

JAMES RIVER BASIN

02011490 LITTLE BACK CREEK NEAR SUNRISE, VA

LOCATION.--Lat $38^{\circ}12'52''$, long $79^{\circ}50'16''$, 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 mi².

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.--No estimated daily discharges. Records good. Flow regulated since January 1985 by Little Back Creek Lake 1.2 mi upstream, amount unknown. Maximum discharge, 580 ft³/s, from rating curve extended above 30 ft³/s on basis of slope-area measurement of peak flow. Minimum gage height, 0.63 ft, Nov. 16, 1994. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 137 ft³/s, Jan. 8, gage height, 3.14 ft, from rating curve extended as explained above; minimum, 0.92 ft³/s, June 4, gage height, 0.72 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	5.1	4.1	3.8	6.8	16	5.7	4.9	2.9	6.7	3.1	3.1
2	3.4	6.0	4.0	3.7	6.7	12	6.0	5.1	2.8	6.6	3.1	3.6
3	3.4	5.3	4.0	4.2	6.7	9.7	6.0	5.4	4.7	4.8	3.1	3.1
4	3.4	5.0	4.0	6.7	8.1	7.9	7.6	7.8	1.7	5.0	3.1	3.0
5	3.5	4.3	4.1	13	7.7	6.9	9.2	13	2.7	5.0	3.1	2.8
6	3.5	3.9	4.0	15	7.6	6.1	8.6	11	2.3	4.8	3.0	2.8
7	3.5	4.8	3.9	16	7.1	5.3	7.2	8.3	2.2	4.9	3.0	3.1
8	3.4	6.5	3.9	77	6.8	11	6.3	7.8	2.3	6.0	3.1	3.5
9	3.3	6.5	4.0	25	7.5	34	9.1	8.4	2.7	6.1	3.1	3.3
10	3.3	5.7	4.9	14	8.8	25	14	8.2	2.9	5.4	4.5	2.9
11	3.2	5.1	8.3	10	10	14	10	7.4	3.1	4.9	3.9	2.9
12	3.2	4.7	7.4	8.8	14	10	7.9	6.6	2.6	4.5	3.2	3.0
13	3.4	4.4	6.1	7.8	14	8.2	6.8	5.9	2.8	4.3	4.3	2.9
14	3.5	5.0	5.2	7.7	11	6.9	6.0	5.3	2.9	4.1	2.6	2.9
15	3.3	5.9	4.8	7.9	9.0	6.1	5.4	5.1	13	5.6	3.5	2.9
16	3.3	5.7	4.4	11	8.2	5.7	5.0	4.7	11	3.2	4.9	3.8
17	3.3	5.2	4.1	11	40	5.3	5.4	4.3	6.2	3.4	6.7	2.4
18	3.2	4.6	4.3	9.3	44	7.7	5.3	4.1	5.6	3.4	6.3	2.5
19	3.2	4.4	3.1	8.1	20	29	14	4.5	6.4	3.4	5.3	2.7
20	3.3	4.2	3.1	7.3	14	21	30	3.8	7.7	3.6	3.9	2.8
21	3.4	4.2	3.3	6.1	13	46	14	3.7	7.1	3.5	3.4	3.0
22	3.5	5.0	3.5	5.6	11	22	9.6	3.5	5.8	3.5	3.0	2.7
23	3.5	5.6	3.3	9.6	10	13	7.5	3.4	5.1	3.4	3.0	2.7
24	3.6	5.5	3.3	15	8.9	9.7	6.4	3.2	4.6	3.4	3.1	2.7
25	4.0	5.0	4.4	12	8.1	7.8	5.6	3.1	4.5	3.2	3.2	3.8
26	3.7	4.6	5.2	9.8	9.3	6.9	5.2	3.0	4.2	3.1	3.2	2.4
27	4.0	4.3	5.5	8.7	10	6.2	5.3	3.3	4.3	3.1	3.1	2.5
28	3.7	4.1	5.0	8.3	14	5.7	4.8	3.1	5.9	4.8	3.1	2.7
29	3.5	4.1	4.9	7.3	---	5.4	4.6	3.0	11	2.6	3.1	2.8
30	3.5	4.0	4.6	7.7	---	5.5	4.5	3.1	8.2	2.6	3.1	4.6
31	3.4	---	4.2	7.2	---	5.3	---	3.0	---	3.0	3.2	---
TOTAL	106.8	148.7	138.9	364.6	342.3	381.3	243.0	167.0	149.2	131.9	111.3	89.9
MEAN	3.45	4.96	4.48	11.8	12.2	12.3	8.10	5.39	4.97	4.25	3.59	3.00
MAX	4.0	6.5	8.3	77	44	46	30	13	13	6.7	6.7	4.6
MIN	3.2	3.9	3.1	3.7	6.7	5.3	4.5	3.0	1.7	2.6	2.6	2.4

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02011490 LITTLE BACK CREEK NEAR SUNRISE, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1998, BY WATER YEAR (WY) [REGULATED, UNADJUSTED]

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.59	5.25	6.00	7.76	7.22	8.74	6.83	7.15	4.57	3.48	3.43	3.42
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	2.17	2.72	3.26	3.56	3.78	3.91	3.37	3.37	2.79	2.46	2.33	2.28
(WY)	1987	1992	1995	1985	1993	1985	1986	1991	1991	1987	1986	1985

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1985 - 1998
ANNUAL TOTAL	1985.2	2374.9	
ANNUAL MEAN	5.44	6.51	5.61
HIGHEST ANNUAL MEAN			7.00
LOWEST ANNUAL MEAN			4.37
HIGHEST DAILY MEAN	38	Mar 3	158 Nov 4 1985
LOWEST DAILY MEAN	3.1	aSep 6	.90 Oct 13 1984
ANNUAL SEVEN-DAY MINIMUM	3.3	Oct 15	2.4 Jun 4 1.2 Jan 24 1985
INSTANTANEOUS PEAK FLOW			137 Jan 8 580 Nov 4 1985
INSTANTANEOUS PEAK STAGE			3.14 Jan 8 4.06 Nov 4 1985
INSTANTANEOUS LOW FLOW			b.92 Jun 4 .83 Nov 16 1994
ANNUAL RUNOFF (CFSM)	1.11	1.33	1.14
ANNUAL RUNOFF (INCHES)	15.04	17.99	15.54
10 PERCENT EXCEEDS	8.3	11	9.6
50 PERCENT EXCEEDS	4.6	4.8	4.0
90 PERCENT EXCEEDS	3.4	3.0	2.6

a Also Dec. 19, 20, 1997.

b Result of regulation.

