Water-Data Report 2011

01636500 SHENANDOAH RIVER AT MILLVILLE, WV

Potomac Basin
Shenandoah Subbasin

LOCATION.--Lat 39°16′55″, long 77°47′22″ referenced to North American Datum of 1927, Jefferson County, WV, Hydrologic Unit 02070007, on left bank 0.4 mi downstream from Cattail Run, 1.0 mi upstream from Millville, 5.0 mi upstream from Harpers Ferry, and at mile 4.7.

DRAINAGE AREA.--3,041 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1895 to March 1909 (monthly discharge published in WSP 1302 and annual maxima), August 1928 to current year (daily discharge and peaks).

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M). WDR WV-97-1: Drainage area. WDR-US-2006: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 292.44 ft above NAVD 88 (GPS levels). Apr. 15, 1895 to Mar. 31, 1909, nonrecording gage at site 0.8 mi downstream at datum 0.32 ft higher.

REMARKS.--Records good. Some regulation by upstream hydroelectric plants, including that of Potomac Light and Power Company, 0.5 mi upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached a stage of about 26.4 ft (about the same as the flood of Mar. 18, 1936, at current site and datum), discharge, about 151,000 ft^3/s. Flood of May 13, 1924, reached a stage of 21.10 ft (at site and datum in use Apr. 15, 1895 to Mar. 31, 1903), discharge, 119,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 12	0700	30,800	11.77
Apr 14	1230	21,600	9.86
Apr 18	1030	*57,000	*16.04
Apr 30	0330	17,200	8.79
May 19	0930	48,000	14.69

Minimum discharge, 497 ft^3/s, Jan. 23, gage height, 1.25 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 01636500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/01636500.2011.pdf

