Water-Data Report 2011

04285500 NORTH BRANCH WINOOSKI RIVER AT WRIGHTSVILLE, VT

Richelieu Basin
Winooski Subbasin

LOCATION.--Lat 44°17′58″, long 72°34′45″ referenced to North American Datum of 1927, Washington County, Hydrologic Unit 02010003, on right bank, 0.8 mi south of Wrightsville Dam Road and State Highway 12 intersection in Wrightsville, 0.9 mi downstream from Wrightsville Detention Reservoir, 2.6 mi north of the Vermont State Capitol Building in Montpelier, and 3.5 mi upstream from mouth.

DRAINAGE AREA.--69.2 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: October 1933 to current year.

REVISED RECORDS.--WSP 1237: 1934-39.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 549.53 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to November 21, 1934, nonrecording gage at same site, datum then in use. Prior to April 24, 2001, at datum 1.00 ft higher.

COOPERATION.--Vermont Department of Environmental Conservation.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Discharge affected since 1935 by Wrightsville Detention Reservoir (Reservoirs in Winooski River Basin above Montpelier). Flow regulated by power plant at Wrightsville Detention Reservoir since September 1985. Occasional diurnal fluctuation at low flow caused by small mill upstream; more frequent diurnal fluctuation prior to 1968. Maximum discharge since construction of Wrightsville Detention Reservoir in 1935, 1,100 ft^3/s, July 5 and October 24, 1990.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1830, 17,200 ft^3/s, November 3, 1927, by computation of peak flow over dam 0.8 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft^3/s, Apr. 11, gage height, 4.42 ft; minimum daily discharge, 9.5 ft^3/s, July 23, 24, Aug. 6.

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 04285500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/04285500.2011.pdf

04285500 NORTH BRANCH WINOOSKI RIVER AT WRIGHTSVILLE, VT—Continued

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	747	185	237	58	e29	e50	106	863	732	92	15	631
2	784	148	635	131	e29	e47	112	838	722	79	9.7	716
3	654	119	740	175	e30	e35	136	816	479	61	11	734
4	728	117	519	110	e30	e35	169	803	390	77	11	664
5	749	364	242	83	e30	e39	371	795	201	53	10	424
6	506	455	152	e83	e30	e250	506	778	121	37	9.5	494
7	285	275	121	e58	e31	761	329	757	63	78	9.7	433
8	184	199	111	69	e30	591	295	747	47	98	12	406
9	108	193	89	61	e28	328	341	724	46	76	12	381
10	200	211	71	e57	e27	241	609	769	100	46	38	321
11	92	180	81	e54	e26	218	1,020	803	76	36	63	167
12	56	141	82	e50	e26	487	878	796	296	35	32	105
13	56	124	593	e51	e27	453	876	647	323	58	32	88
14	56	111	780	e50	e27	312	875	287	255	58	34	49
15	255	105	507	e50	e29	234	864	334	153	35	52	68
16	699	97	243	e50	e29	182	845	804	86	35	196	104
17	694	203	156	e42	e29	170	837	803	67	35	260	89
18	656	428	e119	e35	e32	372	831	772	115	35	259	e55
19	473	286	e121	e42	e35	753	816	719	127	29	73	e47
20	391	191	e110	e45	e45	577	844	560	67	21	37	e40
21	214	129	94	e36	e130	338	833	528	52	17	33	e42
22	152	117	88	e34	e65	259	817	535	45	12	69	e37
23	114	152	85	e33	e50	197	804	465	75	9.5	33	e35
24	93	182	e78	e75	e50	e151	788	375	214	9.5	33	e60
25	108	122	e74	e33	e50	e143	772	241	347	9.6	33	e145
26	135	128	e73	e34	e50	e124	789	131	378	15	97	e115
27	224	123	e53	e34	e50	e118	857	540	365	35	44	e95
28	291	96	e75	e31	e50	e112	894	747	343	35	266	e35
29	215	87	e52	e31	---	e108	902	753	296	29	672	e80
30	167	79	e52	e30	---	98	889	762	155	20	661	e300
31	214	---	e51	e30	---	102	---	736	---	20	642	---
Total	10,300	5,347	6,484	1,755	1,094	7,885	20,005	20,228	6,736	1,285.6	3,758.9	6,960
Mean	332	178	209	56.6	39.1	254	667	653	225	41.5	121	232
Max	784	455	780	175	130	761	1,020	863	732	98	672	734
Min	56	79	51	30	26	35	106	131	45	9.5	9.5	35
MEAN (adjusted for change in contents in Wrightsville Detention Reservoir)												
	333	178	209	56.2	39.1	255	750	595	202	40.5	154	200
CFSM (adjusted for change in contents in Wrightsville Detention Reservoir)												
	4.81	2.57	3.02	0.81	0.57	3.69	10.84	8.60	2.93	0.59	2.22	2.89
IN. (adjusted for change in contents in Wrightsville Detention Reservoir)												
	5.55	2.87	3.48	0.94	0.59	4.25	12.10	9.92	3.27	0.67	2.56	3.22

