04288000 MAD RIVER NEAR MORETOWN, VT

Richelieu Basin
Winooski Subbasin

LOCATION.--Lat 44°16′38″, long 72°44′35″ referenced to North American Datum of 1927, Washington County, Hydrologic Unit 02010003, on left bank, at downstream side of Munns Road bridge, 0.4 mi downstream of Welder Brook, 2.0 mi northeast of Moretown Mountain Road and State Highway 100B intersection in Moretown, 3.2 mi west of State Highway 100B bridge across Winooski River in Middlesex, and 3.8 mi upstream from mouth.

DRAINAGE AREA.--139.00 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: October 1928 to current year.

REVISED RECORDS.--WSP 744: Drainage area. WSP 854: 1934(M). WSP 1114: 1929, 1930(M), 1936-37.

GAGE.--Water-stage recorder. Concrete control since October 13, 1933. Datum of gage is 543.93 ft above National Geodetic Vertical Datum of 1929 (levels by Vermont Department of Highway). July 6 to November 4, 1910, nonrecording gage at same site at different datum. November 20, 1928 to September 27, 1930, nonrecording gage at same site at present datum.

COOPERATION.--Vermont Department of Environmental Conservation.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional diurnal fluctuation at low flow; much greater regulation prior to 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1830, 23,000 ft^3/s, November 3, 1927, gage height, 19.4 ft, from floodmarks, by computation of peak flow over dam at gage heights 9.98 ft, 11.51 ft, 16.34 ft, 19.4 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,400 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 29	0000	*5,000	8.11
Mar 15	1215	Ice jam	*13.52
Mar 23	0300	Ice jam	8.15
Apr 24	0815	3,560	6.95
Jul 19	2300	3,680	7.05

Minimum discharge, 23 ft^3/s, on several days, gage height, 2.46 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	338	616	702	e300	e167	e122	541	635	145	33	75	30
2	491	548	1,640	e305	e163	e120	676	516	133	32	67	27
3	238	448	612	371	e154	e119	800	451	156	36	62	26
4	174	377	461	309	e145	e116	678	388	139	34	57	25
5	315	333	368	351	e135	e114	529	352	277	59	53	23
6	223	305	349	1,660	e124	e107	432	320	156	52	64	26
7	173	285	315	1,020	e126	e100	369	291	122	41	73	25
8	150	280	289	1,000	e124	e100	330	293	106	172	64	23
9	134	357	e288	796	e120	e104	311	324	99	646	64	35
10	120	326	e273	532	e122	e109	295	336	94	468	53	74
11	106	279	234	e420	e116	e115	300	344	98	1,270	48	53
12	141	301	228	e410	e115	e132	323	302	106	1,030	45	86
13	230	356	246	481	e111	e128	312	238	115	328	83	32
14	216	543	350	379	e112	e175	349	208	103	224	59	32
15	176	549	305	427	e116	e1,000	385	222	93	175	46	112
16	158	406	315	e365	e123	e644	1,340	664	86	147	43	87
17	146	910	295	e290	e126	e448	1,320	759	83	115	49	49
18	388	535	271	e308	e118	e373	1,200	402	88	147	60	39
19	400	410	249	e315	e112	e320	1,460	325	85	654	66	34
20	1,010	348	230	e287	e107	e286	1,520	298	95	1,270	46	31
21	1,610	305	225	e262	e110	e256	1,720	281	68	534	40	29
22	629	282	212	e257	e112	e315	1,850	241	64	302	38	28
23	625	266	405	e245	e114	e1,120	2,520	209	94	216	36	26
24	632	251	561	e235	e113	778	2,690	186	58	174	44	24
25	708	227	379	e220	e108	719	1,200	166	49	149	43	24
26	662	215	371	e205	e110	714	816	156	46	123	45	23
27	459	208	419	e200	e115	1,480	786	159	42	119	41	28
28	1,750	197	318	e203	e125	1,570	808	177	41	164	36	84
29	2,240	190	286	e184	---	857	792	165	37	120	34	56
30	825	187	430	e180	---	644	787	160	34	103	32	42
31	612	---	e345	e170	---	585	---	150	---	91	32	---
Total	16,079	10,840	11,971	12,687	3,443	13,770	27,439	9,718	2,912	9,028	1,598	1,233
Mean	519	361	386	409	123	444	915	313	97.1	291	51.5	41.1
Max	2,240	910	1,640	1,660	167	1,570	2,690	759	277	1,270	83	112
Min	106	187	212	170	107	100	295	150	34	32	32	23
Cfsm	3.73	2.60	2.78	2.94	0.88	3.20	6.58	2.26	0.70	2.10	0.37	0.30
In.	4.30	2.90	3.20	3.40	0.92	3.69	7.34	2.60	0.78	2.42	0.43	0.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	192	266	242	200	175	384	792	432	187	109	102	103
Max	756	596	705	608	956	1,324	1,415	1,114	840	367	734	588
(WY)	(2006)	(2006)	(1974)	(1998)	(1981)	(1936)	(1969)	(1940)	(1947)	(1998)	(1976)	(1938)
Min	22.1	65.5	73.0	35.9	40.8	76.9	258	142	46.2	22.8	20.6	22.5
(WY)	(1964)	(1954)	(1948)	(1981)	(1931)	(1956)	(1995)	(1941)	(1965)	(1933)	(2001)	(1963)

