Water-Data Report 2012

02016500 JAMES RIVER AT LICK RUN, VA

James Basin
Upper James Subbasin

LOCATION.--Lat 37°46′25″, long 79°47′05″ referenced to North American Datum of 1927, Botetourt County, VA, Hydrologic Unit 02080201, on right bank at community of Lick Run, 1,000 ft downstream from bridge on U.S. Highway 220, 0.9 mi downstream from confluence of Cowpasture and Jackson Rivers, 1.8 mi south of Iron Gate, and at mile 342.3.

DRAINAGE AREA.--1,371 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1925 to current year.

REVISED RECORDS.--WSP 852: 1936-37. WSP 972: 1927, 1930(M), 1932(M), 1935-36. WSP 1303: 1927-28(M). OFR 2006-1308: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 978.30 ft NGVD of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 26, 1928, nonrecording gage, at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 43.7 mi upstream from station; since October 1984 by Back Creek Lake 71.7 mi upstream; and since January 1985 by Little Back Creek Lake 74.8 mi upstream, amount unknown. Statistics of monthly mean data and summary statistics for water years 1925 - 1979 (unregulated flow) are available in previous data books, water years 1991 - 1998. National Weather Service gage-height telemeter at station. Maximum discharge, 87,500 ft^3/s, from rating curve extended above 66,000 ft^3/s. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 33 ft, discharge, about 120,000 ft^3/s. Flood in March 1913 reached a stage of 30.4 ft, from floodmarks, discharge, about 98,000 ft^3/s.

