Water-Data Report 2009

04293500 MISSISQUOI RIVER NEAR EAST BERKSHIRE, VT

Richelieu Basin
Missisquoi Subbasin

LOCATION.--Lat 44°57′36″, long 72°41′49″ referenced to North American Datum of 1927, Franklin County, Hydrologic Unit 02010007, on left bank, 0.4 mi upstream of State Highway 105 bridge, 1.9 mi north of intersection of State Highways 105 and 118 in East Berkshire, 1.9 mi upstream from Trout River, 2.6 mi southwest of Town Hall in Richford, and 3.6 mi downstream from North Branch.

DRAINAGE AREA.--479 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: July 1911 to September 1923, October 1928 to current year. Monthly discharge only for July1911 to July 1915, September 1916, March 1920 to July 1920, March 1921 to July 1921, published in WSP 1307. Prior to October1977, published as "near Richford."

REVISED RECORDS.--WSP 784: Drainage area. WSP 1237: 1913-14(M), 1922(M), 1923, 1929-30. WSP 1307: 1916(M). WSP 1437: 1912.

GAGE.--Water-stage recorder. Elevation of gage is 410 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to August 1, 1915, nonrecording gage at site 0.2 mi downstream at datum 4.35 ft lower. August 1, 1915 to September 30, 1923, water-stage recorder at present site and datum. October 1, 1928 to September 30, 1929, nonrecording gage at former site at datum 4.6 ft lower.

COOPERATION.--Vermont Department of Environmental Conservation.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diurnal fluctuation at low flow prior to 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1830, 45,000 ft^3/s during flood of November 1927, gage height, 23.1 ft, from floodmarks, from rating curve extended above 14,100 ft^3/s on basis of computation of peak flow over dam at gage height 14.70 ft, slope-area measurement at gage height 12.90 ft, and study of discharge per foot of width at measuring section.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,600 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 19	1645	Ice Jam	*12.37
Apr 05	0230	*6,200	8.77

Minimum discharge, 84 ft^3/s, Sept. 13, gage height, 2.00 ft.

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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	263	1,400	900	e1,170	e515	e1,890	3,340	981	753	2,310	1,320	262
2	1,060	1,220	1,130	e1,040	e505	e1,480	2,780	1,260	677	1,080	877	201
3	1,200	899	948	e930	e500	e1,210	3,700	1,050	571	1,410	973	163
4	737	824	806	e840	e500	e1,150	5,630	783	468	4,890	729	144
5	526	893	839	e780	e495	e900	5,870	644	391	5,430	731	131
6	399	763	688	e700	e490	e790	4,070	598	333	3,440	1,040	120
7	316	680	e670	e660	e510	e1,250	4,620	840	290	2,060	602	111
8	260	746	e525	e610	e550	e2,180	3,840	1,680	261	1,920	529	107
9	302	1,170	e660	e560	e605	e2,800	2,430	1,860	288	1,840	427	103
10	321	1,490	e1,630	e530	e570	e1,900	1,790	4,870	649	1,310	386	97
11	277	1,420	e2,050	e515	e470	e2,300	1,490	4,420	598	896	723	91
12	233	1,100	e1,560	e485	e910	e3,000	1,300	2,240	586	1,560	1,390	87
13	215	885	e1,030	e455	e1,780	e2,600	1,110	1,370	850	1,240	847	88
14	203	902	e960	e435	e1,550	e2,100	972	1,020	547	962	622	92
15	189	959	e1,200	e405	e1,240	e1,720	928	1,060	416	800	472	142
16	189	1,560	e2,290	e380	e990	e1,900	924	991	745	656	375	136
17	213	1,540	e1,600	e365	e710	e2,300	916	2,670	649	1,000	313	112
18	215	1,100	e1,260	e400	e780	e2,800	1,090	1,840	405	1,250	285	107
19	214	873	e1,000	e450	e750	e3,400	1,180	1,150	478	1,460	386	140
20	197	676	e820	e510	e690	e2,970	962	887	574	858	278	124
21	198	e570	e790	e550	e650	e1,830	897	746	470	612	230	103
22	365	e540	e770	e540	e625	e1,450	939	615	416	639	221	93
23	488	e530	e740	e535	e600	e1,200	1,050	520	349	756	229	101
24	370	e560	e830	e520	e575	e1,050	1,030	456	296	569	236	186
25	353	e610	e1,010	e510	e585	e990	927	405	261	487	221	198
26	2,180	e1,420	e1,250	e495	e570	e1,080	1,100	358	510	467	195	146
27	1,930	1,660	e1,090	e490	e640	e1,820	922	329	548	515	174	127
28	1,210	1,090	e2,120	e490	e2,180	e2,300	864	407	409	471	156	863
29	2,900	927	e3,740	e515	---	e3,500	1,020	695	2,190	399	151	811
30	1,880	778	e2,500	e540	---	5,320	773	1,110	4,250	405	199	632
31	1,250	---	e1,700	e530	---	5,120	---	768	---	708	337	---
Total	20,653	29,785	39,106	17,935	21,535	66,300	58,464	38,623	20,228	42,400	15,654	5,818
Mean	666	993	1,261	579	769	2,139	1,949	1,246	674	1,368	505	194
Max	2,900	1,660	3,740	1,170	2,180	5,320	5,870	4,870	4,250	5,430	1,390	863
Min	189	530	525	365	470	790	773	329	261	399	151	87
Cfsm	1.39	2.07	2.63	1.21	1.61	4.46	4.07	2.60	1.41	2.86	1.05	0.40
In.	1.60	2.31	3.04	1.39	1.67	5.15	4.54	3.00	1.57	3.29	1.22	0.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	812	1,053	877	681	524	1,373	2,964	1,309	720	441	387	411
Max	2,708	2,385	2,330	2,284	2,439	4,013	4,882	3,187	2,509	1,671	1,631	1,365
(WY)	(2006)	(1984)	(1984)	(1998)	(1981)	(1936)	(1969)	(1940)	(2002)	(1974)	(2004)	(1954)
Min	87.4	241	270	157	115	240	922	453	175	86.0	63.3	57.5
(WY)	(1949)	(1954)	(1956)	(1918)	(1980)	(1941)	(1995)	(1977)	(1999)	(1991)	(1934)	(1921)