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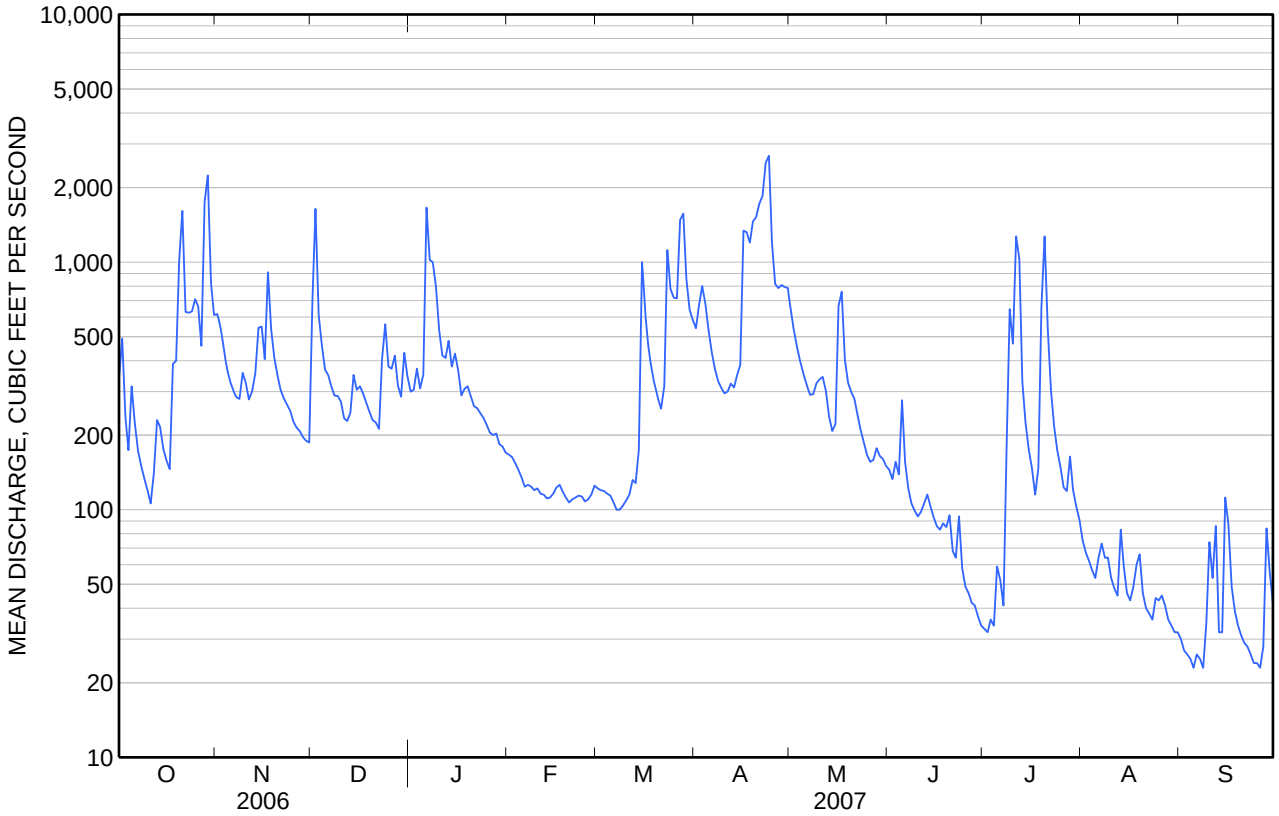
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1929 - 2007	
Annual total	142,742		120,718			
Annual mean	391		331		265	
Highest annual mean					430	1976
Lowest annual mean					133	1965
Highest daily mean	3,860	May 20	2,690	Apr 24	6,410	Jun 3, 1947
Lowest daily mean	39	Sep 28	23	Sep 5 [a]	2.9	Aug 18, 1929
Annual seven-day minimum	46	Sep 22	25	Sep 2	4.6	Aug 17, 1929
Maximum peak flow			5,000	Oct 29	[b]18,400	Sep 22, 1938
Maximum peak stage			[c]13.52	Mar 15	16.34	Sep 22, 1938
Instantaneous low flow			23	Sep 5 [d]	1.4	Oct 1, 1930
Annual runoff (cfsm)	2.81		2.38		1.91	
Annual runoff (inches)	38.20		32.31		25.93	
10 percent exceeds	710		767		598	
50 percent exceeds	273		212		140	
90 percent exceeds	93		41		39	

[a] Also Sept.8,26.
[b] From rating curve extended above 6,300 ft/s on basis of computation of flow over dam at gage-heights 9.98ft., 11.51ft., and 19.4ft.
[c] Ice Jam.
[d] Also Sept.6,8,9,24-27.