

Water-Data Report 2011

04282800 MUNROE BROOK AT SHELburnE, VT

Richelieu Basin
Winooski Subbasin

LOCATION.--Lat 44°24'22", long 73°13'03" referenced to North American Datum of 1983, Chittenden County, Hydrologic Unit 02010003, on right bank, 5 ft upstream from Bay Road bridge, 200 ft southwest of Bay Road and Route 7 intersection, 0.34 mi upstream from mouth, and 1.2 mi north of Shelburne.

DRAINAGE AREA.--5.35 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: July 2010 to October 2011 (discontinued).

GAGE.--Water stage recorder. Elevation of gage is 140 ft above North American Vertical Datum of 1988, from topographic map.

COOPERATION.--Vermont Department of Environmental Conservation and the University of Vermont.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

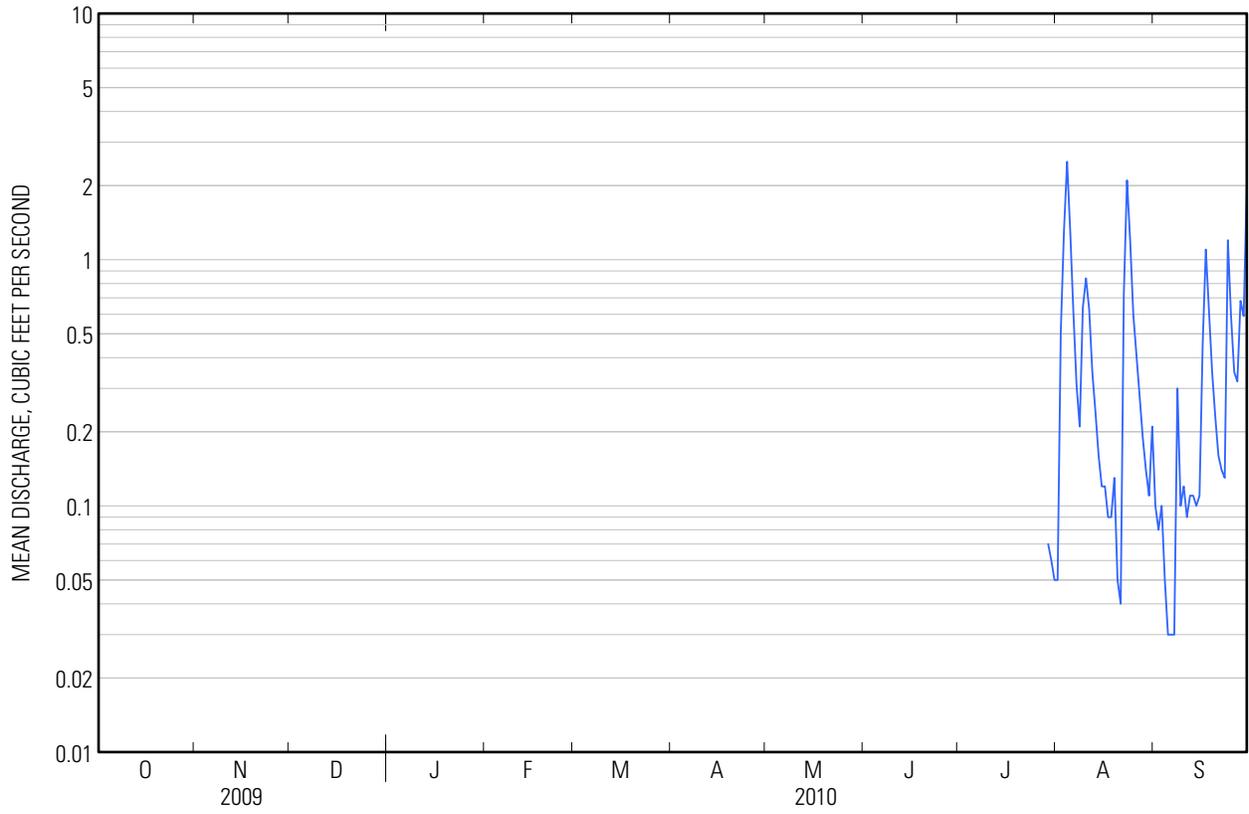
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 336 ft³/s, Apr. 27, gage height, 6.42 ft; minimum discharge, 0.01 ft³/s, Aug. 5, 6, 7, gage height, 1.01 ft.

