Water-Data Report 2011

01076000 BAKER RIVER NEAR RUMNEY, NH

Merrimack Basin
Pemigewasset Subbasin

LOCATION.--Lat 43°47′44″, long 71°50′45″ referenced to North American Datum of 1927, Grafton County, NH, Hydrologic Unit 01070001, on right bank, 200 ft upstream from small right bank tributary, 0.3 mi upstream from Halls Brook, 1.8 mi southeast of West Rumney, and 1.8 mi southwest of Rumney.

DRAINAGE AREA.--143 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: October 1928 to September 1977, October 2001 to current year. October 1928 monthly discharge only, published in WSP 1301. Partial-record station: October 1977 to September 2001. Peak streamflow: Water years 1928 to 1977, 1985 to 1993, 1995 to current year. Miscellaneous discharge measurements: Water years 1978 to 1988, 1990 to 2001. Water quality records: Water years 1953-54.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1934(M). WSP 1231: 1929-33(M), 1934.

GAGE.--Water-stage recorder. Concrete control September 10, 1938 to June 12, 1976. Datum of gage is 497.34 ft above National Geodetic Vertical Datum of 1929.

COOPERATION.--National Streamflow Information Program and the U.S. Army Corps of Engineers, New England District.

REMARKS.--Records good except those for estimated daily discharges, which are fair. High flow slightly affected by retarding reservoirs since 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since valley was settled about 1766, 25,900 ft^3/s, November 3, 1927, gage height 17.4 ft, from flood marks, from rating extended above 3,800 ft^3/s on the basis of slope-area measurements at gage heights 13.03 ft, 14,49 ft, and 15.50 ft.

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

[e, estimated]

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 1	1645	3,890	6.62
Oct 15	1700	4,020	6.77
Dec 13	0530	3,600	6.30
Mar 7	1145	e4,850	Ice Jam
Apr 11	1730	4,500	7.30
Apr 26	0900	4,060	6.81
Aug 28	2030	*11,300	*13.99

Minimum discharge, 20 ft^3/s, Aug. 5, 6, 7, gage height, 0.23 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,110	275	357	182	e88	106	268	635	161	78	32	646
2	1,260	243	1,760	322	e89	99	273	516	141	72	27	503
3	706	220	787	e351	e96	94	306	465	126	67	26	360
4	461	273	559	e292	e95	92	341	547	112	67	24	242
5	326	1,040	421	e228	e94	94	406	663	102	60	22	251
6	244	808	333	e180	e102	e238	531	504	95	55	20	588
7	326	543	283	e159	e104	e2,960	441	412	87	84	22	606
8	342	445	e230	e165	e103	e1,770	475	366	78	66	25	1,030
9	261	356	e198	e148	e99	e1,050	578	323	81	89	23	677
10	209	305	e160	e134	e95	e715	908	289	111	77	28	433
11	177	264	196	e140	e91	e797	3,310	268	101	62	63	296
12	155	236	293	e127	e88	e1,570	3,010	252	170	54	46	226
13	138	218	2,260	e124	e86	e929	2,160	232	179	50	34	184
14	125	203	1,080	e126	e85	680	1,880	221	268	51	29	154
15	1,650	191	696	e122	e83	532	1,560	516	230	45	50	144
16	1,460	182	507	e125	e83	472	1,210	1,270	207	41	438	155
17	907	427	376	e121	e83	439	1,680	759	152	37	279	132
18	636	515	e314	e114	105	838	1,320	788	131	35	149	115
19	456	368	e286	e140	152	1,210	1,000	1,300	119	34	97	104
20	344	298	e246	e132	e142	826	957	1,010	99	32	70	99
21	284	251	234	e124	137	664	851	893	84	29	63	108
22	301	231	225	e117	e115	541	711	759	74	27	857	125
23	248	272	215	e111	e111	441	665	666	110	25	356	282
24	224	292	e188	e100	107	378	695	595	206	23	205	259
25	257	241	e169	e101	108	337	815	463	263	21	141	232
26	477	230	e169	e102	116	292	2,410	362	200	28	169	179
27	618	220	177	e105	110	268	1,690	321	165	34	124	145
28	588	192	176	e102	105	248	1,660	274	126	31	4,550	121
29	426	182	197	e100	---	248	1,370	244	104	28	3,850	162
30	358	172	189	e97	---	238	847	216	88	45	1,280	615
31	318	---	172	e92	---	252	---	186	---	41	895	---
Total	16,392	9,693	13,453	4,583	2,872	19,418	34,328	16,315	4,170	1,488	13,994	9,173
Mean	529	323	434	148	103	626	1,144	526	139	48.0	451	306
Max	2,110	1,040	2,260	351	152	2,960	3,310	1,300	268	89	4,550	1,030
Min	125	172	160	92	83	92	268	186	74	21	20	99
Cfsm	3.70	2.26	3.03	1.03	0.72	4.38	8.00	3.68	0.97	0.34	3.16	2.14
In.	4.26	2.52	3.50	1.19	0.75	5.05	8.93	4.24	1.08	0.39	3.64	2.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	174	256	242	165	137	369	865	453	202	112	93.4	98.1
Max	809	739	714	508	402	2,473	1,575	962	627	518	628	816
(WY)	(2006)	(1960)	(1974)	(2006)	(1970)	(1936)	(1969)	(1940)	(2005)	(1973)	(2008)	(1938)
Min	18.2	59.1	34.6	26.0	37.8	52.9	374	141	47.4	21.8	15.2	17.6
(WY)	(1948)	(1953)	(1948)	(1948)	(1948)	(1940)	(2006)	(1941)	(1964)	(1933)	(2002)	(1963)

