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 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 poor. 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 (*):

[#, value is write-protected with a "1"]

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 1	1330	9,140	11.00
Mar 6	1600	4,390	7.63
Apr 11	2330	6,390	9.14
Apr 20	1230	4,770	7.93
Apr 27	0515	5,380	8.40
Apr 28	1815	4,410	7.65
May 16	2230	4,890	8.02
May 20	1915	3,840	7.18
May 27	0545	4,990	8.10
Aug 28	2015	*24,200	*a19.26

Minimum discharge, 29 ft^3/s, Aug. 6, 7, gage height, 2.54 ft [a, from floodmarks].

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 04288000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/04288000.2011.pdf

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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	e5,220	350	847	e240	e125	e125	279	723	541	241	39	246
2	1,230	312	1,380	e450	e125	e125	292	619	438	199	35	193
3	557	277	614	e370	e130	e120	335	600	412	202	33	155
4	375	311	458	e320	e125	e120	364	1,120	323	186	32	128
5	302	778	376	e270	e125	e120	868	1,030	276	148	31	244
6	311	560	323	e230	e130	e1,710	738	766	255	167	30	1,110
7	697	405	306	206	e130	e1,200	533	604	216	368	32	601
8	478	402	e270	202	e125	e710	553	516	187	177	61	709
9	462	509	e240	200	e120	e550	670	441	294	147	47	440
10	325	540	e210	e185	e115	e490	1,160	388	380	126	358	276
11	266	414	e260	e175	e115	e800	5,060	354	402	109	193	207
12	226	357	e300	e165	e115	e1,000	3,650	328	758	e100	85	175
13	198	331	2,210	e190	e115	e640	1,670	306	536	e105	62	138
14	178	311	e820	e175	e120	e500	1,270	301	429	122	50	135
15	1,440	289	e520	e165	e125	e410	950	811	342	84	201	152
16	1,520	274	e430	e180	e120	e400	742	2,550	255	e75	722	181
17	956	776	e390	e145	e125	e430	1,670	1,780	209	e70	298	119
18	603	684	e350	e155	e155	e1,600	1,070	882	304	e80	146	102
19	448	458	e320	e170	e260	1,290	782	955	252	e90	102	94
20	368	377	e300	e155	e165	e720	2,060	1,210	183	e70	81	94
21	370	320	e270	e155	e165	587	1,320	1,090	156	e55	72	e112
22	385	328	e250	e140	e150	487	825	748	141	e50	126	e104
23	298	426	e230	e140	e150	411	769	575	486	45	79	e104
24	290	377	e210	e135	e145	e365	901	478	936	43	65	236
25	366	295	e190	e150	e145	336	943	389	671	41	61	201
26	510	330	e180	e145	e140	e285	1,920	543	533	64	106	e155
27	835	303	e175	e145	e135	e270	3,030	2,610	463	83	69	e144
28	565	248	e185	e130	e130	e255	3,130	1,120	317	52	e6,840	e134
29	429	235	e190	e130	---	e245	1,630	1,070	262	45	3,850	e190
30	426	227	e190	e130	---	249	946	1,620	275	58	689	813
31	436	---	e200	e125	---	268	---	723	---	46	366	---
Total	21,070	11,804	13,194	5,873	3,825	16,818	40,130	27,250	11,232	3,448	14,961	7,692
Mean	680	393	426	189	137	543	1,338	879	374	111	483	256
Max	5,220	778	2,210	450	260	1,710	5,060	2,610	936	368	6,840	1,110
Min	178	227	175	125	115	120	279	301	141	41	30	94
Cfsm	4.89	2.83	3.06	1.36	0.98	3.90	9.62	6.32	2.69	0.80	3.47	1.84
In.	5.64	3.16	3.53	1.57	1.02	4.50	10.74	7.29	3.01	0.92	4.00	2.06