04282800 MUNROE BROOK AT SHELBURNE, VT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	---	---	---	---	0.05	0.10
2	---	---	---	---	---	---	---	---	---	---	0.51	0.08
3	---	---	---	---	---	---	---	---	---	---	1.3	0.10
4	---	---	---	---	---	---	---	---	---	---	2.5	0.05
5	---	---	---	---	---	---	---	---	---	---	1.3	0.03
6	---	---	---	---	---	---	---	---	---	---	0.61	0.03
7	---	---	---	---	---	---	---	---	---	---	0.31	0.03
8	---	---	---	---	---	---	---	---	---	---	0.21	0.30
9	---	---	---	---	---	---	---	---	---	---	0.64	0.10
10	---	---	---	---	---	---	---	---	---	---	0.84	0.12
11	---	---	---	---	---	---	---	---	---	---	0.63	0.09
12	---	---	---	---	---	---	---	---	---	---	0.35	0.11
13	---	---	---	---	---	---	---	---	---	---	0.24	0.11
14	---	---	---	---	---	---	---	---	---	---	0.16	0.10
15	---	---	---	---	---	---	---	---	---	---	0.12	0.11
16	---	---	---	---	---	---	---	---	---	---	0.12	0.45
17	---	---	---	---	---	---	---	---	---	---	0.09	1.1
18	---	---	---	---	---	---	---	---	---	---	0.09	0.62
19	---	---	---	---	---	---	---	---	---	---	0.13	0.35
20	---	---	---	---	---	---	---	---	---	---	0.05	0.23
21	---	---	---	---	---	---	---	---	---	---	0.04	0.16
22	---	---	---	---	---	---	---	---	---	---	0.73	0.14
23	---	---	---	---	---	---	---	---	---	---	2.1	0.13
24	---	---	---	---	---	---	---	---	---	---	1.2	1.2
25	---	---	---	---	---	---	---	---	---	---	0.60	0.59
26	---	---	---	---	---	---	---	---	---	---	0.41	0.35
27	---	---	---	---	---	---	---	---	---	---	0.28	0.32
28	---	---	---	---	---	---	---	---	---	---	0.19	0.68
29	---	---	---	---	---	---	---	---	---	0.07	0.14	0.59
30	---	---	---	---	---	---	---	---	---	0.06	0.11	2.0
31	---	---	---	---	---	---	---	---	---	0.05	0.21	---
Total	---	---	---	---	---	---	---	---	---	---	16.26	10.37
Mean	---	---	---	---	---	---	---	---	---	---	0.52	0.35
Max	---	---	---	---	---	---	---	---	---	---	2.5	2.0
Min	---	---	---	---	---	---	---	---	---	---	0.04	0.03
Cfsm	---	---	---	---	---	---	---	---	---	---	0.10	0.06
In.	---	---	---	---	---	---	---	---	---	---	0.11	0.07