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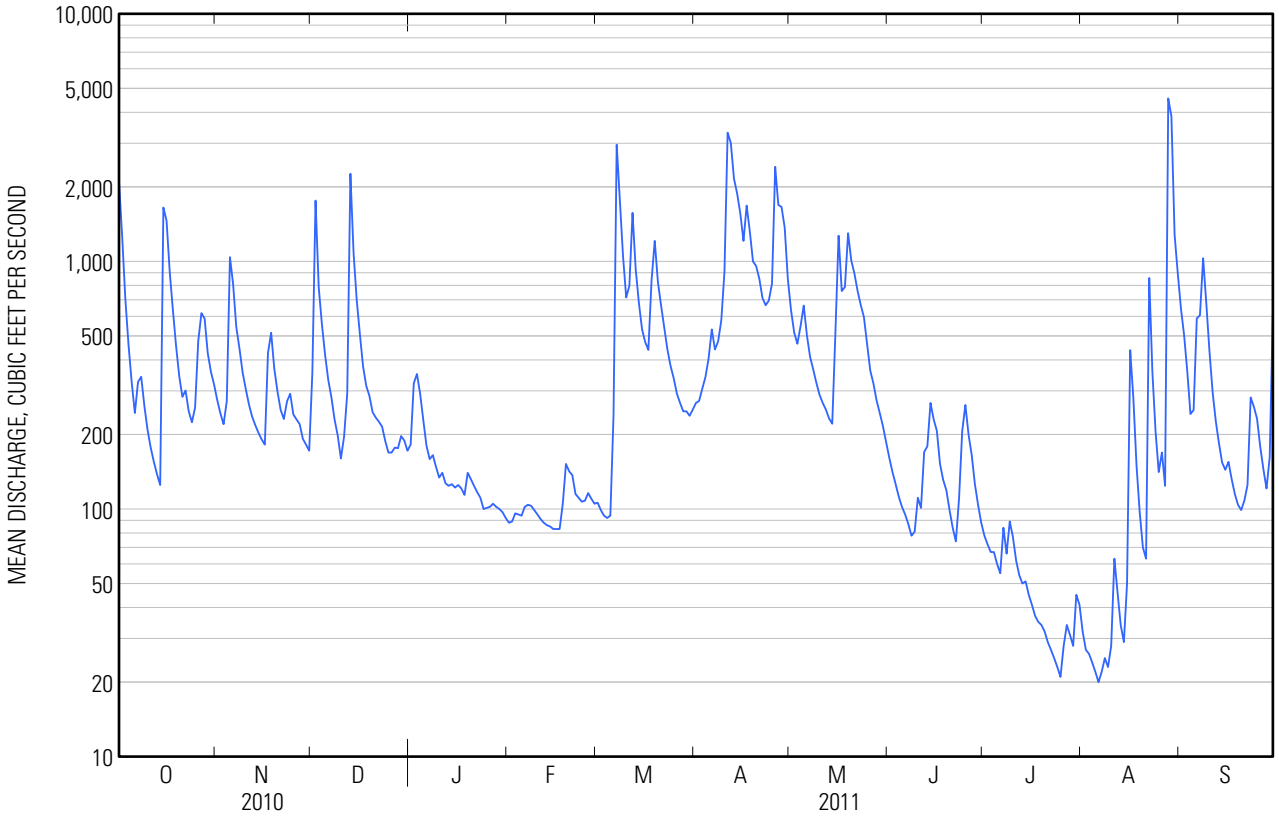
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1929 - 2011	
Annual total	109,096		145,879			
Annual mean	299		400		264	
Highest annual mean					401	2006
Lowest annual mean					121	1965
Highest daily mean	2,260	Dec 13	4,550	Aug 28	12,600	Mar 19, 1936
Lowest daily mean	25	Aug 21	20	Aug 6	9.3	Sep 11, 2002
Annual seven-day minimum	26	Sep 7	23	Aug 3	11	Sep 5, 2002
Maximum peak flow			[a]11,300	Aug 28	[a]21,400	Jun 15, 1942
Maximum peak stage			13.99	Aug 28	15.50	Jun 15, 1942
Instantaneous low flow			20	Aug 5[b]	[c]6.5	Dec 4, 1947
Annual runoff (cfsm)	2.09		2.79		1.84	
Annual runoff (inches)	28.38		37.95		25.07	
10 percent exceeds	703		907		633	
50 percent exceeds	191		220		120	
90 percent exceeds	42		61		34	

[a] From rating curve extended above 3,800 ft³/s on basis of slope-area measurements.
[b] Also Aug. 6 and 7.
[c] Result of freeze up.