

## 02016500 JAMES RIVER AT LICK RUN, VA

LOCATION.--Lat 37°46'25", long 79°47'05", Botetourt County, 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.--1,373 mi<sup>2</sup>.

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). WSP 2104: Drainage area.

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

REMARKS.--Records good except for period of no gage-height record, Mar. 12-15, which is 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<sup>3</sup>/s, from rating curve extended above 66,000 ft<sup>3</sup>/s. Minimum discharge, 133 ft<sup>3</sup>/s, result of freezeup. Several measurements of water temperature were made during the year. 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<sup>3</sup>/s. Flood in March 1913 reached a stage of 30.4 ft, from floodmarks, discharge, about 98,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,200 ft<sup>3</sup>/s, Jan 24, gage height, 8.86 ft; minimum discharge, 323 ft<sup>3</sup>/s, Jan 1, gage height, 1.72 ft; minimum daily, 351 ft<sup>3</sup>/s, Oct 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	421	381	359	375	922	878	1270	1180	668	519	480	458
2	372	385	353	364	1370	958	1310	1140	683	530	457	424
3	351	432	357	697	2020	1010	1280	1080	677	511	439	415
4	362	402	359	1110	1770	1760	1240	1010	651	500	433	413
5	370	372	367	709	1500	1880	1210	1010	639	493	427	1200
6	372	370	366	510	1310	1700	1170	883	624	486	425	2090
7	382	363	361	580	1230	1820	1140	877	613	479	422	1650
8	816	359	409	510	1260	1740	1050	2360	599	487	425	1150
9	689	360	509	563	1300	1570	987	2100	602	469	431	809
10	512	353	497	772	1220	1500	1030	1560	596	469	423	649
11	446	391	454	837	1130	1380	1130	1360	671	465	423	554
12	416	382	419	724	1040	e1350	1240	1230	694	486	425	514
13	402	375	484	776	977	e1300	1230	1160	613	499	424	487
14	397	371	551	1110	907	e1400	1170	2480	592	489	439	474
15	384	373	545	2880	811	e2500	1160	3400	569	487	430	475
16	390	368	491	2750	755	2930	1180	2410	563	477	444	495
17	382	366	449	1620	733	4420	1140	1850	575	475	447	468
18	389	361	421	1310	1210	7340	1050	1540	553	516	428	453
19	389	358	405	1460	1780	5750	997	1400	550	478	427	449
20	384	360	402	1460	1570	3860	967	1370	558	458	512	442
21	377	358	393	1240	1390	3220	958	1200	556	469	477	480
22	374	355	389	1080	1240	3640	955	1080	552	467	478	507
23	373	354	382	1240	1120	3660	928	1010	533	466	498	474
24	376	353	401	6930	1000	3160	1020	1020	521	475	491	452
25	376	353	387	5570	923	2820	1070	987	515	500	502	443
26	382	377	382	2630	881	2160	1020	908	517	471	713	434
27	379	371	369	1850	816	1900	976	824	514	455	718	509
28	382	366	369	1510	826	1760	1030	762	518	454	574	1100
29	381	366	385	1300	---	1650	1200	722	508	514	514	754
30	382	366	390	1140	---	1360	1210	686	503	500	485	3260
31	390	---	386	977	---	1260	---	648	---	495	469	---
TOTAL	12798	11101	12791	46584	33011	73636	33318	41247	17527	15039	14680	22482
MEAN	413	370	413	1503	1179	2375	1111	1331	584	485	474	749
MAX	816	432	551	6930	2020	7340	1310	3400	694	530	718	3260
MIN	351	353	353	364	733	878	928	648	503	454	422	413
(†)	-4131	-3176	-2823	+10680	+5848	+10587	0	-1008	-6756	-7915	-7008	-4689
MEAN‡	279	264	322	1847	1388	2717	1111	1298	359	230	247	593
CFSM‡	.20	.19	.23	1.35	1.01	1.98	.81	.95	.26	.17	.18	.43
IN.‡	.23	.21	.27	1.55	1.05	2.28	.90	1.09	.29	.19	.21	.48

CAL YR 1998 TOTAL 804346 MEAN 2204 MAX 24700 MIN 351 MEAN‡ 2184 CFSM‡ 1.59 IN.‡ 21.59  
WTR YR 1999 TOTAL 334214 MEAN 916 MAX 7340 MIN 351 MEAN‡ 887 CFSM‡ .65 IN.‡ 8.77

† Total change in contents, equivalent in cubic feet per second, per month, in Lake Moomaw; provided by U.S. Army Corps of Engineers.

‡ Adjusted for monthly change in contents.

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY) [REGULATED, UNADJUSTED]

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	812	1326	1483	2220	2672	3578	2876	2158	1399	694	701	739
MAX	3495	7206	4206	5302	6425	8083	9349	5639	3660	1186	2704	2839
(WY)	1990	1986	1997	1996	1998	1993	1987	1989	1982	1995	1984	1996
MIN	270	326	328	268	949	623	755	940	561	479	264	269
(WY)	1981	1982	1981	1981	1981	1981	1986	1991	1988	1981	1981	1981

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1980 - 1999
ANNUAL TOTAL	804346	334214	
ANNUAL MEAN	2204	916	1716
HIGHEST ANNUAL MEAN			2256
LOWEST ANNUAL MEAN			789
HIGHEST DAILY MEAN	24700	Jan 8	7340
LOWEST DAILY MEAN	351	Oct 3	351
ANNUAL SEVEN-DAY MINIMUM	356	Nov 19	356
INSTANTANEOUS PEAK FLOW			10200
INSTANTANEOUS PEAK STAGE			8.86
INSTANTANEOUS LOW FLOW			323
ANNUAL RUNOFF (CFSM)	1.61	.67	1.25
ANNUAL RUNOFF (INCHES)	21.79	9.06	16.98
10 PERCENT EXCEEDS	5250	1670	3710
50 PERCENT EXCEEDS	814	552	842
90 PERCENT EXCEEDS	373	373	393

a Result of freezeup.  
e Estimated.