04282800 MUNROE BROOK AT SHELBURNE, VT—Continued



04282800 MUNROE BROOK AT SHELBURNE, 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	48	2.9	25	17	e1.2	e1.9	7.7	8.3	3.3	1.4	0.09	1.8
2	14	1.8	56	51	e1.3	e2.1	11	4.8	2.3	1.2	0.06	1.5
3	2.6	1.5	13	e10	e1.3	e1.8	11	19	1.9	2.3	0.04	1.2
4	1.5	2.0	5.7	e4.6	e1.3	e1.7	12	107	1.7	1.7	0.03	1.00
5	1.3	28	3.9	e3.2	e1.2	e2.7	42	56	1.6	1.2	0.02	40
6	2.1	15	3.0	e2.6	e1.3	e40	25	23	1.6	1.1	0.01	100
7	6.9	4.8	2.7	2.3	e1.3	e21	10	11	1.4	1.5	0.03	31
8	3.8	22	2.3	2.2	e1.4	e21	6.5	6.0	1.3	1.2	0.05	32
9	2.6	41	2.0	2.1	e1.4	e20	5.3	4.1	4.8	0.71	0.27	9.8
10	1.7	12	1.8	1.9	e1.4	19	8.0	3.0	7.5	0.45	3.2	3.5
11	1.4	5.3	1.9	1.8	e1.5	29	55	2.5	3.6	0.39	1.5	2.3
12	1.3	3.5	3.3	1.7	e1.5	42	24	2.2	19	0.85	1.0	1.8
13	1.1	2.9	99	e1.7	e1.6	41	13	2.0	11	0.53	0.39	1.6
14	0.87	2.5	e20	e1.6	e1.6	35	13	2.2	3.6	0.50	0.21	1.8
15	41	2.5	e8.9	e1.6	e1.7	27	6.9	54	2.1	0.31	0.70	3.3
16	78	2.3	e6.0	e1.5	e1.7	26	4.9	83	1.7	0.24	2.2	3.2
17	16	7.5	e4.3	e1.5	e1.8	48	13	51	1.5	0.19	1.5	1.9
18	4.7	5.6	e3.5	e1.5	e6.7	130	7.9	17	1.4	0.48	0.90	1.6
19	2.2	3.0	e2.9	e1.5	e19	58	3.3	20	1.1	0.51	0.41	1.4
20	1.8	2.4	e2.6	e1.4	e9.7	25	46	19	0.97	0.26	0.29	1.6
21	2.1	2.1	2.4	e1.5	e7.8	16	20	37	0.76	0.19	0.40	1.6
22	2.0	2.0	2.4	e1.5	e6.2	15	6.9	15	0.86	0.15	0.67	1.4
23	1.6	2.6	2.4	e1.6	e3.6	10	7.3	5.8	2.1	0.11	0.50	1.3
24	1.6	2.7	e2.1	e1.5	e2.4	6.6	7.0	3.8	2.4	0.12	0.33	8.6
25	2.3	2.2	e2.0	e1.5	e1.9	5.0	4.1	2.8	16	0.12	0.55	4.2
26	2.4	2.3	e1.9	e1.4	e1.7	4.0	54	15	30	0.19	1.1	2.2
27	2.8	2.2	2.0	e1.4	e1.7	3.1	144	70	5.8	0.18	0.70	1.7
28	2.2	1.9	1.9	e1.3	e1.8	2.5	90	77	2.1	0.16	68	1.5
29	1.9	1.8	1.9	e1.3	---	2.2	37	34	1.6	0.12	80	15
30	2.1	2.4	1.9	e1.3	---	3.0	15	17	1.5	0.21	8.1	40
31	4.0	---	2.1	e1.2	---	5.0	---	6.4	---	0.13	3.1	---
Total	257.87	190.7	290.8	128.2	87.0	664.6	710.8	778.9	136.49	18.70	176.35	319.80
Mean	8.32	6.36	9.38	4.14	3.11	21.4	23.7	25.1	4.55	0.60	5.69	10.7
Max	78	41	99	51	19	130	144	107	30	2.3	80	100
Min	0.87	1.5	1.8	1.2	1.2	1.7	3.3	2.0	0.76	0.11	0.01	1.0
Cfsm	1.55	1.19	1.75	0.77	0.58	4.01	4.43	4.70	0.85	0.11	1.06	1.99
In.	1.79	1.33	2.02	0.89	0.60	4.62	4.94	5.42	0.95	0.13	1.23	2.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2010 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.32	6.36	9.38	4.14	3.11	21.4	23.7	25.1	4.55	0.60	3.11	5.50
Max	8.32	6.36	9.38	4.14	3.11	21.4	23.7	25.1	4.55	0.60	5.69	10.7
(WY)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)
Min	8.32	6.36	9.38	4.14	3.11	21.4	23.7	25.1	4.55	0.60	0.52	0.35
(WY)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2011)	(2010)	(2010)

