

## JAMES RIVER BASIN

## 02011490 LITTLE BACK CREEK NEAR SUNRISE, VA

**LOCATION.**---Lat 38°12'52", long 79°50'15", NAD83, Bath County, Hydrologic Unit 02080201, in George Washington National Forest, on right bank 600 ft downstream from Long Spring Run, 1.2 mi downstream from Little Back Creek Dam, and 8.5 mi northeast of Mountain Grove.

**DRAINAGE AREA.**---4.91 mi<sup>2</sup>.

**PERIOD OF RECORD.**---October 1984 to current year.

**GAGE.**---Water-stage recorder. Concrete control with rectangular weir plate. Datum of gage is 2,638.48 ft above sea level (Virginia Power bench mark). Nov. 5, 1992, to Jan. 5, 1993, nonrecording gage at present site and datum.

**REMARKS.**---Records good except for period with ice effect, Dec. 26 to Jan. 9, which is poor. Flow regulated since January 1985 by Little Back Creek Lake 1.2 mi upstream, amount unknown. Maximum discharge, 580 ft<sup>3</sup>/s, from rating curve extended above 30 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow. Minimum gage height, 0.62 ft, Nov. 16, 1994 and Jul. 10, 1999. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

**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	2.9	1.7	2.9	e3.4	9.4	6.2	11	3.5	4.3	2.9	6.9	2.9
2	3.1	1.7	2.8	e3.2	7.5	5.8	9.5	3.5	4.7	3.4	5.7	2.6
3	3.0	1.6	2.6	e3.1	6.4	5.5	9.6	3.4	4.2	3.1	4.9	2.6
4	2.8	1.6	2.8	e3.0	5.7	5.1	8.7	3.3	4.1	2.8	4.5	2.6
5	2.7	1.6	3.0	e2.9	5.3	5.1	7.2	3.1	4.0	2.8	4.1	2.6
6	2.6	1.9	2.9	e2.9	4.7	4.8	6.8	2.9	3.7	2.8	3.8	2.5
7	2.3	2.3	2.9	e2.8	4.2	4.3	8.0	2.9	4.8	2.7	3.6	2.6
8	2.2	2.0	2.9	e2.7	3.9	4.1	8.7	3.1	4.7	3.6	3.3	2.6
9	2.4	2.6	2.5	e2.7	3.6	4.2	7.9	3.1	4.4	3.2	3.1	2.6
10	2.3	4.9	2.3	2.7	3.7	4.2	7.3	2.9	4.0	3.1	3.1	4.3
11	2.1	3.7	2.5	2.6	3.7	4.3	10	2.6	4.0	3.0	3.1	3.4
12	2.0	3.2	2.3	2.6	3.6	4.8	10	2.6	4.0	2.8	3.2	2.7
13	1.9	3.3	2.4	2.6	3.4	6.7	8.5	2.4	4.5	2.8	3.2	2.6
14	1.8	2.9	5.2	2.5	3.3	8.2	7.1	2.5	6.6	2.7	3.0	2.5
15	1.8	2.4	7.8	3.1	3.7	8.5	6.5	2.7	5.2	2.8	2.8	2.4
16	2.1	2.3	8.1	3.7	4.9	8.6	6.1	3.0	4.3	2.8	2.6	2.6
17	2.1	2.4	18	3.7	9.7	9.2	5.5	3.1	3.9	2.7	2.8	2.6
18	2.0	2.3	15	3.7	9.8	9.5	5.0	4.4	3.8	2.8	2.7	2.6
19	1.8	2.1	10	8.5	8.1	8.5	4.5	7.9	3.7	2.8	2.6	2.6
20	1.8	2.3	7.4	18	6.8	7.5	4.1	14	3.5	2.7	2.8	3.1
21	1.8	2.3	6.2	13	6.2	16	4.0	14	3.2	2.6	2.8	2.9
22	1.8	2.1	5.6	9.3	5.6	17	3.8	27	3.3	2.7	2.7	2.5
23	2.2	1.9	5.1	7.1	4.8	15	4.0	37	3.4	2.7	2.7	2.4
24	2.0	2.0	4.8	6.4	4.3	12	3.8	14	3.0	2.7	2.7	3.5
25	2.0	2.1	4.6	5.6	4.7	9.0	3.6	16	3.0	3.2	2.6	3.8
26	1.9	2.7	e4.2	4.8	5.7	7.3	3.4	24	3.0	5.4	2.7	3.1
27	1.8	3.2	e4.0	4.3	6.2	6.2	3.3	13	2.9	4.4	2.7	3.0
28	1.8	3.1	e3.9	3.7	6.3	5.5	3.2	8.6	2.9	3.7	2.7	2.9
29	1.7	3.1	e3.7	3.9	---	5.3	3.1	6.3	3.0	23	2.6	2.7
30	1.9	3.2	e3.6	8.4	---	11	3.4	5.1	2.9	21	2.9	2.5
31	1.9	---	e3.5	11	---	14	---	4.4	---	10	2.9	---
TOTAL	66.5	74.5	155.5	157.9	155.2	243.4	187.6	246.3	117.0	139.7	101.8	84.3
MEAN	2.15	2.48	5.02	5.09	5.54	7.85	6.25	7.95	3.90	4.51	3.28	2.81
MAX	3.1	4.9	18	18	9.8	17	11	37	6.6	23	6.9	4.3
MIN	1.7	1.6	2.3	2.5	3.3	4.1	3.1	2.4	2.9	2.6	2.6	2.4

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.37	4.81	5.66	7.31	7.03	8.53	6.57	6.75	4.35	3.45	3.44	3.31
MAX	7.46	12.6	9.65	15.7	12.9	16.4	13.1	14.8	8.41	4.95	5.13	7.29
(WY)	1990	1986	1997	1996	1994	1993	1987	1985	1995	1994	1989	1996
MIN	2.00	1.94	1.99	3.56	3.78	3.91	2.78	3.09	2.08	1.99	2.22	2.28
(WY)	2000	1999	1999	1985	1993	1985	1999	1999	1999	1999	1999	1985

SUMMARY STATISTICS FOR 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1985 - 2001

ANNUAL TOTAL	1689.4		1729.7			
ANNUAL MEAN	4.62		4.74		5.38	
HIGHEST ANNUAL MEAN					7.00 1996	
LOWEST ANNUAL MEAN					3.34 1999	
HIGHEST DAILY MEAN	42	Feb 19	37	May 23	158	Nov 4 1985
LOWEST DAILY MEAN	1.6	aNov 3	1.6	aNov 3	.90	Oct 13 1984
ANNUAL SEVEN-DAY MINIMUM	1.7	Oct 30	1.7	Oct 30	1.2	Jan 24 1985
MAXIMUM PEAK FLOW			71		May 22	580 Nov 4 1985
MAXIMUM PEAK STAGE			2.80		May 22	4.06 Nov 4 1985
INSTANTANEOUS LOW FLOW			1.6		bNov 2	c.73 Oct 9 1999
10 PERCENT EXCEEDS	8.3		8.7		9.2	
50 PERCENT EXCEEDS	3.5		3.3		3.8	
90 PERCENT EXCEEDS	2.2		2.3		2.4	

a Also Nov. 4, 5, 2000.  
 b Also Nov. 3-5, 2000.  
 c Result of regulation.  
 e Estimated.