01636500 SHENANDOAH RIVER AT MILLVILLE, WV—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES

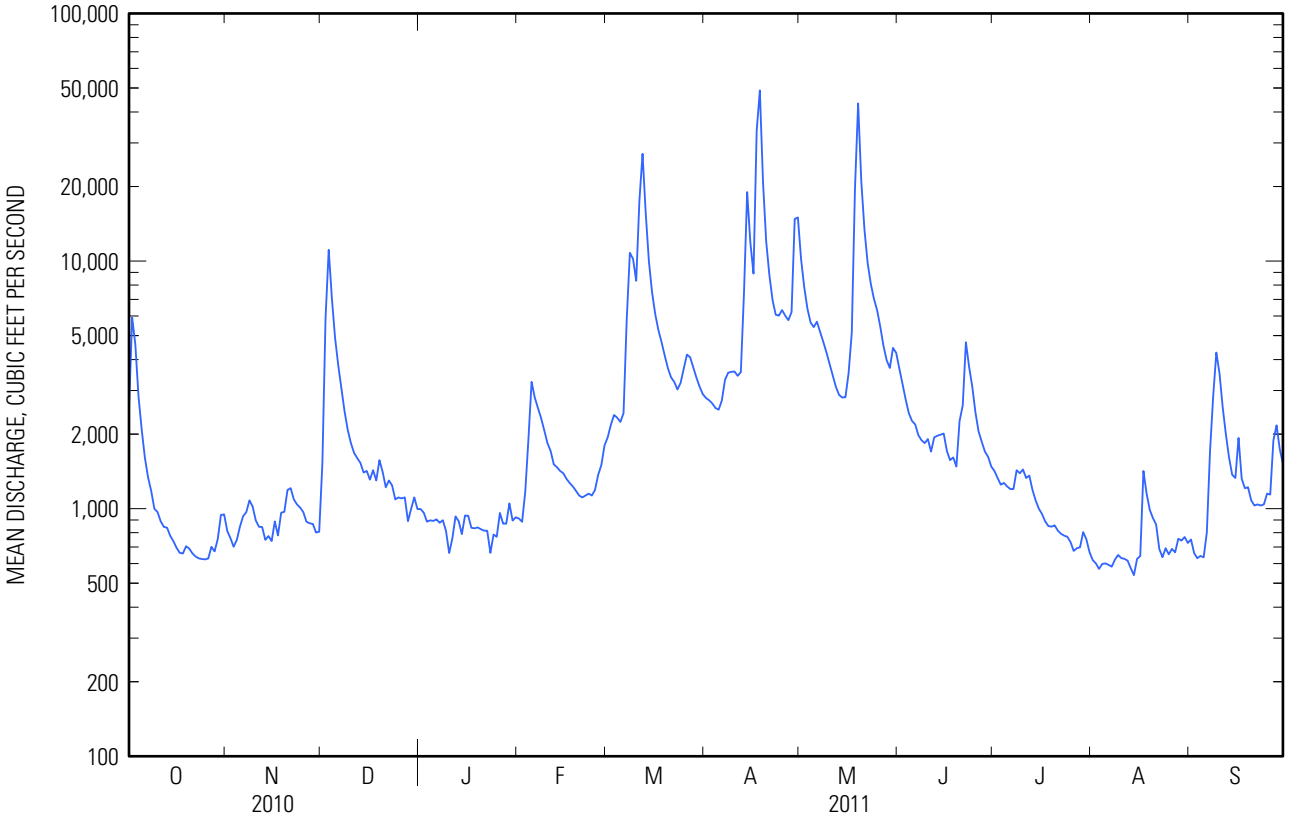
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,520	813	1,520	996	912	1,940	2,800	10,200	3,680	1,420	620	751
2	5,910	760	5,880	962	885	2,180	2,740	7,840	3,190	1,330	601	661
3	4,600	702	11,100	886	1,170	2,390	2,660	6,430	2,760	1,250	571	631
4	2,840	747	7,070	897	1,910	2,330	2,550	5,650	2,430	1,270	598	644
5	2,090	846	4,900	892	3,250	2,240	2,510	5,410	2,260	1,230	601	636
6	1,610	932	3,800	905	2,810	2,430	2,730	5,690	2,190	1,200	593	802
7	1,340	968	3,060	877	2,550	5,780	3,310	5,180	1,980	1,200	583	1,700
8	1,180	1,080	2,470	898	2,320	10,800	3,540	4,720	1,890	1,430	622	2,840
9	1,000	1,020	2,080	812	2,070	10,200	3,570	4,280	1,840	1,390	650	4,270
10	969	896	1,840	662	1,840	8,320	3,580	3,840	1,910	1,440	632	3,520
11	889	845	1,680	758	1,710	17,500	3,440	3,450	1,700	1,330	627	2,570
12	844	843	1,600	930	1,510	27,100	3,560	3,100	1,940	1,360	617	2,000
13	838	748	1,530	890	1,470	15,600	7,460	2,880	1,970	1,190	575	1,610
14	777	775	1,400	789	1,420	9,980	19,000	2,810	1,990	1,080	539	1,370
15	739	740	1,420	938	1,390	7,480	11,900	2,820	2,010	1,000	627	1,330
16	695	888	1,310	936	1,320	6,100	8,900	3,530	1,710	952	644	1,930
17	663	780	1,430	837	1,270	5,260	33,600	5,140	1,570	889	1,420	1,320
18	659	963	1,300	833	1,230	4,700	48,900	19,500	1,610	851	1,150	1,210
19	705	971	1,570	840	1,180	4,150	20,800	43,300	1,480	846	989	1,220
20	690	1,190	1,410	826	1,130	3,690	12,000	21,000	2,260	856	916	1,080
21	660	1,210	1,220	815	1,110	3,390	8,790	13,400	2,610	815	863	1,030
22	641	1,090	1,300	814	1,130	3,250	6,970	9,820	4,700	792	688	1,040
23	630	1,040	1,240	663	1,150	3,030	6,070	8,090	3,740	778	637	1,030
24	626	1,010	1,090	786	1,130	3,220	6,020	7,030	3,120	770	692	1,040
25	624	967	1,110	770	1,190	3,680	6,340	6,330	2,450	733	654	1,150
26	629	885	1,100	961	1,370	4,190	6,020	5,420	2,050	675	688	1,140
27	701	873	1,110	870	1,500	4,090	5,770	4,540	1,860	692	666	1,890
28	672	867	890	870	1,800	3,720	6,220	3,980	1,700	698	756	2,170
29	754	801	999	1,050	---	3,380	14,800	3,700	1,620	804	743	1,740
30	943	807	1,110	895	---	3,110	15,000	4,460	1,480	752	768	1,520
31	948	---	996	923	---	2,900	---	4,260	---	667	727	---
Total	39,386	27,057	70,535	26,781	43,727	188,130	281,550	237,800	67,700	31,690	22,057	45,845
Mean	1,271	902	2,275	864	1,562	6,069	9,385	7,671	2,257	1,022	712	1,528
Max	5,910	1,210	11,100	1,050	3,250	27,100	48,900	43,300	4,700	1,440	1,420	4,270
Min	624	702	890	662	885	1,940	2,510	2,810	1,480	667	539	631
Cfsm	0.42	0.30	0.75	0.28	0.51	2.00	3.09	2.52	0.74	0.34	0.23	0.50
In.	0.48	0.33	0.86	0.33	0.53	2.30	3.44	2.91	0.83	0.39	0.27	0.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,904	1,922	2,578	3,200	3,806	5,016	4,410	3,386	2,410	1,438	1,554	1,550
Max	16,250	13,350	8,164	13,470	18,100	17,540	12,840	8,701	10,380	4,809	10,390	14,780
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1936)	(1901)	(1901)	(1972)	(1972)	(1955)	(1996)
Min	343	388	410	475	471	929	992	1,001	643	402	388	411
(WY)	(1931)	(1932)	(1966)	(2002)	(2002)	(1931)	(1981)	(1969)	(1999)	(1966)	(1930)	(1963)

01636500 SHENANDOAH RIVER AT MILLVILLE, WV—Continued

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1895 - 2011	
Annual total	1,044,300		1,082,258			
Annual mean	2,861		2,965		2,758	
Highest annual mean					5,618	1996
Lowest annual mean					927	2002
Highest daily mean	45,500	Mar 14	48,900	Apr 18	192,000	Oct 16, 1942
Lowest daily mean	375	Sep 11	539	Aug 14	194	Jul 24, 1930
Annual seven-day minimum	397	Sep 21	595	Aug 1	240	Sep 7, 1966
Maximum peak flow			57,000	Apr 18	[a]230,000	Oct 16, 1942
Maximum peak stage			16.04	Apr 18	[b]32.40	Oct 16, 1942
Instantaneous low flow			497	Jan 23	59	Oct 4, 1930
Annual runoff (cfsm)	0.941		0.975		0.907	
Annual runoff (inches)	12.77		13.24		12.32	
10 percent exceeds	5,770		6,080		5,610	
50 percent exceeds	1,340		1,330		1,620	
90 percent exceeds	528		683		609	

[a] Highest since 1870.
[b] From floodmarks.