

Water-Data Report 2009

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, 27,800 ft³/s, Apr. 8, gage height, 10.22 ft; minimum daily discharge, 1,310 ft³/s, Sept. 27.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8,670	6,610	11,400	10,400	3,830	4,690	20,200	6,930	6,340	13,700	18,400	8,170
2	8,010	5,780	12,100	9,590	3,690	5,410	18,300	6,220	4,800	15,400	18,500	6,010
3	9,360	5,190	11,500	8,110	e3,650	4,890	17,900	6,840	4,140	19,400	15,200	4,910
4	8,640	4,700	10,600	7,930	3,450	4,500	21,600	6,330	3,530	22,000	14,600	3,900
5	7,210	4,680	9,340	7,530	3,190	4,210	25,400	5,170	3,130	18,700	12,000	3,510
6	6,280	4,530	8,300	6,860	e3,100	4,090	25,000	4,780	2,960	15,500	9,220	2,910
7	5,500	4,520	7,540	6,490	3,140	4,070	26,200	6,350	2,640	12,300	7,300	2,920
8	4,500	5,000	7,000	6,520	e3,100	5,060	27,600	8,940	2,520	11,000	6,010	2,680
9	4,410	5,320	5,740	5,950	3,430	7,920	25,800	9,110	2,550	10,800	5,370	2,400
10	4,080	6,630	5,950	5,390	3,730	9,320	21,500	8,570	2,880	9,840	5,050	2,510
11	3,930	6,490	7,960	5,130	3,490	9,380	17,600	8,970	3,390	8,110	5,060	2,170
12	3,880	6,030	15,300	e5,080	3,630	10,300	14,500	7,820	3,700	7,220	5,880	2,460
13	3,570	5,520	24,600	e5,050	4,590	11,300	13,000	6,120	6,820	6,830	5,850	2,670
14	3,480	5,450	24,300	e5,000	5,340	10,300	11,300	5,440	10,600	6,420	5,020	2,650
15	3,490	6,400	19,800	4,540	5,960	9,510	9,530	4,810	11,300	5,460	4,680	2,460
16	3,440	9,140	18,000	e4,360	5,120	8,860	8,190	4,810	10,100	4,810	4,270	2,110
17	3,760	12,200	18,400	e4,350	4,440	8,770	7,400	4,910	8,890	4,450	3,810	1,930
18	3,870	11,700	16,400	4,330	3,960	9,050	7,090	5,250	7,340	4,660	3,560	1,920
19	3,790	9,050	14,400	4,580	e3,680	10,800	6,960	5,700	7,550	5,030	3,460	1,620
20	3,420	7,440	12,400	4,650	e3,300	12,200	6,980	4,670	11,600	4,520	3,040	2,320
21	3,160	6,450	10,400	e4,500	3,520	12,600	7,560	3,960	12,400	4,080	3,190	2,160
22	3,140	5,860	8,780	e4,500	3,570	11,500	9,950	3,720	10,300	4,790	3,890	1,640
23	3,150	5,430	e7,800	4,090	3,240	10,200	12,800	3,460	8,830	5,540	5,680	1,580
24	3,150	4,890	8,580	4,330	3,620	8,730	14,200	2,980	7,890	8,070	6,670	1,550
25	2,730	6,140	10,000	4,190	3,170	7,850	12,400	3,030	7,330	14,500	6,700	1,550
26	4,680	17,600	10,700	4,070	2,750	7,800	10,500	2,890	6,740	15,100	5,490	1,370
27	13,000	21,900	11,100	3,890	2,880	8,640	10,600	2,830	6,670	12,800	4,360	1,310
28	12,700	18,200	10,700	3,920	3,910	11,200	9,910	3,720	6,220	11,200	4,140	1,400
29	10,100	14,600	11,500	3,830	---	13,500	9,020	6,980	6,890	8,940	5,570	2,080
30	9,130	12,200	13,000	4,080	---	17,300	8,800	8,870	11,900	9,130	8,840	2,000
31	7,680	---	12,300	3,960	---	20,400	---	8,240	---	15,000	9,600	---
Total	175,910	245,650	375,890	167,200	104,480	284,350	437,790	178,420	201,950	315,300	220,410	78,870
Mean	5,675	8,188	12,130	5,394	3,731	9,173	14,590	5,755	6,732	10,170	7,110	2,629
Max	13,000	21,900	24,600	10,400	5,960	20,400	27,600	9,110	12,400	22,000	18,500	8,170
Min	2,730	4,520	5,740	3,830	2,750	4,070	6,960	2,830	2,520	4,080	3,040	1,310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,338	4,967	5,528	4,700	4,731	7,905	14,110	8,773	4,716	2,657	2,152	2,173
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 2008		Water Year 2009		Water Years 1937 - 2009	
Annual total	3,185,740		2,786,220			
Annual mean	8,704		7,633		5,456	
Highest annual mean					10,330	2006
Lowest annual mean					2,248	1965
Highest daily mean	30,500	Apr 14	27,600	Apr 8	94,800	Sep 23, 1938
Lowest daily mean	1,500	Jul 20	1,310	Sep 27	98	Oct 11, 1964
Annual seven-day minimum	1,630	Jul 14	1,490	Sep 22	394	Sep 25, 1964
Maximum peak flow			27,800	Apr 8	^a 102,000	Sep 23, 1938
Maximum peak stage			10.22	Apr 8	25.87	Sep 23, 1938
10 percent exceeds	18,600		14,500		12,500	
50 percent exceeds	6,580		6,140		3,520	
90 percent exceeds	2,520		3,010		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.

