01076500 PEMIGEWASSET RIVER AT PLYMOUTH, NH

Merrimack Basin
Pemigewasset Subbasin

LOCATION.--Lat 43°45′33″, long 71°41′10″ referenced to North American Datum of 1927, Grafton County, NH, Hydrologic Unit 01070001, on right bank, 150 ft downstream from Holderness Road bridge in Plymouth, 0.1 mi northeast of Plymouth Town Hall, and 0.3 mi downstream from Baker River.

DRAINAGE AREA.--622 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: October 1903 to current year. Records for April 1886 to September 1903, published in WSP 124, are unreliable and should not be used.

REVISED RECORDS.--WSP 471: 1912-14. WSP 726: Drainage area. WSP 1231: 1904-11, 1913-14, 1917-18, 1919(M), 1920-25, 1926-27(M), 1929-31(M). WSP 1721: 1959(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 457.07 ft above National Geodetic Vertical Datum of 1929. Prior to January 1, 1910, nonrecording gage at sites 150 ft and 200 ft upstream at present datum or datum 1.11 ft lower. January 1, 1910, to September 30, 1926, nonrecording gage at site 200 ft upstream at present datum.

COOPERATION.--National Streamflow Information Program (NSIP).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Stage-discharge relationship at times is affected by variable slope. Some diurnal fluctuation during period 1940-52 caused by power plants upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,600 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 21	0230	15,200	9.78
Oct 29	0200	*22,900	13.55
Oct 29	0415	a	*13.82
Nov 17	1345	18,000	11.74
Apr 16	2045	14,900	10.31

Minimum discharge, 163 ft^3/s, Sept. 7, 8, 9, gage height, 0.34 ft.

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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	559	3,070	1,220	e1,080	e537	e372	1,810	5,110	1,070	258	271	246
2	706	2,810	5,700	e1,170	e534	e366	2,310	3,740	1,180	251	255	222
3	665	2,550	3,070	e1,060	e545	e379	2,360	3,180	1,030	248	241	202
4	546	2,010	2,080	e996	e536	e391	e1,940	2,590	1,020	242	226	186
5	516	1,690	1,650	976	e513	e384	1,650	2,260	2,470	261	215	175
6	639	1,490	1,400	3,590	e491	e350	1,410	2,020	2,110	298	209	171
7	526	1,350	1,330	5,600	e470	e345	1,200	1,820	1,370	291	459	165
8	452	1,270	1,230	4,050	e459	e353	1,070	1,910	1,080	322	769	163
9	399	4,590	e1,130	4,560	e450	e356	1,000	2,620	924	530	1,360	164
10	353	3,600	e1,110	2,780	e443	e358	928	3,270	921	1,620	697	282
11	319	2,380	1,040	e1,820	e438	e394	884	3,490	1,020	963	522	431
12	1,350	1,910	979	e1,650	e424	e440	992	3,220	930	2,230	433	524
13	1,690	3,750	949	1,640	e406	e443	995	2,180	783	1,310	370	592
14	1,040	4,380	1,130	1,510	e406	e529	1,020	1,650	690	883	332	404
15	789	4,980	1,150	1,360	e413	e1,900	1,210	1,490	611	733	295	810
16	646	3,240	1,130	e1,160	e439	e3,480	7,020	2,180	545	655	257	1,580
17	550	11,700	1,100	e818	e445	e2,210	9,580	3,850	519	578	251	852
18	1,890	6,850	1,030	e814	e441	e1,560	7,140	2,410	506	485	248	677
19	2,160	4,050	966	e986	e431	e1,040	6,980	1,900	453	945	238	577
20	2,620	2,950	876	e948	e420	e879	7,050	2,360	402	2,020	224	505
21	10,500	2,300	822	e746	e414	e754	6,880	4,260	382	1,380	216	441
22	4,200	1,920	774	e799	e408	e745	7,020	2,350	366	893	207	394
23	3,470	1,690	2,300	e802	e403	e1,500	7,100	1,760	433	694	200	354
24	4,130	1,520	4,090	e749	e391	e2,050	9,490	1,500	429	587	200	320
25	2,890	1,370	2,240	e685	e389	e1,850	6,610	1,430	359	509	213	293
26	2,240	1,250	1,840	e645	e386	e1,780	4,360	1,330	355	447	274	273
27	1,800	1,180	e1,770	e629	e382	e2,330	3,840	1,140	347	387	347	260
28	5,690	1,110	e1,450	e643	e380	4,660	3,830	1,100	314	350	264	252
29	14,500	1,080	e1,120	e618	---	3,430	4,570	1,040	296	327	227	247
30	5,780	1,040	e957	e573	---	2,330	5,060	883	272	311	205	238
31	3,790	---	e1,000	e553	---	2,070	---	822	---	289	206	---
Total	77,405	85,080	48,633	46,010	12,394	40,028	117,309	70,865	23,187	21,297	10,431	12,000
Mean	2,497	2,836	1,569	1,484	443	1,291	3,910	2,286	773	687	336	400
Max	14,500	11,700	5,700	5,600	545	4,660	9,580	5,110	2,470	2,230	1,360	1,580
Min	319	1,040	774	553	380	345	884	822	272	242	200	163
Cfsm	4.01	4.56	2.52	2.39	0.71	2.08	6.29	3.68	1.24	1.10	0.54	0.64
In.	4.63	5.09	2.91	2.75	0.74	2.39	7.02	4.24	1.39	1.27	0.62	0.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,016	1,372	1,169	891	729	1,701	3,920	2,762	1,163	643	512	598
Max	4,837	4,578	4,588	3,191	4,379	9,266	7,206	5,304	3,878	3,103	3,345	3,813
(WY)	(2006)	(1928)	(1974)	(1996)	(1981)	(1936)	(1969)	(1940)	(1917)	(1973)	(1990)	(1938)
Min	129	308	216	148	138	205	1,222	806	283	160	111	107
(WY)	(1948)	(1979)	(1948)	(1931)	(1931)	(1940)	(1995)	(1921)	(1921)	(1923)	(1923)	(1923)

