

## 02011470 BACK CREEK AT SUNRISE, VA

LOCATION.--Lat 38°11'25", long 79°48'43", Bath County, Hydrologic Unit 02080201, on left bank 75 ft upstream from bridge on State Highway 600 at Sunrise, 180 ft upstream from Beaver Run, 0.5 mi downstream from Back Creek Dam, and 7.6 mi northeast of Mountain Grove.

DRAINAGE AREA.--76.1 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Concrete control since Oct. 24, 1984. Datum of gage is 1,968.52 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 October 1984 by Back Creek Lake 0.5 mi upstream, amount unknown. Virginia Power gage-height transmitter at station, receiver at Back Creek Dam. U.S. Army Corps of Engineers satellite precipitation and gage-height telemeter at station. Maximum discharge, 5,690 ft<sup>3</sup>/s, from rating curve extended above 960 ft<sup>3</sup>/s on basis of release from Back Creek Lake at peak flow. 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, 1,140 ft<sup>3</sup>/s, Jan 24, gage height, 6.16 ft; minimum discharge, 1.7 ft<sup>3</sup>/s, Dec 5-7, gage height, 3.43 ft.

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	16	13	2.0	2.0	43	70	89	50	25	12	9.1	14
2	14	13	2.0	2.0	119	85	91	48	26	11	9.1	14
3	14	13	2.0	5.2	146	133	89	38	17	11	9.3	14
4	13	7.1	2.0	6.2	147	260	85	32	11	11	9.3	14
5	13	2.6	1.7	9.2	153	268	52	29	11	11	9.2	20
6	13	2.4	1.7	9.4	154	258	47	28	11	12	9.2	21
7	14	2.5	2.1	9.8	148	238	46	28	11	12	8.9	18
8	15	2.7	3.8	9.9	147	166	47	26	11	12	9.2	16
9	14	2.7	4.2	11	153	133	48	22	11	11	8.6	16
10	14	2.8	3.5	11	149	137	48	21	11	12	8.9	15
11	13	3.2	2.6	10	149	106	45	22	11	12	8.8	15
12	13	2.9	2.2	10	144	101	58	22	11	11	9.5	14
13	13	2.9	4.1	11	124	100	75	23	11	11	15	14
14	13	2.7	4.0	16	74	96	75	144	11	12	15	14
15	13	3.0	3.2	38	74	105	54	132	11	11	14	15
16	13	2.9	2.7	17	46	131	59	61	11	10	13	14
17	13	2.9	2.5	13	40	174	68	58	11	9.0	13	14
18	13	2.8	2.3	62	41	449	31	63	11	9.3	13	14
19	13	2.8	2.2	132	42	522	42	64	11	7.7	14	14
20	13	2.9	2.2	137	40	474	69	48	11	8.0	15	15
21	13	2.9	2.6	138	38	187	51	71	11	8.1	14	15
22	13	2.7	2.7	141	40	266	45	61	11	8.2	13	15
23	13	2.9	2.2	149	40	287	37	35	11	8.0	13	15
24	13	2.8	2.2	829	41	286	33	35	12	9.3	13	15
25	13	2.3	2.2	611	48	157	31	44	11	8.5	18	15
26	13	2.4	2.2	467	76	154	30	54	12	8.2	15	15
27	13	2.0	2.0	442	76	138	31	55	11	8.4	14	15
28	13	2.0	2.1	339	71	117	40	57	12	8.7	14	15
29	13	2.0	2.2	57	---	83	48	56	12	8.0	13	16
30	13	2.0	2.2	55	---	86	49	56	11	9.5	13	16
31	13	---	2.2	49	---	89	---	37	---	9.2	13	---
TOTAL	413	114.8	77.8	3798.7	2563	5856	1613	1520	369	310.1	374.1	457
MEAN	13.3	3.83	2.51	123	91.5	189	53.8	49.0	12.3	10.0	12.1	15.2
MAX	16	13	4.2	829	154	522	91	144	26	12	18	21
MIN	13	2.0	1.7	2.0	38	70	30	21	11	7.7	8.6	14

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	34.3	80.2	120	198	171	261	167	171	78.6	32.3	31.4	34.6
MAX	150	371	285	504	416	616	496	399	259	83.0	96.1	230
(WY)	1990	1986	1997	1996	1994	1993	1987	1989	1995	1994	1996	1996
MIN	9.31	3.83	2.51	14.8	58.2	61.4	51.1	37.5	12.3	10.0	12.1	11.5
(WY)	1985	1999	1999	1985	1993	1988	1986	1991	1999	1999	1999	1985

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1985 - 1999

ANNUAL TOTAL	44801.6	17466.5	
ANNUAL MEAN	123	47.9	115
HIGHEST ANNUAL MEAN			175 1996
LOWEST ANNUAL MEAN			47.9 1999
HIGHEST DAILY MEAN	3010	Jan 8	4890 Jan 19 1996
LOWEST DAILY MEAN	1.7	aDec 5	1.7 aDec 5 1998
ANNUAL SEVEN-DAY MINIMUM	1.9	Nov 30	1.9 Nov 30 1998
INSTANTANEOUS PEAK FLOW			1140 Jan 24 5690 Jan 19 1996
INSTANTANEOUS PEAK STAGE			6.16 Jan 24 11.99 Jan 19 1996
INSTANTANEOUS LOW FLOW			1.7 bDec 5 1.7 bDec 5 1998
ANNUAL RUNOFF (CFSM)	1.61	.63	1.51
ANNUAL RUNOFF (INCHES)	21.90	8.54	20.49
10 PERCENT EXCEEDS	280	137	249
50 PERCENT EXCEEDS	16	14	41
90 PERCENT EXCEEDS	2.7	2.7	14

a Also Dec 6, 1998.  
 b Also Dec 6, 7, 1998.