04285500 NORTH BRANCH WINOOSKI RIVER AT WRIGHTSVILLE, VT—Continued

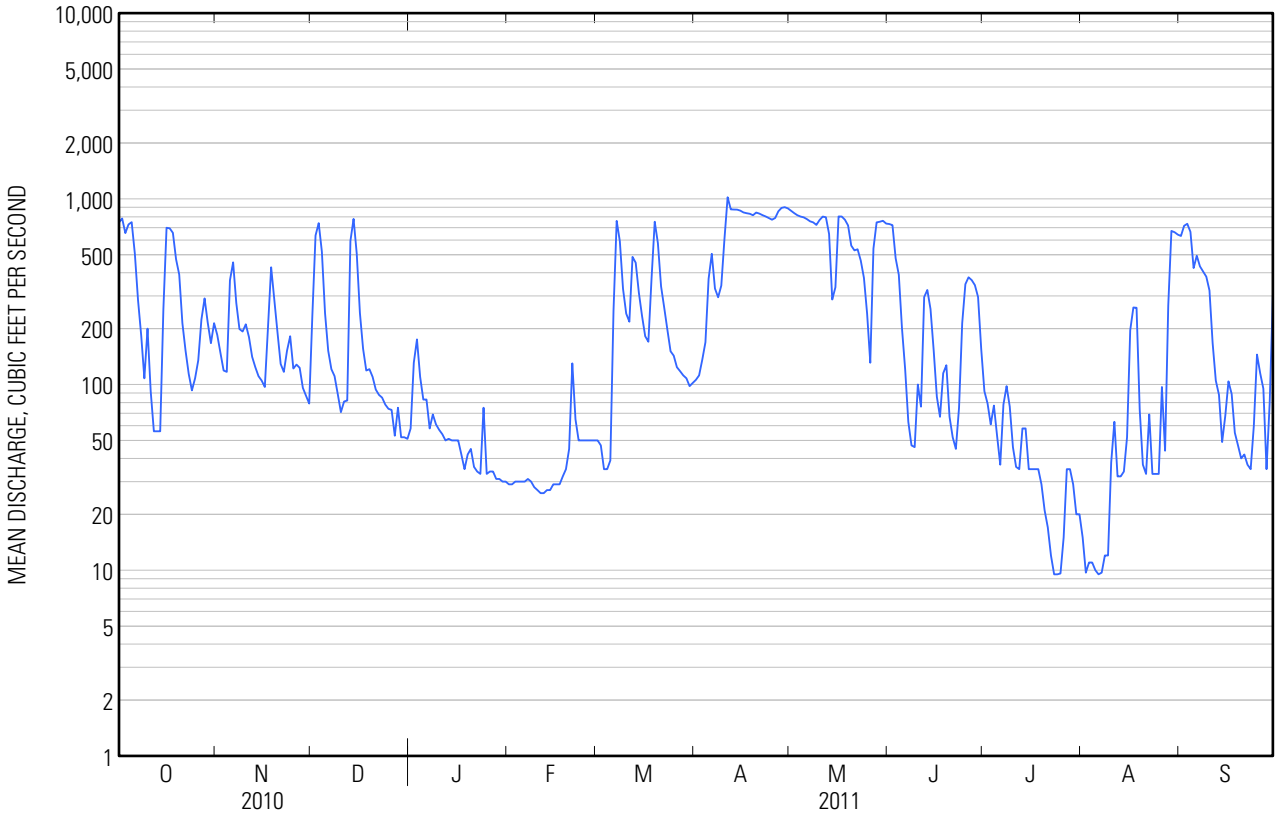
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	117	146	120	90.4	71.2	179	457	244	97.1	58.8	54.9	54.3
Max	437	358	318	301	348	556	765	653	396	283	302	232
(WY)	(1991)	(2004)	(1974)	(2006)	(1981)	(1936)	(2008)	(2011)	(1984)	(2008)	(2008)	(2011)
Min	6.00	25.9	28.0	17.5	14.6	21.4	121	47.3	15.8	7.91	7.95	5.10
(WY)	(1964)	(1954)	(1948)	(1940)	(1980)	(1940)	(1995)	(1941)	(1949)	(1953)	(2001)	(1963)

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1934 - 2011	
Annual total	56,774.9		91,838.5			
Annual mean	156		252		141	
Highest annual mean					252	2011
Lowest annual mean					71.4	1965
Highest daily mean	784	Oct 2	1,020	Apr 11	1,620	Apr 17, 1934
Lowest daily mean	7.0	Sep 7	9.5	Jul 23[a]	0.20	Aug 13, 1941
Annual seven-day minimum	7.5	Sep 2	10	Aug 2	2.8	Aug 14, 1970
Maximum peak flow			1,120	Apr 11	[b]2,170	Apr 12, 1934
Maximum peak stage			4.42	Apr 11	[c]7.53	Apr 12, 1934
10 percent exceeds	391		759		409	
50 percent exceeds	84		117		65	
90 percent exceeds	22		30		14	

[a] Also Jul 24 and Aug 6.
[b] From rating curve extended above 1,100 ft³/s.
[c] At current datum.



04285500 NORTH BRANCH WINOOSKI RIVER AT WRIGHTSVILLE, VT—Continued