02016500 JAMES RIVER AT LICK RUN, VA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

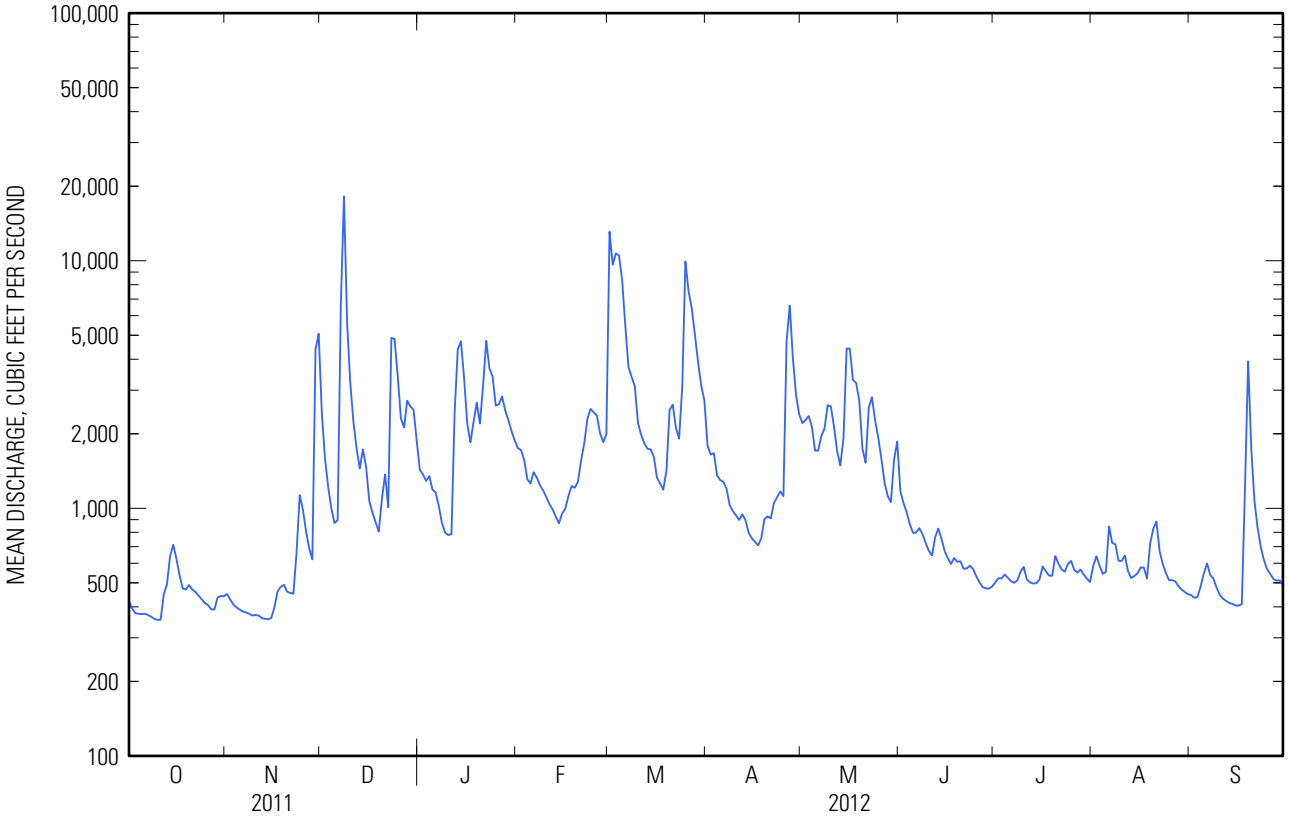
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	423	451	2,420	1,430	1,750	13,100	1,790	2,210	1,170	502	586	446
2	394	429	1,590	1,370	1,720	9,650	1,650	2,270	1,050	522	e640	435
3	377	409	1,220	1,290	1,570	10,700	1,670	2,360	963	521	e587	439
4	375	398	1,000	1,350	1,310	10,500	1,360	2,140	862	540	544	485
5	374	390	872	1,190	1,260	8,320	1,300	1,710	796	524	554	547
6	375	383	896	1,160	1,400	5,430	1,280	1,710	798	508	845	599
7	371	380	6,600	1,020	1,330	3,720	1,200	1,960	832	500	725	538
8	365	375	18,200	870	1,240	3,390	1,030	2,100	786	512	716	520
9	358	369	5,570	797	1,180	3,110	973	2,610	725	554	614	479
10	354	371	3,200	780	1,110	2,210	937	2,580	673	580	613	448
11	355	369	2,230	787	1,040	1,980	897	2,140	645	516	645	432
12	449	360	1,740	2,440	990	1,830	946	1,700	765	502	558	423
13	493	358	1,450	4,390	925	1,740	896	1,490	828	497	523	415
14	642	356	1,730	4,720	870	1,730	798	1,920	754	498	533	411
15	712	361	1,470	3,350	952	1,620	757	4,420	672	516	546	405
16	626	398	1,070	2,190	996	1,330	732	4,420	629	582	577	405
17	536	462	962	1,850	1,120	1,260	708	3,300	596	558	577	410
18	475	482	879	2,240	1,230	1,190	757	3,210	630	535	520	1,210
19	470	491	805	2,670	1,210	1,420	905	2,720	608	534	721	3,920
20	490	461	1,090	2,200	1,280	2,500	928	1,740	611	641	828	1,730
21	470	455	1,370	3,130	1,560	2,620	910	1,530	570	598	884	1,070
22	460	452	1,010	4,750	1,830	2,110	1,050	2,550	572	567	671	833
23	444	662	4,880	3,670	2,300	1,910	1,110	2,810	587	555	596	698
24	429	1,130	4,830	3,410	2,520	3,090	1,170	2,270	568	596	547	618
25	415	989	3,430	2,600	2,440	9,930	1,120	1,930	532	613	512	567
26	406	807	2,310	2,630	2,370	7,520	4,720	1,580	503	564	513	543
27	391	689	2,120	2,830	2,010	6,440	6,580	1,270	481	550	506	518
28	390	622	2,720	2,490	1,850	5,030	4,040	1,120	475	566	484	510
29	435	4,380	2,580	2,270	1,990	3,900	2,860	1,060	474	e540	469	512
30	443	5,070	2,500	2,050	---	3,130	2,390	1,570	483	e520	459	490
31	441	---	1,880	1,880	---	2,730	---	1,860	---	504	450	---
Total	13,738	23,309	84,624	69,804	43,353	135,140	47,464	68,260	20,638	16,815	18,543	21,056
Mean	443	777	2,730	2,252	1,495	4,359	1,582	2,202	688	542	598	702
Max	712	5,070	18,200	4,750	2,520	13,100	6,580	4,420	1,170	641	884	3,920
Min	354	356	805	780	870	1,190	708	1,060	474	497	450	405
Cfsm	0.32	0.57	1.99	1.64	1.09	3.18	1.15	1.61	0.50	0.40	0.44	0.51
In.	0.37	0.63	2.30	1.89	1.18	3.67	1.29	1.85	0.56	0.46	0.50	0.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2012, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	755	1,369	1,626	1,974	2,262	3,293	2,883	2,237	1,407	729	673	810
Max	3,495	7,206	4,544	5,302	6,425	8,083	9,349	5,639	5,068	1,699	2,704	3,212
(WY)	(1990)	(1986)	(2010)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(2003)	(1984)	(2004)
Min	270	279	328	268	429	623	755	792	526	479	264	269
(WY)	(1981)	(2009)	(1981)	(1981)	(2002)	(1981)	(1986)	(2006)	(2002)	(1981)	(1981)	(1981)

02016500 JAMES RIVER AT LICK RUN, VA—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1980 - 2012	
Annual total	654,628		562,744			
Annual mean	1,794		1,538		1,664	
Highest annual mean					2,791	2003
Lowest annual mean					789	1981
Highest daily mean	18,400	Apr 17	18,200	Dec 8	67,500	Nov 5, 1985
Lowest daily mean	354	Oct 10	354	Oct 10	180	Jan 5, 1981
Annual seven-day minimum	363	Nov 9	363	Nov 9	202	Sep 28, 1981
Maximum peak flow			23,600	Dec 8	[a]87,500	Nov 5, 1985
Maximum peak stage			15.10	Dec 8	[a]30.22	Nov 5, 1985
Instantaneous low flow			348	Oct 10[b]	[c,d]133	Jan 6, 1981
Annual runoff (cfsm)	1.31		1.12		1.21	
Annual runoff (inches)	17.76		15.27		16.50	
10 percent exceeds	4,280		3,150		3,540	
50 percent exceeds	610		876		837	
90 percent exceeds	434		429		401	

[a] Prior to regulation, 1925-79, maximum peak flow, 66,600 ft³/s, Mar. 18, 1936, gage height, 27.01 ft.
[b] Also Oct. 11, 27, 2011.
[c] Prior to regulation, 1925-79, instantaneous low flow, 148 ft³/s, Sept. 7, 1966.
[d] Result of freezeup.