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)
Oct 1	1900	10,400	11.55
Oct 16	0545	9,210	10.81
Mar 19	1615	Ice Jam	*14.25
Apr 12	1030	13,300	13.34
Apr 28	1100	14,500	13.99
May 29	1245	7,600	9.74
Aug 29	0200	*14,700	14.12

Minimum discharge, 115 ft^3/s, Aug. 7, 8, gage height, 2.18 ft.

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 04293500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/04293500.2011.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	8,320	1,360	1,650	e1,160	e306	e345	1,040	2,790	1,650	713	200	1,140
2	9,170	1,100	4,920	e3,250	e314	e360	1,120	1,910	1,160	522	163	669
3	5,430	946	3,940	2,850	e304	e335	1,400	2,250	896	406	157	476
4	2,060	864	1,890	e1,620	e321	e350	1,610	5,610	716	914	163	463
5	1,250	2,370	1,330	e1,030	e347	e380	4,500	5,890	600	483	144	4,500
6	841	3,180	1,040	e804	e335	e1,990	4,780	4,270	537	493	128	5,830
7	1,130	1,860	783	e650	e337	e2,940	3,040	2,660	479	818	120	4,960
8	1,770	1,520	e859	e559	e332	e2,180	2,530	1,860	424	504	125	3,250
9	2,580	2,990	e816	e543	e330	e1,650	2,930	1,420	386	428	125	2,090
10	1,720	2,590	e778	e480	e332	e1,330	4,230	1,140	371	339	136	1,290
11	1,060	1,730	e819	e451	e322	e1,450	9,720	956	392	275	192	850
12	812	1,290	e1,030	e427	e312	e2,580	13,100	825	346	270	187	603
13	680	1,060	e4,540	e430	e310	e2,310	11,000	728	491	268	145	503
14	615	931	4,760	e451	e310	e1,820	7,410	703	481	256	198	1,900
15	2,730	845	2,810	e437	e332	e1,580	5,000	2,400	409	221	310	1,870
16	8,240	773	1,560	e431	e343	e1,480	3,270	5,270	318	188	336	2,270
17	5,620	872	1,300	e417	e332	e1,340	3,060	5,840	265	167	540	1,450
18	2,840	2,100	e1,080	e419	e395	e3,220	3,800	3,580	612	163	340	963
19	1,670	1,600	e1,030	e420	e689	e4,300	2,770	1,940	555	154	260	720
20	1,230	1,100	e948	e408	e740	e2,460	3,120	1,420	370	142	231	645
21	1,230	911	e859	e386	e584	e2,150	4,540	2,080	269	132	174	637
22	1,370	809	e819	e370	e473	e1,770	3,440	1,860	230	1,370	326	571
23	1,090	1,120	e807	e356	e413	e1,560	2,510	1,210	223	580	338	674
24	878	1,320	e724	e346	e373	e1,300	2,370	972	388	278	229	929