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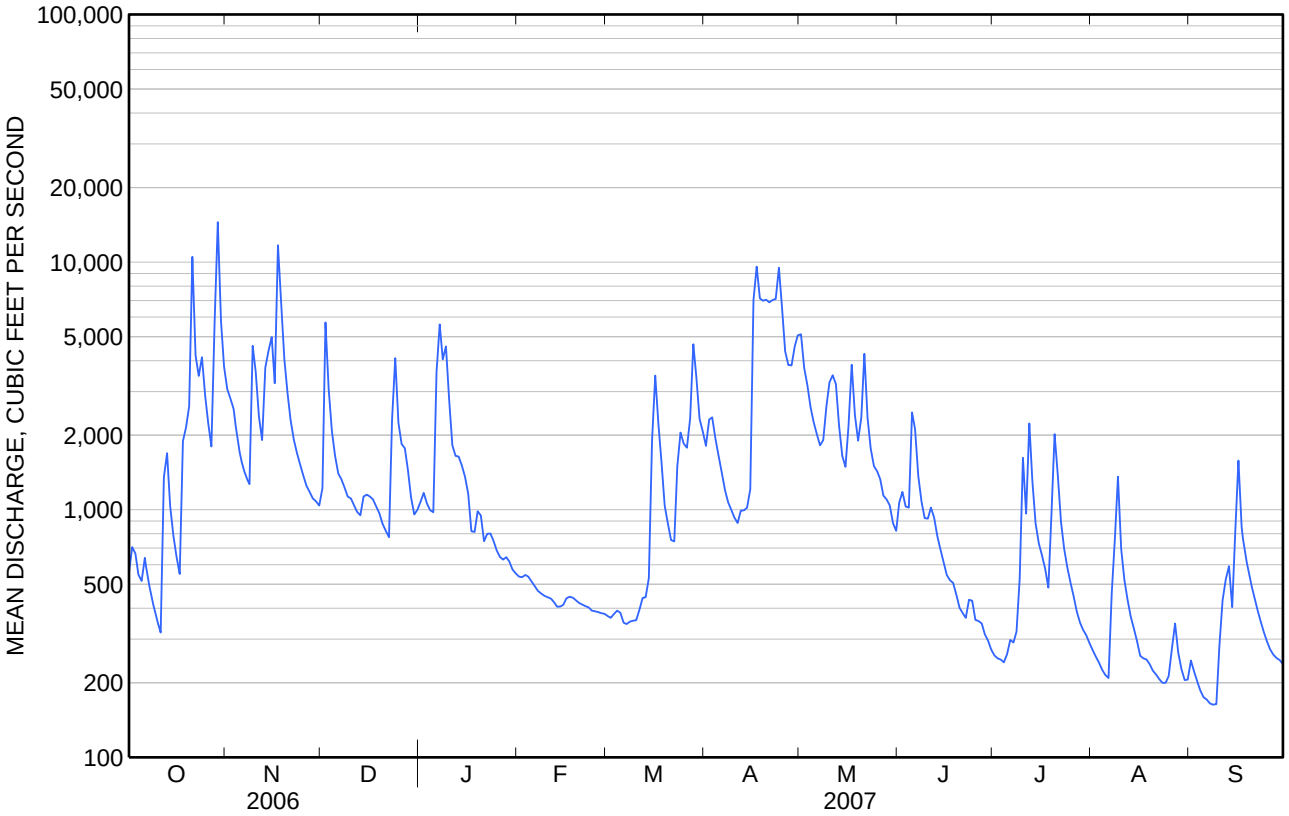
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1904 - 2007	
Annual total	665,953		564,639			
Annual mean	1,825		1,547		1,374	
Highest annual mean					2,156	1996
Lowest annual mean					735	1965
Highest daily mean	18,400	May 14	14,500	Oct 29	57,300	Mar 19, 1936
Lowest daily mean	221	Sep 19	163	Sep 8	45	Sep 20, 1923
Annual seven-day minimum	241	Sep 13	175	Sep 3	66	Oct 11, 1923
Maximum peak flow			[a]22,900	Oct 29	65,400	Mar 19, 1936
Maximum peak stage			13.82	Oct 29	[b]29.00	Mar 19, 1936
Instantaneous low flow			163	Sep 7[c]	39	Oct 1, 1948[d]
Annual runoff (cfsm)	2.93		2.49		2.21	
Annual runoff (inches)	39.83		33.77		30.01	
10 percent exceeds	4,040		3,810		3,190	
50 percent exceeds	1,170		930		685	
90 percent exceeds	310		263		240	

[a] Flow affected by variable slope.
[b] From floodmarks.
[c] Also September 8, 9, 2007.
[d] Also October 3, 1948.