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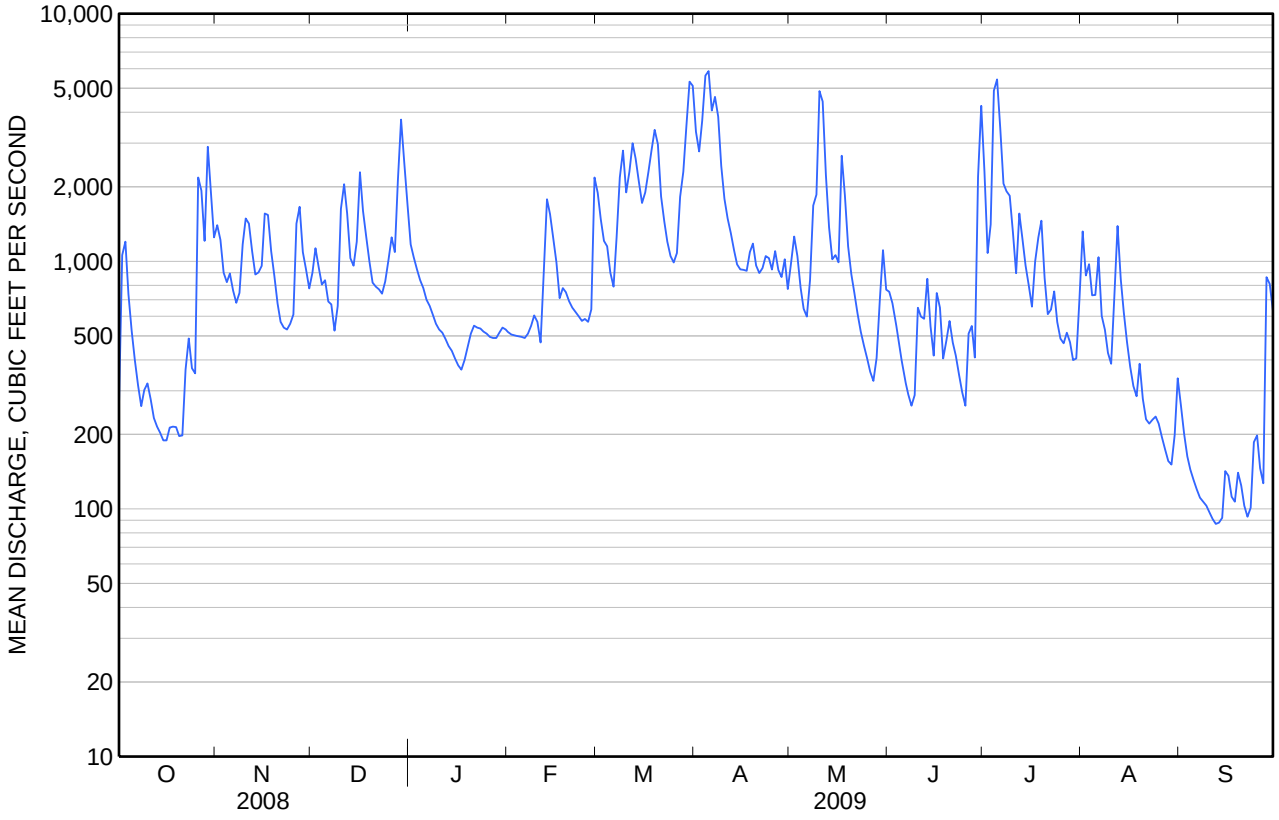
SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1915 - 2009	
Annual total	460,129		376,501			
Annual mean	1,257		1,032		962	
Highest annual mean					1,545	2006
Lowest annual mean					580	1965
Highest daily mean	7,240	Apr 13	5,870	Apr 5	18,200	Mar 31, 1998
Lowest daily mean	132	Sep 26	87	Sep 12	28	Aug 20, 1919
Annual seven-day minimum	149	Sep 2	95	Sep 8	39	Aug 22, 1934
Maximum peak flow			6,200	Apr 5	21,200	Apr 18, 1982
Maximum peak stage			[a]12.37	Mar 19	[a]18.92	Mar 15, 1946
Instantaneous low flow			84	Sep 13	8.0	Jul 14, 1911
Annual runoff (cfsm)	2.62		2.15		2.01	
Annual runoff (inches)	35.73		29.24		27.29	
10 percent exceeds	3,090		2,180		2,300	
50 percent exceeds	814		746		485	
90 percent exceeds	234		209		149	

[a] Ice jam.