25	910	953	e603	e367	e354	1,150	2,800	865	756	196	184	941
26	936	815	e568	e379	e348	986	4,380	799	1,310	184	225	707
27	1,130	852	e557	e372	e348	896	12,600	4,170	903	195	246	547
28	1,210	e769	e553	e347	e339	827	13,800	6,390	567	227	3,880	456
29	962	688	e560	e333	---	805	9,510	7,100	416	192	13,500	468
30	863	679	e566	e317	---	766	5,280	6,030	578	321	9,240	1,830
31	1,450	---	e566	e293	---	851	---	3,230	---	299	2,920	---
Total	71,797	39,997	45,065	21,103	10,575	47,461	150,660	88,168	17,098	11,698	35,462	44,202
Mean	2,316	1,333	1,454	681	378	1,531	5,022	2,844	570	377	1,144	1,473
Max	9,170	3,180	4,920	3,250	740	4,300	13,800	7,100	1,650	1,370	13,500	5,830
Min	615	679	553	293	304	335	1,040	703	223	132	120	456
Cfsm	4.84	2.78	3.03	1.42	0.79	3.20	10.5	5.94	1.19	0.79	2.39	3.08
In.	5.58	3.11	3.50	1.64	0.82	3.69	11.70	6.85	1.33	0.91	2.75	3.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	829	1,060	889	684	522	1,381	2,972	1,322	721	442	400	422
Max	2,708	2,385	2,330	2,284	2,439	4,013	5,022	3,187	2,509	1,671	1,631	1,473
(WY)	(2006)	(1984)	(1984)	(1998)	(1981)	(1936)	(2011)	(1940)	(2002)	(1974)	(2004)	(2011)
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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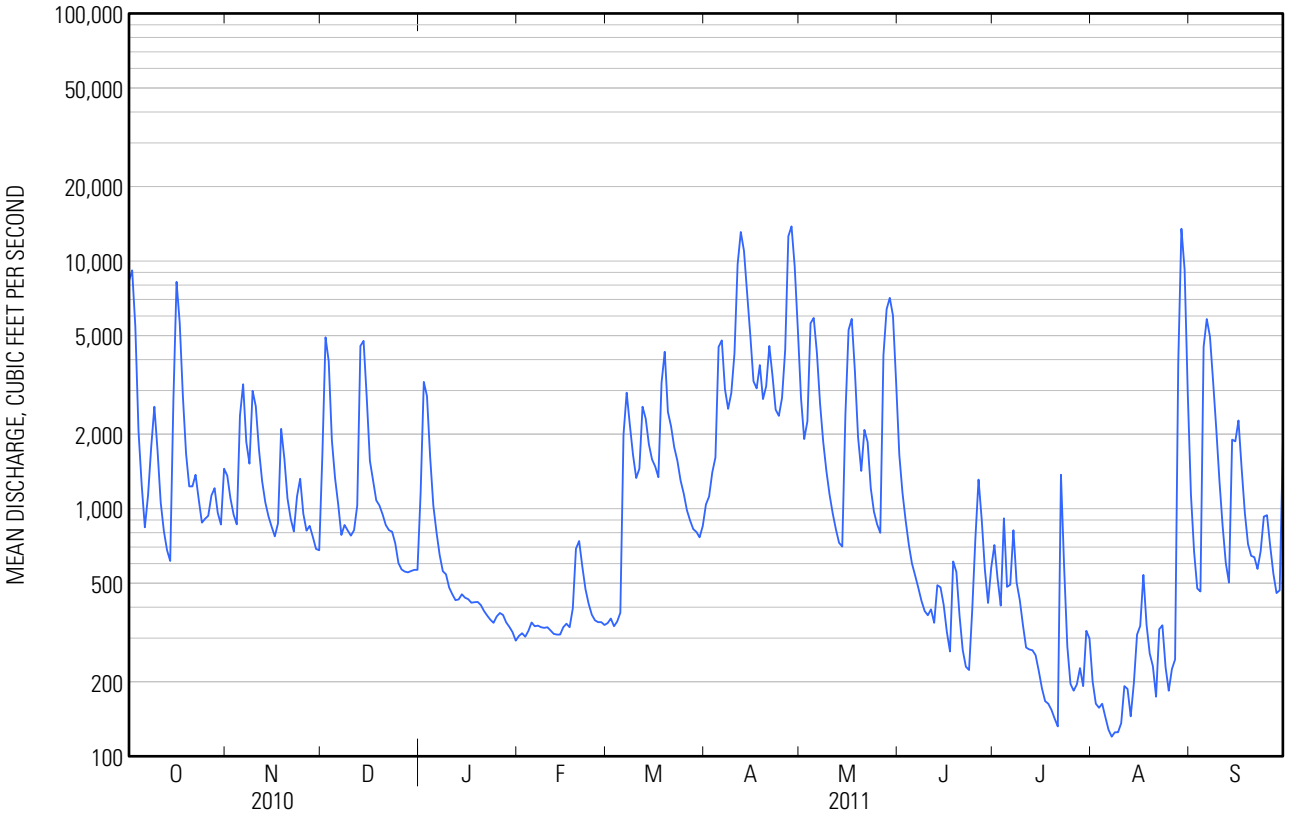
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1915 - 2011	
Annual total	420,075		583,286			
Annual mean	1,151		1,598		970	
Highest annual mean					1,598	2011
Lowest annual mean					580	1965
Highest daily mean	9,170	Oct 2	13,800	Apr 28	18,200	Mar 31, 1998
Lowest daily mean	111	Sep 6	120	Aug 7	28	Aug 20, 1919
Annual seven-day minimum	122	Sep 1	134	Aug 4	39	Aug 22, 1934
Maximum peak flow			14,700	Aug 29	21,200	Apr 18, 1982
Maximum peak stage			[a]14.25	Mar 19	[a]18.92	Mar 15, 1946
Instantaneous low flow			115	Aug 7[b]	8.0	Jul 14, 1911
Annual runoff (cfsm)	2.40		3.34		2.02	
Annual runoff (inches)	32.62		45.30		27.51	
10 percent exceeds	2,510		4,190		2,310	
50 percent exceeds	760		825		490	
90 percent exceeds	247		263		150	

[a] Ice jam.
[b] Also August 8.