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	197	269	249	204	175	391	798	433	191	118	112	104
Max	756	596	705	608	956	1,324	1,415	1,114	840	474	734	588
(WY)	(2006)	(2006)	(1974)	(1998)	(1981)	(1936)	(1969)	(1940)	(1947)	(2009)	(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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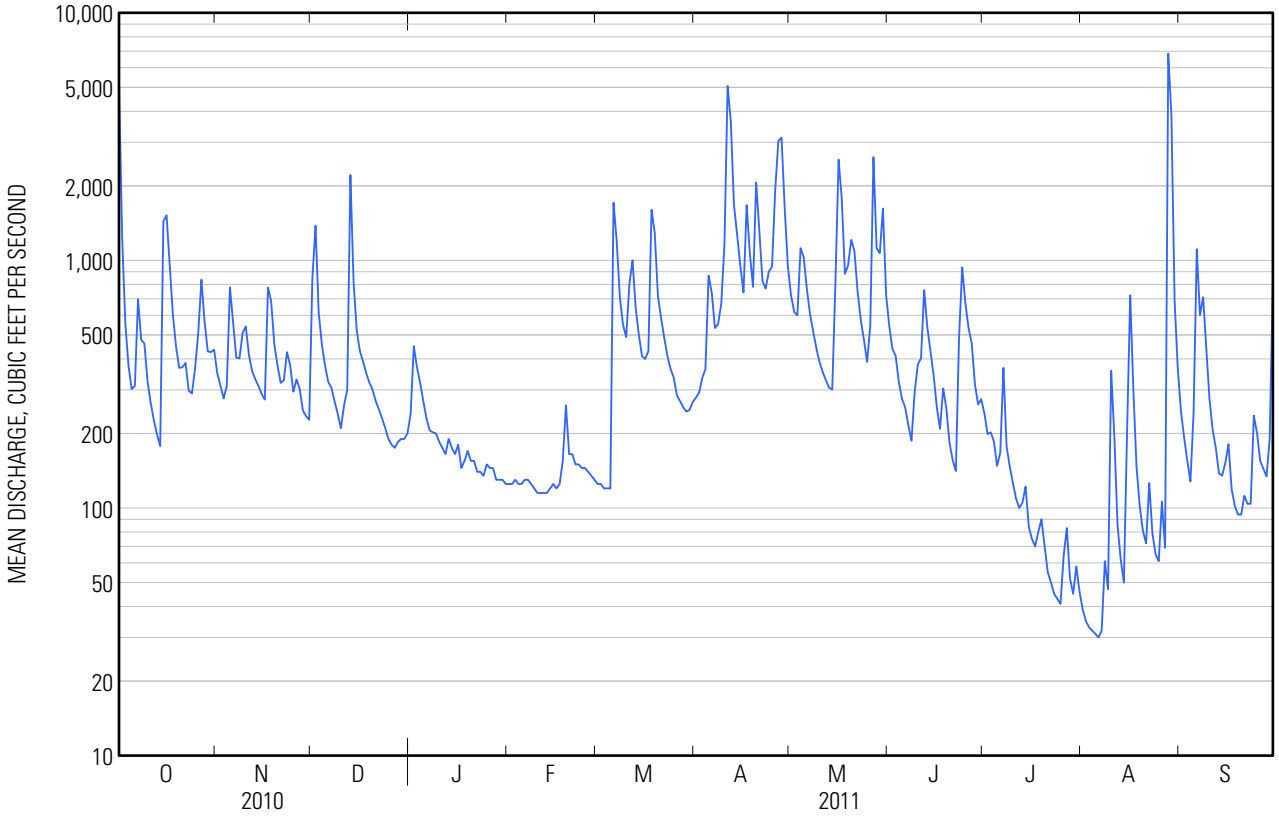
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1929 - 2011	
Annual total	128,346		177,297			
Annual mean	352		486		270	
Highest annual mean					486	2011
Lowest annual mean					133	1965
Highest daily mean	[a]5,220	Oct 1	[a]6,840	Aug 28	[a]6,840	Aug 28, 2011
Lowest daily mean	34	Sep 6[b]	30	Aug 6	2.9	Aug 18, 1929
Annual seven-day minimum	38	Sep 2	33	Aug 1	4.6	Aug 17, 1929
Maximum peak flow			[c]24,200	Aug 28	[c]24,200	Aug 28, 2011
Maximum peak stage			[d]19.26	Aug 28	[d]19.26	Aug 28, 2011
Instantaneous low flow			29	Aug 6[e]	1.4	Oct 1, 1930
Annual runoff (cfsm)	2.53		3.49		1.94	
Annual runoff (inches)	34.35		47.45		26.40	
10 percent exceeds	777		1,010		605	
50 percent exceeds	223		285		142	
90 percent exceeds	80		94		40	

[a] Estimated.
[b] Also Sep 7, 2010.
[c] From rating curve extended above 7,700 ft³/s on basis of computation of flow over dam at gage heights 9.98 ft, 11.51 ft, 16.34 ft, and 19.4 ft and slope-area computation of flow at gage height 19.26 ft.
[d] From floodmarks.
[e] Also Aug 7.