Water-Data Report 2011

04282500 OTTER CREEK AT MIDDLEBURY, VT

St. Lawrence Basin
Otter Subbasin

LOCATION.--Lat 44°00′47″, long 73°10′06″ referenced to North American Datum of 1927, Addison County, Hydrologic Unit 02010002, on right bank, 150 ft upstream from State Highway 125 bridge in Middlebury, 0.1 mi southwest of US 7 and State Highway 125 intersection, and 3.6 mi downstream from Middlebury River.

DRAINAGE AREA.--628 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: April 1903 to April 1907, October 1910 to January 1920, October 1928 to current year.

REVISED RECORDS.--WSP 434: 1903-04. WSP 684: 1913(M), drainage area. WSP 1114: 1913. WSP 1207: 1929, 1931.

GAGE.--Water-stage recorder. Datum of gage is 335.75 ft above National Geodetic Vertical Datum of 1929. Nonrecording gage at site 1,800 ft upstream at datum 10 ft lower, April 1, 1903 to April 30, 1907 and October 5, 1910 to January 31, 1920; nonrecording gage at present site and datum, October 1, 1928 to October 17, 1933.

COOPERATION.--Vermont Department of Environmental Conservation.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by Chittenden Reservoir, usable capacity, 819 million ft^3 on East Creek.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1830, 13,600 ft^3/s, November 4, 1927, gage height, 13.3 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,180 ft^3/s, Sept. 2, gage height, 7.34 ft; minimum daily discharge, 310 ft^3/s, Aug. 7.

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 04282500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/04282500.2011.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	2,390	2,490	1,240	e1,160	e570	831	2,250	4,400	2,280	1,160	780	5,360
2	2,780	2,480	1,750	1,360	572	849	2,120	4,580	2,040	958	546	6,110
3	2,470	2,440	1,760	1,440	e570	e820	2,010	4,480	1,810	817	442	6,000
4	2,420	2,370	1,850	e1,450	e590	789	1,940	4,370	1,570	786	390	5,580
5	2,470	2,450	1,930	e1,440	587	765	2,120	4,260	1,300	807	356	5,150
6	2,540	2,390	1,970	e1,370	575	1,370	2,240	4,000	1,010	773	339	4,850
7	2,770	2,300	1,950	e1,220	624	1,840	2,180	3,740	841	832	310	4,450
8	2,700	2,250	1,880	1,110	e670	1,780	2,220	3,550	712	802	340	4,180
9	2,580	2,260	1,770	1,050	e660	1,850	2,260	3,400	722	702	430	3,900
10	2,470	2,230	e1,550	e965	670	1,860	2,350	3,240	1,130	731	709	3,660
11	2,300	2,170	1,400	e870	e650	2,000	2,880	3,080	1,250	744	1,130	3,510
12	2,090	2,090	1,320	e820	644	2,250	3,190	2,900	1,250	648	720	3,410
13	1,880	2,000	2,100	e785	e610	2,250	3,030	2,700	1,210	581	488	3,300
14	1,650	1,890	2,000	e780	606	2,320	3,010	2,510	1,230	520	375	3,170
15	1,770	1,760	1,960	e780	e650	2,440	3,130	2,560	1,150	560	416	2,970
16	2,340	1,630	e1,950	785	e670	2,640	3,450	2,830	1,010	552	1,460	2,760
17	2,310	1,600	e2,050	e780	e680	2,990	3,870	3,170	853	457	1,690	2,510
18	2,250	1,630	e2,100	e770	757	3,940	4,140	2,960	841	492	1,680	2,280
19	2,320	1,660	e2,150	774	992	4,620	4,130	2,990	975	827	1,560	2,020
20	2,410	1,660	e2,100	813	e1,090	4,560	4,220	3,030	908	860	1,310	1,770
21	2,500	1,610	e1,970	814	1,110	4,480	4,270	3,120	763	660	1,110	1,570
22	2,590	1,520	1,820	e800	e1,060	4,400	4,090	3,230	668	552	1,560	1,350
23	2,590	1,480	1,670	e745	e975	4,300	3,930	3,160	958	489	1,580	1,280
24	2,530	1,460	e1,600	e720	909	4,150	3,760	3,080	1,400	385	1,670	1,420
25	2,450	1,380	e1,520	e720	869	3,970	3,600	2,960	1,490	330	1,680	1,410
26	2,460	1,300	e1,430	e700	836	3,710	3,660	2,830	1,550	392	1,590	1,340
27	2,530	1,230	e1,350	e690	780	3,440	3,740	3,240	1,610	564	1,460	1,210
28	2,450	1,140	e1,290	677	766	3,160	3,830	3,060	1,550	609	2,190	1,050
29	2,390	1,030	e1,220	657	---	2,880	4,020	2,890	1,390	485	3,700	979
30	2,430	997	e1,190	615	---	2,640	4,100	2,730	1,290	1,010	3,290	1,540
31	2,460	---	e1,160	e580	---	2,430	---	2,500	---	1,070	3,880	---
Total	74,290	54,897	53,000	28,240	20,742	82,324	95,740	101,550	36,761	21,155	39,181	90,089
Mean	2,396	1,830	1,710	911	741	2,656	3,191	3,276	1,225	682	1,264	3,003
Max	2,780	2,490	2,150	1,450	1,110	4,620	4,270	4,580	2,280	1,160	3,880	6,110
Min	1,650	997	1,160	580	570	765	1,940	2,500	668	330	310	979
Cfsm	3.82	2.91	2.72	1.45	1.18	4.23	5.08	5.22	1.95	1.09	2.01	4.78
In.	4.40	3.25	3.14	1.67	1.23	4.88	5.67	6.02	2.18	1.25	2.32	5.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	678	929	981	928	865	1,543	2,565	1,538	849	578	504	500
Max	2,396	2,675	2,610	2,509	2,414	4,538	4,500	3,717	3,025	1,833	2,624	3,003
(WY)	(2011)	(2004)	(1984)	(1949)	(1981)	(1936)	(1960)	(1996)	(1947)	(1996)	(1976)	(2011)
Min	166	241	246	205	229	384	885	370	208	126	129	168
(WY)	(2002)	(2002)	(1948)	(1948)	(1980)	(1940)	(1995)	(1903)	(1965)	(1965)	(1965)	(1982)

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SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1903 - 2011	
Annual total	505,493		697,969			
Annual mean	1,385		1,912		1,038	
Highest annual mean					1,912	2011
Lowest annual mean					397	1965
Highest daily mean	4,250	Mar 29	6,110	Sep 2	11,000	Mar 21, 1936
Lowest daily mean	174	Sep 27	310	Aug 7	86	Sep 9, 2002
Annual seven-day minimum	192	Sep 3	372	Aug 3	102	Sep 3, 2002
Maximum peak flow			6,180	Sep 2	11,000	Mar 20, 1936
Maximum peak stage			7.34	Sep 2	10.30	Mar 20, 1936
Annual runoff (cfsm)	2.21		3.04		1.65	
Annual runoff (inches)	29.94		41.34		22.46	
10 percent exceeds	2,510		3,740		2,380	
50 percent exceeds	1,210		1,660		664	
90 percent exceeds	296		636		260	