Water-Data Report 2007

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 July 1911 to July 1915, September 1916, March 1920 to July 1920, March 1921 to July 1921, published in WSP 1307. Prior to October 1977, 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)
Oct 20	2345	*9,030	10.69
Jan 6	1600	7,600	9.74
Mar 15	1845	Ice jam	12.05
Mar 23	2315	Ice jam	10.31
Mar 27	1445	Ice jam	*15.20

Minimum discharge, 130 ft^3/s, Sept. 7, 8, 9, gage height, 2.20 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	986	2,180	1,930	e1,130	e415	e265	e2,200	2,320	876	294	196	222
2	776	1,730	5,660	e1,470	e400	e270	e2,460	1,680	921	242	165	189
3	770	1,260	3,970	e1,300	e385	e268	e3,750	1,280	784	250	259	170
4	687	1,080	1,920	e1,060	e365	e270	e4,460	1,040	613	244	1,720	155
5	1,770	916	e1,300	e1,300	e350	e272	3,530	869	864	238	551	143
6	1,220	821	e1,060	5,710	e310	e255	2,460	753	1,840	269	673	137
7	825	755	e1,000	6,270	e280	e235	1,820	678	1,080	291	1,750	133
8	652	734	e875	4,480	e295	e240	1,470	645	773	367	1,450	131
9	544	927	e805	3,520	e275	e240	1,270	641	612	611	1,550	132
10	470	957	e900	2,280	e280	e255	1,130	613	495	1,220	679	140
11	414	867	e842	1,280	e280	e275	1,060	572	430	843	428	157
12	404	2,070	814	1,230	e280	e285	1,190	514	371	1,250	328	612
13	514	2,050	861	1,410	e275	e295	1,220	429	311	1,070	395	635
14	499	2,110	1,300	1,290	e260	e445	1,310	376	268	981	436	346
15	430	3,110	1,390	e1,100	e270	e4,250	1,730	368	240	726	326	513
16	387	2,230	1,510	e750	e278	e4,440	3,730	2,740	218	588	305	887
17	359	2,120	1,440	e660	e282	e3,550	4,270	6,470	216	425	532	619
18	1,630	1,950	1,180	e610	e279	e2,500	3,830	5,120	278	320	435	403
19	2,220	1,350	992	e650	e277	e1,900	4,230	2,330	252	306	362	305
20	3,770	1,080	832	e640	e270	e1,400	4,530	1,430	266	407	297	248
21	8,110	926	744	e620	e268	e1,030	4,810	1,120	332	578	241	216
22	6,450	804	e690	e615	e270	e1,380	5,100	960	319	482	205	195
23	4,160	722	1,800	e620	e274	e2,400	5,560	773	577	328	183	176
