13,100	2,940	2,270	1,290	972	1,300
20	2,690	6,600	5,520	4,110	2,790	20,400	12,300	3,590	1,900	1,440	954	1,090
21	2,850	9,290	5,210	4,040	3,000	19,400	11,200	3,610	1,690	1,280	705	944
22	2,370	10,600	4,830	3,680	2,970	19,000	9,960	3,300	1,730	1,490	896	884
23	3,070	8,700	4,600	3,490	2,980	19,900	9,010	3,040	2,010	2,380	963	1,280
24	3,890	7,530	4,650	3,810	3,360	22,100	8,250	2,860	1,840	1,820	1,120	955
25	7,390	6,940	4,580	4,960	5,840	25,600	7,780	2,490	2,020	1,630	1,310	903
26	18,000	6,730	4,400	9,090	19,400	25,300	7,100	2,300	2,400	1,840	1,480	771
27	15,700	6,720	5,860	17,300	e22,300	22,300	6,600	2,340	2,190	1,570	1,540	837
28	10,900	7,660	e10,300	17,000	18,700	20,200	6,250	2,210	1,760	1,360	1,130	863
29	9,630	9,030	e11,700	12,100	---	19,300	6,190	1,980	2,900	1,280	1,130	1,120
30	9,930	8,450	e9,630	8,770	---	20,600	5,790	1,800	4,280	1,150	975	2,920
31	9,310	---	e8,130	6,550	---	32,200	---	1,970	---	1,180	981	---
Total	162,740	211,730	238,520	190,520	154,330	525,020	423,770	114,440	73,840	47,940	35,164	29,995
Mean	5,250	7,058	7,694	6,146	5,512	16,940	14,130	3,692	2,461	1,546	1,134	1,000
Max	18,000	12,900	15,500	17,300	22,300	32,200	31,500	6,150	4,280	2,700	1,780	2,920
Min	1,890	4,010	4,400	3,490	2,470	8,260	5,790	1,800	1,470	1,150	705	747

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,364	4,996	5,557	4,720	4,742	8,028	14,110	8,704	4,686	2,642	2,139	2,157
Max	19,820	13,570	13,690	12,550	11,370	18,240	25,660	20,380	16,480	11,470	8,576	14,500
(WY)	(2006)	(2006)	(1984)	(2006)	(1970)	(1953)	(1969)	(2006)	(1984)	(1973)	(1990)	(1938)
Min	771	1,320	1,458	1,265	1,354	2,141	4,612	3,059	1,354	808	781	745
(WY)	(1965)	(2002)	(1979)	(2002)	(1980)	(1940)	(1995)	(1957)	(1964)	(1991)	(2002)	(1957)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1937 - 2010	
Annual total	2,601,760		2,208,009			
Annual mean	7,128		6,049		5,464	
Highest annual mean					10,330	2006
Lowest annual mean					2,248	1965
Highest daily mean	27,600	Apr 8	32,200	Mar 31	94,800	Sep 23, 1938
Lowest daily mean	1,310	Sep 27	705	Aug 21	98	Oct 11, 1964
Annual seven-day minimum	1,490	Sep 22	840	Sep 6	394	Sep 25, 1964
Maximum peak flow			34,500	Mar 31	^a 102,000	Sep 23, 1938
Maximum peak stage			11.60	Mar 31	25.87	Sep 23, 1938
10 percent exceeds	12,800		15,600		12,500	
50 percent exceeds	5,860		4,070		3,520	
90 percent exceeds	2,890		1,040		1,210	

^a From rating curve extended above 48,000 ft³/s on basis of computation of flow over dam at gage heights 25.87 ft and 35.19 ft.

