02019500 JAMES RIVER AT BUCHANAN, VA

LOCATION.--Lat 37°31'50", long 79°40'44", NAD83, Botetourt County, Hydrologic Unit 02080201, on left bank 300 ft upstream from bridge on U.S. Highway 11 at Buchanan, 1,000 ft upstream from Purgatory Creek, 1.5 mi downstream from Looney Creek, and at mile 306.4.

DRAINAGE AREA.--2,075 mi^2.

PERIOD OF RECORD.--February 1898 to current year. Monthly discharge only for some periods, published in WSP 1303. Records for August 1895 to Feb. 11, 1898, published in WSP 11, 15, and 27 are in error and should not be used. Gage-height records collected at this site since 1893 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 602: 1917-24. WSP 972: 1935-36. WSP 1303: 1898-1916, 1917-20(M), 1922(M), 1924(M). WSP 1383: 1927. WSP 2104: Drainage area. WDR VA-72-1: 1913(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 802.90 ft above sea level. Prior to July 1, 1927, nonrecording gage at same site and datum.

REMARKS.--Records good except those for periods with ice effect, Dec. 27-31 and Jan. 5, 6, which are poor. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 79.6 mi upstream; since October 1984 by Back Creek Lake 107.6 mi upstream, amount unknown; and since January 1985 by Little Back Creek Lake 110.7 mi upstream, amount unknown. Statistics of monthly mean data and summary statistics for water years 1898 - 1979 (unregulated flow) are available in previous data books, water years 1991 - 1998. National Weather Service gage-height telemeter at station. Maximum discharge, 179,000 ft^3/s, from rating curve extended above 110,000 ft^3/s. Minimum gage height, 1.44 ft, Sept. 8, 1966. 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 34.9 ft, from floodmark, discharge, about 142,000 ft^3/s, from rating curve extended above 110,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1380	560	645	779	1850	1620	8140	908	2720	734	1780	759
2	1240	561	632	749	1630	1470	7340	918	2490	722	1740	863
3	1090	560	614	685	1460	1400	6500	909	2310	708	1280	741
4	999	532	597	666	1340	1350	5460	908	2010	706	1030	699
5	911	536	577	e660	1250	1410	4670	911	1790	705	1750	668
6	858	536	565	e640	1200	1530	3930	1030	2620	698	1480	635
7	799	542	558	649	1160	1310	3380	1060	2260	670	1110	611
8	756	560	560	697	1100	1180	3080	930	1920	697	941	597
9	729	587	560	701	1030	1140	2900	911	1820	805	824	584
10	705	861	549	622	980	1100	2940	893	1630	755	756	588
11	689	1100	551	611	946	1090	3100	877	1450	740	787	688
12	680	1130	537	662	929	1070	3110	845	1240	673	873	642
13	661	891	535	655	892	1070	2970	814	1130	643	1670	642
14	656	781	591	629	876	1080	2780	780	1120	630	1940	610
15	650	705	672	632	876	1120	2390	776	1330	614	1370	585
16	639	654	783	634	897	1150	1990	866	1330	607	1060	567
17	634	632	1850	632	993	1390	1780	1340	1200	606	905	560
18	627	609	3660	640	1110	1900	1670	2050	1020	602	810	561
19	613	587	2970	881	1330	2000	1560	3160	919	638	754	559
20	602	580	2230	3480	1290	1910	1500	4440	860	636	881	569
21	596	560	1730	5030	1250	4620	1440	3960	820	628	831	590
22	596	545	1520	3700	1200	9670	1430	7710	840	620	731	581
23	594	525	1270	2710	1180	8110	1350	21600	1000	601	688	563
24	589	518	1090	2270	1180	7290	1180	13600	991	588	732	579
25	589	535	1020	1990	1330	5330	1120	9170	961	576	753	637
26	587	634	939	1720	1390	4090	1070	17100	865	578	690	656
27	584	692	e900	1480	1670	3380	1030	12500	803	650	680	611
28	583	698	e880	1350	1710	2900	998	8550	769	726	695	600
29	576	704	e840	1240	---	2720	965	6650	746	1270	685	575
30	565	664	e820	1190	---	11500	932	4680	727	3150	675	558
31	560	---	e800	1400	---	12900	---	3390	---	2550	709	---
TOTAL	22337	19579	32045	40384	34049	99800	82705	134236	41691	25526	31610	18678
MEAN	721	653	1034	1303	1216	3219	2757	4330	1390	823	1020	623
MAX	1380	1130	3660	5030	1850	12900	8140	21600	2720	3150	1940	863
MIN	560	518	535	611	876	1070	932	776	727	576	675	558
(†)	-2773	-2420	+1916	+4285	+3378	+1059	-1059	-252	-2269	-1109	-2823	-5546
MEAN‡	631	572	1096	1441	1337	3254	2722	4322	1314	788	929	438
CFSM‡	.30	.28	.53	.69	.64	1.57	1.31	2.08	.63	.38	.45	.21
IN.‡	.35	.31	.61	.80	.67	1.81	1.46	2.40	.71	.44	.52	.24

