

02029000 JAMES RIVER AT SCOTTSVILLE, VA

James Basin
Middle James-Buffalo Subbasin

LOCATION.--Lat 37°47'50", long 78°29'30" referenced to North American Datum of 1927, Albemarle County, VA, Hydrologic Unit 02080203, on left bank 900 ft downstream from bridge on State Highway 20 at Scottsville, 6.8 mi upstream from Hardware River, and at mile 188.6.

DRAINAGE AREA.--4,581 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1303.

REVISED RECORDS.--WSP 727: 1931(M). WSP 972: 1936(M), 1940(M). OFR 2006-1308: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 253.18 ft NGVD of 1929. Prior to Nov. 28, 1928, nonrecording gage at present site and datum.

REMARKS.--Records good. Large diurnal fluctuation caused by powerplants upstream from station. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 197.5 mi upstream; since October 1984 by Back Creek Lake 225.5 mi upstream; and since January 1985 by Little Back Creek Lake 228.6 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. Maximum discharge, 301,000 ft³/s, from rating curve extended above 120,000 ft³/s on basis of slope-conveyance study. 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 October 1870 reached a stage of 30.7 ft, discharge, about 215,000 ft³/s, and flood in November 1877 reached a stage of 27.9 ft, discharge, about 160,000 ft³/s, from information by local resident. Flood in March 1913 reached a stage of 25.16 ft, from floodmarks, discharge, about 121,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 18	1215	*22,900	*11.41