24	3,640	676	3,450	e610	e272	e3,880	6,420	639	378	263	451	159
25	3,530	626	2,360	e580	e270	e2,900	5,690	545	259	228	961	147
26	3,080	591	1,760	e545	e265	e2,100	3,220	462	216	198	898	142
27	2,110	588	1,610	e525	e260	e3,020	2,170	404	191	176	565	139
28	2,140	676	e1,070	e510	e262	e4,900	2,100	990	454	193	387	462
29	5,860	698	e880	e490	---	e3,650	2,210	862	713	304	291	426
30	4,560	652	e690	e460	---	e2,600	2,340	576	435	362	247	341
31	2,560	---	e830	e445	---	e2,300	---	567	---	238	235	---
Total	65,527	37,256	46,465	44,160	8,247	52,070	91,270	38,766	15,582	14,292	17,501	8,680
Mean	2,114	1,242	1,499	1,425	295	1,680	3,042	1,251	519	461	565	289
Max	8,110	3,110	5,660	6,270	415	4,900	6,420	6,470	1,840	1,250	1,750	887
Min	359	588	690	445	260	235	1,060	368	191	176	165	131
Cfsm	4.41	2.59	3.13	2.97	0.61	3.51	6.35	2.61	1.08	0.96	1.18	0.60
In.	5.09	2.89	3.61	3.43	0.64	4.04	7.09	3.01	1.21	1.11	1.36	0.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	810	1,049	872	673	519	1,367	2,963	1,317	711	424	373	416
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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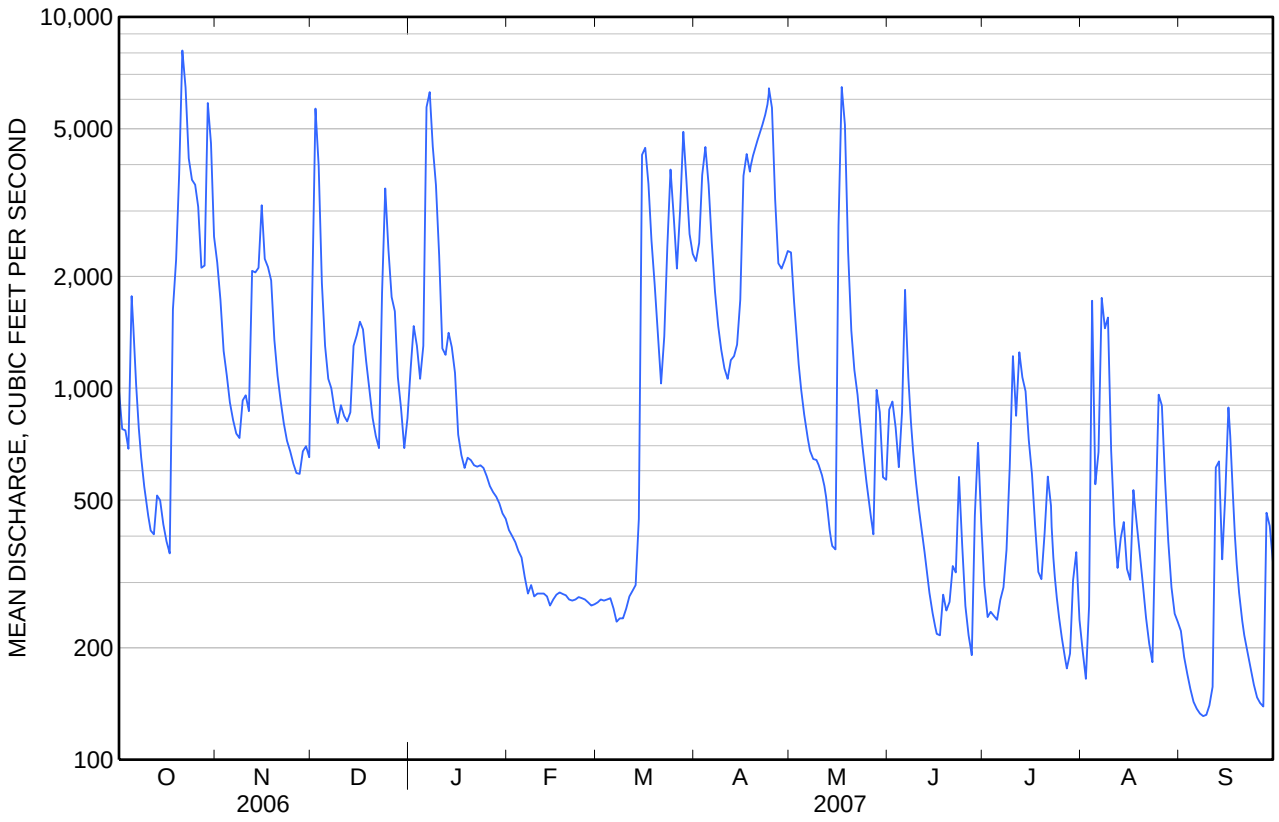
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1915 - 2007	
Annual total	536,620		439,816			
Annual mean	1,470		1,205		957	
Highest annual mean					1,545	2006
Lowest annual mean					580	1965
Highest daily mean	13,400	May 20	8,110	Oct 21	18,200	Mar 31, 1998
Lowest daily mean	187	Sep 19	131	Sep 8	28	Aug 20, 1919
Annual seven-day minimum	213	Sep 13	139	Sep 4	39	Aug 22, 1934
Maximum peak flow			9,030	Oct 20	21,200	Apr 18, 1982
Maximum peak stage			[a]15.20	Mar 27	[a]18.92	Mar 15, 1946
Instantaneous low flow			130	Sep 7[b]	8.0	Jul 14, 1911
Annual runoff (cfsm)	3.07		2.52		2.00	
Annual runoff (inches)	41.67		34.16		27.15	
10 percent exceeds	3,420		3,310		2,290	
50 percent exceeds	916		652		480	
90 percent exceeds	302		240		148	

[a] Ice jam.
[b] Also Sept.8,9.