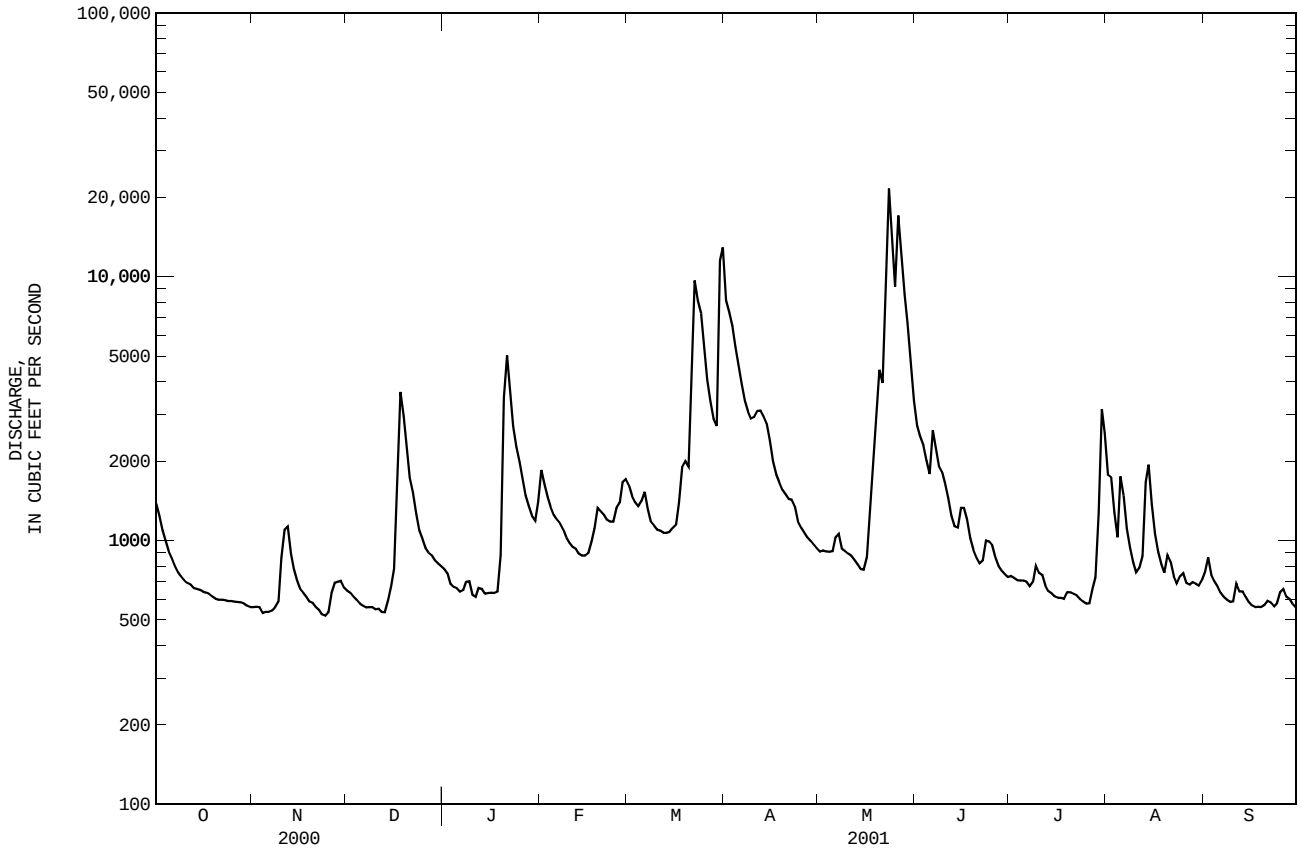
CAL YR 2000 MEAN‡ 1682 CFSM‡ .81 IN.‡ 11.04
WTR YR 2001 MEAN‡ 1575 CFSM‡ .76 IN.‡ 10.31

† 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.

02019500 JAMES RIVER AT BUCHANAN, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1192	1850	2173	3391	3962	5162	4458	3170	2057	1036	1050	1137
MAX	5679	10190	6450	10310	11270	12790	16170	8908	5251	2236	3834	4288
(WY)	1990	1986	1997	1996	1998	1993	1987	1989	1982	1989	1984	1996
MIN	419	453	453	396	1216	922	1081	1457	626	553	338	361
(WY)	1981	1982	1981	1981	2001	1981	1995	2000	1999	1999	1981	1981

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1980 - 2001	
ANNUAL TOTAL	603618		582640			
ANNUAL MEAN	1649		1596		2544	
HIGHEST ANNUAL MEAN					3664	1987
LOWEST ANNUAL MEAN					1092	1981
HIGHEST DAILY MEAN	13600	Feb 20	21600	May 23	102000	Nov 5 1985
LOWEST DAILY MEAN	518	Nov 24	518	Nov 24	257	Oct 1 1981
ANNUAL SEVEN-DAY MINIMUM	547	Nov 1	547	Nov 1	268	Sep 29 1981
MAXIMUM PEAK FLOW			22700	May 23	179000	Nov 5 1985
MAXIMUM PEAK STAGE			12.96	May 23	a38.84	Nov 5 1985
INSTANTANEOUS LOW FLOW			b513	cNov 4	d230	fJan 11 1981
ANNUAL RUNOFF (CFSM)	.79		.77		1.23	
ANNUAL RUNOFF (INCHES)	10.82		10.45		16.66	
10 PERCENT EXCEEDS	3350		3090		5460	
50 PERCENT EXCEEDS	1030		881		1250	
90 PERCENT EXCEEDS	593		580		553	

a From floodmarks.
b Result of regulation.
c Also Nov. 24, 25, 2000.
d Result of freezeup.
e Estimated.
f Also Jan. 12, 1981.