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,250	904	1,330	1,810	2,990	1,720	5,910	3,550	7,190	2,030	2,070	1,230
2	1,130	745	1,600	1,720	2,820	2,010	5,250	3,610	6,310	1,960	2,050	1,230
3	934	712	1,390	1,550	2,390	1,910	5,110	4,360	5,490	1,860	1,790	1,240
4	936	641	1,280	1,540	2,440	2,010	9,450	5,060	4,590	1,820	1,610	1,020
5	968	659	1,200	1,540	2,230	1,830	14,500	12,400	4,790	1,870	1,770	911
6	760	731	1,140	1,540	1,860	1,800	11,200	17,700	9,700	2,130	2,200	991
7	652	726	1,040	2,400	1,850	2,120	9,110	19,000	10,400	2,460	1,990	995
8	743	660	1,060	7,990	1,940	2,020	7,620	17,600	8,000	2,840	2,120	1,010
9	774	677	923	14,100	1,810	2,400	6,630	17,700	6,350	2,470	2,100	1,010
10	734	656	919	8,880	1,670	2,510	5,750	15,200	7,280	2,120	1,900	974
11	738	676	1,180	6,300	1,870	2,480	5,030	15,500	5,830	1,810	2,860	983
12	734	563	8,250	5,190	1,840	2,420	4,630	12,000	5,470	1,730	1,560	1,030
13	745	531	7,340	4,390	1,910	2,340	4,320	9,230	5,240	1,720	1,340	1,040
14	718	764	7,550	4,330	1,710	2,280	3,770	7,400	5,840	1,770	1,420	984
15	699	1,530	5,080	e4,050	1,930	2,560	3,750	8,800	5,400	1,460	1,390	925
16	685	1,640	3,980	e3,450	2,130	3,470	3,560	8,750	5,340	1,630	1,100	924
17	689	2,180	3,570	2,760	2,000	6,440	3,510	10,200	4,680	1,290	995	964
18	725	1,690	3,520	2,640	2,020	9,970	3,260	20,100	7,680	1,470	1,260	944
19	841	1,420	3,220	2,250	1,950	9,200	3,040	13,900	10,300	1,590	1,230	894
20	966	1,080	4,440	2,150	1,980	7,480	3,960	9,770	8,580	1,560	1,140	854
21	1,010	958	4,000	2,250	1,870	6,010	9,150	7,800	6,580	2,070	1,240	840
22	854	1,000	3,720	2,050	1,840	5,010	13,600	6,480	5,390	1,840	1,280	860
23	720	931	3,390	1,870	1,890	4,480	12,000	5,440	4,490	1,760	1,630	912
24	610	761	3,290	1,890	1,830	3,880	9,490	4,440	3,780	1,300	1,770	908
25	630	871	3,020	1,710	1,720	3,420	7,900	4,120	3,420	1,740	1,590	938
26	983	1,020	2,690	1,540	1,710	3,160	6,850	3,850	3,140	1,820	1,020	1,010
27	1,450	892	2,550	e1,900	1,680	3,180	5,980	5,140	3,680	1,380	1,080	1,790
28	1,140	836	2,410	e1,950	1,660	3,360	5,040	7,260	2,550	1,650	1,450	3,110
29	1,080	847	2,280	1,960	---	4,440	4,570	7,990	2,290	1,580	1,150	3,900
30	1,010	825	2,120	2,570	---	5,510	3,830	9,090	1,970	1,980	1,190	3,180
31	931	---	1,860	3,010	---	6,550	---	9,220	---	2,220	1,280	---
Total	26,839	28,126	91,342	103,280	55,540	117,970	197,770	302,660	171,750	56,930	48,575	37,601
Mean	866	938	2,947	3,332	1,984	3,805	6,592	9,763	5,725	1,836	1,567	1,253
Max	1,450	2,180	8,250	14,100	2,990	9,970	14,500	20,100	10,400	2,840	2,860	3,900
Min	610	531	919	1,540	1,660	1,720	3,040	3,550	1,970	1,290	995	840
Cfsm	0.19	0.20	0.64	0.73	0.43	0.83	1.44	2.13	1.25	0.40	0.34	0.27
In.	0.22	0.23	0.74	0.84	0.45	0.96	1.61	2.46	1.39	0.46	0.39	0.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,868	4,396	5,045	6,405	7,206	9,050	8,872	6,433	4,727	2,509	2,180	3,005
Max	11,990	25,090	13,450	18,230	22,960	23,820	28,930	18,230	16,030	6,941	7,934	13,180
(WY)	(1980)	(1986)	(1997)	(1996)	(1998)	(1993)	(1987)	(1989)	(2003)	(1995)	(1984)	(1996)
Min	866	883	1,318	1,165	1,274	1,961	2,493	2,297	1,028	981	800	754
(WY)	(2009)	(2002)	(1981)	(1981)	(2002)	(1981)	(1995)	(2006)	(2002)	(1999)	(2002)	(2002)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1980 - 2009	
Annual total	1,016,143		1,238,383			
Annual mean	2,776		3,393		5,210	
Highest annual mean					8,819	2003
Lowest annual mean					1,852	2002
Highest daily mean	24,900	Apr 30	20,100	May 18	199,000	Nov 6, 1985
Lowest daily mean	531	Nov 13	531	Nov 13	452	Sep 14, 2002
Annual seven-day minimum	627	Aug 11	641	Nov 7	499	Sep 9, 2002
Maximum peak flow			22,900	May 18	^a 243,000	Nov 6, 1985
Maximum peak stage			11.41	May 18	^a 31.77	Nov 6, 1985
Instantaneous low flow			505	Nov 13	^b 418	Sep 13, 2002 ^c
Annual runoff (cfsm)	0.606		0.741		1.14	
Annual runoff (inches)	8.25		10.06		15.45	
10 percent exceeds	6,290		7,990		11,000	
50 percent exceeds	1,690		1,980		3,090	
90 percent exceeds	716		854		1,070	

^a Prior to regulation, 1925-79, maximum peak flow, 301,000 ft³/s, June 22, 1972, gage height, 34.02 ft, from floodmarks.

^b Prior to regulation, 1925-79, instantaneous low flow, 302 ft³/s, Oct. 1, 1930, probably lower during period of doubtful record in September 1966.

^c Also Sept. 14, 2002.