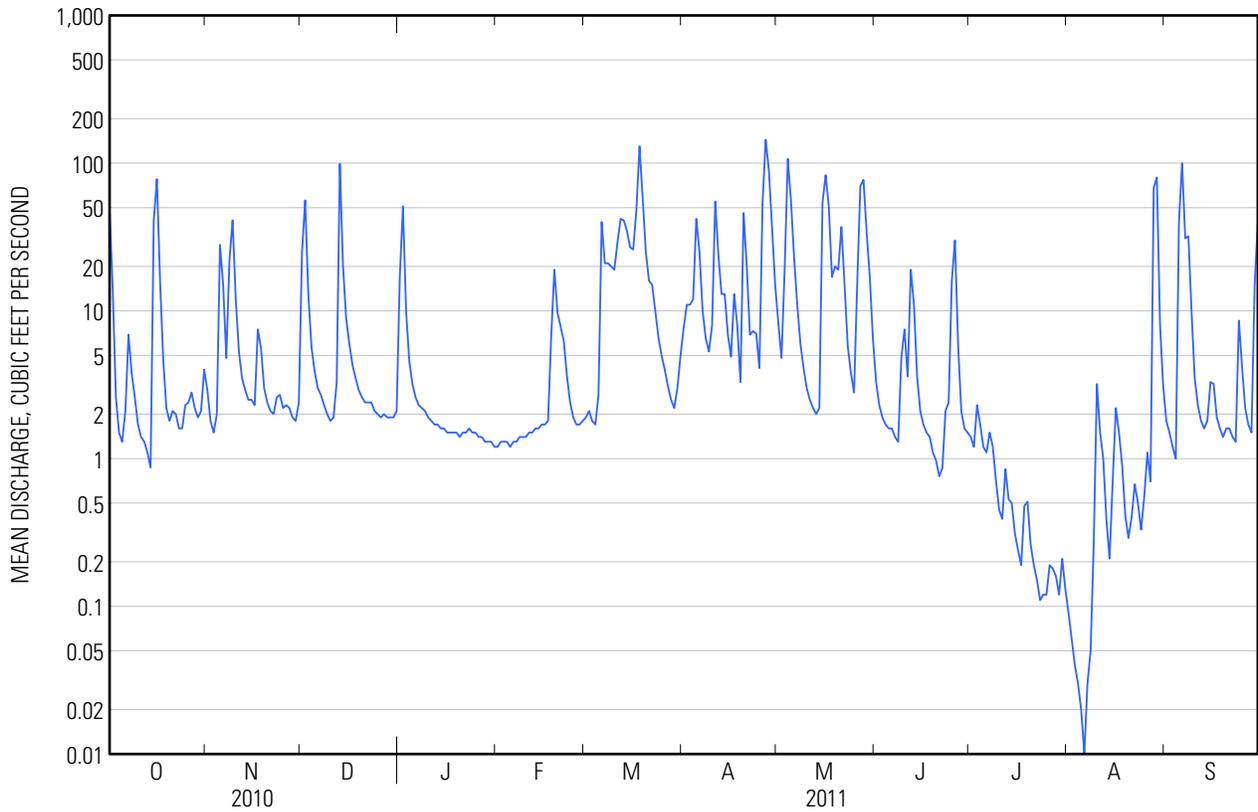
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SUMMARY STATISTICS

	Water Year 2011		Water Years 2010 - 2011	
Annual total	3,760.21			
Annual mean	10.3		10.3	
Highest annual mean			10.3	2011
Lowest annual mean			10.3	2011
Highest daily mean	144	Apr 27	144	Apr 27, 2011
Lowest daily mean	0.01	Aug 6	0.01	Aug 6, 2011
Annual seven-day minimum	0.03	Aug 2	0.03	Aug 2, 2011
Maximum peak flow	^a 336	Apr 27	^a 336	Apr 27, 2011
Maximum peak stage	6.42	Apr 27	6.42	Apr 27, 2011
Instantaneous low flow	0.01	Aug 5 ^b	0.01	Aug 5, 2011 ^b
Annual runoff (cfsm)	1.93		1.93	
Annual runoff (inches)	26.15		26.16	
10 percent exceeds	31		31	
50 percent exceeds	2.3		2.3	
90 percent exceeds	0.52		0.52	

^a From rating extended above 123 ft³/s.

^b Also Aug.6,7, 2011.



04282800 MUNROE BROOK AT SHELBURNE, VT—Continued

CLIMATOLOGICAL RECORDS

PERIOD OF RECORD.--

PRECIPITATION: July 2010 to October 2011 (discontinued).

INSTRUMENTATION.--

PRECIPITATION: Unshielded standard 8-in. diameter tipping bucket precipitation gage with 0.01 tip increment. The instrumentation is mounted on a steel mast approximately 6 ft above the ground.

REMARKS.--Precipitation gage operated seasonally. No precipitation record December 1 to April 7.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY SUM VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	---	---	---	---	0.00	0.00
2	---	---	---	---	---	---	---	---	---	---	0.75	0.00
3	---	---	---	---	---	---	---	---	---	---	0.76	0.00
4	---	---	---	---	---	---	---	---	---	---	0.48	0.00
5	---	---	---	---	---	---	---	---	---	---	0.00	0.00
6	---	---	---	---	---	---	---	---	---	---	0.00	0.00
7	---	---	---	---	---	---	---	---	---	---	0.00	0.05
8	---	---	---	---	---	---	---	---	---	---	0.15	0.20
9	---	---	---	---	---	---	---	---	---	---	0.25	0.09
10	---	---	---	---	---	---	---	---	---	---	0.05	0.00
11	---	---	---	---	---	---	---	---	---	---	0.00	0.00
12	---	---	---	---	---	---	---	---	---	---	0.00	0.04
13	---	---	---	---	---	---	---	---	---	---	0.00	0.01
14	---	---	---	---	---	---	---	---	---	---	0.00	0.01
15	---	---	---	---	---	---	---	---	---	---	0.00	0.03
16	---	---	---	---	---	---	---	---	---	---	0.03	0.80
17	---	---	---	---	---	---	---	---	---	---	0.00	0.03
18	---	---	---	---	---	---	---	---	---	---	0.00	0.00
19	---	---	---	---	---	---	---	---	---	---	0.00	0.00
20	---	---	---	---	---	---	---	---	---	---	0.00	0.00
21	---	---	---	---	---	---	---	---	---	---	0.31	0.00
22	---	---	---	---	---	---	---	---	---	---	0.85	0.00
23	---	---	---	---	---	---	---	---	---	---	0.27	0.02
24	---	---	---	---	---	---	---	---	---	---	0.00	0.61
25	---	---	---	---	---	---	---	---	---	---	0.00	0.00
26	---	---	---	---	---	---	---	---	---	---	0.02	0.00
27	---	---	---	---	---	---	---	---	---	---	0.00	0.20
28	---	---	---	---	---	---	---	---	---	---	0.00	0.21
29	---	---	---	---	---	---	---	---	---	---	0.00	0.01
30	---	---	---	---	---	---	---	---	---	0.00	0.00	1.31
31	---	---	---	---	---	---	---	---	---	0.00	0.00	---
Total	---	---	---	---	---	---	---	---	---	---	3.92	3.62

04282800 MUNROE BROOK AT SHELBURNE, VT—Continued

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY SUM VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.51	0.00	---	---	---	---	---	0.00	0.05	0.00	0.00	0.00
2	0.00	0.00	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	---	---	---	---	---	1.24	0.00	0.66	0.00	0.00
4	0.00	0.46	---	---	---	---	---	1.06	0.00	0.04	0.00	0.09
5	0.00	0.37	---	---	---	---	---	0.23	0.00	0.00	0.00	3.00
6	0.54	0.01	---	---	---	---	---	0.00	0.00	0.27	0.00	0.94
7	0.22	0.00	---	---	---	---	---	0.00	0.00	0.03	0.11	0.52
8	0.17	0.86	---	---	---	---	0.00	0.00	0.01	0.00	0.01	0.08
9	0.00	0.08	---	---	---	---	0.00	0.00	1.30	0.00	0.83	0.00
10	0.00	0.00	---	---	---	---	0.62	0.00	0.00	0.00	0.99	0.00
11	0.00	0.00	---	---	---	---	0.49	0.00	0.64	0.05	0.00	0.00
12	0.00	0.00	---	---	---	---	0.00	0.00	0.26	0.21	0.00	0.00
13	0.00	0.00	---	---	---	---	0.24	0.00	0.08	0.13	0.00	0.06
14	0.04	0.00	---	---	---	---	0.04	0.51	0.00	0.00	0.00	0.07
15	2.17	0.03	---	---	---	---	0.00	1.63	0.00	0.00	0.91	0.57
16	0.13	0.03	---	---	---	---	0.10	0.91	0.00	0.00	0.52	0.00
17	0.00	0.33	---	---	---	---	0.28	0.01	0.01	0.00	0.00	0.00
18	0.00	0.00	---	---	---	---	0.00	0.00	0.01	0.45	0.03	0.00
19	0.00	0.00	---	---	---	---	0.00	0.35	0.00	0.00	0.00	0.00
20	0.00	0.00	---	---	---	---	1.01	0.47	0.00	0.00	0.00	0.21
21	0.26	0.00	---	---	---	---	0.00	0.27	0.00	0.00	0.29	0.00
22	0.00	0.05	---	---	---	---	0.00	0.00	0.51	0.00	0.00	0.03
23	0.00	0.12	---	---	---	---	0.19	0.01	0.25	0.02	0.00	0.05
24	0.23	0.00	---	---	---	---	0.00	0.00	0.35	0.06	0.00	0.67
25	0.07	0.00	---	---	---	---	0.14	0.00	1.19	0.18	0.23	0.00
26	0.00	0.05	---	---	---	---	2.33	0.95	0.17	0.03	0.00	0.00
27	0.13	0.01	---	---	---	---	0.49	1.08	0.00	0.00	0.00	0.00
28	0.00	0.00	---	---	---	---	0.82	0.67	0.00	0.00	4.41	0.00
29	0.12	0.00	---	---	---	---	0.00	0.11	0.03	0.06	0.00	1.33
30	0.07	0.00	---	---	---	---	0.00	0.01	0.00	0.15	0.00	0.01
31	0.12	---	---	---	---	---	---	0.00	---	0.00	0.00	---
Total	5.78	2.40	---	---	---	---	---	9.51	4.86	2.34	8.33	7.63